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## Is the FCC's Regulatory Revival Deterring Infrastructure Investment?

By Dr. George S. Ford

■ here's a Regulatory Revival underway at the Federal Communications Commission ("FCC"), a revival which one leading industry executive described as a "war on infrastructure investment." Over the past seven years the FCC either has reversed, or is threatening to reverse, many of the most significant bipartisan deregulatory accomplishments of the past two decades. These actions include, but are certainly not limited to, the reclassification of broadband Internet access as a common carrier telecommunications service under Title II of the Communications Act,<sup>2</sup> preempting state laws that restrict municipal broadband in order to "promote competition" with the private sector,3 the aggressive regulation of out-dated "special access" ser-

<sup>1</sup> B. Quinn (AT&T's Senior Vice President-Federal Regulatory and Chief Privacy Officer), The War on Infrastructure Investment, AT&T Public Policy Blog (November 3, 2015) (available at: http://www.attpublicpolicy.com/special-access/thewar-on-infrastructure-investment); G.S. Ford, Special Access

and the FCC's Regulatory Revival, @Lawandeconomics Blog

(October 20, 2015) (available at: http://www.phoenixcenter.org/blog/archives/2074).

<sup>2</sup> Protecting and Promoting the Open Internet, Report and ORDER ON REMAND, DECLARATORY RULING, AND ORDER, FCC 15-24, 30 FCC Rcd 5601, 80 Fed. Reg. 19738 (rel. Mar. 12, 2015), appeal pending, U.S. Telecom v. FCC (D.C. Circuit Docket No. 15-1063) (hereinafter "2015 Open Internet Order").

<sup>3</sup> Lawrence J. Spiwak, The FCC's New Municipal Broadband Preemption Order Is Too Clever by Half, Bloomberg BNA (April 10, 2015) (available at: http://www.phoenix-center.org/

BloombergBNATennesseePreemptionOrder10April2015.pdf).

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vices, 4 and creating an asymmetrical privacy regime for edge and core providers.5

The Commission's increased appetite for regulation is driven, in large part, by the increased politicization of the Commission's deliberative process including, in some instances, direct and public pressure on the independent agency from the White House. Broadband Service Providers ("BSPs")—some of the nation's largest spenders on capital equipment—are now treated by the FCC as villains of Voldemortian proportion. Democratic Commissioner Mignon Clyburn opined that the tage the Internet for profit, but also "for no reason at all."  $^{7}$ 

Given such hostility, it should come as no surprise that regulated firms and investors are a bit skittish about directing scarce resources into this toxic regulatory environment. As respected industry analyst Frank Louthan of Raymond James Financial put it in recent testimony before Congress about the investment effects of the FCC's new Net Neutrality rules, "Title II is restricting overall investment and returns, ... we do not

<sup>4</sup> G.S. Ford, Special Access and the FCC's Regulatory Revival,@Lawandeconomics Blog (October 20, 2015) (available at: http://www.phoenix-center.org/blog/archives/2074).

<sup>7</sup> Statement of Commissioners Mignon L. Clyburn, RE: Protecting and Promoting the Open Internet, GN Docket No. 14-29 (February 26, 2015) (available at: https://www.fcc.gov/

article/doc-332260a3).

<sup>&</sup>lt;sup>5</sup> G.S. Ford and L.J. Spiwak, Information, Investment and the Internet of Everything, Presented at "The Internet of Everything: Data, Networks and Opportunities" - U.S. Chamber of Commerce Foundation (September 22, 2015) (available at: http://www.uschamberfoundation.org/article/informationinvestment-and-internet-everything).

<sup>&</sup>lt;sup>6</sup> L.J. Spiwak, *The "Clicktivist" In Chief, The Hill* (November 12, 2014) (available at: http://thehill.com/blogs/punditsblog/technology/223744-the-clicktivist-in-chief); G.S. Ford and L.J. Spiwak, The Unpredictable FCC: Politicizing Communications Policy and its Threat to Broadband Investment, Phoenix Center Policy Perspective No. 14-05: (October 14, 2014) (available http://www.phoenix-center.org/perspectives/ Perspective14-05Final.pdf).

believe it will make the industry as attractive to capital as it had been in the past."8

BSPs nonetheless continue to invest. With rising demand for high-speed broadband service, the redirection of consumer preferences to newer products, and the continuance of low interest rates, the *market* conditions are favorable for investments in infrastructure and others components of a firm's reported capital expenditures. This investment does not mean, however, that the expanding regulatory state is innocuous.

