IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

MOZILLA CORPORATION, *et al.*,
Petitioners,

v.

FEDERAL COMMUNICATIONS COMMISSION
and UNITED STATES OF AMERICA,
Respondents.

On Petition for Review of an Order of the Federal Communications Commission

BRIEF OF THE TECHNOLOGY POLICY INSTITUTE AS *AMICUS CURIAE* IN SUPPORT OF RESPONDENTS

October 2018

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October 18, 2018

CERTIFICATE AS TO PARTIES, ORDERS, AND RELATED CASES

Pursuant to D.C. Cir. Rule 28(a)(1), the Technology Policy Institute certifies:

Parties and *Amici*: The list of parties and amici are included in the Joint Brief for Non-Government Petitioners and the Joint Brief for Government Petitioners.

Order Under Review: The order at issue appears in the Petitioners' opening briefs.

Related Cases: The list of related cases are included in Petitioners' opening briefs, and any appearing in the Respondents' reply briefs, within the meaning of D.C. Cir. Rule 28(a)(1)(C).

October 18, 2018

/s/ John D. Seiver
John D. Seiver

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CERTIFICATE OF COUNSEL REGARDING NECESSITY OF SEPARATE *AMICUS CURIAE* BRIEF

Pursuant to D.C. Cir. Rule 29(d), the Technology Policy Institute certifies that the submission of a separate *amicus curiae* brief in this case is necessary because the relevant economic analysis addressed herein is a critical consideration in determining the classification of broadband Internet access service and is not part of the arguments or replicated by other parties or *amici*. This brief discusses 10 scholarly articles analyzing the impact of the 2015 Open Internet Order from a law and economics perspective (these articles were published prior to the 2018 Restoring Internet Freedom Order). Viewed together these articles provide a nuanced explanation of the likely potential effects of net neutrality rules. They also explain why the economic evidence and theory confirm that, on balance, the 2018 Order reflects the better economic approach to regulation of Internet access service. Although other amici may address narrow questions of law or economics related to broadband Internet service provision, they do not address these scholarly works and, therefore, a joint brief would not be practicable.

October 18, 2018 /s/ John D. Seiver

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GLOSSARY OF ABBREVIATIONS

FCC	Federal Communications Commission
ISP	Internet Service Provider
2015 Order	30 FCC Rcd. 5601 (2015)
2018 Order	33 FCC Rcd. 311 (2018)
Title I	47 U.S.C. §§ 151 – 161
Title II	47 U.S.C. §§ 201 – 276
1996 Act	Telecommunications Act of 1996

STATEMENT OF IDENTITY, INTEREST, AND SOURCE OF AUTHORITY TO FILE AS *AMICUS CURIAE*[1]

Pursuant to Fed. R. App. P. 29(a)(4)(D), the Technology Policy Institute states that it is a non-profit 501(c)(3) research and educational foundation that focuses its research on the economics of innovation, technological change, and related regulation in the United States and around the world. Today's digital economy may be new, but the economic principles underlying it are not. New technologies can greatly improve standards of living around the globe, but policymakers must carefully consider how policies affect the development of those technologies.

The research of the Technology Policy Institute seeks to help inform those deliberations. The Technology Policy Institute has an interest in promoting sound economic analysis and supports research that informs the debate on net neutrality. The organization's mission is to advance knowledge and inform policymakers by producing independent, rigorous research, and by sponsoring educational programs and conferences on major issues affecting information technology and communications policy. Accordingly, the Technology Policy Institute has a

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[1] Petitioners, Respondents, and Intervenors have consented to the filing of this brief. Pursuant to Fed. R. App. P. 29(a)(4)(E), the Technology Policy Institute states that it wholly authored the following amicus brief. No party, party's counsel, or person contributed money that was intended to fund preparing or submitting the brief.

significant policy interest in the economic regulation of the Internet and, and thus, the outcome of this case.

SUMMARY OF ARGUMENT

This brief discusses ten scholarly articles that analyze the 2015 Open Internet Order through the lens of law and economics.[2] While the papers discussed here do not uniformly support all aspects of the 2018 Restoring Internet Freedom Order, together they offer a nuanced explanation of the potential effects of net neutrality rules, and explain why the economic evidence and theory suggest that, on balance, the 2018 Order should stand.

