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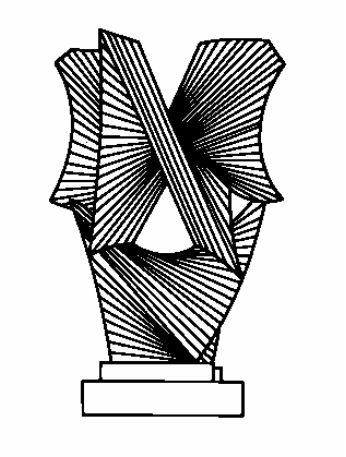

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Abstract

We are at an unusual moment in telecommunications. We have two very live cases of entry: Internet protocol television (IPTV) and municipal wireless broadband. IPTV will create new competition with cable, satellite and over-the-air broadcast TV, promising lower prices and new services. Muni wireless makes it possible for local communities to add new broadband capabilities to compete with DSL and cable broadband.

Unsurprisingly given the newness of the services, there is substantial uncertainty about whether and how these services should be regulated, and we have seen legislative action at municipal, state and federal levels. To assess that, I set forth a general framework for matching jurisdictions to tasks and consider coordination costs; information aggregation; speed; tailoring; and competence, capture and corruption. I also set forth a typology of legislative approaches: mandatory federal; default federal; uniformity by choice; experimental labs and competitive federalism; and mixed jurisdiction regulation. I also consider specific regulatory issues for telcom entry control, namely, the extent of the natural monopoly and the desired level of cross-subsidization. I consider four prior of telcom entry and regulation: cable TV franchising; control over pole attachments; the local entry preemption provisions of the 1996 Telecommunications Act; and entry into satellite broadcasting.

With that framework, I turn to muni wireless and IPTV. Muni wireless turns on decisions about quintessentially local assets, such as municipal light poles, and provision of the service involves few across-jurisdiction externalities. Plus there are a number of decisions regarding the service—tradeoffs between advertising and price and disagreements over the extent of the digital divide—that suggest we should see natural variation in the services. That makes local control appropriate and we should be critical of contrary state and federal efforts. For IPTV, a critical question is the required scope of entry: to what extent will an entrant be required to build-out services to serve an entire local area? Again that turns on contested conceptions about universal service obligations and would be best addressed locally.

Who Should Regulate Entry into IPTV and Municipal Wireless?

Randal C. Picker[*]

We are at an unusual moment in telecommunications. We have two very live cases of possible entry: municipal wireless broadband and video-over-IP (or internet protocol television (IPTV) if you prefer), meaning television brought to you by your local phone company over fiber optic cable. Muni wireless offers the promise of creating a third source of broadband service, a service that will compete directly with DSL service from the local phone company or cable broadband from the local cable television company. Plus wireless service isn't tied to a particular location: sit in the park and surf the Internet. IPTV would compete with broadcast TV, cable TV and satellite broadcasting.

In both cases, the question of level of government—federal vs. state vs. municipal—is contested and we have seen legislative action at all levels. While there are clearly questions about how our existing rules apply to these services, the newness of the services means that we are likely to see fresh legislation. That means the central issue in studying preemption here is not so much one of interpreting extant statutes, but much more about starting with a clean slate and assessing instead how we should allocate regulatory power across federal, state and local jurisdictions.

To do that, Section I starts with some general observations about assignment of jurisdictional level for the provision of public goods; some legislative categories; the role of government franchising and the relationship between entry and cross-subsidization. In Section II, I then look back at four prior situations of telecommunications entry in which we can assess the respective roles of federal, state and local government: cable TV franchising; control over pole attachments; the local entry preemption provisions of the 1996 Telecommunications Act; and satellite broadcasting. We see a broad range of approaches, from direct preemption of local regulations in the 1996 Act; a regime of default uniformity in the 1978 Pole Attachments Act, where federal law established a default position subject to subsequent state preemption; satellite broadcasting regulations which are largely federal, even though important aspects of the rules turn on predominantly local considerations; and federal validation and delegation of authority to states and municipalities for cable franchising rules.

Finally, in the third and final section of the paper, I consider how we should evaluate which jurisdiction should control entry for municipal wireless broadband and IPTV. The assets typically at stake for muni wireless are quintessentially local: light poles and similar fixtures owned by the municipality. It would be hard to imagine a federal response that went beyond the default uniformity approach seen in the Pole Attachments Act, but

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 Paul and Theo Leffmann Professor of Commercial Law, The University of Chicago Law School and Senior Fellow, The Computation Institute of the University of Chicago and Argonne National Laboratory. I thank Richard Epstein, Doug Ginsburg, Michael Greve and John Thorne for comments and also thank the Paul Leffmann Fund, The Russell J. Parsons Faculty Research Fund and the John M. Olin Program in Law and Economics at The University of Chicago Law School for their generous research support, and through the Olin Program, Microsoft Corporation and Verizon.

even that would be hard to implement. The range of variation for muni wireless—for example, do you allow advertising supported services, how much service should address the digital divide?—is much greater than was at stake for simple attachments. We therefore need much greater room for local tailoring and variation.

As to IPTV, there has been a substantial push for federal legislation creating a national entry policy, and, as a free-standing proposition, it seems like that it would pass through Congress. Of course, the reality of modern legislation is that any bill likely to get through becomes an attractive target for additions, related or unrelated. The additions usually complicate passage. The circa-September, 2006 draft telcom bill is a behemoth, with video franchising an important part, but only a part. Notwithstanding the apparent federal consensus, we still need to consider the extent to which local markets differ. The federal courts have been critical of the Federal Communications Commission for failing to take into account those differences. And there are again different reasonable approaches on the extent to which the IPTV entrants should extend the benefits of that entry to all citizens in an area ala a universal service obligation or rather instead enter in a more limited fashion given preexisting cable and broadcast services. Again, that pushes towards more localized decisions.

I. A General Framework

We need to figure out how to match tasks with jurisdictions. What should the United States do? Where should Illinois jump in and what tasks are appropriate for the City of Chicago? And where should government fear to tread? These are the fundamental questions of government and political science. If "common defense" is the first responsibility of a federal government—Article III of the Articles of Confederation and in the Preamble of the Constitution—what comes next? I want to start with some general considerations (subsections A and B) and then turn to particular considerations for telecommunications entry (subsection C).

A. Matching Jurisdictions and Tasks

Consider a simple framework for assigning tasks to different jurisdiction level and also defining the number of jurisdictions at a particular level. Start with public goods and focus on the fact that public goods can be national, regional or local. Everyone in the United States shares the same nuclear submarines, and while every locality may have public schools, we all can't have access to *precisely* the same public schools. Travel times ultimately impose some limit on school sharing. The standard Tiebout framework for competition between jurisdictions focuses on differences in tastes and scale economies in producing public goods. Those same factors are also relevant to the question of what jurisdictional level produces and controls particular public goods.[1] Focus on five issues: (1) coordination costs; (2) information aggregation; (3) speed; (4) tailoring (or match and specificity); and (5) competence, capture and corruption.

[1] For a similar discussion, see Dennis C. Mueller, Public Choice III 209-10 (Cambridge Univ. Press, 2003).

1. Coordination Costs

Part of the inquiry also has to be about the comparative coordination costs within jurisdictions and across jurisdictions. Even if we shouldn't expect each state (county?) to have its own nuclear submarine because of the sheer scale of the costs involved and the inability to control how the protection benefits of the submarine obtain, we could coordinate across jurisdictions for producing a submarine through a state-level compact process. Recall that under the Articles of Confederation, voting in Congress was done by state with each state having one vote. This differs from a compact process, as in the confederation Congress, a majority of states could bind a minority, but the point is that federal decisions were decided through votes of the federating jurisdictions.

If we believe that we couldn't choose, fund and build submarines through the state-level compact process, it is because of the coordination and collective action problems associated with that process. A compacting process means a new agreement has to be reached among the states for each issue and that there is no mechanism for a majority of states to bind dissenting states. The federal schemes adopted in both the Articles of Confederation and the U.S. Constitution provided such a mechanism.