In search of evidence on the effects of the FCC's expanding regulatory influence, interested parties have turned to short-run fluctuations in the capital expenditures reported in the quarterly financial statements of broadband providers. But looking simply at the upsand-downs of quarterly capital expenditures fails to offer any insight on the investment effects of regulation (or any other factor). The confluence of positive and negative "treatments" on investment incentives requires an informed and careful analysis to quantify impacts. Let me explain.

**A Lesson in Counterfactuals.** Broadband Service Providers—companies like AT&T, Verizon, Comcast, and CenturyLink—are among the nation's largest spenders on capital equipment, and many factors influence their capital outlays. <sup>10</sup> In its 2014 Annual Report,

<sup>8</sup> Testimony of Frank Louthan, Managing Director of Equity Research at Raymond James Financial, before the House-Committee on Energy and Commerce, Subcommittee on Communications and Technology (October 27, 2015) (available at: http://docs.house.gov/meetings/IF/IF16/20151027/104110/ HHRG-114-IF16-Wstate-LouthanF-20151027-U1.pdf); see alsoTestimony of Craig Moffett, Partner and Senior Analyst, MoffettNathanson before the House Committee on Energy and Commerce (July 22, 2015) ("The counter argument, that Title II regulation will only stifle investment even among incumbents, and will thereby make the problem worse, and will in the process generate unwelcome unintended consequences, is equally well- intentioned, and, unfortunately, is equally well-supported by the historical evidence.") (available at: http://docs.house.gov/meetings/IF/IF16/20150722/103745/HHRG-114-IF16-Wstate-MoffettC-20150722.pdf).

<sup>9</sup> C.f., H. Singer, Does The Tumble In Broadband Investment Spell Doom for the FCC's Open Internet Order? Forbes (August 25, 2015) ("average decline across all wireline ISPs was 12 percent" in first half of 2015) (available at: http:// www.forbes.com/sites/halsinger/2015/08/25/does-the-tumblein-broadband-investment-spell-doom-for-the-fccs-openinternet-order); J. Brodkin, Title II Kills Investment? Comcast and Other ISPs Are Now Spending More - ISP Earnings Reports Contradict Republican Claims of Reduced Investment, Ars Technica (October 28, 2015) (available at: http:// arstechnica.com/business/2015/10/comcast-and-other-ispsboost-network-investment-despite-net-neutrality); The Truth About ISP Industry Investment After the FCC Net Neutrality Vote, Free Press (September 10, 2015) (pointing out capex by Comcast rose during first half of 2015) (available at: http:// www.freepress.net/resource/107129/truth-about-isp-industryinvestment-after-fcc-net-neutrality-vote); but see George S. Ford, Finding the Bottom: A Review of Free Press's Analysis of Network Neutrality and Investment, Phoenix Center Perspective No. 09-04 (October 29, 2009) (available at: http:// www.phoenix-center.org/perspectives/Perspective09-04Final.pdf).

<sup>10</sup> M. Mandel, U.S. Investment Heroes of 2015: Why Innovation Drives Investment, Progressive Policy Institute Policy Мемо (September 2015) (available at: http://www.progressivepolicy.org/issues/economy/u-s-investment-heroes-of-2015-why-innovation-drives-investment).

for example, AT&T stated that its capital expenditure decisions are influenced by the "demand for services and products, capacity needs and network enhancements, . . . and regulatory considerations." These decisions are also affected by sources of funding, which brings into the mix the market conditions for debt, equity, and other asset transactions. The mix of these varied factors determines the final outcome. For instance, it's certainly possible for a coincident rise in the demand for service (increasing incentives) and interest rates (decreasing incentives), and whether capital expenditures rise or fall depends on the net effect of these opposing inputs.

Regulation is but one of many inputs into the investment decision, so what is needed to decipher the effect of regulation on investment is referred to in the scientific community as a *counterfactual*. That is, we need to know what would happen in the *absence* of (or *but for*) the regulation.

