Telecommunication Deregulation:

A Policy Progress Report

DIGITAL POLICY INSTITUTE

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The Digital Policy Institute *is responsible for research and education on issues relevant to digital media. Started in 2004 under a Provost Initiative Grant, the DPI is involved in hosting symposia, workshops, and roundtables on current, highly relevant issues in the industry of digital media. By addressing the issues behind intellectual property, the DPI will raise the level of awareness on this campus (and, by extension, nationally) about what constitutes intellectual property theft, rationalizations about it, and models for protecting digital rights.*

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The past decade has seen a wave of changes to telecommunications regulation in the United States. These policies directly or indirectly influence the price, quantity and type of broadband connections available to consumers. The scope of changes to these regulations, which have occurred in at least 25 states in the past decade, represent an important research question for policymakers considering federal, state or local adjustments to telecommunications policy.

This report is designed to summarize the type and extent of these policy changes. It presents a discussion of the issues influencing research and policy in these areas and evidence of the impact of one of these regulatory changes to broadband telecommunications adoption rates in US states. We begin with a summary of policy changes.

A DECADE OF TELECOMMUNICATIONS REFORM

Over the past decade, more than half of all states have made significant adjustments to their telecommunications policy landscape. These changes have focused on five broad areas; 1) adjustments to pricing regulation; 2) changes in the flexibility of pricing; 3) authorization of statewide franchising of cable access TV; 4) deregulation of alternative sources of broadband such as wireless and voice over internet protocol (VOIP); and 5) regulation concerning provider of last resort for incumbent local exchange carriers. See Appendix Table 1 for a summary of selected current legislation.

The distribution of deregulatory initiatives across states tells a partial story about the role geographic variations, population density and urban density play in formulating state policy. For example, states with relatively more dense populations have had the most open statewide franchising, often dating from 1984 when the federal Cable Franchise Policy and Communications Act was enacted.[1]

Far and away the most vigorous changes to telecommunications policy have been the relaxation of regional monopolization of cable access TV markets. This adjustment to regulatory policy permitted non-incumbent cable access television providers to enter markets to provide residential and commercial cable TV.

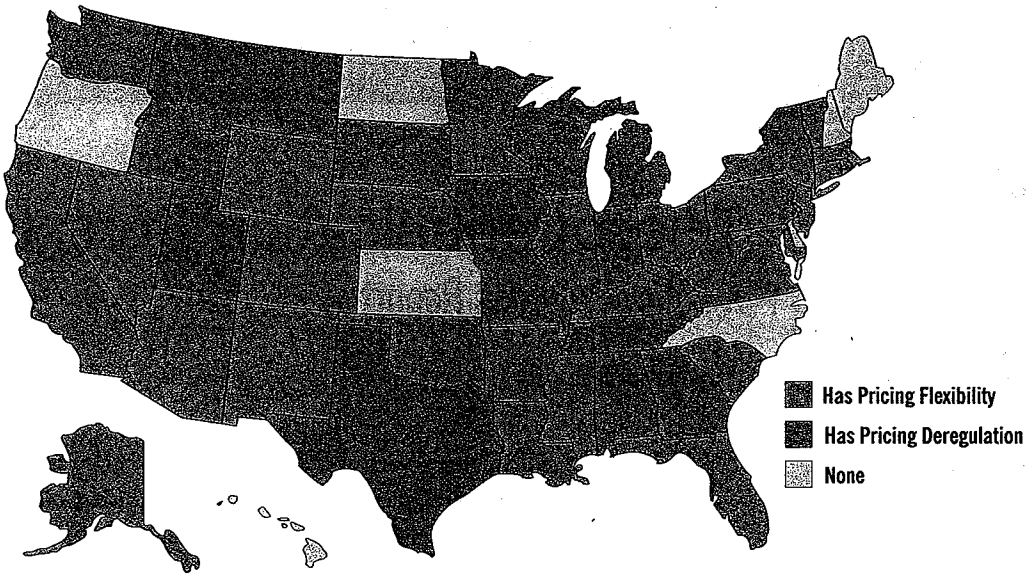
This deregulation effectively was a recognition of technological changes that permitted a wide variety of access technologies for cable TV. The primary benefit of statewide franchise reform was the expansion of opportunity and competition within the realm of video and cable services. Many other consequences of this deregulation have materialized and are worthy of more detailed policy focus, however.