Consider the role of scale and coordination in assigning jurisdiction level. Coordination means that different areas need to operate under the same laws at the same time. We can accomplish that by moving up a jurisdictional level, to a level that subsumes both areas. But we could also achieve that end through express linkage of the legislation, perhaps through an effective date clause tied to enactment of the identical legislation in other jurisdictions. We can see the challenges posed by contingent enactment. If identicality is required—if the legislation needs to be *exactly* the same in all jurisdictions—we will probably face sequencing difficulties. Political losers in the first jurisdiction will seek a better deal in the second jurisdiction with the hope that that will requiring a second round of dealing in the first jurisdiction.

2. Information Aggregation

These sequencing issues raise other issues. State enactment is typically sequential, meaning nothing more that some state goes first, another second and so on. Even if all fifty states enact laws on a particular subject, it will be done sequentially. In contrast, since there is only one federal government, federal legislation isn't sequential. The difference has to do with how information can be aggregated. Sequential aggregation suffers from some well-known defects—herding behavior or cascading are the usual terms—defects that may be muted through simultaneous consideration of the sort seen in the U.S. Congress.[2]

3. Speed

Federal legislation is one and done: one enactment and the same law applies throughout the country instantaneously. Obviously, the same result can be achieved going state by state. The real question is whether the fight over a prospective piece of legislation tracks this inherent speed difference. Think of a public choice arbitrage condition: Will the total resources that would be spent in seeking state-by-state enactments be spent on a federal

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[2] Eric A. Posner & Cass R. Sunstein, The Law of Other States (working paper, March, 2006 (available at http://www.law.uchicago.edu/academics/publiclaw/119.pdf).

enactment? Will these amounts just have to balance, otherwise one forum would be preferred to the other? Does the change in resources brought to bear on the fight change the timeline for getting federal legislation? If not—if resources don't rise to match the scale of the enactment or if the time to get legislation through doesn't rise to eat up the inherent speed advantage of federal legislation—firms seeking legislation may prefer to seek federal legislation.

4. TAILORING

Federal legislation is frequently one-size-fits-all, like the nuclear submarine example from before. Although we can enact highly specific federal legislation—think of tax breaks, neutrally framed, which ultimately apply to only one firm—we typically do not try to enact detailed federal legislation that, say, specifies fifty rules to apply in each of the states. If we want that level of tailoring, we typically do that at the state or municipal level.

5. THE THREE CS: COMPETENCE, CAPTURE AND CORRUPTION

We should focus next on the people in government who actually make decisions and assess whether we think that there are likely to be systematic differences across jurisdiction levels. Focus on competence, capture and corruption. We might think that we should assign a task to a particular jurisdictional level based on the greater likelihood of political failure at another level. Of course to do that, we would need to understand why we think that political failure is more or less likely at, say, the local level, why we might think that local government is systematically more corrupt or less competent than federal government. And if we have reason to believe, then we need to ask whether there are subject matter specific reasons to think that these competence/capture/corruption questions have more bite in telecommunications than they do elsewhere.

I don't think that there is an obvious match between these characteristics and jurisdictional level. If we think of government work as a tournament, we need to understand what characteristics succeed in that competition and how we should define the hierarchy. Does the tournament favor the competent over the less able, the honest over the corrupt, the independent thinker over the bought-and-paid-for politician? As to the government hierarchy, focus just on elected officials. If the President is at the top of the charts, who comes next? Natural choices might be the Vice President, U.S. Senators and State governors. In most cases, this is the group competing for presidential nominations. Note importantly for our discussion that the tournament isn't purely within the federal government, and if competence, honesty or independence matters for success—we might expect to see those characteristics—at least relatively speaking—among State governors. This is a long way of saying that if there is not a particularly straightforward relationship between competence, capture, corruption and jurisdiction level, the three Cs may offer us little guidance in framing our telecommunications entry policy.

B. Categorizing Legislative Approaches

It might be useful to have some categories to describe different legislative approaches. Try five categories: (1) mandatory federal; (2) default federal; (3) uniformity by choice; (4) experimental labs and competitive federalism; and (5) mixed jurisdiction regulation.

1. Mandatory Federal

Most federal legislation falls into this category. For example, federal copyright law applies throughout the United States and affirmatively displaces prior state copyright law.[3] Mandatory federal legislation applies instantly throughout the country, and in so doing, provides both scale and coordination. Mandatory federal legislation also concentrates where changes in regulation will occur. If the federal government prohibits state or local entry regulation in telecommunications, subsequent efforts to change entry controls must be directed at the federal government.

2. Default Federal

This is federal legislation that puts into place a federal rule, but one that the states can preempt. Our current bankruptcy law implements this for exempt assets, that is, the assets that an individual filing a Chapter 7 liquidation case gets to keep even if creditors don't get paid in full. The federal statute provides one list of exempt assets but also provides that states can displace that list and substitute a different list.[4]

3. Uniformity by Choice

The National Conference of Commissioners on State Laws believes in "uniformity by choice." That is to say that on many subjects, we should have the same laws in every state in the country, but those laws should be enacted by states. The obvious alternative to state-based uniformity is mandatory federal legislation, where, with a single-flick of the switch, the same law applies across the country.

4. Experimental Labs and Competitive Federalism

This reflects the vision for states articulated by Justice Brandeis in his dissent in *New State Ice*, namely, that states should serve as hotbeds of experimentation.[5] But when states have free reign in lawmaking, we also will see competitive federalism, with states competing against each other. Competition can be a very good thing, but we also need to be sensitive to situations in which competition is beset by collective action problems or where states can inflict externalities on other states. For example, if products are produced locally but delivered nationally, the laws of one state can effectively preempt the laws of a second state and we can see a race to the bottom or a situation where only the least restrictive laws matter.

5. Mixed Jurisdiction Regulation

Versions 1 through 4 contemplate single-level regulation: mandatory federal displaces state regulation; default federal creates a single-level of regulation but contemplates state preemption; uniformity by choice is based on uniform *state* regulation; and experimental labs is about diverse state regulation. Some substantive areas have been characterized by

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[3] 17 U.S.C. 301(a) ("On and after January 1, 1978, all legal or equitable rights that are equivalent to any of the exclusive rights within the general scope of copyright as specified by section 106 in works of authorship that are fixed in a tangible medium of expression and come within the subject matter of copyright as specified by sections 102 and 103, whether created before or after that date and whether published or unpublished, are governed exclusively by this title. Thereafter, no person is entitled to any such right or equivalent right in any such work under the common law or statutes of any State.")

[4] 11 U.S.C. 522(b)(2) ("Property listed in this paragraph is property that is specified under subsection (d), unless the State law that is applicable to the debtor under paragraph (3)(A) specifically does not so authorize.")

[5] New State Ice Co. v. Liebmann, 285 U.S. 262 (1932).

mixed jurisdiction regulation, especially across levels (both federal and state regulation). Network industries—industries such as railroads, electricity and telecommunications—have often been regulated at each level, with federal regulation applying to interstate transactions or transactions at the wholesale level—electricity and railroads—and state regulation applying to intrastate transactions or retail transactions. When we have multiple regulators—different states regulating in parallel or both federal and state regulators—we should be nervous about failed coordination between the regulators. Coordination failures can occur from the natural difficulties in trying to make sense of complex industries and regulations. They can also arise through opportunistic behavior of the sort associated with the early days of rate setting in railroads and telecommunications.[6]

C. Government Control over Entry in Telecommunications

A critical question here is whether the government should have any role to play in allowing or disallowing entry, and if there should be a role, what level of government should establish entry policy? For muni wireless, as we will see in Section III, this may be framed as whether a municipality will auction off access to its infrastructure—city light poles and the like—and how many entrants will receive access rights. For IPTV, local municipalities have claimed the right to bar the service absent a local franchise of the sort seen in cable TV. In both cases, we will need to consider the consequences of entry control and franchising. Franchising can be a way for government to control monopoly power. And controls over entry are often critical if prices are regulated and prices contain cross-subsidies.

1. Entry Controls and Natural Monopoly

If a government imposes entry controls when competition would otherwise flourish, the government will almost certainly reduce overall welfare. It may boost the governmental fisc, as it might if it auctioned off a franchise to the highest bidder, but the resulting monopoly will exercise market power to the detriment of the citizens of the jurisdiction. Exactly how much harm will result depends on some assumptions about what happens to the franchise fee—the entry tax—collected by the government and how much the citizens value the resulting governmental expenditures. A franchise process of this sort can also transfer value from one group of citizens to a second. If you wouldn't consume the services produced under competition, the switch to monopoly doesn't harm you, and you might benefit from expenditures made possible by the franchise fee.