The articles present economic analyses of the 2015 Order, explain how net neutrality is a new name for an old set of issues, explore the impact of net neutrality on investment, consider distributional effects of net neutrality, and raise the possibility of price regulation that could follow the adoption of net neutrality rules.

[2] Each of these articles was published before the 2018 Restoring Internet Freedom Order. Nevertheless, their analysis of the economic issues surrounding the regulation of the Internet is critical to the issues presented in this case.

ARGUMENT

I. ECONOMIC ANALYSIS OF THE 2015 ORDER

In 2017, several law and economics professors published original articles analyzing the FCC's 2015 Open Internet Order[3] in the peer-reviewed economics journal *Review of Industrial Organization*.[4] While these articles pre-date the 2018 Restoring Internet Freedom Order[5] on review in this Court, the economic questions are the same and remain salient for assessing FCC activity under the Telecommunications Act of 1996.[6]

The issue of the *Review of Industrial Organization* in which the articles appear contains in-depth discussion of the history of Title I[7] and Title II regulation,[8] the 1996 Act, competition in the broadband sector, effects of regulation on investment, administrative process by which the rules are

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[3] Federal Communications Commission, *In the Matter of Protecting & Promoting the Open Internet*, 30 FCC Rcd. 5601 (2015) (2015 Order).

[4] Five of those authors previously served as Chief Economist of the Federal Communications Commission.

[5] Federal Communications Commission, *In the Matter of Restoring Internet Freedom*, 33 FCC Rcd. 311 (2018) (2018 Order).

[6] Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996).

[7] 47 U.S.C. §§ 151 – 161.

[8] 47 U.S.C. §§ 201 – 276.

promulgated, what markets tell us about anticipated effects,[9] and other implications of federal regulation of broadband Internet service.

The papers discussed here do not each necessarily and unequivocally support the 2018 Order. However, when considered together, they provide a nuanced explanation of the potential effects of net neutrality rules. Collectively, the economic evidence and theory presented demonstrates that, from an economic policy perspective, the 2018 Order is the better approach to regulation of Internet access serivce.

A. Net Neutrality is a New Name for an Old Set of Issues

Network neutrality is a modern framework for a set of issues policy makers and scholars have argued over for at least a century.

First, any consideration of net neutrality must deal with the question of whether and how to regulate access to networks that inherently have very high fixed costs.[10] Access rules are always contentious, and the debates over the relevant FCC orders are no exception.[11] Past forays into telephone interconnection and network unbundling raised similar access issues. Learning from those prior experiences is critical. As Thomas Hazlett and Joshua Wright show, historical

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[9] Scott Wallsten, *Introduction to the RIO Special Issue on Net Neutrality*, 50 REVIEW OF INDUSTRIAL ORGANIZATION 389–391 (2017).

[10] *Id.* at 389.

[11] *Id.*

empirical evidence suggests that the net effect of net neutrality on investment will likely be negative.[12]

Next, in considering net neutrality, policy makers must address how to think about competition. In reviewing the history of regulatory thought around competition, Amanda Delp and John Mayo discuss the evolution of the phrase "workable competition" in the mid-twentieth century to its evolution into "effective competition," and how the concept of competition has changed.[13] Their work shows that by the time of the 2015 Order, the FCC had not consistently applied any particular definition of competition. This is a critical problem for the 2015 Order. Without an adequate and consistent definition of competition, the 2015 Order failed to come to coherent economic and policy conclusions about the 2015 Order's intended or likely impacts on competition.

The third familiar economic principle inherent in net neutrality considerations is vertical integration – how the provider of an upstream good interacts with providers of downstream goods. Joseph Farrell notes that in principle these vertical relationships could *either* promote *or* hinder competition in

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[12] Thomas W. Hazlett & Joshua D. Wright, *The Effect of Regulation on Broadband Markets: Evaluating the Empirical Evidence in the FCC's 2015 "Open Internet" Order*, 50 REVIEW OF INDUSTRIAL ORGANIZATION 487–507 (2017).

[13] Amanda B. Delp & John W. Mayo, *The Evolution of "Competition": Lessons for 21st Century Telecommunications Policy*, 50 REVIEW OF INDUSTRIAL ORGANIZATION 393–416 (2017).

broadband markets.[14] There is simply no certainty one way or the other. Likewise, the consumer could be better or worse off under either scenario. In other words, as a matter of economics, one cannot ensure a more favorable outcome for consumers by dictating behavior in vertical relationships – whether in favor of vertical integration or vertical segregation. Accordingly, a regulatory policy that favors one over the other is misguided if the ultimate goal is to favor consumers.

