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**Compelled Disclosure of Internet Interconnection Agreements Creates
Anticompetitive Risks**

by

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Federal Communications Commission Chairman Tom Wheeler recently announced that the Commission had requested, and received, copies of interconnection agreements signed between Netflix and Internet service providers Comcast and Verizon. Going forward, the agency intends to review copies of similar agreements “across the board” between content providers and ISPs. The Chairman explained that the Communications Act gives the Commission “broad authority” to review interconnection markets, although he stressed that for the moment, the Commission is merely “collecting information, not regulating.”¹

This announcement has prompted renewed calls for the Commission to make these agreements public. Since Comcast and Netflix announced their interconnection agreement in February, some advocacy groups and technology reporters have asked that all network interconnection agreements be filed with the Commission and open to public inspection.² Only by exposing the details of such agreements, they argue, can the public determine whether ISP business practices are reasonable or anticompetitive.

While transparency is often a laudatory policy goal, this proposal is misguided and may ultimately harm the very competition that proponents seek to protect. Requiring ISPs to disclose the terms upon which they sell broadband access to consumers, as the net neutrality rules do, is

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very different from mandating detailed disclosure of specific, confidential business-to-business agreements negotiated between sophisticated parties in a highly competitive interconnection market. It is a basic tenet of economic and industrial organization literature that sharing competitively sensitive information among rivals can facilitate tacit collusion.

The Supreme Court, antitrust authorities, and even the Commission have stressed that disclosure of price and cost information can be harmful to competition, especially in markets marked by significant barriers to entry. Because of this potential effect on competition, the Commission should reject calls to mandate the public disclosure of interconnection agreements and instead limit itself to investigating actual instances of suspected consumer harm.

The Competitive Interconnection Market

Traditionally, the net neutrality debate has focused primarily upon the residential broadband market, and to a lesser extent, the market for commercial end-user broadband access. This market generally functions as a simple subscription-based model where the consumer buys a publicly-advertised monthly plan for Internet access. Specific price points are usually a function of one's monthly data consumption, the maximum speed at which data is delivered, or both.

But upstream in the Internet ecosystem, the interconnection market is much more complex and dynamic. Interconnection agreements stitch together the nearly 35,000 different networks that move information across the Internet. Some networks have nearly global footprints, while others operate only locally or regionally. Some focus purely on Internet transit, whereas others sell transit alongside other complementary services.³

As one might expect in such a diverse marketplace, interconnection agreements contain wide variations in the terms under which parties exchange traffic with one another. Some parties buy and sell transit, while others focus on peering on a settlement-free or paid basis. Content providers unsatisfied with traditional transit and peering options can rely upon private content delivery networks such as Akamai and Level 3, which bypass the Internet's backbone to help deliver content more efficiently to consumers.

Price trends demonstrate the competitiveness of interconnection markets. Although pricing schedules are often governed by nondisclosure agreements (because they contain competitively sensitive information), there is a general consensus that competition has driven down Internet transit prices precipitously and continuously since the Internet's inception. Consultant William Norton calculates, based on anecdotal surveys, that transit prices have fallen from \$1200 Mbps in 1998 to \$0.94 in 2014, an average rate of 30% each year.⁴ Similarly, research firm TeleGeography estimates that American transit prices have fallen 26% annually from 2007 to 2012, and the rate of decline is increasing.⁵ Streaming Media analyst Dan Rayburn notes a similar decline in prices by content delivery networks: he estimates that CDN pricing fell 20-25 percent from 2012 to 2013, and he expects even greater declines in 2014 and 2015.⁶

As I discussed in an earlier *Perspectives from FSF Scholars* paper,⁷ Netflix's recent interconnection agreements evince the competitive evolution of that market. Netflix has traditionally partnered with third-party transit providers and content delivery networks to carry

its bits to consumers. When Netflix quality began to suffer as the result of an interconnection dispute between one of those transit providers and downstream ISPs, Netflix was able to avoid collateral damage by cutting out the middleman and instead directly interconnecting with the Comcast and Verizon networks. It has also built its single-purpose content delivery network, called OpenConnect, which peers with multiple ISPs to serve those consumers. For customers whose ISPs do not directly interconnect with Netflix or peer with OpenConnect, Netflix can purchase traditional transit service or rely upon one of many content delivery networks to carry content to consumers. Competition among these many interconnection options produces innovative new ways to deliver bits to consumers and keeps interconnection prices at ever-more-competitive levels.