For a competitive product, the franchising regime is a disaster as it introduces monopoly where none would otherwise exist. That brings with it standard deadweight losses, plus the government gets a franchise fee that may be less visible to taxpayers—the incidence of the tax is more indirect—and thus less subject to being held politically accountable. And we should be especially suspicious of franchise schemes where there are likely to be differences in consumption levels across the citizens of the jurisdiction, as some citizens may benefit from the franchise scheme even if the average citizen is much worse off.

In contrast, if we think that we are likely to have only one provider of a service anyhow—so that we are likely to have monopoly—then a franchise requirement may make

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[6] Smyth v. Ames, 169 U.S. 466 (1898).

more sense. The consequence of a monopoly depends on whether we will engage in rate regulation and our ability to set a competitive price. If we can do so, we avoid the harms of monopoly, and we should do so directly and need not engage in franchising. But if we can't do a good job of regulating monopoly pricing, then we would be better off to auction the franchise and recover the monopoly profits. We still bear the deadweight losses of monopoly—which are, by assumption here, unavoidable given our regulatory limitations—but we need not give up the profits as well.

And there is an alternative that might let us do even better. Have a potential provider bid final market prices charged to consumers, not lump-sump payments to the government for the right to sell. In markets characterized by natural-monopoly cost functions, we should expect bidders to bid prices such that they compete away all of the monopoly profits and bid competitive—full-cost covering but just cost-covering—prices. The fact that the regulator would find it hard after-the-fact to observe those costs is irrelevant if we can put in place an upfront mechanism that will result in competition based on costs known to bidders. This approach to franchising turns on having a mechanism to force the firm to commit to a particular price. If the firm just entered the market and ended up as the sole provider, it would have monopoly power. This is not about a one-on-one negotiation between the municipality and the potential provider, because in that situation, the municipality will face the same information disadvantage that it would face in standard regulation.

2. Entry Control and Cross-Subsidization

If we are regulating prices—as we have done frequently in telecommunications—the regulations themselves may influence entry incentives. If we build cross-subsidies into the prices—of rural users by urban users or consumers by businesses—we may induce entry, when absent the regulations, cost-based prices would deter entry. This is classic "cream-skimming" entry. If the regulatory system implements cross-subsidies, entry may be problematic. The entrant will frequently target a segment of the industry that is overpaying relative to some appropriate measure of costs. Indeed, overpayment by one group of customers is precisely what we mean by cross-subsidization, as this allows underpayment by a second group of customers. An entrant—even one with higher costs than the incumbent—may find it profitable to serve these overpaying customers. Of course, doing so destroys the ability of the incumbent to finance the cross-subsidy.

To evaluate this dynamic, we need a political account—a public choice account—about the nature of subsidies. If we thought that the subsidies were appropriate, then we should bar entry that arises just because of the opportunity created by the cross subsidy. So if the incumbent charges a higher price in urban areas than costs would warrant but does so because of a requirement that the price structure force urban users to subsidize rural users, entry targeted at urban users should be seen as problematic.

In contrast, if we think of cross-subsidies as emerging through efforts to capture regulators, entry may be useful in that it may make those subsidies unsustainable. Obviously, all of that is much more complex than just described. If winners in the regulatory capture game get cross-subsidies, as a first cut, we should expect them to win the entry regulation game as well.

3. ENTRY CONTROLS AND JURISDICTIONAL LEVEL

We have been considering two variables in thinking about entry controls: (1) the degree of natural monopoly in the market and (2) the extent to which regulators want to implement prices with cross-subsidies. How do those considerations matter for the choice of jurisdictional level? As to the former, we need to assess to what extent local conditions may influence entry conditions. The more variation we see in those conditions the more that we should not want to make a mistaken one-size-fits-all decision about entry. Diversity in competitive conditions pushes towards greater localness in deciding whether to franchise. As to cross-subsidies, we should expect greater homogeneity the smaller the jurisdiction. This is the natural result of the Tiebout process. Planet Earth has maximal heterogeneity, as our jurisdiction—the planet—is a given (at least for our purposes, if not for the astronomers tussling over whether Pluto should be considered a planet). But as we move down levels, self-sorting ala Tiebout create a powerful drive towards homogeneity. In Chicago, we have few battles over rural/urban telcom price subsidies, because we have no rural users. If rural users should be cross-subsidized by urban users—I doubt it, but that isn't my issue here—we will need to operate at a larger jurisdictional level than the municipality.

II. Regulating Entry in Telecommunications: Four Examples

In this section, I want to consider four examples of entry in telecommunications with particular reference to the respective roles of federal, state and local actors. I focus on (1) cable TV franchising; (2) the pole attachments rules; (3) the local telco preemption rules of the 1996 Telecommunications Act; and (4) satellite TV broadcasting.

A. Cable TV Franchising

When we see entry in telecommunications, we often see a piecemeal jurisdictional response. Those with a stake in the entry—entrants looking for a way in, incumbents looking to block entry—will understandably try to build their legal positions around whatever bits and pieces of law they can find. Cable television—community access TV (CATV) as it was known in the beginning—starts out as a purely local initiative in the early 1950s quickly moving from roughly 30 local systems in 1951 to seventy systems in 1952 to around 400 systems in 1955.[7] Stringing wires usually required access to telephone and electricity poles—negotiated access usually—and might require some permission from municipalities regarding access to rights-of-way.

By 1959, the status of CATV had worked its way in front of the Federal Communications Commission.[8] Broadcasters wanted the FCC to assert jurisdiction over CATV either under the FCC's jurisdiction over common carriers or based on the consequences for television broadcasting, a matter squarely within the FCC's jurisdiction. The FCC declined to move forward; the common carrier claim didn't match the technology—the CATV operator chose the content and it was one-way communication—and the FCC wasn't sure how cable would impact broadcast TV. The FCC was prepared to recom-

[7] Patrick R. Parsons & Robert M. Frieden, The Cable and Satellite Television Industries 31-33 (Allyn & Bacon, 1998).

[8] Inquiry Into the Impact of Community Antenna Systems, TV Translators, TV "Satellite" Stations, and TV "Repeaters" on the Orderly Development of Television Broadcasting, 26 FCC 403 (1959).

mend some legislation to Congress, including a requirement that a CATV operator get the consent of a broadcaster before forwarding the signal.[9] (Retransmission consent didn't make it into law until the 1992 Cable Act.)

But states and municipalities were willing to jump in and the franchise regime took off.[10] These were typically monopoly cable franchises, indeed, by one estimate, roughly 5000 monopoly franchises by 1986.[11] But the monopoly franchise process raised tricky questions about the status of those local monopolies, especially regarding whether the First Amendment limited the ability of municipalities to grant cable monopolies—imagine granting a newspaper monopoly—and under the Sherman Act, where the question was whether municipal actors enjoyed *Parker v. Brown* immunity.[12]

Congress couldn't do anything about the First Amendment limits,[13] but the Sherman Act was in its control. After the Supreme Court ruled that Boulder, Colorado, a home-rule municipality didn't enjoy *Parker* immunity,[14] Congress stepped in with a new statute. The 1984 Cable Act created a framework in which state and local franchising authorities could grant cable franchises consistent with the terms of the new statute.[15] The Act addressed access to local rights-of-way as well as a version of universal service,[16] but also severely limited the ability of state and local regulators to control cable prices.[17] Within this framework, states in turn controlled how local municipalities exercised franchising authority.[18] By 1992, Congress revised this framework in enacting an extensive new cable law.[19] The new law barred franchising authorities from issuing exclusive franchises and further provided that a franchising authority "may not unreasonably refuse to award an additional competitive franchise."

Step back and assess this path. We can fight about whether franchising does or does not make sense for cable and whether it should or shouldn't be thought of as a natural monopoly,[20] but it hardly seems surprising that the locus of activity is local rather than national. Cable emerges locally and is originally regulated locally. Congress starts to nib-

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[9] Id. at 438.

