Ex Ante Versus Ex Post Approaches to Network Neutrality: A Cost Benefit Analysis

Rob Frieden, Penn State University
Ex Ante Versus Ex Post Approaches to Network Neutrality: A Cost Benefit Analysis

Rob Frieden
Pioneers Chair and Professor of Telecommunications and Law
Penn State University
102 Carnegie Building
University Park, Pennsylvania 16802
(814) 863-7996; rmf5@psu.edu
web site: http://www.personal.psu.edu/faculty/r/m/rmf5/

I. Introduction

Most nations apply an ex ante model of government oversight that uses sector-specific regulation to resolve both anticipated and actual conflicts in the telecommunications marketplace. Advocates for less intrusive government oversight support the immediate or gradual replacement of expert agency oversight with adjudication and enforcement remedies applied when and if conflicts and problems arise. Such ex post models rely on antitrust/competition policy principles that can be applied by some existing regulatory agencies, new competition authorities, or the judiciary. Ex post remedies may not require the adjudicator to have expertise in a specific industry, or even apply preexisting legal precedent, because the conflict resolution process typically conducts an empirical assessment whether a venture has market power and has used it to achieve anticompetitive goals.

Advocates for retaining ex ante regulation believe that an expert agency remains essential given the importance of telecommunications and the Internet to nations and their residents. They believe that despite technological innovations, the marketplace lacks sufficiently robust competition and conditions favorable for market entry. They also note that ex post remedies become available well after the onset of harm to competitors and the public. Additionally they note that in some nations, courts have reduced opportunities for consumers to seek ex post remedies by limiting rights to form a class of similarly harmed parties and by refraining from
acting at all if the expert regulatory agency has concluded that marketplace competition justifies streamlining, or eliminating regulatory safeguards.

Ex ante rules and regulations anticipate the need for safeguards to prevent anticompetitive practices in a specific sector of the economy, because of existing or potential harm to consumers and the national economy. However, regulating on the basis of speculation about the potential for harm can impose costs and generate disincentives for investment in network upgrades. National Regulatory Authorities (“NRAs”) should use caution, particularly because they may not have complete information about the potential for market failure, i.e., the inability of competitors to self-regulate.

This paper identifies the strengths and weakness in ex ante and ex post enforcement of laws and regulations aiming to promote open and neutral access to the Internet. It will use as a case study the issue of whether countries should create and enforce ex ante network neutrality rules and regulations, or use ex post remedies including the complaint resolution process established by most by NRAs, creation of a new competition authority, or reliance on litigation when and if disputes arise.

Network neutrality poses particularly vexing challenges, because of a combination of factors including a broad gap in statutory interpretation by interested parties, agitated consumers,

1 Network neutrality refers to government mandated nondiscrimination, transparency and other requirements on ISPs designed to foster a level competitive playing field among content providers and to establish consumer safeguards so that Internet users have unrestricted access limited only by legitimate concerns such as ISP network management and national security. See Preserving the Open Internet, Report and Order, GN Docket No. 09-191, WC Docket No. 07-52, 25 F.C.C.R. 17905, n. 48 (2010)[hereinafter cited as 2010 Open Internet Order] aff’d in part, vacated and remanded in part sub nom. Verizon v. FCC, 740 F.3d 623 (D.C. Cir. 2014), on remand, Protecting and Promoting the Open Internet, GN Docket No. 14-28, Notice of Proposed Rulemaking, 2014 WL 2001752 (rel. May 15, 2014)[hereinafter cited as 2014 Open Internet NPRM].
complex and conflicting framing of the issues and the nearly universal view that great harm will beset various stakeholders with or without regulatory intervention. Advocates for ex ante regulation action have not produced a large and compelling empirical record of harm, instead relying on forecasts that biased networks will reduce the future value, accessibility and utility of the Internet. Opponents argue that regulatory intervention to solve unproven harms imposes costs including a net reduction in innovation and investment in Internet infrastructure and applications.

---


3 A frequently cited example of harmful operation of a biased and discriminatory network is Madison River Communications, LLC, 20 F.C.C.R. 4295, 4297 (2005) (small independent telephone company agreed to a $15,000 monetary forfeiture and consent decree agreeing not to block Digital Subscriber Link customers’ access to competitor’s Voice over the Internet Protocol telephone service).

4 “Those who advocate FCC involvement should recognize that resolution by administrative agency, as a first resort to solving often-legitimate questions about network
Many NRAs, including the United States Federal Communications Commission (“FCC”) and regulatory authorities in the European Union, have considered the potential for biased broadband network access as necessitating some degree of ex ante regulatory safeguards. Some authorize the NRA to operate as an adjudicator as well as a creator of rules, policies and regulations, making it possible to transition from ex ante to ex post oversight without significant change in the general structure of telecommunications regulation by government. The European behavior, is likely to produce worse public policies than nongovernmental forums. Ex ante network neutrality regulation of Internet network providers—like cable, wireline telephone and wireless companies—poses risks for the continued development of the Internet that some network neutrality advocates minimize unrealistically.” Daniel L. Brenner, Creating Effective Broadband Network Regulation, 62 FED. COMM. L.J. 13, 16 (Jan. 2010).

Union has devised a mechanism for shifting from ex ante to ex post oversight when a specific market segment evidences sufficient competition that forecloses the ability of a single venture or group to operate biased networks that achieve anticompetitive goals. In other nations, such as the United States, the NRA must apply legislatively crafted service definitions to determine the lawfulness of creating and enforcing ex ante regulations.

The paper concludes that ex post enforcement should generally serve as the goal in a deregulatory glide path that links increases in facilities-based competition with incremental reductions in government oversight. However, current marketplace conditions evidence limited competition particularly for the first and last kilometer of Internet access. Because Internet Service Providers (“ISPs”) serving end users still have both the incentive and ability to pursue anticompetitive strategies, the paper supports the continuing role for an expert NRA. However the paper emphasizes that ex ante regulation should concentrate on procedural safeguards rather than the creation and enforcement of substantive rules and service definitions. Ex ante regulators should ensure that ventures having interconnection and compensation disputes negotiate in good faith. Additionally NRAs should provide a forum for the resolution of complaints on a timely


basis, in light of the immediate harm to consumers when the delivery of Internet content becomes intentionally degraded or blocked.