B. Net Neutrality and Investment

The effects on investment are a key factor in any economic analysis. This is particularly true for broadband service because, not only is it a high priority of the FCC to foster broadband deployment, but, as the FCC has recognized, the "underlying cost structure" of broadband involves high levels of fixed and sunk investments.[15] Industries with high fixed and sunk costs must enable investors to earn a reasonable return over some period of time in order to attract investment dollars. Simply put, the lower the expected net present value of the return, the less investment will be made. To make any investment worthwhile, investors will always invest first where the expected returns are highest and last where the expected returns are the lowest. Changes in the expected returns on these

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[14] Joseph Farrell, *Some Simple Analytics of Vertically Linked Markets*, 50 REVIEW OF INDUSTRIAL ORGANIZATION 431–440 (2017).
[15] 2018 Order ¶ 123.

investments can therefore affect not just the levels of investment, but also the mix of investments.

Michael Katz pointed out the FCC's apparent disinterest in considering these negative impacts on investment in the 2015 Order.[16] He concluded "that the Commission has made several claims [in the 2015 Order] about the benefits of its policies that economics does not support."[17] He argued further that the 2015 Order was "likely to have several adverse and/or unintended consequences, including the stimulation of market trends that may undermine the regulations themselves."[18] Thomas Hazlett and Joshua Wright further validate these criticisms of the 2015 Order. They take advantage of the relevant historical evidence to consider the likely effects on investment of Title II classification for broadband service.[19] That evidence shows that adding common carrier rules ("Title II"-like) tend to reduce investment, while eliminating such rules was more likely to increase investment.

[16] Michael L. Katz, *Wither U.S. Net Neutrality Regulation?*, 50 REVIEW OF INDUSTRIAL ORGANIZATION 441–468 (2017).
[17] *Id*. at 443.
[18] *Id*. at 443-44.
[19] Hazlett and Wright, *supra* note 12.

C. Distributional Effects of Net Neutrality

The FCC has a long established interest in promoting broadband deployment, in large part to close the "digital divide" and make Internet access, and the economic opportunities that come with it, more widely available to poor and rural America. The economic analysis indicates that, rather than advance internet access for low-income populations, net neutrality is instead especially likely to cause greater harm to low-income populations.

Keith Hylton notes that if ISPs cannot charge content providers different prices regardless of how much content providers send across the network, then net neutrality results in a transfer of wealth from low- to high-income consumers.[20] That is, if everyone pays the same amount, then varying demand across consumers means that groups using less content will subsidize groups using more content. Cross-subsidies can, in principle, increase overall welfare, but in this case they are likely to disproportionately benefit bandwidth-intensive content rather than anything one might argue the market underprovides. More generally, he argues that in the case of information goods – including those affected by net neutrality rules – such cross-subsidies tend to be transfers to high-income users from low-income users.

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[20] Keith N. Hylton, *Law, Social Welfare, and Net Neutrality*, 50 REVIEW OF INDUSTRIAL ORGANIZATION 417–429 (2017).

Moreover, Michelle Connolly, Clement Lee, and Renhao Tan suggest that net neutrality rules will worsen the digital divide.[21] In a regime where ISPs are only allowed to charge end-users, increased consumer prices to recover fixed network costs are more likely, making broadband less affordable. Net neutrality is also likely to reduce returns on investments (as discussed above), thus reducing the already tenuous incentives for companies to invest in areas less likely to yield a strong economic return. That is, where returns on broadband investment are sufficiently high, like in certain suburbs where access to rights-of-way is simple and lines are aerial and therefore less costly to install, a change in the expected return driven by net neutrality rules are unlikely to have much impact. But in places where the returns barely justify the investment, any negative effect on returns could risk future investment. And history and common sense tells us that those areas of marginal return are largely rural and/or low-income. Accordingly, that is where we would see the most negative effects on investment.