Disclosure of Interconnection Agreements May Harm Competition

The proposed public disclosure requirement threatens to harm the competitiveness of this Internet interconnection market segment. At first glance, the benefits of increased transparency can seem enticing: in theory, perfect competition assumes that buyers have perfect information about prices, and increased access to firm pricing can reduce search costs for consumers hunting for the best deal. But economists have long warned that in reality, increased price transparency can have anticompetitive effects by facilitating the negotiation and enforcement of supracompetitive prices.⁸ That is why for almost a century, the Supreme Court has consistently recognized that “the exchange of price information among competitors carries with it the added potential for the development of concerted price-fixing arrangements which lie at the core of the Sherman Act’s prohibitions.”⁹

Federal antitrust authorities have similarly warned about the potential anticompetitive risks of transparency among competitors. The Federal Trade Commission and Department of Justice Antitrust Division explain that “[a] market typically is more vulnerable to coordinated conduct if each competitively important firm’s significant competitive initiatives can be promptly and confidently observed by that firm’s rivals. This is more likely to be the case if the terms offered to customers are relatively transparent.”¹⁰ While the sharing of information among competitors can be procompetitive, “in some cases, the sharing of information related to a market in which the collaboration operates or in which the participants are actual or potential competitors may increase the likelihood of collusion on matters such as price.”¹¹

The FTC/DOJ Guidelines for Collaborations Among Competitors state that information disclosure is more likely to facilitate collusion if it involves (1) information about prices, (2) current, rather than historic, information, and (3) individualized, rather than aggregated, company data.¹² Of course, the proposal to mandate disclosure of individualized interconnection agreements would raise all three red flags: it would reveal real-time information about prices and costs of transit and other interconnection services on a company-by-company basis.

The Mechanics of Tacit Collusion

Price transparency facilitates collusion in two ways. First, the open communication of prices reduces the uncertainty of negotiating a supracompetitive price. Because overt communication about price collusion is prohibited by the Sherman Act, firms seeking to collude must overcome

the difficulty of communicating indirectly to establish their target price. But as the Supreme Court explained in *United States v. Container Corp.*, sharing current price data can solve this problem by signaling a target toward which others can move.¹³ In that case, suppliers of corrugated containers shared current price information upon request about the most recent price charged for a good. The Court noted that “[t]he exchange of price information seemed to have the effect of keeping prices within a fairly narrow ambit” because “[k]nowledge of a competitor’s price generally meant matching that price.”¹⁴ The result was a movement toward a stable, uniform price in violation of the Sherman Act.

Once firms have established a collusive price, transparency also helps enforce the collusive agreement. Here, as the Supreme Court has noted, “[u]ncertainty is the oligopoly’s greatest enemy,” because of the difficulty of identifying and punishing cheaters.¹⁵ But price transparency eliminates that uncertainty and therefore facilitates enforcement. Economists Frederic Scherer and David Ross explain: “If...every transaction is publicized immediately, all members of the industry will know when one has made a price cut, and each can retaliate on the next transaction. Knowledge that retaliation will be swift serves as a powerful deterrent to price cutting and therefore facilitates the maintenance of tacitly collusive prices.”¹⁶ Because market players know that any attempt at cheating will bring a swift response, they are less inclined to defect from the collusive price in the first place.

Here, the general risk of tacit collusion is magnified by several structural factors inherent in the interconnection market:

- Concentration: Collusion is easier when fewer firms need to cooperate.¹⁷ Though there are roughly 35,000 networks comprising the interconnection market, proponents of transparency have targeted ISPs because they allegedly control terminating access monopolies to consumers. If their concerns are valid, transparency would ease efforts by those ISPs to control interconnection rates to end-user broadband networks.
- Barriers to Entry: Building and operating a broadband network requires significant upfront capital, which helps insulate a collusive scheme from the threat of competitive entry.
- Frequency of negotiations: Providers enter into regular and frequent interconnection agreements, most of which govern only a small portion of total traffic carried over a network. This makes cheating less likely because there is little benefit from departing from the collusive price in a single transaction, and competitors can move quickly to punish any defector.
- Multimarket players: Firms in the interconnection market are customers as well as competitors. These multimarket contacts provide multiple pressure points with which to punish a cheater, which makes cheating less likely.
- Complex agreements: interconnection agreements can run hundreds of pages and may contain thousands of terms, which can mask attempts by firms to communicate with one another.¹⁸

The Federal Communications Commission has historically recognized the risk that transparency could facilitate collusion in telecommunications markets. In the late 1980s and early 1990s, the Commission openly pondered whether tariffing of rates by nondominant telephone companies