II. **Strengths and Weaknesses in Ex Ante Remedies**

Ex ante rules establish a regulatory regime that provides a procedure for anticipating and resolving actual disputes and problems. Typically a national legislature enacts a law providing the basic structure under which an NRA creates policies, rules and regulations. As a threshold matter, the legislature must contemplate the need for regulation and create a mechanism whereby the NRA defines services warranting government oversight and establishes rules constraining their commercial operation.

The baseline justification for regulation lies in the determination that an unfettered marketplace would fail to achieve certain goals, which in the telecommunications arena include reasonable rates, widespread availability, robust innovation, ample incentives to invest in next generation infrastructure and the inability of any single venture or group to control the price or availability of service. Put another way, ex ante regulation exists, because legislatures and NRAs conclude that consumers and competition will suffer without a proactive regulatory presence. Such vigilance appears necessary in light of the incentive and ability of ventures—especially ones with market power—to engage in anticompetitive practices.

Advocates for network neutrality regulation assume that absent regulatory safeguards market entrants and the public will suffer, because the broadband access market lacks sufficient competition that would prevent incumbents from operating in ways that hamper competition and reduce the value of an Internet access subscription. For example, network neutrality proponents worry that “retail ISPs,” providing the first and last kilometer of service to end users, can exploit
a monopoly to extract surcharges from upstream ISPs and content providers to secure higher quality of service. Such price discrimination delivers a “better than best efforts” service in lieu of “best efforts” that could fail to provide adequate service particularly for bandwidth intensive video content. Network neutrality advocates note that plain vanilla service has sufficed heretofore, but now ISPs appear willing and able to generate artificial congestion to nudge or force upstream ventures to pay for more reliable service. They also contend that absent regulatory oversight, ISPs will engage in unreasonable discrimination that favors corporate affiliates and surcharge payers. Should this occur, new ventures with limited finances might fail simply because they could not afford to pay surcharges for access to consumers. Similarly all ventures would become vulnerable to surcharge payment demands to remedy artificial and induced congestion that an ISP might create to discipline, or punish a specific ISP, or content source.

Network neutrality advocates see the need for a legislative mandate that authorizes NRAs to assert jurisdiction over broadband Internet access. Such a mandate requires new or amended language in the statute that creates the NRA and defines the services subject to its regulatory oversight. Such statutory drafting constitutes a most difficult undertaking, because the legislature has to craft definitions triggering regulation, or not based on a then current understanding of technology that surely will change soon after enactment of the law. Many legislatures see the need to use broad service definitions that attempt to create a dichotomy between services that do and do not fall within the NRA’s jurisdiction.

The United States Congress created such a dichotomy with information services constituting a largely unregulated category and telecommunications services falling within the
FCC’s jurisdiction over public utility, common carrier service providers. This dichotomy does not always create mutual exclusivity for two reasons. First, many service providers offer both service categories, e.g., wireless carriers offer voice telephony and texting, two legacy telecommunications services, but also offer data service, such as broadband Internet access, that constitutes an information service. Second, both technological and market convergence support the commingling of both service types and the dissolution of any “bright line” distinction. Notwithstanding evidence of significant convergence, the FCC has determined that it must treat these two services as mutually exclusive, despite the absence of any explicit statutory mandate to do so.

---

8 The Communications Act of 1934, as amended, defines telecommunications service as “the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used.” 47 U.S.C. § 153(46) (2013). Telecommunications is defined as “the transmission, between or among points specified by the user, of information of the user’s choosing, without change in the form or content of the information as sent and received.” Id. 47 U.S.C. § 153(43). Title II of the Communications Act, as amended, 47 U.S.C. §201 et seq., apply nondiscrimination and other common carrier requirements on telecommunications service providers. On the other hand, information service is defined as “the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.” 47 U.S.C. § 153(20). These services qualify for a largely unregulated status.

9 Technological convergence refers to the ability to combine previously separate services, such as voice and data, using a single medium, such as a digital network. Market convergence refers to the ability of a venture to offer a combination of services previously only available if the venture operated multiple networks.

10 “[T]he language and legislative history of [the Communications Act of 1996] indicate that the drafters . . . regarded telecommunications services and information services as mutually exclusive categories.” Federal-State Joint Board on Universal Service, Report to Congress, 13 F.C.C.R. 11501, 11522 (1998); see also Vonage Holdings Corp. v. Minnesota Public Utilities Com’n, 290 F. Supp.2d 993, 994, 1000 (D. Minn. 2003) (applying the
The FCC’s attempt to create ex ante rules and regulations for Internet access provides a case study in the futility in using static and service dichotomies to segment markets for purposes of identifying the proper scope of regulatory coverage. On two separate occasions a reviewing court largely rejected efforts by the FCC to assert jurisdiction to establish rules that anticipate, sanction and remedy anticompetitive and discriminatory ISP practices. The court held that the FCC lacked statutory authority to establish rules prohibiting discrimination and content blocking by ISPs in light of the Commission’s determination that broadband Internet access constitutes a largely unregulated information service instead of regulated, common carrier telecommunications service. Having determined that broadband Internet access constitutes an information service, the FCC effectively abandoned the option of establishing ex ante regulations, because it no longer had the jurisdiction to do so.

The D.C. Circuit Court of Appeals first held that the FCC could not sanction Comcast for using software to disable peer-to-peer file sharing by subscribers even though the company did not need to remedy congestion and had financial incentives to prevent subscribers from sharing movies it might otherwise lease from Comcast on a pay per view basis. The court determined that the FCC had no direct statutory authority to impose network neutrality obligations on

---

FCC’s dichotomy). A major reviewing court does not see the need for the FCC to expect mutual exclusivity in the inventory of carrier services: “[E]ven if a regulatory regime is not so distinct from common carriage as to render it inconsistent with common carrier status, that hardly means it is so fundamentally common carriage as to render it inconsistent with private carrier status. In other words, common carriage is not all or nothing—there is a gray area in which although a given regulation might be applied to common carriers, the obligations imposed are not common carriage per se.” Cellco Partnership v. FCC, 700 F.3d 534, 547 (D.C. Cir. 2012).