[10] For background on state and municipal processes, Oliver E. Williamson, Franchise Bidding for natural monopolies—in general and with respect to CATV, 7 Bell J Econ 73 (1976); Richard A. Posner, Cable Television: The Problem of Local Monopoly, May, 1970 (Rand Corp Memorandum RM-6309-FF); Richard A. Posner, The Appropriate Scope of Regulation in the Cable Television Industry, 3 Bell J Econ & Mgmt Sci 98 (1972).

[11] Thomas W. Hazlett, Private Monopoly and the Public Interest: An Economic Analysis of the Cable Television Franchise, 134 U Pa L Rev 1335, 1344 (1986).

[12] 317 U.S. 341 (1943).

[13] Which are still out there. See City of Los Angeles v. Preferred Communications, Inc., 476 U.S. 488 (1986).

[14] Community Communications Co. v. City of Boulder, Colorado, 455 U.S. 40 (1982).

[15] The Cable Communications Policy Act of 1984, P.L. 98-549, Oct. 30, 1984, 98 Stat. 2779.

[16] Sec. 621(a)(3): "In awarding a franchise or franchises, a franchising authority shall assure that access to cable service is not denied to any group of potential residential cable subscribers because of the income of the residents of the local area in which such group resides."

[17] For discussion, see Thomas W. Hazlett & Matthew L. Spitzer, Public Policy toward Cable Television: The Economics of Rate Controls 55-56 (MIT Press and AEI Press, 1997).

[18] See City of Los Angeles v. Preferred Communications, Inc., 476 U.S. 488, 490 n.1 (1986) (describing California statutes and Los Angeles franchising decisions).

[19] Cable Television Consumer Protection and Competition Act of 1992, P.L. 102-385, Oct. 5, 1992, 106 Stat. 1460.

[20] See Hazlett, supra note 11, for skepticism on the legitimacy of cable franchising.

ble in the 1976 Copyright Act, where because of the allocation of copyright to Congress, we needed a federal rule.

The extent federal scheme—in the form of the First Amendment and the Sherman Act—ultimately puts pressure on the existing regulatory allocation regarding cable franchising, and only Congress could step in to recalibrate the allocation between the federal government and the states. I say the states, as in our federal scheme, local municipalities have no particular status. The big federal intrusion shows up in 1992 when Congress affirmatively bars exclusive franchises and requires the franchising authority to not unreasonably refuse to grant an additional competitive franchise.

Note the way in which the 1992 statute intrudes into local decision-making. Put to one side the question of whether the statute operates retroactively as to already-issued franchises—to which the answer is yes and no[21]— and the sheer breadth of the preemption—preempting even a requirement of voting by local taxpayers[22]—and focus on the likely steady state for franchise issuance. If we run an auction in which bidders bid based on the price of service that they will offer, the low price bidder wins. With enough bidders, the winning bidder will bid a price just sufficient to cover all of its costs.

With the required additional competitive franchise, the auction winner will recognize that a second auction is required to be granted, if one is sought and it is competitive. A couple of possibilities. One is that the winning bid is as before, with the winner assuming that no entrant will seek to match the bid. That might result if there would be no way for two firms to recover the substantial fixed costs of building a cable system at the price bid by the auction winner. Under those circumstances, the cost-covering price bid would deter a second entrant and the federal statute would be irrelevant. But the greater the likelihood that the auction winner fears entry, the more that that bidder is likely to raise the offer made in the auction process. A second equilibrium might look like an auction winner bidding the prices that would sustain full-cost recovery for both firms, and that would push up prices substantially.

B. Pole Attachments

Early entrants into cable television faced a standard problem of wired communications: how do you string a connected set of wires in a local area? This is a connect-the-dots problem, where any interruption between dots means that you cannot offer this service. Unsurprisingly, cable entrants did what network entrants historically have done: they piggybacked on a pre-existing network, here the pre-existing grid of electricity and telephone poles. These deals typically required the cable companies to bear the costs associated with attaching the cables to the polls and required additional rental on top of that.[23]

Early cable was fundamentally a local network industry. State lines would create boundary issues, but the core issue was fundamentally local. But regulatory disputes track pre-existing regulatory allotments, so was hardly surprising that the cable television industry sought regulation of pole access from the Federal Communications Commission.

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[21] Cox Cable Communications, Inc. v. United States, 992 F.2d 1179 (11th Cir. 1993) (yes); James Cable Partners, L.P. v. City of Jamestown, Tennessee, 43 F.3d 277 (6th Cir. 1995) (no).

[22] Qwest Broadband Services, Inc. v. City of Boulder, 151 F.Supp.2d 1236 (D. Colo. 2001).

[23] Federal Communications Commission v. Florida Power Corp., 480 U.S. 245 (1987).

When the FCC ultimately concluded that it lacked the power to regulate cable television pole attachments, Congress stepped in and passed the Pole Attachments Act in 1978.[24]

The 1978 statute is intriguing both for its structure and its genesis. As to structure, the Pole Attachments Act is a default federal statute, meaning, again, that it puts in place a default regime that applies nationally but that can be preempted by state action.[25] In one stroke, Congress created a national regime but one that allowed the states to displace it. As to genesis, the minimal congressional testimony on the act makes clear the natural lay of the land. The cable industry was pushing the bill, incumbent pole owners—mainly telephone and electricity companies—were in opposition.

But why federal regulation? As congressional hearings on the act emphasized, attachment wasn't a new issue. The same issue had arisen in the 1940's as part of the rural electrification movement, where new electricity cooperatives sought access to the existing infrastructure, and yet the feds had remained on the sidelines.[26] And, as of 1978, the federal government had largely stayed out of regulating cable, save of course for the compromise enacted as part of the 1976 copyright revision. The U.S. Constitution assigns the predominant role in regulating copyright to the federal government.[27] Cable TV entrants successfully argued in the Supreme Court that capturing TV signals and distributing them to customers didn't violate the then-applicable copyright law, and that meant that cable entrants didn't need the consent of copyright holders to start their businesses.[28] The sweeping 1976 revision to U.S. copyright law put in place a legislative bargain for copyright holders and cable broadcasters, bringing cable TV uses of copyrighted works within copyright's infringement regime but coupling that with a mandatory statutory license.[29]

The U.S. Constitution doesn't address poles or attachments, so unlike copyright, there was no obvious federal role. The poles are purely local assets, and spillovers across statelines or between the states and the federal government were minimal. The states themselves had not been active regulators. When the Pole Attachments Act was enacted, only Connecticut regulated pole attachment deals, while regulators in eight other states had the authority to do so but had chosen not to exercise that power.[30]

It would also be a mistake to think that a regime of default uniformity does very little: after all any state could displace the default federal regime. We should consider the analysis more carefully to see where it fails. Think of most legislation as being crafted through a joint process involving a bicameral legislature and an executive officer, in this case, the governor of the state. The three actors—State house, State senate and governor—have differing views on the best possible legislation. A compromise needs to be

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[24] P.L. 95-234, 92 Stat. 33 (1978) (February 21, 1978).

[25] See 47 U.S.C. 224(c)(1): "Nothing in this section shall be construed to apply to, or to give the Commission jurisdiction with respect to rates, terms, and conditions, or access to poles, ducts, conduits, and rights-of-way as provided in subsection (f) of this section, for pole attachments in any case where such matters are regulated by a State."

[26] See written statement of Thomas J. O'Reilly on behalf of the United States Independent Telephone Association

[27] Article I, Sec. 8: "The Congress shall have Power ... To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries ... ."

[28] Fortnightly Corp. v. United Artists Television, Inc., 392 U.S. 390 (1968).

[29] 17 U.S.C. 111 ("Limitations on Exclusive Rights: Secondary transmissions").

[30] S. Rep. 95-580, Nov. 2, 1977.

reached among all three participants or perhaps just two of those participants if they can reach a higher internal level of agreement (such as a two-thirds majority in favor the legislation).

Standard political science models make clear that the default position—what happens if no agreement is reached—often will influence the final legislative outcome. To see that easily in an extreme case, assume that all three participants must favor the new legislation—meaning unanimity is required to make any change—and the default point represents the ideal outcome for, say, the governor. In that case, the governor will oppose any changes and will have the power to implement that outcome given the requirement of unanimity. This analysis suggests that the default uniformity created by the Pole Attachments Act is actually more complicated than appeared originally. We have to take into account the way that the federal legislation alters the default point in the follow up game played in the state legislatures.