UNINTENDED BENEFITS: THE CASE OF STATEWIDE FRANCHISING

As of December 2009, 25 states have adopted provisions permitting free entry into cable access TV markets by any firm. This statewide franchising, it is argued, lowers the cost of entry into the cable television market by eliminating the lengthy, often protracted and costly market-by-market legal franchise negotiations. Without a statewide franchising law, a potential statewide cable TV competitor is required to negotiate a separate franchise for operation in each and every locality in the state. A statewide franchise allows such a firm to operate throughout the state subject to a uniform set of rules and with a single application facilitating entry into the cable TV market.

1. At the time, four states amended their state utility regulations to allow for statewide franchising: Hawaii, Vermont, Alaska, and Rhode Island. See Lassman, Kent (2005). "Franchising in the Local Communications Market: A primer and Discussion of Three Questions." Progress on Point, *Release 12. 9 June 2005, Retrieved on February 5, 2010 from http://www.pff.org/issues-pubs/pops/pop12.9franchise.pdf*

Figure 1: Selected Changes to State Regulation, 2000-2011



Advocates for statewide franchising generally have been large telecommunications firms wishing to offer their cable TV services at a statewide level. Opponents have included local cable incumbents. Advocates of statewide franchising have argued that its adoption would increase telecommunications investment and lead to more competitive cable television services. Opponents have denied such claims.

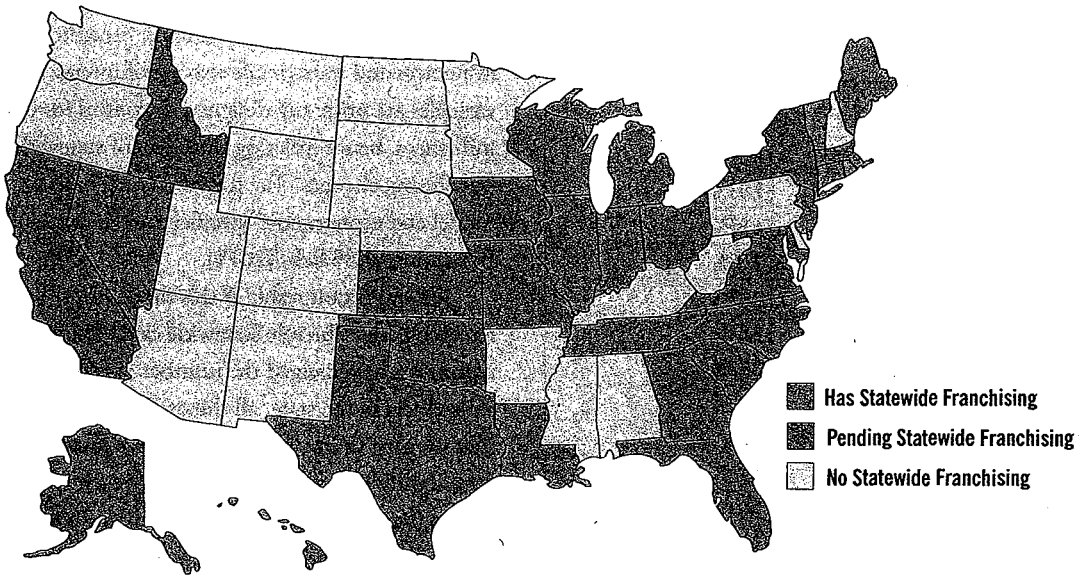
To the best of our knowledge, there is no evidence in the refereed academic literature of the impact of statewide cable franchise laws on either the quantity of investment in telecommunication infrastructure or on cable television rates. This is not surprising, as the both cable television rates and telecommunications infrastructure investment is proprietary information.

Since 1999 however, the Federal Communications Commission (FCC) has compiled data on the number of broadband connections by state. This data offers an avenue to assess the impact of statewide franchising on an important telecommunications metric: broadband connections. Telecommunications providers have increasingly offered bundled broadband services, blurring the line between a cable provider, a phone provider and an Internet provider. A statewide cable franchise encourages a traditional landline telephone provider not only to enter the cable TV market but also the market for broadband service. Although broadband service could be offered in a local market by a land line telephone provider in the absence of a statewide franchise, a statewide franchise "sweetens" the potential returns to the capital investments necessary to facilitate the provision of both cable and other broadband services.