11 Comcast Corp. v. F.C.C., 600 F.3d 642 (D.C. Cir. 2010).
information service providers, nor could the Commission assert “ancillary jurisdiction”\textsuperscript{12} based on its duty to ensure that new technologies do not adversely impact regulated services.

In its review of the FCC’s second attempt to establish jurisdiction over ISPs, the D.C. Circuit Court of Appeals again rejected common carrier rules requiring nondiscrimination and prohibiting traffic blocking.\textsuperscript{13} However, the court did agree with the FCC that it could impose

\textsuperscript{12} The FCC relies on a claim of ancillary jurisdiction when the Commission lacks explicit statutory authority. The FCC successfully invoked ancillary jurisdiction to regulate cable television even before the Commission received a statutory mandate to do so. “The FCC needed a hook to assert jurisdiction over cable. To reach that goal, it used a two-step process. First, the Commission found that cable was within its primary statutory grant of authority under section 152(a) of the [Communications] Act, which allows the FCC to regulate ‘all interstate and foreign communication by wire or radio.’ Second, the FCC invoked section 303(r) of the Act, which allows the Commission to issue ‘such rules and regulations and prescribe such restrictions and conditions, not inconsistent with law,’ as ‘public convenience, interest, or necessity requires.’ The FCC also referenced section 154(i), which provides that ‘[t]he Commission may perform any and all acts, make such rules and regulations, and issue such orders, not inconsistent with [the Communications Act], as may be necessary in the execution of its functions.’ Kevin Werbach, \textit{Off the Hook}, 95 CORNELL L. REV. 535, 572 (Mar. 2010) (citations omitted); James B. Speta, \textit{The Shaky Foundations of the Regulated Internet}, 8 J. TELECOMM. & HIGH TECH. L. 101 (Winter 2010); John Blevins, \textit{Jurisdiction as Competition Promotion: A Unified Theory of the FCC’s Ancillary Jurisdiction}, 36 FLA. ST. U. L. Rev. 585 (Summer 2009); Andrew Gioia, \textit{FCC Jurisdiction Over ISPs in Protocol-Specific Bandwidth Throttling}, 15 MICH. TELECOMM. & TECH. L. REV. 517 (Spring 2009).

On several occasions, the Supreme Court has affirmed the FCC’s claim of ancillary jurisdiction. United States v. Sw. Cable Co., 392 U.S. 157 (1968); United States v. Midwest Video Corp. (Midwest Video I), 406 U.S. 649 (1972); See also Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc., 467 U.S. 837, (1984). The Supreme Court supports deferral to the expertise of a regulating agency “if the intent of Congress is clear.” 467 U.S. at 842-43. If “Congress has not directly addressed the precise question at issue,” and the agency has acted pursuant to an express or implied delegation of authority, the agency’s statutory interpretation is entitled to deference, as long as it is reasonable. Id. at 843-44. See also United States v. Mead Corp., 533 U.S. 218, 226-27 (2001).

\textsuperscript{13} “[E]ven though the Commission has general authority to regulate in this arena, it may not impose requirements that contravene express statutory mandates. Given that the Commission has chosen to classify broadband providers in a manner that exempts them from treatment as common carriers, the Communications Act expressly prohibits the Commission from nonetheless regulating them as such. Because the Commission has failed to establish that the anti-discrimination and anti-blocking rules do not impose per se common carrier obligations, we
non-common carrier rules based on the FCC’s reading of Section 706 in the Communications Act \(^\text{14}\) that authorizes the Commission to assess the availability of nationwide access to advanced services such as the Internet and to take steps to promote more access if market forces prove inadequate.

The FCC’s approach requires great finesse. On one hand, it cannot impose clear common carrier duties on ISPs, unless it reclassifies them as telecommunications service providers, a tactic guaranteed to trigger substantial opposition and litigation. On the other hand, the Commission has to create ex ante rules that achieve the desired outcome of allowing ISPs to engage in commercial negotiations that will provide specialized, arguably “better than best efforts” routing options for single ventures without so balkanizing and dichotomizing the Internet into fast lanes available to ventures with deep pockets and slow lanes available to ventures, including most startups, lacking the financial resources to pay surcharges.

The FCC believes it can satisfy the prohibition on common carriage while also preventing unreasonable blockage and discrimination by using the applying precedent established in a case, also decided by the D.C. Circuit Court of Appeals. In *Cellco Partnership v. FCC*, 700 F.3d 534, 541 (D.C. Cir. 2012), the court affirmed the FCC’s decision requiring wireless carriers to negotiate commercial “roaming agreements” making it possible for subscribers located outside their local service area to access Internet services. The court reasoned that even though wireless data access constitutes an information service provided by private carriers the FCC can impose reasonable, non-common carrier duties to deal. The court noted vacate those portions of the Open Internet Order.”  

that the FCC only required wireless carriers to negotiate commercially reasonable terms meaning that terms and conditions need not be uniform and roaming need not be even offered if technically infeasible.

A. Overbreath and Underinclusiveness in Ex Ante Network Neutrality Rules

Ex ante rules imposing network neutrality requirements have the potential to overshoot the mark by exceeding an NRA’s statutorily conferred jurisdiction, but also fail to cover some harmful anticompetitive practices. In the United States the emphasis on statutorily-configured service definitions forced the FCC to make a threshold determination into which category an Internet-mediated service fits. For telecommunications services, the FCC can apply ex ante regulation, but for information services ex ante regulation is questionable at best. In the European Union ex ante regulation applies, but a transition to ex post adjudication remedies occurs when market conditions become so competitive that no single enterprise or group displays significant market power.15

By creating and applying mutually exclusive service categories, the FCC faces a regulatory quandary. It cannot readily subject information service providers to network neutrality rules and regulations even if it determines that the public interest warrant such safeguards. Upon determining that ISPs have both the incentive and ability to engage in anticompetitive practices

the FCC currently struggles to find ways to shoehorn lawful ex ante regulation that are effective, but do not impose impermissible common carrier, telecommunications service regulations.