A simple hypothetical illustrates the point. Say capital expenditures last year were \$10. A regulation is imposed and capital expenditures rise to \$12. Those favoring the regulation would advocate that the intervention was a good idea because capital expenditures rose. Yet, it's simply not possible to reach that conclusion with this data alone. Why? Because over time, many things change in addition to regulation. In this example, it's impossible to distinguish between the effect of regulation and the effect of time; they are coincident. For example, let's assume that over that same year the demand for the firm's service rose sufficiently to induce an increase in capital expenditures, absent the regulation, to \$15. If so, then the regulation actually reduced investment by \$3 (= \$15 \$12). This expenditure of \$15is the counterfactual; that is, the level of capital expenditure that would have occurred but for the imposition of the regulation.

Let's formalize the argument a bit more. Say there is a firm that makes capital investments (*E*) based on only two factors: the presence of regulation (*R*) and general market conditions (*Z*). For simplicity, the firm's investment calculation is as follows:

E = 90 + Z - 5R,

where regulation is either present or absent R = (0,1). Given the formula, the firm will (a) invest at least \$90; (b) invest \$1 for every one unit of Z; and (c) reduce investment by \$5 if additional regulation is imposed. At the status quo, let Z = 10 and R = 0, so that the firm will invest \$100 = 90 + 10 - 50. In the next period, say that regulation is imposed (R = 1), but also let Z rise from 10 to 20. Now, the aggregate investment level is \$105 [= 90 + 20 - 51]. Capital expenditures rise (from \$100 to \$105) despite the imposition of regulation, which is known to reduce such expenditures by \$5. The counterfactual, in this case, is  $\$1\overline{10} = 90 + 20 - 50$ . The "treatment effect" of regulation is measured as \$110 \$105 = \$5. The increase in expenditure is fully attributable to the increase in Z, though it is partially offset by the imposition of regulation. Regulation does not impel the increase; it actually impedes it.

Time moves on. Say that in a third period Z rises to \$25 so that investment expenditure rises to \$110 [= 90 + 25 - 51]. Regulation remains a choke on investment (-\$5), but capital expenditure rises again due to the increase in Z. Finally, in the fourth period, Z falls to \$15,

<sup>&</sup>lt;sup>11</sup> AT&T Form 10-K (2014).

and Capex falls to 100 = 90 + 15 - 51, a 10 decline. Again, such changes have nothing to do with regulation—the regulation has kept capital expenditure suppressed by \$5 since its imposition. The changes in capital expenditure from period-to-period do not indicate the effect of the regulatory intervention.

This simple scenario reveals the fact that only with a counterfactual can the \$5 effect of regulation be quantified. Absent a controlled experiment, where the regulation was randomly assigned across otherwise similar firms, the counterfactual cannot be observed directly. In the real world of regulation, however, we can only observe investment outcomes in the regulated environment, leaving us to make educated guesses about the outcomes under less restrictive policies. A combination of the passing of time and advanced statistical procedures may permit the construction of a meaningful counterfactual.

Net Neutrality and Counterfactuals. The concern over the investment impacts of regulation is particularly intense in the debate over Net Neutrality regulation, which the FCC first imposed in 2010<sup>12</sup> and, after the D.C. Circuit vacated the initial rules in *Verizon v.* FCC, <sup>13</sup> imposed anew in 2015. <sup>14</sup> In the 2015 Open Internet Order, the FCC chose what was commonly referred to as the "nuclear option" and reclassified broadband Internet access as a Title II common carrier telecommunications service, imposing old-school telephone regulations designed for the old "Ma Bell" monopoly on the Internet. The investment effects of reclassification are one of the most hotly debated questions in Washington these days.