C. Local Telecommunications Entry

The Telecommunications Act of 1996 is wide-ranging, but among its most important provisions are those designed, in the FCC's words, "to let anyone enter any communications business—to let any communications business compete in any market against any other."[31] The 1996 Act takes three important steps to push forward local wireline competition. First, the Act quarantines the regional bell operating companies ("RBOCs")—the main providers of ordinary local telephone service—by barring them from providing long-distance phone service to their local phone customers.[32] The RBOCs, though, are given a carrot: the quarantine ends so that they can provide long-distance service to their local-phone customers if the FCC finds that a statutory standard for local competition has been met.

Second, the Act imposes a series of mandatory dealing obligations and in fact requires that all incumbent local exchange carriers ("ILECs") deal with rivals in three ways. The ILEC must interconnect with rivals; must provide access to rivals to parts of its network—unbundled network elements ("UNEs")—at cost-based prices; and must sell to rivals at wholesale prices full-blown telecommunications services, which rivals can in turn resell to their customers.[33] These mandatory dealing obligations have been tricky to implement and have led to multiple sets of rules from the FCC and largely, though not uniformly, critical rulings from the courts of appeal and the Supreme Court.[34]

Third, and of particular relevance here, the 1996 Act trumps state laws barring entry into telecommunications services. At the state level, entry into network industries is often controlled through certificate of convenience and necessity rules, which require a poten-

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[31] See FCC, Telecommunications Act of 1996 (available at www.fcc.gov/telecom.html).

[32] 47 U.S.C. § 271.

[33] 47 U.S.C. § 251(c).

[34] AT&T Corp. v. Iowa Utilities Board, 525 U.S. 366 (1999); Verizon Communications v. Federal Communications Commission, 122 S. Ct. 1646 (2002). For detailed discussion of the results in these cases, see Douglas Lichtman & Randal C. Picker, Entry Policy in Local Telecommunications: Iowa Utilities and Verizon, 2002 Sup. Ct. Rev. 41 (2003); United States Telecom Ass'n. v. FCC, 290 F.3d 415 (DC Cir. 2002) (invalidating the FCC's second set of rules for unbundled network elements; United States Telecom Ass'n v. FCC, 359 F.3d 554 (D.C. Cir. 2004) (overturning key features of the third set of rules).

tial entrant to first obtain a license before entering. The basic preemptive move is simple and is set forth in 47 U.S.C. 253(a):

> No State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.

As it says, it cover both state and municipal regulations and not just those that might impair interstate services, but also state laws that block entry in *intrastate* services. The statute then backs up a little bit, giving the states the power to impose "on a competitively neutral basis" requirements covering consumer protection, public safety and welfare and to "preserve and advance universal service."[35] And states and local governments retain authority to manage public rights-of-way and to charge "fair and reasonable" compensation for doing so, so long as it does so on a nondiscriminatory basis.[36]

D. Satellite TV Broadcasting

Consider satellite television broadcasting. What is the right jurisdictional level (or levels) for regulating this field? Part of what makes this example attractive is precisely its otherworldliness: the satellites sit above the Earth and thus we don't have the typical jurisdictional claims that arise from physical nexus. Given that, it is hardly surprising that the basic framework for telecommunications satellites is controlled through international treaty.[37] The nature of the technology matters as well. Until recently, most satellite transmissions in the U.S. took place on CONUS satellites, called that because the broadcast footprint of satellite reached the entire continental U.S. That meant that entry was simultaneous everywhere in the continental U.S. or not at all. The emergence of spot-beam satellites has changed that, as spot-beam satellites broadcast to an area approximately 300 miles in diameter.[38]

Like entry in cable TV, entry in satellite broadcasting also turned on copyright issues, so we should expect an extensive federal presence, and, of course, there is one. Congress passed major legislation addressing satellite broadcasting in 1988 and 1999. The Satellite Home Viewer Act of 1988 created a narrow statutory copyright license that made it possible for satellite broadcasters to reach unserved communities.[39] Over-the-air television broadcasts have strong geographic limits, and cable's cost-effectiveness tracks density of population. The breadth of satellite broadcast has made it the technology of choice to reach rural areas and the 1988 Act facilitated that by adding a statutory copyright license.

Jump forward a decade. Cable prices are high and urban viewers could be getting satellite TV if only Congress extended the statutory copyright license beyond that for reaching unserved viewers. Again, this is about law, and not technology, as the satellite signals were already available to anyone who could legally receive them. In November, 1999,

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[35] 47 U.S.C. 253(b).

[36] 47 U.S.C. 253(c).

[37] See the Treaty Agreement Relating to the International Telecommunications Satellite Organization (available at http://216.119.123.56/dyn4000/dyn/docs/ITSO/tpl1_itso.cfm?location=&id=5&link_src=HPL&lang=english).

[38] See the description available at http://www.satelliteone.com/dish/support/Spot_Beam_Short.pdf.

[39] P.L. 100-667, 102 Stat. 3949. For background, see Satellite Broadcasting and Communications Ass'n v. Federal Communications Comm'n, 275 F.3d 337 (4th Cir. 2001).

Congress passed the Satellite Home Viewer Improvement Act of 1999.[40] The new statute coupled a new statutory copyright license with a carry one, carry all burden. Satellite broadcasters would be able to broadcast local stations into local markets and to do so without payment and without violating underlying copyrights. At the same time, if a satellite broadcaster acted under the new license, it would be required to broadcast all local stations in a particular market (referred to as the "carry one/carry all" rule).

So far, the analysis has explained a substantial international presence in satellite broadcasting—based on the physical location of the satellites in space—and a strong federal presence, both with regard to managing U.S. rights in space and because of the federal control over copyright, plus until the recent development of spot-beam satellites, entry was necessarily national. What role is there for states or local municipalities?

To contemplate that, step back and consider old fashioned over-the-air television broadcasting. Television as we know it emerged half a century ago from two roughly contemporaneous rulemakings by the Federal Communications Commission. A 1952 ruling assigned television channels to communities in an exercise in both politics and science. This was a search for a channel structure that would minimize interference on a single channel—co-channel interference—and interference across channels—adjacent channel interference—and at the same time make it possible to have local television stations in smaller communities—"localism," as the FCC has termed this. The result was a checkerboard in the sky: Chicago was assigned VHF channels 2, 5, 7, 9 and 11, one square away Milwaukee was assigned 4, 10 and 12, and two squares away Green Bay was assigned 2 and 6.[41] A 1953 ruling established the core standards for color television.[42]

It is easy to understand why we needed a federal presence in defining radio and television broadcasting licenses. The nature of broadcasting interference meant that the ether needed to be defined to make it valuable. But once that process has been done—once the actual licenses have been established—it is much less obvious that the FCC needed to have an ongoing role—and certainly not the main role—in assigning those licenses. By construction, over-the-air broadcasting is essentially a local activity. If the FCC takes localism seriously, we might think that we would be served by decentralizing license assignment to the communities actually covered by the licenses.

Now we can circle back to the local interests at stake in satellite broadcasting. The 1999 satellite act created carry one, carry all. The core premise behind carry one/carry all is about local broadcast TV:

> No rational doubt may exist that a local station denied access to a portion of it inmarket audience is injured. Lack of carriage reduces potential audience and, therefore, actual audience. ... At best, a local station which a satellite carrier refuses to carry would be placed at a demonstrable disadvantage vis-á-vis competing broadcast stations which are carried.[43]

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[40] P.L. 106-113, 113 Stat. 1501A-523.

[41] Amendment of Section 3.606 of the Commission's Rules and Regulations, 41 FCC 148, 180-82, 197-98,339-42, 369-73 (1952).

[42] Amendment of the Commission's Rules Governing Color Television Transmission, 41 FCC 658 (1953).

[43] Quoted at 275 F.3d at 349.

Carry one/carry all reflects a status quo bias but clearly operated as an attempt to preserve a level playing field for local broadcast TV.