Ex ante regulation also risks triggering false positives, i.e., a violation that causes no harm as well as false negatives, i.e., harmful conduct not detected as a rule violation. Using consumer welfare as the primary measure of utility, ex ante regulation should accrue more consumer benefits offset by lower harms than that available from ex post, or other safeguards. One cannot easily undertake a cost/benefit analysis, because both variables are hard to identify and almost always difficult to quantify.

Even with a conscientious and well trained staff an NRA may lack the technical competency that qualifies it to make “expert” judgments. Ex ante regulations require an NRA to anticipate future problems and to identify potential causes for conflicts and harms to consumers. Typically an NRA becomes aware of a problem only after it has become acute and consumers complain that “mission critical,” bistreams of “must see” video have become degraded. The NRA must undertake a forensic investigation to identify the technical reasons for service degradation as who, or what caused the problem. Predictably stakeholders will dispute cause and effect thereby forcing the NRA to assume twin roles as fact finder and adjudicator.

NRAs have achieved mixed success in crafting regulations that anticipate problems and provide appropriate remedies. Even if they succeed in achieving a fair, “rough justice” process, NRAs have no certainty that they can “future proof” the rules so that they remain viable and effective in light of technological change as well as the convergence and robust change in markets. NRAs will attempt to fashion flexible rules than can respond to changed circumstances, but they may not be able to keep up with technological and marketplace change, or they may generate too much ambiguity in rules ostensibly to promote necessary flexibility.
Alternatively NRAs may strive for certainty at the risk of creating inflexible rules and static definitions. Specificity helps an NRA draw a bright line distinction between regulated and unregulated services, but such a dichotomy may not survive technological innovations and market convergence that create incentives for ventures to offer an inventory of both regulated and unregulated services, e.g., in the U.S. regulated telecommunications services and largely unregulated information services.

Additionally NRAs may experience difficulty in establishing the cause and responsible party for a harmful outcome. Internet-mediated services present a particularly vexing problem for NRA forensic investigations in light of the fact that numerous network operators typically participate in the switching and routing of content from source to end user. When retail broadband service subscribers experience frozen, blurred or disrupted service, they cannot readily determine the cause of the problem and the responsible party.

For example in early 2014 many Netflix customers experienced degraded service when attempting to download and immediately view “streaming” video content. ¹⁶ Netflix asserted that ISPs such as Comcast and Verizon deliberately caused congestion, by refusing to make timely network capacity upgrades, or by rationing available transmission and switching capacity in ways that increased the probability of congestion for the traffic of specific content types and sources. ISPs rejected this scenario and suggested that Netflix should blame itself for releasing an entire season’s worth of a program instead of the conventional weekly release of just one

episode. Consumers and regulators alike have no reliable means for identifying the cause of congestion and degraded service, because multiple carriers participate in the complete routing of traffic from source to end user. Sophisticated network tracking techniques are needed to identify the network operating the weakest link with the lowest available bandwidth and switching capacity that can cause end users to experience delays in downloads and even dropped packets of content.

B. Inefficiency and Defective Outcomes

Before an NRA establishes final and binding rules, it typically initiates a process to compile a complete evidentiary record by inviting any interested parties to participate. This process, often termed a rulemaking or public consultation, takes significant time and effort. Given the stakes the most comprehensive filings come from ventures likely to be adversely affected by new rules. These stakeholder often incur sizeable expenses in retaining the services of lawyers, economists and other experts to assist in the preparation of document that will become part of the NRA’s record. Often the work product of these experts masquerade as scientific fact finding, research and analysis, despite being nothing more than sponsored advocacy.

Stakeholders have great incentives to delay the onset of new burdens and have many ways to achieve such an outcome including litigation, lobbying the legislature and using procedural tactics. Additionally parties anticipating a bad outcome will attempt to reframe the issues in a proceeding as less about creating rules and more about misguided efforts that will harm consumers by creating regulatory uncertainty and disincentives for ventures to risk making necessary investments in new infrastructure. Stakeholders opposed to ex ante regulation will attempt to persuade the legislature to preempt or constrain NRA initiatives on grounds that rules impose unnecessary costs to both service providers and consumers. The process can easily get sidetracked into a dispute about the robustness and competitiveness of the marketplace and the virtue in maintaining the least amount of government intrusion in the lives of consumers and corporations.

C. The Inability to Combine Ex Ante and Ex Post Functions in Some Countries

Some national governments foreclose the option for an NRA to use both ex ante and ex post regulation as appropriate. In the United States, the Communications Act of 1934, as amended, requires the FCC to make a threshold determination whether a particular service fits within a definition that permits ex ante regulation, or not. Such a definition driven regulatory process forecloses ex ante regulation when the FCC applies a service definition that denies it statutory authority to establish jurisdiction.

The FCC’s determination that telecommunications service and information service are mutually exclusive makes it nearly impossible for the Commission to apply network neutrality

rules to providers of information services. Having determined that Internet-mediated service is not the functional equivalent of a telecommunications service, the FCC abandoned the option of applying ex ante regulation. It also may have abandoned the option of applying ex post, adjudicatory remedies. Reviewing courts already have reversed the FCC’s attempts to impose ex ante regulations and sanctions for violations of those regulation. Going forward a similar legal reasoning can extend to ex post remedies of any sort based on the premise that the FCC has no lawful jurisdiction to impose either type of regulation.

Nations in the European Union have opted to emphasize market power assessment in the determination whether to apply ex ante, or ex post rules. Unlike the process for applying regulation types based on service classification, EU nations assess the need for ex ante regulation based on whether an operator or group possesses significant market power. Ex ante regulation applies only for market segments where the lack of competition makes it possible for one or more ventures to accrue significant market power. Stakeholders can disagree on the how to define and segment the telecommunications marketplace. As well they can dispute the definition and calculation whether market power exists. However they cannot secure a court order declaring off limits the option for an NRA to apply ex ante rules and regulations where necessary.