Perhaps the clearest statement about the investmentreducing expectations of the new rules comes, surprisingly, from FCC Chairman Tom Wheeler, who observed not long ago that reclassification aims "to balance the goals of openness with the needs of network operators to receive a return on their investment." This statement plainly acknowledges that neutrality and investment are rivals. 15 At a recent hearing before the House Commerce Committee's Subcommittee on Communications and Technology, a group of economists and financial analysts mostly concluded that the rules would curb investment incentives. 16 Even the proponents of the regulations offered a tacit admission at the hearing, proposing only that investment by non-infrastructure companies-firms outside the scope of the FCC's mandate-might be sufficient to offset the expected declines in infrastructure spending. Likewise, the FCC's "virtuous circle" theory of the broadband ecosystem holds that its rules must reduce investment by broad-

band providers. 17 The fact the Chairman felt the need to go to Wall Street to convince investors that "all is well" despite appearances is just one more indicator of what's really going on.18

To my knowledge, while there is much controversy about investment effects, there is only one empirical study on reclassification that includes a plausible counterfactual.<sup>19</sup> It was on May 6, 2010 that reclassification of broadband was first put on the table by then-Chairman Julius Genachowski.20 Over a five-day window surrounding that announcement, the stock prices of the cable industry's largest players responded abnormally, falling 10 percent relative to the stock market generally (one counterfactual). The stock prices of satellite video providers like DirecTV and DISH-firms that provided video but almost no broadband service or infrastructure at the time-were unaffected (a second counterfactual). Plainly, investors did not take kindly to reclassification. This study shows that reclassification has been baked into stock prices, which indirectly point to investment decisions, since the spring of 2010.<sup>2</sup>

In its 2015 Open Internet Order, the FCC proves it's not ignorant of scientific methods—at least in relation to work that opposes its final decision. For example, in rejecting one econometric study on the (negative) investment effects of reclassification, the Commission noted that "the empirical models in the study incorrectly leave out factors that are important determinants of the dependent variables [such as] the level of the firm's demand for wireline services and its predicted rate of growth. . . . "22 Perhaps the criticisms are valid, but what's far more interesting is that the FCC chose not to apply the same standards to its own "empirical analysis.'

In that same Order, the Commission concludes that "carefully-tailored rules to protect Internet openness will allow investment and innovation to continue to flourish," a claim based on nothing more than its observation that "broadband providers invested \$212 billion

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<sup>&</sup>lt;sup>12</sup> See In re Preserving the Open Internet, FCC 10-201, 25 FCC Rcd 17905, Report And Order (rel. December 23, 2010) (hereinafter "2010 Open Internet Order").

13 Verizon v. FCC, 740 F.3d 623 (D.C. Cir. 2014).

 $<sup>^{14}</sup>$  Supra n. 2.

<sup>&</sup>lt;sup>15</sup> Remarks of FCC Chairman Tom Wheeler, Silicon Flatirons Center, Boulder Colorado (February 9, 2015) (available https://apps.fcc.gov/edocs\_public/attachmatch/DOC-331943A1.pdf).

<sup>&</sup>lt;sup>16</sup> M. Trujillo, House Battles Over Investment Impact of Net Neutrality, The Hill (October 27, 2015) (available at: http:// thehill.com/policy/technology/258218-congress-battles-overinvestment-impact-of-net-neutrality).

<sup>&</sup>lt;sup>17</sup> G.S. Ford, Bait-and-Switch - Or Why the FCC's "Virtuous Circle" Theory is Nonsense, Bloomberg BNA (May 18, 2015) (available at: http://www.phoenix-center.org/oped/ BloombergBNAVirtuousCircle18May2015.pdf); M. Farrell, Moffett Downgrades Cable Sector on Title II Woes, Multichan-NEL News (February 27, 2015) (available at: http:// www.multichannel.com/news/news-articles/moffettdowngrades-cable-sector-title-ii-woes/388046);

<sup>&</sup>lt;sup>18</sup> Statement of Commissioner Ajit Pai on FCC's "Wall Street Goodwill Tour," Federal Communications Commission (October 2, 2015) (available at: https://www.fcc.gov/document/ commissioner-pai-statement-fccs-wall-street-goodwill-tour).

<sup>&</sup>lt;sup>19</sup> G.S. Ford, L.J. Spiwak, and M.L. Stern, *The Broadband* Credibility Gap, 19 Commlaw Conspectus 75-122 (2010) (availhttp://www.phoenix-center.org/papers/ able at: CommlawConspectusBroadbandCredibilityGap.pdf).

<sup>&</sup>lt;sup>20</sup> Press Release, Federal Communications Commission, The Third Way: A Narrowly Tailored Broadband Framework, Statement of Chairman Julius Genachowski (May 6, 2010) at pp. 4-5 (available at http://hraunfoss.fcc.gov/edocs public/ attachmatch/DOC-297944A1.pdf).