“impair[ed] competitive pricing and facilitate[ed] collusive conduct.”¹⁹ Although it ultimately found that the evidence of collusion was inconclusive on the record it had before it, the Commission explained that the possibility of collusion was one reason why it supported the detariffing of nondominant carrier services in the mid-1990s.²⁰ The agency was uncomfortable with continued tariffing precisely because “[o]ne of the basic prerequisites for [] anticompetitive behavior is knowledge of a competitor’s prices.”²¹

Empirical studies have proven the link between increased transparency and higher prices in other related contexts. One particularly noteworthy example involves railroad grain contracting. After the Staggers Rail Act of 1980 allowed railroads to enter privately-negotiated agreements with shippers, Congress was concerned that railroads were price-discriminating against smaller agricultural producers. To correct for this possibility, in 1986 Congress mandated that the railroads publicly disclose all “essential terms” of agricultural shipping contracts, including price and volume.²² Several economists showed that the disclosure obligation had a significant and adverse effect on the price for railroad shipping.²³ From 1980 through 1986, the authors showed that rates were declining, a result consistent with other deregulation studies. But the trend sharply reversed when the transparency obligation took effect in January 1987, leading to a 10-13 percent rise in rates, after controlling for exogenous factors. The authors conclude that “contract disclosure and the increased reliance on posted tariffs facilitated rate coordination by the oligopolistic railroad industry, thereby leading to an increase in rail rates,” a finding consistent with an earlier study about the effect of transparency requirements on inland barge rates.²⁴

Non-Collusive Harm to Competition

Even absent tacit collusion, transparency can have an anticompetitive effect based simply on the unilateral rational actions of market players. As the Federal Trade Commission has explained, coordinated information sharing “can blunt a firm’s incentive to offer customers better deals by undercutting the extent to which such a move would win business away from rivals.”²⁵ Market participants typically offer discounts in an attempt to gain market share away from rivals. But a company is less likely to offer such a discount if competitors can quickly learn the details of the agreement and move to match. Because it would be unlikely that discounting would gain share, firms would be less likely to engage in discounting in the first place. Transparency also decreases the incentives for companies to price goods aggressively. When a firm lacks knowledge about its competitor’s prices, it has incentives to offer low prices in an attempt to beat the “unknown” deal. But when rival pricing is no longer unknown, the incentive to outbid unknown price terms disappears.

In this specific case, disclosure of interconnection agreements may also have anticompetitive effects on adjacent markets for content and applications. First, disclosure may make it easier for networks to price discriminate against particular content, because they could more easily identify the transit networks that specific content providers use to deliver their traffic to the Internet, and can press for higher transit fees from those networks. Second, the disclosure of interconnection agreements will allow content and application providers access to competitively sensitive data about their rivals’ transit costs, which can raise risks of tacit collusion in upstream content and application markets. Third, content and application providers who are concerned about protecting this information may contract with networks that are not subject to disclosure rules,

such as CDNs, or they may attempt to self-provision transit service to avoid disclosing cost information to competitors, even in situations where it would otherwise be uneconomical to do so.

Finally, even if the disclosure rule ultimately has no anticompetitive effects, the proposed obligation would impose substantial costs on the industry. Network providers would need to scrutinize interconnection agreements to assure that disclosure would not raise antitrust issues or otherwise reveal competitively sensitive information. Moreover, given that federal antitrust officials look skeptically at arrangements to share prices, the routine exchange of competitively sensitive information may attract antitrust oversight and trigger investigations of firms that are in fact innocent—investigations that are expensive to defend even if the target is ultimately cleared of any wrongdoing. Finally, given that this is a somewhat unsettled area of the law, even a firm with no anticompetitive intent may unwittingly incur liability. In such an investigation, the fact that the Commission has mandated disclosure would not be a complete defense if antitrust authorities suspect the company was misusing the disclosure regime to achieve an anticompetitive end. Each of these compliance costs would ultimately be passed along to content providers and consumers in the form of higher interconnection rates.

Conclusion

Economic theory, antitrust authorities, and empirical evidence all suggest that mandatory disclosure is unlikely to remedy potential anticompetitive conduct in interconnection markets. The publicly available evidence shows this is a vibrant, competitive marketplace in which content providers have myriad opportunities to bring their goods to consumers. Moreover, federal authorities have ample authority to investigate and, if necessary, prosecute specific interconnection practices that they believe may be anticompetitive. And antitrust law allows private plaintiffs harmed by allegedly anticompetitive practices to seek civil relief.

These judicial proceedings are a far superior method of unearthing and punishing anticompetitive interconnection practices. Through the discovery process, the relevant plaintiff will get access to the terms of the interconnection agreement and whatever other information it deems necessary to prosecute the case. But the judicial process provides significant protection, backed by the threat of contempt, to minimize the risk that competitively sensitive information will be made public. More importantly, it does not run the risk of being misused for anticompetitive purposes. The Commission should trust that process to police abuses. It should avoid the temptation to ignore basic economic theory, antitrust authorities, and its own prior conclusions in pursuit of a public disclosure regime that is likely to harm the very competition that it seeks to protect.