“The European approach to telecommunications regulation provides a framework for encouraging diversity through market entry. If a national regulator finds that a firm possesses Significant Market Power (‘SMP’) within a defined market, it may impose obligations including transparency, non-discrimination, accounting separation, access to and use of specific network facilities, and price controls. If there is no SMP, such obligations must be rolled back. The current review of the E.U. Framework Directive indicates that European regulators continue to be mindful of diversity as an important component of a healthy communications system. It proposes that regulators will focus their resources on the market sectors in which the dominance of incumbents has been least challenged.” Pierre de Vries, The Resilience Principles: A Framework for New ICT Governance, 9 J. TELECOMM. & HIGH TECH. L. 137, 170 (Winter, 2011).
III. Strengths and Weaknesses in Ex Post Remedies

Ex post remedies apply when an aggrieved party can supply evidence supporting claims that a particular venture caused specific harm in violation of one or more laws enacted to promote full and fair competition. The ex post remedy applies to real and proven harms. While the specificity of harms prevents awarding damages and prescribing remedies for false positives, the potential for false negatives are significant. Ex post adjudication works best when an aggrieved party can identify the cause of harm and quantify it. For violations of network neutrality, aggrieved parties may not have an easy time identifying the cause of traffic congestion harm that has resulted in service outages or degraded network performance. Even if it can identify the culprit an aggrieved party may not easily quantify the harm in terms of lost subscriptions, revenues and profits. For example even if a party proved that an ISP deliberately degraded service, it might have difficulty quantifying how many existing customers terminated service and how many prospective customers opted not to take service. Existing customers may opt out of service, a process commonly referred to as churn, for a number of reasons. A venture seeking damages from an ISP could not readily prove that ISP deliberate meddling with bitstreams constituted the primary and proximate cause for the nonrenewal.

The cost of ex post remedies and the likely time it takes to secure relief can have a potentially debilitating impact even for ventures that can prove causation and damages. For startup ventures the risk from biased networks lies in both higher costs for a delivery of service to end users, but also strategies that tilt the competitive playing field in favor of a surcharge payer, or affiliate of the ISP providing the last kilometer content delivery. New ventures without deep pockets to pay “better than best efforts” surcharges may fail to achieve a fair market trial based simply on having been targeted for a higher payment. Proving such targeting may would
require a comprehensive and possibly expensive reverse forensic investigation of why a market entrant, generating a low volume of traffic, initially could have it delivered to customers without a surcharge payment, but now its customers experience inferior and unacceptable service that can be remedied only with payment of a surcharge.

A. Limited or Eliminated Ex Post Remedies

In some nations the judiciary has expressed growing reluctance to provide a forum for conflict resolution if the expert regulatory agency, with the power to impose ex ante rules, has opted for deregulation. Under this scenario an ex post remedy does not exist on grounds that than the ex ante regulator abandoned oversight, or never had the jurisdiction to do so in the first place.

In the United States the Supreme Court has issued decisions that substantially curbs the availability of an ex post antitrust remedy if the FCC had jurisdiction over a disputed service and declined to regulate it. The Court concluded that because industry sector-specific legislation provides the FCC with authority to craft ex ante regulatory remedies, when the FCC refuses to act, presumably based on the existence of sufficient and sustainable competition, appellate courts have no legal basis for imposing additional antitrust safeguards. The Court reasoned that when


22 The Supreme Court also affirmed the FCC’s decision to classify all types of broadband Internet access as information services thereby eliminating the prospect for ex ante regulation.
the FCC has determined that one carrier has no duty to deal with an actual or prospective competitor, a court applying antitrust law should not impose such a duty either. 23

The Supreme Court’s deference to the FCC has gone so far as to allow an incumbent carrier to offer end users lower retail rates than the wholesale rate it might voluntarily charge competitors, an apparent predatory and anticompetitive practice commonly referred to as a price squeeze. 24 In 2003, several ISPs filed suit against Pacific Bell Telephone Co., contending that it attempted to monopolize the market for Digital Subscriber Line (“DSL”) broadband Internet access by creating a price squeeze requiring ISP competitors to pay a higher wholesale price than the complete DSL service Pacific Bell offered on a retail basis to consumers. Both the District Court and the Ninth Circuit Court of Appeals agreed that the ISPs could present their price squeeze claim, despite the Supreme Court’s Trinko decision that severely constrained the scope of antitrust remedies in lieu of, or in addition to FCC regulatory safeguards.

The Supreme Court assumed that Pacific Bell had no duty to deal with any ISPs based on the FCC’s premise that ample facilities-based competition exists and on the FCC’s refusal to order any remedy even when presented with clear evidence that Pacific Bell offered retail users rates below wholesale rates offered to competitors. But for a voluntary concession to secure the FCC’s approval of AT&T’s acquisition of BellSouth, the court noted that Pacific Bell would not even have any duty to provide ISPs wholesale services. The court agreed to hear the case to answer whether ISP plaintiffs can bring a price-squeeze claim under Section 2 of the Sherman Act when the defendant carrier has no mandatory duty to deal with the plaintiffs. The lower


courts concluded that the *Trinko* precedent did not bar such a claim, but the Supreme Court reversed this holding.

On procedural grounds, the Supreme Court’s decision upbraided the ISP plaintiffs for changing the nature of their claim from a price squeeze to one characterizing Pacific Bell’s tactics as predatory pricing, a practice where one competitor charges below-cost rates with an eye toward driving out competitors after which rates can rise. On substantive grounds, the court noted that a new emphasis on predatory pricing would have required determination whether the retail price was set below cost, a claim the ISPs did not make.