<sup>&</sup>lt;sup>21</sup> Investors viewed favorably the Open Internet Order's failure to impose retail price regulation at this time, so stock prices rose a bit. G. Smith, Comcast, Cable Stocks Rise as FCC Won't Try to Control Rates, Bloomberg News (February 4, 2015) (available at: http://www.bloomberg.com/news/articles/2015-02-04/comcast-time-warner-cable-rise-as-modernized-webrules-proposed).

 $<sup>^{22}</sup>$  2015 Open Internet Order, supra n. 2 at ¶ 420.

in the three years following adoption of the [FCC's first *Open Internet Rules* in 2010]—from 2011 to 2013"<sup>23</sup> Where's the counterfactual? What if capital expenditure would have been \$250 billion in the absence of such rules? If so, the rules would have cut capital expenditure by \$38 billion. What if capital expenditure would have been \$200 billion without the rules? If so, the rules would have increased investment by \$12 billion. Where's any consideration of the "demand for wireline services" in these anecdotes?

Likewise, in one of its advocacy pieces to support its 2015 Open Internet Rules, the FCC attempted to assure the public its new regulations wouldn't reduce investment by noting that in the three years that the Commission's first attempt at promulgating net neutrality rules were in effect "broadband capital expenditures increased from \$64 billion in 2009 to \$75 billion in 2013."<sup>24</sup> Again, where's the counterfactual?

In another empirical *faux pas*, Chairman Wheeler pointed to the \$43 billion AWS-3 spectrum auction this year as evidence that Net Neutrality doesn't discourage investment.<sup>25</sup> Once more, the logical error is apparent. Perhaps the spectrum was worth \$60 billion without the threat of new regulations (or \$30 billion, whichever suits your fancy).<sup>26</sup>

The FCC has demonstrated, repeatedly, a propensity to twist data to suit its pre-determined, politically-motivated ends. <sup>27</sup> In its 2010 Open Internet Order, the only evidence used to support the (positive) investment prospects for Net Neutrality was a thoroughly-discredited propaganda piece that would easily flunk the standards set forth in its 2015 Order; standards apparently relevant only to research opposing the FCC's pre-determined path. <sup>28</sup> When the FCC talks out of both sides of its mouth, all we can be sure about is that the Commission can't be trusted on the empirics of reclassification, and that it has made up its mind without much consideration of the facts.

A regulatory agency purposely blind to the facts and disrespectful of its own precedent adds great risk to infrastructure investments. Communications networks require long-term investments, so when firms and investors evaluate returns, they must do so over very long periods. If the regulator has a reputation for abandoning existing rules to satisfy current political objectives, then firms and investors will shade expected returns and, in turn, reduce investment. As noted by telecom-

<sup>24</sup> Office of the Chairman, The Open Internet Order: Preserving and Protecting the Internet for All Americans, Federal Communications Commission (available at: https://apps.fcc.gov/edocs\_public/attachmatch/DOC-332486A1.pdf).
<sup>25</sup> Id. ("... the recent AWS auction, conducted under the

<sup>25</sup> *Id.* ("... the recent AWS auction, conducted under the prospect of Title II regulation, generated bids (net of bidding credits) of more than \$41 billion—further demonstrating that robust investment is not inconsistent with a modern, light touch Title II regime.")

<sup>26</sup> G.S. Ford, T.M. Koutsky and L.J. Spiwak, *Using Auction Results to Forecast the Impact of Wireless Carterfone Regulation on Wireless Networks*, Phoenix Center Policy Bulletin No. 20 (Second Edition) (May 2008) (available at: http://www.phoenix-center.org/PolicyBulletin/PCPB20Final2ndEdition.pdf).

<sup>27</sup> See, e.g., G.S. Ford and L.J. Spiwak, Justifying the Ends: Section 706 and the Regulation of Broadband, 16 JOURNAL OF INTERNET LAW 1 (January 2013).