There is, therefore, reason to suspect that entry into a cable TV market will be accompanied by entry into the broadband market. Increased competition in broadband should be consistent with higher take rates for broadband, holding all other factors constant. The empirical issue we pose is straightforward: do states that adopt statewide cable franchising have higher growth rates in household and firm broadband connections than states that have not adopted such provisions—controlling for all other relevant factors? Not only does this offer to provide indirect evidence as to the initial claims of statewide franchise advocates—that such laws increase telecommunications investment—but also offers to potentially quantify another benefit of a statewide cable franchise law—increased Internet access.

An important consideration in light of the cost reduction in non-cable access TV-related broadband is the effect this has had on price and quantity of broadband connections. Unfortunately, we do not have access to broadband prices. We do however, have robust data on broadband connections at the state level. So, our empirical strategy is straightforward. We seek to test the relationship between statewide franchising legislation – the relaxing of geographic market constraints on the degree of competition within cable networks. To do so, we must construct models that account for the presence or introduction of statewide franchise legislation as

Figure 2: Statewide Cable TV Franchising Changes



well as indications of competition in broadband and cable services in each U.S. state.

To begin this process we obtained semi-annual, state level data on subscribers from the FCC's, Form 477 reports. This data provides administrative subscriber accounts as of June and December each year, beginning in June 1999. The data lag is roughly 16 months, so as of this writing the June 2008 data we analyzed represents the latest availability.

We also collected data on the presence of statewide franchising through a census of states. See Appendix Table 2. From this data, we crafted a panel of variables that accounted for the presence of statewide franchising, by state, in the semi-annual period which corresponds to the FCC data. In order to be conservative in our estimate, we imposed no restrictions on the duration of implementation. For example Illinois' Senate Bill 0678 was implemented in June of 2007, which dictated our coding Illinois as possessing statewide cable franchising during the period January-June 2007. As a practical matter, this would not likely be sufficient time to observe a competitive response to this change in regulation. We have adopted this convention because insofar as it imposes any bias in the treatment of de-regulation it would tend to reduce the magnitude of the impacts. This is a conservative assumption.

Further, we collected data on subscribers, by type, from the FCC Form 477 reports. These data cover a far shorter duration, with annual observations of no more than four years. While this is a richer data set with respect to the share of subscribers by provider type, the time frame is not really sufficient for dynamic analysis. This data contains nine different types of broadband providers, albeit with considerable data suppression in smaller states. We were able to add a variable for total years of statewide cable franchise availability, and demographic data on population, population density, per capita personal income and the share of population less than 65 years of age.

As a consequence, we have two data sets. The first is a semi-annual panel from 1999:S2 through 2008:S1 comprising broadband subscribers (in aggregate) and the presence of statewide cable franchising legislation. The second is a cross-sectional model with detailed information on demographic, geographic, economic and regulatory information on broadband subscribers by state. Thus, we have two potential families of competitive models to test.

Statewide Franchising and Subscriber Dynamics

A fundamental consideration in the context of statewide cable franchising was the extension of broadband subscribers as a consequence of the price effect of statewide competition. Historical data on prices for Internet services are unavailable. As a consequence, we must rely upon other data to estimate this effect. Estimating this on statewide data provides us the following relationship:

$$Subscribers = f(x, Cable\ Franchise, Trends)$$

where a measure of broadband subscribers are a function of regional specific conditions (x), the

Table 3: Additional Broadband Connections Attributable to Statewide Cable Franchising

State	Total Attributable	% of Total New Subscribers Attributable
California	1,489,551	2.41%
Connecticut	110,085	2.04%
Florida	444,977	2.03%
Georgia	149,513	1.93%
Illinois	305,114	2.05%
Indiana	226,719	2.47%
Iowa	59,469	2.04%
Kansas	98,983	2.33%
Louisiana	25,730	1.66%
Maine	7,925	1.85%
Michigan	284,587	2.23%
Missouri	111,962	2.03%
Nevada	69,556	1.99%
New Jersey	393,890	2.21%
North Carolina	278,784	2.22%
Ohio	184,494	1.91%
Rhode Island	176,634	5.32%
South Carolina	158,608	2.49%
Tennessee	50,385	1.82%
Vermont	86,493	5.88%
Virginia	327,981	2.42%
Wisconsin	105,987	2.04%
Total	5,147,425	

presence of a statewide cable franchising and trend dynamics. The more detailed econometric models are available in Bohannon and Hicks [2010]