The Supreme Court determined that the case did not become moot, because of the change in economic and antitrust arguments. However the decision evidenced great skepticism whether the ISPs have any basis for a claim, because in the court’s reasoning the ISPs failed to make a claim that Pacific Bell’s retail DSL prices were predatory, and the ISPs also failed to refute the conclusion that Pacific Bell had no duty to deal with the ISPs, that is, to provide cost-based wholesale service that typically costs less than retail service. The Court apparently could ignore the voluntary concession AT&T made that created a duty to deal, because that concession may trigger FCC oversight, but it does not change whether an antitrust duty to deal arises. The Court read the *Trinko* case as foreclosing any antitrust claim if no antitrust duty to deal exists.

The Supreme Court remanded the case to the District Court to determine whether the ISP plaintiffs have any viable predatory pricing claim. The Supreme Court expressed the need for clear antitrust rules and apparently views consumer access to low retail prices—predatory or not—as sufficient reason for courts to refrain from intervening. The Supreme Court does not seem troubled even if all ISP competitors exited the market, an event that surely would enable the surviving incumbent carrier to raise rates: “For if AT&T can bankrupt the plaintiffs by
refusing to deal altogether, the plaintiffs must demonstrate why the law prevents AT&T from putting them out of business by pricing them out of the market.”

This case evidences a strong reluctance on the part of the Supreme Court to support any sort of ex post judicial review over the pricing strategies of carriers and analysis of the FCC’s determinations about the appropriateness of such prices and the viability of competition. Judicial deference to the FCC and the FCC’s failure to detect and remedy the price squeeze or predatory pricing surely will result in the near-term elimination of competition unless ISPs quickly replace expensive leased lines with their own facilities, a desirable but commercially impractical goal at least in the short term. The FCC’s assumptions about competition and its viability do not make sense if incumbent carriers can do to drive competitors out of business, because market entrants cannot quickly install all necessary facilities to a provide facilities-based alternative costly less than incumbent’s possibly predatory retail rates.

Courts in the United States also have curtailed the ability of individuals claiming the same harm from joining together in a class action law suit against a telecommunications carrier. By a 5-4 vote the Supreme Court, in Comcast v. Behrend, 133 S.Ct. 1426 (2013), held that cable television subscribers in the Philadelphia market could not join a class action lawsuit alleging that Comcast caused anticompetitive harm to the marketplace for video programming through a strategy of buying up all cable television franchises in a metropolitan area. Writing

_____________________________

Id. at 456-57.

Bell Atlantic v. Twombly, 550 U.S. 544 (2007) (antitrust suit dismissed due to insufficient evidence produced in the filing claiming harm); Comcast v. Behrend, 133 S.Ct. 1426 (plaintiff class could not measure damages that applied uniformly to all members as is required for certification of class on theory that questions of law or fact).

Comcast Corp. v. Behrend, 133 S.Ct. 1426 (2013)[Hereinafter cited as Comcast].
for the majority, Justice Scalia asserted that expert witness studies relied upon by the plaintiff class could not measure damages that applied uniformly to all members as is required for certification of class on issues pertaining to law or fact. This means that individuals will have to file separate law suits to recover damages for the anticompetitive harm allegedly resulting from Comcast’s acquisition of the Adelphia Communications cable system in the Philadelphia metropolitan market thereby increasing concentration of ownership in the region.

The Court rejected the lower court’s acceptance that an expert witness’s regression analysis could quantify the total financial harm, in the amount of $875,576,662, resulting when Comcast’s “clustering” strategy deterred market entrants from offering a competitive alternative to Comcast in the Philadelphia video market:

By refusing to entertain arguments against respondents’ damages model that bore on the propriety of class certification, simply because those arguments would also be pertinent to the merits determination, the Court of Appeals ran afoul of our precedents requiring precisely that inquiry. And it is clear that, under the proper standard for evaluating certification, respondents' model falls far short of establishing that damages are capable of measurement on a classwide basis.

Justice Scalia characterized the case as simply one that turned on the straightforward application of class-certification principles. He noted that the damages estimate factored in four

---

28 Pursuant to Rule 23(b)(3) of the Federal Rule of Civil Procedure 23(b)(3) a class action law suit can proceed only if the court finds that the questions of law or fact common to class members predominate over any questions affecting only individual members. To meet the predominance requirement respondents had to show “(1) that the existence of individual injury resulting from the alleged antitrust violation (referred to as ‘antitrust impact’) was ‘capable of proof at trial through evidence that [was] common to the class rather than individual to its members’; and (2) that the damages resulting from that injury were measurable ‘on a class-wide basis’ through use of a ‘common methodology.’” Id. 133 S.Ct. at 1430 (citations omitted).

29 Comcast, 131 S. Ct. at 1432-33.
antitrust claims (decreased penetration by satellite providers, market entry deterrence, lack of benchmark competition, and increased bargaining power) and not the one claim that the lower court accepted as the sole basis for certifying the plaintiff class. The Court concluded that “[i]n light of the model’s inability to bridge the differences between supra-competitive prices in general and supra-competitive prices attributable to the deterrence of overbuilding [i.e., facilities-based competition in the same locality], Rule 23(b)(3) cannot authorize treating subscribers within the Philadelphia cluster as members of a single class.”

The dissenting opinion chides the majority for reformulating a more difficult burden that a plaintiff must satisfy to allow a class action law suit to proceed to trial. Instead of having to prove a preponderance of common damages among all parties in the class action law suit, the dissent interprets the majority as changing the facts of the case, ignoring settled law on antitrust and now requiring extreme accuracy in the calculation of financial harm that cannot deviate even when the geographical size of the market includes urban, suburban and even less concentrated outlying areas.

Courts also allow carriers to insert binding arbitration clauses in service contracts thereby eliminating the option for consumers to seek a court-ordered remedy even if the conduct of an ex ante regulated carrier approaches unconscionability. In *AT&T Mobility v. Concepcion*, 563 U.S.

30 Id. 131 S.Ct. at 1435.

321 (2011), the Supreme Court invalidated the formation of a class action lawsuit, not because of the inability to evidence common harm, but because AT&T’s “take it or leave it” contract mandated binding arbitration. The Court held that Federal Arbitration Act of 1925 preempts state laws that prohibit contracts from disallowing class-wide arbitration, such as the law previously upheld in California.