But carry one/carry all is centralized decision-making and a centralized, nominally national and uniform policy which purports to be all about *local* interests. The policy is determined by the federal government and by the decisions of the satellite broadcasters. Carry one/carry all is only triggered by the decision of the satellite carrier to broadcast at least one local station. With finite carrying capacity on the satellites, this means that satellite broadcasters will prefer to carry the content of larger communities over smaller communities. The irony here, of course, is that satellite has a comparative advantage over cable in reaching smaller, low-density communities.

Absent carry one/carry all, the satellite broadcaster might prefer to drop some marginal New York City station and instead add a major network in Des Moines, Iowa. That would change competition between over-the-air broadcasters in both Des Moines and New York City. The fringe NYC station would become even more so, as it would lose access to NYC viewers who received their TV content only over satellite. And the only Des Moines station to get on the satellite would have an advantage over its fellow over-the-air broadcasters in Des Moines.

Consider an alternative to carry one, carry all: the local satellite broadcasting franchise. Absent a local franchise, it would be illegal to sell or receive DBS in that particular area. The signal would certainly be available in that area—that is a point about technology, not about law—but the local authorities would confiscate satellite dishes. This must seem far-fetched—*local* franchises for *satellite* broadcasts?—but carry one, carry all is precisely about vindicating local interests, but it is a policy run the center rather than the local communities with the direct stakes in the outcomes. We should be appropriately skeptical about centrally-administered localism: all of the power of regulating without bearing any of the direct consequences.

I am aware of no jurisdiction that has attempted to impose a local satellite TV franchise, but a number of states—Florida, Kentucky, Ohio, North Carolina and Tennessee have enacted statewide sales taxes on satellite TV services.[44] Kentucky's statute, for example, imposes that same excise and gross revenues tax on satellite and cable, but allows cable providers to offset against the state taxes local franchise payments. This means that both cable and satellite pay the same taxes, but how those funds are collected is different. The satellite providers have filed suit claiming that the Kentucky statute impermissibly discriminates against satellite, as while the tax rates are "superficially" the same, the rates ignore the right-of-way costs imposed by cable.[45]

III. The New Entrants: Municipal Wireless Broadband and IPTV

On to the new kids on the block: municipal wireless broadband and IPTV.

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[44] See http://www.stopsatellitetax.com/legal/.

[45] See Press Release of May 5, 2005, Protecting Satellite TV Subscribers, DISH Network and DIRECTV File Suit in Kentucky Challenging Constitutionality of Satellite Tax (available at http://www.stopsatellitetax.com/legal/050505a.shtml).

A. Municipal Wireless

We are at the early stages to the municipal wireless broadband movement, with perhaps 50 systems already in place.[46] It seems clear that there are many potential models and a range of views on the values that should be represented in these networks. In short, it seems like a classic case for local experimentation, diversity and disagreement. It is almost premature to try to be too specific, but to put some meat on the bones, consider two prominent examples: Philadelphia and San Francisco.

1. PHILADELPHIA

In July, 2004, Philadelphia Mayor John F. Street launched an initiative to explore turning Philadelphia into one giant Wi-Fi hotspot.[47] By February 2005, Wireless Philadelphia, a nonprofit organization formed to spearhead the idea, set forth a detailed business plan to turn the idea into reality. The major hiccup between those two dates occurred on November 30, 2004. Pennsylvania enacted new statewide legislation that limited the powers of local municipalities to establish wireless networks. States traditionally have broad powers to control what municipalities can do and, in March, 2004, in *Nixon v. Missouri Municipal League*, the Supreme Court confirmed that those powers survived the broad federal preemptive regime established by under the 1996 Telecommunications Act.[48]

While the wheels of justice often turn slowly, sometimes they don't and instead legislation moves at a speed that would put the Star Trek Enterprise to shame. Verizon characterized the proposed Pennsylvania legislation as giving it a right of first refusal on new local broadband initiatives. But Verizon also agreed to waive that right as to Philadelphia with the hope that that waiver would end the possible veto of the proposed legislation.[49] Possible federal legislation also appeared on the horizon with different bills either blocking municipal entry or authorizing it.[50]

In March, 2006, Philadelphia announced that it had reached an agreement with EarthLink for the construction and operation of a 135 square mile wireless network. In effect, Philadelphia offered EarthLink access to the roughly 4000 street lamps so as to enable EarthLink to install a network. In announcing that deal, Philadelphia Mayor Street emphasized that the network would be constructed without cost to city taxpayers. And Philadelphia would receive a series of benefits including $2 million upfront from EarthLink so as to allow Philadelphia to take steps to bridge the digital divide by buying up to 10,000 computers for schools and low-income households. The city itself would be provided with discounted access to the network. It was it is anticipated that users of the net-

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[46] Amol Sharma, Companies That Fought Cities on Wi-Fit, Now Rush to Join In, The Wall Street Journal, March 20, 2006, p. B1.

[47] See press release of August 25, 2004 "Mayor John F. Street announces appointment of wireless Philadelphia executive committee" (available at http://www.phila.gov/wireless/pdfs/press_release.pdf)

[48] 541 U.S. 125 (2004).

[49] See Marc Levy, "Philadelphia, Verizon Strike Deal on WiFi" December 1, 2004, p. E04 (available at http://www.washingtonpost.com/ac2/wp-dyn/A23826-2004Nov30?language=printer).

[50] Preserving Innovation in Telecom Act of 2005, H.R. 2726, 109th Cong., 1st Session (blocking entry by municipalities); Community Broadband Act of 2005, S. 1294, 109th Cong., 1st Session (introduced June 23, 2005 by Senators Lautenberg and McCain to authorize municipal entry).

work would pay $20 per month while low-income users would pay a fee of $9.95 per month.[51]

There is a great deal going on in these arrangements. As the Wireless Philadelphia Business Plan makes clear, there are variety of potential business models for a local wireless broadband network with differing degrees of municipal involvement. In some circles, Philadelphia has been criticized for doing little more than renting out its light pole infrastructure rather than entering directly into the communications business.[52] In doing so, Philadelphia has acted as might any owner of distributed assets who is thereby well-situated to offer those assets to a wireless entrant. This allows entry in one fell swoop and avoids problems that can arise with individual negotiations in attempting to cobble together a sufficiently dense and overlapping group of assets so as to allow full wireless network coverage. This tracks in some ways the role of telephone poles or electricity poles we saw during the early days of cable TV, where the cable company negotiated for access to an existing network of in-place distributed assets. Obviously, the required asset density depends on the range of the wireless technology in question. The smaller the range, the fewer asset owners who can offer ubiquitous access without negotiation. Compare the city of Philadelphia with Starbucks or McDonald's or perhaps British Petroleum gasoline stations.

The claim that no taxpayer money will be used may be of course literally true but the claim is not necessarily particularly meaningful. Put to one side the fact that taxpayer assets are being used and that we should think of the revenues that could be earned from those assets if the EarthLink was just paying rent as being fungible with tax revenues. Focus instead on the use side and the question of whether there is a meaningful difference between user fees and taxes. That is a broad question and outside the real scope of this paper, but if the city really hopes that 100% of citizens will use the Wi-Fi network, then we should not invest too much in trying to separate taxes from user fees. Though do note one important difference: the user fees are designed with a cross subsidy, as is frequently the case when dealing with public utilities.

2. San Francisco

On April 5, 2006, San Francisco announced that it had completed its bidding process for a new wireless broadband networks and that it would start contract negotiations with EarthLink and Google.[53] Many communities considering muni Wi-Fi will be motivated by the hope that a new system will extend broadband access to people on the wrong side of the digital divide. Indeed, Chris Vein, San Francisco's executive director for telcom services, states that bridging the digital divide was the core purpose for San Francisco.[54] And, as noted above, Philadelphia has designed its plan with lower-cost pricing for low-

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[51] See Press Release of March 1, 2006 "Mayor Street Announces Signing of Agreements with Earthlink to Bring Wireless Access to Every Philadelphia Neighborhood." (available at http://ework.phila.gov/philagov/news/prelease.asp?id=233); transcript of Mayor John F. Street radio address of March 3, 2006 (available at http://ework.phila.gov/philagov/radio/prelease.asp?id=131).