Net neutrality regulation also may have the unintended consequence of deterring innovative offerings that benefit low-income consumers. As Christopher Yoo notes, net neutrality rules could outlaw some common practices that benefit

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[21] Michelle Connelly, Clement Lee & Renhao Tan, *The Digital Divide and Other Economic Considerations for Network Neutrality*, 50 REVIEW OF INDUSTRIAL ORGANIZATION 537–554 (2017).

these populations.[22] A classic example of a consumer benefit that would be outlawed by net neutrality is "zero rating" – broadband plans where some data does not count against data caps. These programs benefit consumers in two ways. First, they offer consumers lower prices by allowing ISPs to recover some costs from content providers. Lower prices are especially beneficial to low-income people. Second, they facilitate competition by allowing another method of product and service differentiation, which is a key way that companies, especially new entrants, compete with each other. While Yoo acknowledges that zero rating may not always be implemented in ways that are beneficial to consumers, that is not a reason to prohibit it outright – as net neutrality rules would. Rather, Yoo argues that the FCC should review such arrangements on a case-by-case basis.

D. Even if No Immediate Effect, Net Neutrality Rules Raise Possibility of Price Regulation

Timothy Brennan, FCC Chief Economist during the 2015 Open Internet Order proceeding, notes a stark paucity of evidence supporting the rules.[23] In his analysis, Brennan reviews the only four events identified in the previous decade that may have been subject to the 2015 Order's net neutrality rules.

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[22] Christopher S. Yoo, *Avoiding the Pitfalls of Net Uniformity: Zero Rating and Nondiscrimination*, 50 REVIEW OF INDUSTRIAL ORGANIZATION 509–536 (2017).

[23] Timothy Brennan, *The Post-Internet Order Broadband Sector: Lessons from the Pre-Open Internet Order Experience*, 50 REVIEW OF INDUSTRIAL ORGANIZATION 469–486 (2017).

While the lack of major violations of net neutrality principles suggests the rules are not necessary, they also raise the question of why anyone cares. Robert Crandall underlines Brennan's question with an "event study" of stock market reactions to net neutrality news.[24] It turned out that investors had little reaction to the 2015 Order – ISPs did not observe a significant or real downturn in their stock prices, and media companies, which many thought would benefit from the rules, experienced little increase in stock prices.

The larger concern from Brennan's analysis is that the ultimate long-term impact of the net neutrality rules could be broadband price regulation – which, in the absence of the 2015 Order, would not have been possible – and historically has distorted investment and harmed consumers. Indeed, net neutrality implicitly regulates prices by setting the price ISPs can charge content providers at zero. With that construct, consumers must make up the difference. This supports Brennan's idea that perhaps the ultimate impact of net neutrality is that it could enable future price regulation, something everyone believes is not appropriate.

CONCLUSION

For the foregoing reasons and those in the Respondents' briefs, the Court should uphold the FCC's 2018 Restoring Internet Freedom Order. The FCC

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[24] Robert W. Crandall, *The FCC's Net Neutrality Decision and Stock Prices*, 50 REVIEW OF INDUSTRIAL ORGANIZATION 555–582 (2017).

reasonably exercised its judgment – taking into account the relevant legal authority, as well as public policy and economic considerations – when it determined that broadband Internet service should be classified as an "information service" under the Telecommunications Act. The above discussion of scholarly articles provides a nuanced explanation of the potential negative effects of net neutrality rules and explains why the economic evidence and theory favor the 2018 Order.

Respectfully submitted,

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Dated: October 18, 2018

CERTIFICATE OF COMPLIANCE

Pursuant to Fed. R. App. P. 28(a)(10), Fed. R. App. P. 29(a)(4)(G), Fed. R. App. P. 32(g), and D.C. Cir. Rule 32(e)(3), this document complies with brief formatting requirements.

This brief contains 2,438 words in argument and footnotes, and complies with type-volume limits pursuant to Fed. R. App. P. 32. This document has been prepared in Times New Roman 14-point font with proportionally spaced type, in compliance with type-face requirements of Fed. R. App. P. 32(a)(5) and type-style requirements of Fed. R. App. P. 32(a)(6).

October 18, 2018

/s/ John Seiver
John Seiver

CERTIFICATE OF SERVICE

I certify that on October 18, 2018, this document was electronically filed through this Court's CM/ECF system which sends a notice of filing to all registered users.

October 18, 2018

/s/ John Seiver
John Seiver