B. Near Term Factors Supporting Retained Ex Ante Regulation

Using an assessment whether significant market power exists in the broadband access marketplace, one cannot yet conclude that a robustly competitive marketplace exists in the United States in all market sectors. The FCC recently recanted a previous determination that all Americans, regardless of location and income, had ample access to broadband services even though most consumers benefit by having access to two broadband delivery media provided by incumbent cable television and telephone companies.

Sustained and robust facilities-based competition may not persist, because the telephone company Digital Subscriber Line option cannot provide sufficiently fast bit transmission to generate an adequate video display. Far faster hybrid fiber/copper cable and dedicated fiber optic options have replaced DSL, but only for selected markets. Google has demonstrated the commercial viability of gigabit per second delivery speeds, albeit in a handful of urban locales, with no plans for widespread deployment. Satellite broadband providers offer comparatively

\[\text{\textsuperscript{32}}\text{ See Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Fifteenth Report, 28 F.C.C.R. 10496 (2013).} \]

\[\text{\textsuperscript{33}}\text{ In 2014 Google Fiber served three metropolitan areas: Kansas City, Provo and Austin. Google Fiber, Cities and Plans; available at: https://fiber.google.com/cities/. The venture has plans to serve nine additional metropolitan areas. https://fiber.google.com/newcities/.} \]
slower bit transmission speeds, have lower caps on monthly use, charge higher rates and require payments for necessary receiving equipment. Additionally, higher latency, caused by the distance to and from satellites, can disrupt some uses.  

The newest generation of terrestrial wireless service provides a broadband option, albeit one with much significant data caps making the per megabyte cost of service significantly higher than wireline options.  

Even when consumers have broadband choices, most subscribe to one carrier that provides an exclusive link between content providers and the retail ISP’s subscribers. Should a service disruption occur upstream, almost all upstream ISPs, operating in the Internet cloud, can activate or procure alternative interconnection arrangements quickly. But at the retail sector, even consumers with competitive options will encounter some delay and expense in migrating from one carrier to another.

---


36 “The Commission also convincingly detailed how broadband providers’ position in the market gives them the economic power to restrict edge-provider traffic and charge for the services they furnish edge providers. Because all end users generally access the Internet through a single broadband provider, that provider functions as a ‘‘terminating monopolist,’ ” [citing Preserving the Open Internet, GN Docket No. 09-191, WC Docket No. 07-52, Report and Order, 25 F.C.C.R. 17905, 17919 (2010)] with power to act as a “gatekeeper” with respect to edge providers that might seek to reach its end-user subscribers, [citing Preserving the Open Internet, GN Docket No. 09-191, WC Docket No. 07-52, Report and Order, 25 F.C.C.R. at 17919].” Verizon v. FCC, 740 F.3d 623, 464 (D.C. Cir. 2014).
In light of the possibly limited competitive options available for retail Internet access subscribers and their sole reliance on one carrier, the chosen ISP has significant negotiating power with both end users and upstream ISPs. End users may balk at the inconvenience of changing carriers and upstream ISPs will have no migration option at all if they want to secure access to all end users. Put another way, if a single ISP enjoys a dominant market share of the retail market, which occurs in many localities, a substantial portion of the market exclusively relies on that single ISP making it absolutely necessary for upstream ISPs to secure an agreement with that ISP for its delivery of content. A single ISP has the potential to exert exclusive control, as a terminating monopoly, over access to a majority of the end user market in many places. Content providers and distributors are captive to that ISP in the sense that they must secure delivery to the televisions, computer monitors, smartphones and tablets that access the Internet solely via a single ISP.

Additionally a number of factors currently cast doubt on the ability of an unfettered and unregulated Internet access marketplace to avoid any and all tactics an ISP might use to secure an unfair and anticompetitive advantage.

1) Technological and Marketplace Convergence

37 “[M]any end users may have no option to switch, or at least face very limited options . . .” Verizon v. FCC, 740 F.3d at 647.


Technological convergence refers to the ability to combine previously separate services, such as voice and data, using a single medium, such as a digital network. Market convergence refers to the ability of a venture to offer a combination of services previously only available if the venture operated multiple networks. Convergence makes it difficult for NRAs to define specific services and to apply different regulatory regimes. For example, the United States uses ex ante regulation based on interpretation of statutory authority by the FCC using static definitions such as telecommunications service and information service. The FCC has created a regulatory dichotomy with information services largely exempt from regulation even as providers of these services compete with incumbents treated as regulated common carrier, telecommunications service providers. 40

Convergence makes it difficult even for nations to use ex post remedies. As markets combine, an adjudicator (competition authority, or court) might have difficulty defining the relevant market for purposes of determining whether one or more ventures have significant market power.

2) Regulatory Asymmetry

Regulatory asymmetry refers to inconsistent government oversight that may or may not have reasonable and lawful justifications. Reasonable regulatory asymmetry occurs when ventures providing competitive services trigger different degrees of regulatory oversight based on their potential to engage in anticompetitive conduct. Unreasonable regulatory asymmetry occurs when different regulatory oversight occurs between competing ventures, because one can

qualify for less or no regulation even though it might have market power, or the ability to
generate higher revenues based on the less regulatory oversight.

Incumbents increasingly complain about regulatory asymmetry from Internet-mediated
services such as Voice over the Internet Protocol and Internet Protocol Television. These
services can qualify for comparatively less or no regulation, even as incumbents continue to
incur costs from legacy government oversight.