We are interested in detecting a year-to-year variation in the number of subscribers in each state as a consequence of statewide cable franchising changes and other factors which may influence broadband subscriber growth. By estimating the dependent variable as a percent change, we abstract from state level population differences in the estimate. The model we use allows us to control for random variation which is common to each state, for the duration of the sample period. Thus, we can account for such things as relative population density, regional age differences, other demographic characteristics and incomes. A recession variable accounts for business cycle specific changes to broadband adoption. By permitting the time trend to vary by state we are attempting to isolate the differential growth in take rates by states that absorbed different technologies at different times. We also account for national growth trends and spillover effects across states.

Our estimation results speak primarily to the effect of statewide cable franchising deregulation. While the effect of recessions, broad regional influences and state trends also are of interest, these variables are primarily designed to control for other influences, hence isolating the effect of statewide franchising changes. The full results, theoretical model and econometric specification are available in Bohannon and Hicks [2011].

The important result of this model for this research is that the role statewide cable franchise deregulation has changed the number of broadband subscribers in the state, all things held constant. For that we turn to the model results. We found, across two slightly different models that for each observed period (six months) of statewide franchising, a state will experience a roughly 4 percent increase in subscribers. The mean duration of statewide franchising is just under two years and four months. It is possible then to provide a point estimate of additional broadband connections for each state with a deregulated cable franchising. See Table 3.

These findings are prime evidence of increased competition in broadband services that resulted from enactment of statewide cable franchise legislation in a few states. Another important facet of the debate is the change in competition resulting from changes to statewide franchising of cable services.

SUMMARY AND CONCLUSIONS

Our preliminary research into the wave of state level telecommunications deregulation tells a tantalizing story about the changing landscape of regulation and its effect on broadband and other telecommunications services. However, this story is incomplete.

Changes to regulation are complex and potentially interactive. We note that much existing research speaks to the role pricing regulation plays on capitalization of technologies, how these rules might affect subsequent market entry (even in deregulated markets) and how technological change has altered previously natural monopolies. Consequently many of the most critical issues surrounding the influence of regulation are not yet known.

For example, the evidence provided here of statewide franchising hints at a more complex issue. We find that permitting statewide franchising had a significant effect on the adoption of broadband telecommunications, accounting for almost 6

percent of new subscriptions in those states which had the longest history of statewide market access by providers. What we do not yet know is equally compelling.

To date, research has not clearly linked the role recent changes to pricing regulation to quality or type of broadband service. Likewise, we do not know if legacy pricing regulation (rate-of-return) has influenced capitalization differently than alternative pricing regulation. Further, research has not clarified the role other broadband incentives – such as state and local tax policy, specific incentives for broadband or other telecommunications providers – has played on deployment and adoption of broadband. An important, and almost wholly unexplored arena of research is the combination of state policy differences and the mix of broadband providers.

The telecommunciations policy environment is richly populated with state-level variability in pricing, access and fiscal conditions. For states considering changes to their policies, evidence from analysis of the experience of other states is critical.