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¹ See Jon Brodtkin, *FCC Gets Comcast, Verizon to Reveal Netflix's Paid Peering Deals*, Ars Technica, June 13, 2014, available at <http://arstechnica.com/tech-policy/2014/06/fcc-gets-comcast-verizon-to-reveal-netflixs-paid-peering-deals/>; Brian Fung, *The FCC is Going to Scrutinize Netflix's Deals with Comcast, Verizon—and Others*

Too, Washington Post The Switch Blog, June 13, 2014, available at <http://www.washingtonpost.com/blogs/the-switch/wp/2014/06/13/the-fcc-is-going-to-scrutinize-netflixs-deals-with-comcast-verizon-and-others-too/>.

² See, e.g., Fung, supra note 1 (“Netflix’s continued dispute with Internet providers underscores that we can’t declare a winner in the debate without more information about what Netflix is paying Comcast and Verizon to boost customers’ streaming speeds, whether that’s causing people’s bills to rise, and who actually has the leverage in these relationships.”).

³ See Dan Rayburn, *How Transit Works, What It Costs and Why It’s So Important*, <http://blog.streamingmedia.com/2014/02/transit-works-costs-important.html>.

⁴ William B. Norton, *THE INTERNET PEERING PLAYBOOK: CONNECTING TO THE CORE OF THE INTERNET* 34 (2013).

⁵ TeleGeography Press Release, IP Transit Prices Steepen, Aug. 2, 2012, available at <http://www.telegeography.com/products/commsupdate/articles/2012/08/02/ip-transit-price-declines-steepen/>.

⁶ Dan Rayburn, *The State of the CDN Market*, May 2014, available at <http://www.streamingmedia.com/dansblog/2014CDNSummit-Rayburn.pdf>.

⁷ Daniel A. Lyons, *Peering Into the Comcast-Netflix Deal, Perspectives from FSF Scholars*, Vol. 9, No. 11 (2014), available at http://www.freestatefoundation.org/images/Peering_into_Comcast-Netflix_030414.pdf

⁸ See, e.g., Maurice E. Stucke, *Evaluating the Risks of Increased Price Transparency*, 19-SPG ANTITRUST 81, 81 (2005).

⁹ *United States v. United States Gypsum Co.*, 438 U.S. 422, 457 (1978); see *Am. Column & Lumber Co. v. United States*, 257 U.S. 377 (1921).

¹⁰ Fed. Trade Comm’n & U.S. Dep’t of Justice, *HORIZONTAL MERGER GUIDELINES* § 7.2 (2010).

¹¹ Fed. Trade Comm’n & U.S. Dep’t of Justice, *ANTITRUST GUIDELINES FOR COLLABORATIONS AMONG COMPETITORS* § 3.31(b) (2010).

¹² *Id.*

¹³ 393 U.S. 333 (1969).

¹⁴ *Id.* at 336-37.

¹⁵ *Brook Group v. Brown & Williamson Tobacco*, 509 U.S. 209, 238 (1993).

¹⁶ F.M. Scherer & David Ross, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* 348 (1990).

¹⁷ See, e.g., John M. Kuhlman, *Nature and Significance of Price Fixing Rings*, 2 ANTITRUST L. & ECON. REV. ANTITRUST L. & ECON. REV. 69, 71 (1968).

¹⁸ This allegation was at the core of the Airline Tariffing Case. *Airline Tariff Publishing Co.*, 1993-2 Trade Cas. (CCH) ¶ 70,409, 71,167 (D.D.C. 1994).

¹⁹ *In re Policies and Rules Concerning Rates for Competitive Carrier Services and Facilities Authorizations Therefor*, Fourth Report and Order, 95 F.C.C. 2d 554, 554 n.1 (1983).

²⁰ *In re Motion of AT&T to be Reclassified as a Non-Dominant Carrier*, 11 FCC Rcd. 3271, 3314-15 (1995).

²¹ *Competition in the Interstate Interexchange Marketplace*, 5 FCC Rcd. 2627, 2644 (1990).

²² See Pub. L. 99-509, § 4051 (1986).

²³ See Stephen W. Fuller et al, *Effect of Contract Disclosure on Price: Railroad Grain Contracting in the Plains*, 15 WEST. J. OF AGRICULTURAL ECON. 265 (1990).

²⁴ *Id.* at 271.

²⁵ FTC Horizontal Merger Guidelines § 7.2.