3) **Incumbent Responses to New Internet-mediated Service Competition**

Incumbents and market entrants alike continue to take rely on ex ante regulatory
remedies. For example, in the United States incumbent providers of wireline voice telephony
seek expedited consideration of reduced or eliminated regulation when these carriers migrate

---

41 VoIP is the real-time carriage and delivery of data packets that correspond to voice. VoIP
services range in quality, reliability, and price and can link both computers and ordinary
telephone handsets. For technical background on how VoIP works, see Susan Spradley & Alan
Stoddard, *Tutorial on Technical Challenges, Associated with the Evolution to VoIP*, FCC (Sept.
See generally Charles J. Cooper & Brian Stuart Koukoutchos, *Federalism and the Telephone:
The Case for Preemptive Federal Deregulation in the New World of Intermodal Competition*, 6

42 IPTV offers consumers with broadband connections options to download video files or
view (streaming) video content on an immediate “real time” basis. Sky Angel U.S., LLC,
available content duplicates what cable television subscribers receive therein triggering disputes
over whether cable operators can secure exclusive distribution agreements and prevent an IPTV
service provider from distributing the same content. “Sky Angel has been providing its
subscribers with certain Discovery networks for approximately two and a half years, including
the Discovery Channel, Animal Planet, Discovery Kids Channel, Planet Green, and the Military
Channel. Sky Angel submits that these channels are a significant part of its service offering.” Id.
at 3879-80. For background on IPTV, see In-Sung Yoo, *The Regulatory Classification of
Internet Protocol Television: How the Federal Communications Commission Should Abstain
From Cable Service Regulation and Promote Broadband Deployment*, 18 COMMLAW
CONSPECTUS 199 (2009).
from copper wire Time Division Multiplexed telephone service to VoIP. In other nations, incumbents have sought regulation of VoIP service providers to ensure a “level competitive playing field.”

4) Viability of a Glide Path from Ex Ante to Ex Post Safeguards

Some nations, including those in the European Union, have placed significant reliance on a regulatory model that uses significant market power assessments to identify the need for ex ante government regulations. NRAs may have more difficulty in defining convergent markets and assessing market power, particularly for incumbent firms that engage in vertical and horizontal integration to include convergent, Internet-mediated services. Vertical market integration occurs when a single firm enters into two or more related market segments, e.g., video content production, syndication, packaging and delivery to end users. Horizontal integration occurs when a single firm provides two or more competing options, e.g., when a television broadcast network diversifies into cable television programming, or acquires a venture that does.

The possibility exists that an incumbent coming close to qualifying for ex post regulation might have such a successful integration strategy that it acquires new market power in convergent markets, possibly leveraged by its significant, but declining market power in a market segment previously served. This scenario might occur when an incumbent telephone

company, facing projections of even greater customer churn and declining revenues, acquires ventures that can combine broadband access and “over the top” (“OTT”) services leading to significant market power.

5) Changes in Consumer Expectations

Consumers increasingly have no tolerance for attempts by ventures to ration access to content based on willingness to pay. Incumbents prefer to use “windows” to exact maximum revenues from content by using a linear sequence of access over time, e.g., theatrical display of a movie, followed by DVD sale, on demand access, rental, premium channel display and broadcast. Consumers have little patience for “appointment television” that uses possibly exclusive, time-based windows in lieu of platforms for access at anytime, anywhere, via any device and in any delivery and presentation format. Consumers also evidence technology agnosticism in the sense that they appear to have little concern about the medium used to deliver content and to some extent the size and resolution of the presentation screen and degree of signal compression used.

The proliferation of new Internet-centric services possibly increases concerns about whether the Internet can remain sufficiently open and neutral absent government oversight. More services will traverse fewer networks making it likely that higher reliance helps surviving network operators acquire and sustain market power. Nations may determine that broadband network operators, providing last kilometer content delivery, possess significant market power. Consumers typically have limited broadband delivery options and usually rely on one venture to

44 “Over-the-top VoIP [and other] services require the end user to obtain broadband transmission from a third-party provider, and providers of over-the-top . . . [services] can vary in terms of the extent to which they rely on their own facilities.” Preserving the Open Internet, Report and Order, 25 F.C.C.R. 17905, n. 48 (2010).
serve all their traffic carriage requirements. NRAs may have to link market power assessments with the need for ex ante network neutrality rules and regulations.

In any event, the rise in OTT options raises the stakes in the network neutrality debate. Ventures providing video content, e.g., Netflix and other IPTV providers, may assert that ex ante regulation remains essential even without a determination of significant market power based on the potential for anticompetitive harm.

7) Viability of Resale and Virtual Network Competition

Most OTT service providers lease broadband capacity for service delivery. Without safeguards for resellers and virtual network operators, the potential exists for owners of the transmission facilities to engage in anticompetitive practices, e.g., price squeezes, predatory pricing and refusals to deal. For nations, including the United States, that have determined broadband service providers should not bear trigger conventional common carrier obligations, a refusal to deal may be lawful even as it could hamper, or preclude non-facilities based network competition.

V. Conclusions and Recommendations

The elimination of ex ante, telecommunications regulation should serve as goal tempered by the reality that current marketplace conditions may not generate sufficiently robust competition that can ensure effective self-regulation. Nations should make the migration from ex ante to ex post regulation when and if the likelihood for anticompetitive outcomes has become negligible. 45 If there remains significant risks of harm to competition and consumers, limited and

45  See Philip J. Weiser, The Future of Internet Regulation, 43 U.C. DAVIS L. REV. 529 (Dec. 2009)(recommending that the FCC emphasize ex post adjudicative authority rather than ex ante rulemaking authority).
well calibrated ex ante regulation should persist.\textsuperscript{46} However the nature of ex ante regulation should change on an incremental basis as marketplace conditions make self-regulation more plausible.

Government regulation should not operate from an absolute dichotomy with sector-specific regulation inferred as intrusive, but necessary and ex post adjudication considered an unobtainable option. In light of many changed circumstance ex ante regulation may remain necessary, but the scope and burdens imposed should shift. Currently there exist many factors that work against the onset and sustainability of facilities-based broadband competition. Likewise many additional factors can come into play that can affect the level of competition, but in not easily predicted ways. These circumstances may change in the future so that an incremental shift toward ex post remedies might begin.

\textsuperscript{46} See Nathan Cortez, \textit{Regulating Disruptive Innovation}, 29 BERKELEY TECH. L.J. 175 (Spring, 2014)(identifying a diverse regulatory toolkit available for limited and well calibrated government oversight).