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Appendix

Table 1: Selected Changes to State Regulation, 2000-2011

	Pricing Dereg.	Pricing Flexibility	Explanation of Pricing	Comments
Alabama	X			
Alaska		X	8% Per year price cap	
Arizona		X		
Arkansas		X		
California		X	Price caps	
Colorado		X	Price ceiling	
Connecticut		X	Price caps	
Delaware			Statutory regulation	
Florida		X	Price caps	
Georgia	X			
Hawaii			Fully regulated	
Idaho	X		W/ proven competition	
Illinois		X	Basic increase no more than $1 per year	Wireless deregulation
Indiana	X			Wireless, VoIP, and partial broadband deregulation
Iowa	X			
Kansas		X	Rates for retail dereg	
Kentucky		X	Rates for retail dereg	
Louisiana		X	Price caps	
Maine			Fully regulated	
Maryland		X	Price caps	
Massachusetts		X	Price caps	
Michigan	X		Minimum plan protected	Wireless
Minnesota		X	Limited AFOR	
Mississippi		X	Rates for retail dereg	
Missouri		X	Price caps	
Montana	X*		*Pending case	
Nebraska	X			
Nevada		X	Price caps	Provider of last resort obligation
New Hampshire			Rate of return reg.	
New Jersey		X	3 years of increases	
New Mexico		X		
New York		X	Price capped at $23	
North Carolina			Fully regulated	
North Dakota				
Ohio		X	Max increase $1.25	Broadband, VoIP
Oklahoma		X	Price caps	
Oregon				
Pennsylvania		X	Price caps	
Rhode Island	X			
South Carolina		X	2 year rate cap	
South Dakota	X			
Tennessee	X			
Texas	X			Broadband
Utah	X		No price limits where competition is proven	
Vermont		X	Price caps	
Virginia		X	Price caps	
Washington		X	AFOR allows for one time, $1 increase	
West Virginia		X		
Wisconsin	X			Wireless
Wyoming		X	Capped at 2006 levels	

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Table 2: Statewide Cable TV Franchising Changes

	Statewide Franchising	Legislation	Last Action		Statewide Franchising	Legislation	Last Action
Alabama	No	N/A	N/A	Nebraska	No	N/A	N/A
Alaska	Yes	N/A	N/A	Nevada	Yes	AB 526	Enacted June 2007
Arizona	No	HB 2812	Enacted March 2006	New Hampshire	No	N/A	N/A
Arkansas	No	N/A	N/A	New Jersey	Yes	ACS 804	Enacted August 2006
California	Yes	AB 2987	Enacted September 2006	New Mexico	No	HB 675/SB 522	Legislation exhausted as of April 2009
Colorado	No	HB 1222	Dead as of June 2007				
Connecticut	Yes	HB 7182	Enacted July 2007	New York	Pending	AB 4469	As of February 2009
Delaware	No	N/A	N/A	North Carolina	Yes	H 2047	Enacted July 2006
Florida	Yes	HB 529	Enacted May 2007	North Dakota	No	N/A	N/A
Georgia	Yes	HB 227	Enacted July 2007	Ohio	Yes	SB 117	Enacted July 2007
Hawaii	Yes	N/A	N/A	Oklahoma	No	N/A	N/A
Idaho	Pending	S1100/In House	Passed Senate February 2009	Oregon	No	N/A	N/A
Illinois	Yes	SB 0678	Enacted June 2007	Pennsylvania	No	HB 1490	As of May 2009
Indiana	Yes	HR 1279	Enacted March 2006	Rhode Island	Yes	N/A	N/A
Iowa	Yes*	SF 554	Enacted March 2007, * additional legislation pending	South Carolina	Yes	HB 4428/HB 3396	Enacted May 2006 & March 2007 resp.
Kansas	Yes	SB 449	Enacted April 2006	South Dakota	No	HB 1160	Modified franchising regulation, enacted March 2005
Kentucky	No	N/A	N/A				
Louisiana	Yes	SB 807	Enacted June 2008	Tennessee	Yes	HB 1421/SB 1933	Enacted May 2008
Maine	Yes	HB 1515	Enacted April 2008	Texas	Yes	SB 5	Enacted August 2005
Maryland	Pending	HB 1182/ In Senate	As of February 2009	Utah	No	SB 209	Exhausted as of February 2007
Massachusetts	Pending	S2649	As of January 2009	Vermont	Yes	N/A	N/A
Michigan	Yes	HB 6456	Enacted December 2006	Virginia	Yes	HB 568/HB1404	March & July 2006
Minnesota	No	SB 3337	Enacted May 2008	Washington	No	SB 5421	Exhausted as of March 2009
Mississippi	No	N/A	N/A	West Virginia	No	HB 3161	Legislation Exhausted as of 2003
Missouri	Yes	SB 284	Enacted March 2007	Wisconsin	Yes	AB 207/SB 107	Enacted April 2007
Montana	No	N/A	N/A	Wyoming	No	N/A	N/A

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