 $^{28}$  2010 Open Internet Order, supra n. 12 at ¶ 40; Ford, Finding the Bottom, supra n. 9.

munications scholars Brian Levy and Pablo Spiller, "The combination of significant investments in durable, specific assets with the high level of politicization of utilities has the following result: utilities are highly vulnerable to administrative expropriation of their vast quasi-rents. . . . Where the threat of administrative expropriation is great, private investors will limit their exposure." 29

Generally speaking, economic theory is ambiguous about the effects of regulation and investment. Some regulations actually lead to an excess of investment. One form of regulation unambiguously reduces investment, and that's when the regulation is expected to change the rules in the future to reduce returns on investments made today. Across a range of proceedings and already implemented regulatory actions, the threat of regulatory expropriation is great in the current, highly-politicized environment. The issue is not whether the industry agrees or disagrees with the FCC; the issue is that the FCC's frequent changes of heart make the regulatory environment too uncertain to support the fullest possible commitment of resources by the industry.

Costs and Benefits, and the Sense to Know the Difference. In addition to the lack of counterfactual analysis, the intense focus on capital expenditures is misguided for other reasons.

First and foremost, capital expenditures really don't measure the economic concept of investment. Investments are expenditures on new capital assets that produce future income. Capital expenditures should be thought of informally as the "price" of capital assets times the quantity of such assets, and thus subject to both changes in the quantity of assets acquired and the price of those assets. If the demand for capital equipment (the quantity) isn't terribly sensitive to equipment prices, then a tax on telecommunications equipment (or any other factor increasing equipment prices) may lead to higher capital expenditures. Capital expenditure may rise even though investment falls. If you want more network deployed, then taxing telecommunications equipment probably isn't good policy.

Second, regulatory decisions can lead to higher capital expenditures while at the same time reducing society's benefit from infrastructure projects.

Consider a regulated firm that is choosing between two mutually-exclusive projects. Project A requires a capital expenditure of \$10, produces \$15 of profit, \$35 units of consumer benefits, and thus net benefits of \$40 [= 35 + 15 10]. Project B costs \$15 but has lower benefits, including \$10 for the firm, \$25 for consumers, and only \$20 on net [= 25 + 10 15]. Of these two projects, the firm prefers A because of its higher profits, and A is also more beneficial to society. If the regulator prohibits option A, however, then option B will be undertaken because it is also profitable, just less so. In choosing B, capital expenditures rise from \$10 to \$15, but the total benefits to society fall from \$35 to \$20.

Or, imagine a choice between Projects A and C (tossing out B as an option). For Project C, say capital expenditures and profits are again \$15 and \$10, but the con-

 $<sup>^{23}</sup>$  Id. at ¶ ¶ 2, 4.

<sup>&</sup>lt;sup>29</sup> B. Levy and P. Spiller, *The Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Telecommunications Regulation*, 10 Journal of Law, Economics, & Organization 201-246 (1994).

sumer benefits for Project C are \$40, which is \$5 larger than Project A. But, the net benefit of project C is only 35 = 40 + 10 = 15, or 5 = 10 = 15 less than Project A. The regulator focused on capital expenditures and consumer benefit might force Project C, but is misguided in doing so. Project A has a higher social payoff.

The effects of regulation on capital expenditures might also be masked by other factors, including additional regulatory efforts.

For example, just a few months ago the FCC forced AT&T to deploy to an additional 12.5 million households as a mandatory "condition" in order to get its merger with DirecTV approved. 30 The FCC likes to bundle all sorts of costly requirements with merger approvals, and doing so will certainly impact capital expenditures, thus potentially camouflaging the ill effects of reclassification and other regulatory acts.<sup>31</sup>

Also, capital expenditure figures often include capital flight. For instance, huge chunks of AT&T's total capital expenditure are going to acquisitions and improvements in networks in Mexico, not the United States.<sup>32</sup> Is such capital flight a cost or benefit (or even related) to the FCC's Regulatory Revival? Raw capital expenditure figures provide no answer.

Plainly, increasing capital expenditures, absent some context, is not a sensible policy goal.<sup>33</sup> The goal of policy is to produce the right amount of capital investment. Good policymaking therefore requires the consideration of both costs and benefits and the good sense to recognize which is which.