[52] Becca Vargo Daggett, Wireless Philadelphia-Earthlink contract: an analysis, April 18, 2006 (available at http://muniwireless.com/municipal/bids/1151/).

[53] See Press Release of April 5, 2006, San Francisco Concludes Evaluation of Proposals to Create Universal, Affordable Wireless Broadband Network (available at http://www.sfgov.org/site/tech_connect_page.asp?id=38562).

[54] Laurie J. Flynn, Some Worries as San Francisco Goes Wireless, The New York Times, April 10, 2006.

income residents and will receive funds from the service provider to buy and distribute 10,000 computers.

San Francisco has taken a different approach to these issues. The Google/EarthLink proposal calls for multiple tiers of service with advertising-supported free basic access. Basic access will be at a rate of about 300 Kbps (six times 56K dial-up).[55] Premium access will be at substantially faster speeds and will be priced at less than 50% of current land line (DSL and cable) rates.[56] Privacy advocates have raised concerns about the San Francisco proposal.[57] Google and EarthLink plan to deliver personalized advertising—Google's specialty—as well as location-specific ads, which would requiring tracking the location of users.[58] Standard Google-style personalized ads turn on the ability to identify the user, usually through cookies and log-ins. Location-specific ads presumably will rely on knowledge about which access point a user is receiving service from. The benefits of ad personalization are clear: ads that target actual user interests, and with location, that do so in a way that the service or product can be purchase immediately. There are clearly privacy costs to this approach, but these trade-offs—access vs. privacy—are precisely the types of issues that should be addressed locally.

3. Municipal Wireless Broadband Entry Redux

We can see the different ways that muni Wi-Fi might play out, but we should step back to put muni wireless broadband entry into context. Muni Wi-Fi will compete with landline broadband—DSL and cable—and with new entrants in private wireless broad. Verizon is offering wireless broadband based on the EV-DO standard—EV-DO is evolution-data optimized—in 181 metropolitan areas.[59] Sprint has announced that it will offer wireless broadband using the WIMAX standard. For some users, muni Wi-Fi will compete with local cell phone service.

Private providers will be concerned that they will be stuck competing with a municipal entity with the power to tax, but the best guess is that most municipal entry will track the examples we have seen in Philadelphia and San Francisco. As we have seen, that means private provision of the service pursuant to contracts reached through auctions of access to municipal infrastructure.

Additional entry into the broadband market should help to control the desire to regulate this market, and in particular, a push towards implementing some version of network neutrality. This is a vague notion but at its core it is about nondiscrimination by dominant providers. As we see entry into broadband markets and a push towards competition, there should be less of a concern that market power can be abused and less of a reason to attempt to force some version of neutrality.

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[55] Public Version of EarthLink Municipal Networks and Google Submission to San Francisco at p. 56 (February 21, 2006) (available at http://www.sfgov.org/site/uploadedfiles/dtis/tech_connect/EarthLink_SanFrancisco_RFP_2005-19_PUBLIC.pdf).

[56] See Presentation Slide No. 9 (available at http://www.sfgov.org/site/uploadedfiles/dtis/tech_connect/earthlinkSanFranciscoOralPresentationPublic031506.pdf).

[57] Electronic Privacy Information Center, A Privacy Analysis of the Six Proposals for San Francisco Municipal Broadband (available at http://www.epic.org/privacy/internet/sfan4306.pdf).

[58] Chris Nuttall & Kevin Allison, Google aims to track users with wi-fi, The Financial Times, April 7, 2006.

[59] http://www.verizonwireless.com/b2c/mobileoptions/broadband/serviceoverview.jsp.

Are their any across-jurisdiction externalities that we should fear from local muni Wi-Fi entry? To understand that , we need to know something about the minimal scale of efficient entry for the other new wireless broadband technologies. Suppose that those technologies required national entry, if entry was to occur at all. Then local free wireless broadband might serve to block that entry. If citizens of San Francisco and other cities decided not to pay for a share of the national wireless technology given that they could use the free local service, that might remove a sufficient number of customers from the customer base that national entry would be precluded. And while it seems clear that San Francisco should figure out what to do with its lightpoles, San Francisco would ignore the consequences for national entry in making its decision to implement local Wi-Fi.

The idea of national entry, if entry at all, isn't new to us; this was exactly what we saw for satellite broadcasting above. Cable was local entry, and it is only over time that that local entry aggregated into larger providers, but for satellite given the nature of the technology, entry was necessarily national. And for satellite, we certainly think that the scope of available local services influences the viability of national satellite service. Rural users with lousy local service are the natural target for satellite service, but dense, urban communities with better local service—both broadcast and cable—are harder sells.

To come back to wireless broadband, entry appears to be occurring locally. Private providers roll out the service market by market, and even if appropriate spectrum has been acquired nationally, spectrum sales are policy choices, not natural technology constraints. The fact that we are observing local private entry in wireless broadband suggests that the across-jurisdiction externality concern of muni Wi-Fi entry is small to nonexistent and shouldn't be a driver of our policies in this area.

B. Video Franchising

Switch to video Internet protocol television or IPTV. AT&T and Verizon are trying to enter the television business. AT&T has its Project Lightspeed: "fiber-to-the-neighborhood and fiber-to-the-premises technologies to 18 million households across 13 states by the end of 2007."[60] Verizon has FiOS and FiOS TV. Like Lightspeed, FiOS is fiber based, uses the Internet protocol—everything is divided into packets—and is unmistakably television. If you live in one of the handful of communities in which FiOS TV is available—Keller, Texas is ground zero in this revolution—you can order one of the offered packages—starting at $12.95 per month for local TV and educational channels but more realistically $39.95 per month for roughly 180 digital channels (including ESPN and much on demand programming) and up if you want premium content such as HBO and Showtime.[61] FiOS TV has hit the ground running taking 30% of the market in Keller.[62] IPTV hopes to compete directly with cable, broadcast and satellite and in the bur-

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[60] SBC Communications Inc. Announces Project Lightspeed IPTV Appointments, Press Release, March 22, 2005 (available at http://att.sbc.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=21623). For more info on Project Lightspeed, see http://att.sbc.com/gen/press-room?pid=5838.

[61] See http://www22.verizon.com/FiosForHome/Channels/FiosTV/FiosTVpackage.aspx for pricing info and http://www22.verizon.com/FiOSForHome/Includes/FiOSTV/NorthTexas.pdf for the North Texas channel line up.

[62] Sudeep Reddy, Telephone, cable firms fight over TV service, The Dallas Morning News, March 23, 2006 (available at http://www.dallasnews.com/sharedcontent/ptech/generalstories2/032306ccdrPTECHtelecom.5440e4d7.html).

geoning market for video over broadband through Apple's iTunes, Google Video and directly from content creators such as Disney.[63]

It is important not to confuse views on the merits of a particular policy with the question of the jurisdictional level at which a particular decision should be made. We should want greater competition in video markets and should be delighted to see AT&T and Verizon enter these markets. The point that matters here is not that local implementation will slow down entry, but rather that it will do so in a way that will not be internalized within jurisdictions. Not that Chicago suffers if Chicago inexplicably delays IPTV entry but rather that Milwaukee suffers when Chicago does so. To assess that, focus on two items of local interest. The first is the state of competition in the local market which ties to the extent to which natural monopoly/franchise regulation is appropriate. The second is the desired level of cross-subsidization, which, in this context, focuses on the scope of required entry, or whether IPTV entrants will face build-out provisions, so that they have to provide service to *all* of the citizens in a local area, another version of a universal service obligation.

1. IPTV AND FRANCHISING

In the past, local entry in television has meant franchising: ask the local authorities for permission to provide the service and negotiate entry. Cable franchising has a long history as regulated entry, with a mix of federal, state and local requirements, and the process itself has faced sustained criticism.[64] The new video entrants fear that they will need to replicate the current franchise patchwork and negotiate with thousands of municipalities to provide video service. From the cable industry's perspective, with most of their franchising problems behind them in the rear-view mirror, local franchising doesn't look so bad, as now it would operate as a barrier to entry against an intermodal entrant like IPTV.[65]

If you are the IPTV entrants, the solution is to jump up one level, a second solution to—you guessed it—jump two levels, so we have seen state-level legislation addressing entry, both for it and against it,[66] and Senator Stevens has pushed legislation that would

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[63] Brooks Barnes, Disney Will Offer Many TV Shows Free on the Web, The Wall Street Journal, April 20, 2006, p. A1.

[64] See Posner, supra note 10; Willamson, supra note 10; for recent criticism, see Thomas W. Hazlett, Cable TV Franchises as Barriers to Video Competition (George Mason Univ. Law & Econ Research Paper Series, 06-06, March, 2006).

[65] The Senate Commerce, Science & Transportation Committee held hearings on video franchising on February 15, 2006. For testimony by the entrants, see testimony of Ivan G. Seidenberg, Chairman and Chief Executive Officer, Verizon Communications and testimony of Edward E. Whitacre, Jr., Chairman and Chief Executive Officer, AT&T Inc. (available at, respectively http://commerce.senate.gov/pdf/seidenberg-021506.pdf and http://commerce.senate.gov/pdf/whitacre-021506.pdf). For one set of views by cable, see testimony of Thomas M. Rutledge, Chief Operating Officer, Cablevision Systems Corporation (available at http://commerce.senate.gov/pdf/rutledge-021506.pdf) ("Franchises are an important aspect of cable television's localism. ... Franchise agreements reflect other local priorities of the community. These include requirements for universal service, nondiscrimination, construction standards, zoning, aesthetics and public safety. These priorities are most effectively selected and enforced by local officials that know their community best.")

[66] Texas enacted statewide franchising effective as of September 1, 2005. See Vince Vittore, Verizon gets statewide video franchise in Texas, TelephonyOnline, October 21, 2005 (available at http://telephonyonline.com/access/regulatory/verizon_fios_texas_102105/). For a useful summary of the legislation, see Texas Public Utility Commissioner Barry T. Smitherman, Texas Video Competition: Senate Bill 5 Highlights, February 10, 2006 (available at http://www.fcc.gov/realaudio/presentations/2006/021006/smitherman.pdf). Virginia

create a version of federally-mandated IPTV franchising.[67] The proposal would short-cut the franchise applications process while still ensuring provision of many of the local benefits often associated with local cable franchises, such as franchise fees; control over rights of way, on a nondiscriminatory basis; and provisions for public, educational and governmental uses.

The franchise discussion in Section I.C. emphasized two points. First, if the relevant markets are competitive franchising almost certainly makes society worse off, though there can be individual winners in the process and the franchising authority may be able to capture benefits from restricting entry. Second, if markets are monopolistic or oligopolistic, lump-sum franchise auctions capture more social value for citizens, but even better, price-of-service auctions can reduce deadweight losses as bidders offer prices closer to the true social cost of providing the products. The recent caselaw has criticized the FCC for not taking into account local variations in telcom market conditions,[68] but this is exactly what a federal franchise mandate would implement.

We should again consider the possibility of across-jurisdiction spillovers. In the muni wireless case, I suggested that wireless broadband entry was occurring locally in that the facilities providing the services were built locally. This same will be true for IPTV: fiber in the ground in Chicago doesn't put fiber in place in Milwaukee and vice versa. Again, the clean case of national entry, if entry at all, is satellite TV with its national footprint. There is one difference, though, compared to the wireless broadband case. With communications, content is user-generated—I call you or email you—but with video, the IPTV entrant will need to acquire rights to content.

Even if there are no important across-jurisdiction economies of scale in putting fiber in the group—it isn't easier to do it in Chicago if you are doing it in Milwaukee—do we see economies of scale in acquiring content? Industry participants claim that size matters in acquiring content, that is, that an IPTV entrant will strike a better deal with, say, ESPN the larger the subscriber base controlled by the entrant. If that is right, if Chicago blocks IPTV entry while Milwaukee allows it, Milwaukee subscribers will pay more because the entrant will pay more for content, and some subscribers may drop out entirely.[69]

2. IPTV AND LOCAL BUILD-OUT REQUIREMENTS

IPTV entrants will naturally seek to enter areas where profits are greatest. Some fear that the new entrants will just serve relatively well-to-do communities (or low-cost communities) but will shun poorer communities (or high-cost communities)—a version of video redlining—expanding video choices for the well off and doing nothing for the less fortunate. Imposing a build-out requirement is a citizen-based version of carry one/carry all: if

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has gone in the other direction. See Press Release of March 10, 2006, Governor Kaine Signs Cable Competition Bill—Consumers get more options, localities retain controls (available at http://www.governor.virginia.gov/MediaRelations/NewsReleases/2006/Mar06/0310.cfm).

[67] The August 4, 2006 iteration of H.R. 5252, the Advanced Telecommunications and Opportunities Reform Act, ran 287 pages, with the actual bill text starting on page 69. The video franchising simplification provisions, set forth in Title III of the bill, ran 47 pages. See http://commerce.senate.gov/public/_files/HR5252RS.pdf (visited on August 25, 2006).

[68] USTA, supra note 34.

[69] Note that I have said nothing about the First Amendment issues raised by cable franchising. That is obviously an important—but for my paper separate—consideration.

you the IPTV entrant are going to offer a new opportunity to some of our citizens, you have to do it for all of them.

It is an interesting commentary on our society about where these arguments are persuasive and where they are not. You would not think that video would be on the front-lines in these debates. In this situations, all citizens have access to satellite broadcasting—this is the national footprint of these services again—and the cable bypass rate—that is, the percentage of television households homes where cable is available is roughly 100%—plus we have over-the-air broadcasts. If rural communities have less video access, it is because that is part of the package of attributes associated with rural life and low-population density: lots of room, open air, but weak telcom services. A build-out requirement that requires IPTV entrants to achieve the same level of service in rural areas that they voluntarily offer in urban areas is to want rural life and urban services and to have someone else pay for them.

We could also imagine different approaches to universal service/build-out requirements and that should push us towards local decision-making. Consider this possibility: we require the entrant to offer service in each area, but we allow the entrant to provide that service using its own facilities or those of another market participant. This converts universal service into a build-or-buy decision. This forces us to consider what we are trying to accomplish by imposing universal service obligations on entrants in the face of an incumbent who is already providing universal service. The point isn't about ensuring that high-cost areas actually receive service, as they are already getting service from the incumbent. We could impose a universal service obligation on entrants as a souped-version of universal service: not only are high-cost areas entitled to the same service available to low-cost/high-profit areas, but they are entitled to the same level of competition that more attractive areas will see naturally. That really depends on how you conceive of universal service.

But the level-playing field argument is another angle on universal service, but making universal service obligations contractable would allow us to decouple the competitive consequences of universal service from the consumer consequences of universal service. If, on the consumer side, a jurisdiction embraced the narrow conception of universal service—some defined floor of service but not necessarily the same level of competition in each part of the market—then that jurisdiction could better allocate the universal service obligation by requiring the entrant to either provide the floor service through their own facilities or by allowing them to contract for floor service from the incumbents. That would allow us to avoid inefficient overbuilding of high-cost communities.

This frames the competing issues at stake in universal service and their relationship to entry policy and incentives. The next question is whether we should think that those issues are best resolved at one jurisdictional level or another. The mere fact that we have natural competing conceptions of universal service suggests that we should allow for multiple outcomes, unless we think satisfying these heterogeneous conceptions introduces unmanageable externalities. I don't see these here.

Conclusion

We are at a fun time in telecommunications. It is rare to have entry of major new services, but we have two right now—maybe more depending on how you count. IPTV promises more competition with existing television providers (cable, over-the-air broadcast and satellite). That should result in lower prices and greater variety in content. Municipal wireless broadband promises that individual communities can harness their existing infrastructure and add a third broadband source to join cable and DSL.

But change also brings the possibility of regulatory entry, that is, regulators who seize upon the natural turmoil of entry. For IPTV and muni wireless, we have seen regulatory entry at each level of government, by municipalities, states and the federal government. States have blocked municipal efforts and the federal government has threatened to intervene and set federal terms of entry for both IPTV and muni wireless.

Federal entry is premature. These services are at a very early stage and there are many variations of these services that could be implemented. In both cases, most, if not all, of the consequences of delaying or facilitating entry will be borne locally. We should therefore play out the natural process of local tailoring and variation.

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