This brings me to the point of the pencil. Capital expenditures are a cost of production. Labor is a cost of production. Capital and labor are costs, not benefits. Thinking of capital expenditures and jobs as benefits rather than costs can lead to all sorts of perversions. Eliminating the backhoe would likely increase jobs in telecommunications construction, but I suspect nearly

<sup>30</sup> T.R. Beard, G.S. Ford, L.J. Spiwak and M. Stern, Eroding the Rule of Law: Regulation as Cooperative Bargaining at the FCC, PHOENIX CENTER POLICY PAPER No. 49 (October 2015) (availhttp://www.phoenix-center.org/pcpp/ PCPP49Final.pdf); L.J. Spiwak, How Congress Lost Control of the Regulators, The Hill (October 27, 2015) (available at: http:// thehill.com/blogs/pundits-blog/technology/258175-howcongress-lost-control-of-the-regulators).

everyone would view such a policy as a really dumb idea. At least I hope so. . . .

**Looking (for Love) in (All) the Wrong Places.** Investment is often central in regulatory fights, but the focus is particularly acute in modern telecommunications regulation due to the desire for better and more widespread coverage by broadband networks. Indeed, Section 706 of the Telecommunications Act of 1996 directs the FCC to encourage "infrastructure investment" under certain conditions and using particular regulatory means.  $^{34}$  Since 2010, however, the FCC—with permission from the D.C. Circuit—has used Section 706 as a blanket license to do pretty much whatever it wants to.35 Yet, infrastructure investment is merely the means by which to obtain the explicit goal of that section to "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans."

Deploying service is expensive, so it's not unreasonable for Congress to point to infrastructure investment as a means to increase deployment. But it's also not unreasonable to expect the expert agency, and those that try to influence its decisions, to know the difference between the means and the ends. The ends are deployment and adoption—they are the standards by which success and failure are to be measured. A rule that increases capital expenditures but has no discernible effect, or a diminished effect, on the deployment or adoption of Internet service in the U.S. is pointless. Replacing capital expenditures with deployment and adoption as the outcome of primary interest would likely improve federal policy making in telecommunications.

Conclusion. Investment is driven by returns, so a rough-and-ready guess on the investment effects of a regulation may be obtained by asking a simple question: by what mechanism does the regulation increase the returns on investment from offering telecommunications service? Since the advocates of increased regulation are seeking to curb rather than improve the ROI of infrastructure companies (indeed, they appear to despise the infrastructure companies), the likely implications of the rules seem clear enough.

Quantifying the effect of the FCC's Regulatory Revival on infrastructure investment will be a difficult task; it may take many years and the application of advanced statistics to get a good estimate. Squabbling over quarterly changes in capital expenditure, which is the present method of discussing such effects, has proven mostly pointless. Today, market conditions are favorable for investment, but the regulatory environment is toxic. Whether capital expenditure rises or falls will depend, as the FCC's Chairman observes, on the "balance" of these rival influences.

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 $<sup>^{\</sup>rm 32}$  P. Laya and S. Moritz, AT&T Buys Mexico Mobile Carrier Iusacell for \$2.5 Billion, Bloomberg News (November 7, 2014) (available at: http://www.bloomberg.com/news/articles/ 2014-11-07/at-t-agrees-to-acquire-mexico-s-iusacell-for-2-5billion); AT&T to Invest Approximately US\$3 Billion in Mexico to Extend Mobile Internet to 100 Million Consumers & Businesses by Year-End 2018, AT&T Press Release (June 25, 2015) http://about.att.com/story/att to invest (available approximately\_3\_billion\_in\_mexico\_to\_extend\_mobile internet\_to\_100\_million\_consumers\_and\_businesses\_by\_year\_ end 2018.html).

<sup>&</sup>lt;sup>33</sup> In fact, the switch from rate-of-return to price-cap regulation was based (in part) on the Averch-Johnson Effect, which holds that rate-of-return regulation leads to excessive capital expenditures (and investment) (discussion available at: http:// www.dictionaryofeconomics.com/article?id=pde2008 A000186).

<sup>34</sup> See 47 U.S.C. § 1302.

<sup>&</sup>lt;sup>35</sup> See L.J. Spiwak, What Are the Bounds of the FCC's Authority over Broadband Service Providers?—A Review of the Recent Case Law, 18 Journal of Internet Law 1 (2015). Indeed, not only has the FCC used its Section 706 authority to regulate the Internet, but it has also used its Section 706 to preempt state laws that restrict or prohibit municipal broadband deployment. See Spiwak, supra n. 3.