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**How Commissioner Vestager's Mistaken Views
on Standard-Essential Patents Illustrate
Why President Trump Needs a Unified
Policy on Antitrust and Innovation**

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Thirteen days after America elected Donald Trump its 45th president, Margrethe Vestager, the European Commissioner for Competition, spoke on antitrust's role in policing a dominant firm's "excessively high prices," which of course do not constitute an antitrust offense in the United States.¹ She said, unremarkably to any American listening, that an antitrust authority should not regulate prices and that market forces typically suffice to deter exploitation by a dominant firm. Her remarks then turned newsworthy for audiences on both sides of the Atlantic. Commissioner Vestager revealed the erroneous factual premise of her views on royalties for standard-essential patents (SEPs) and in so doing illustrated why the Trump administration will likely disagree with the European Union on questions concerning antitrust and innovation.

**I. COMMISSIONER VESTAGER'S MISUNDERSTANDING OF THE
CUMULATIVE ROYALTIES FOR SEPs FOR SMARTPHONES**

SEPs are necessary to practice an industry standard to make an interoperable product like a smartphone. They have been at the core of the smartphone wars

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¹ Margrethe Vestager, Commissioner for Competition, European Commission, Protecting Consumers from Exploitation (Nov. 21, 2016), https://ec.europa.eu/commission/2014-2019/vestager/announcements/protecting-consumers-exploitation_en. Because all the quotations from Commissioner Vestager that appear in this essay come from the same speech, which is not paginated, I dispense with footnotes for the quotations of her that follow.

of the past decade.² Commissioner Vestager said that, although SEP holders “usually have to promise to make their technology available on fair terms,” “that doesn’t help phone makers very much, if the patent holder goes back on that promise by threatening an injunction that could stop them selling their products.” Because of that threat, she said, “some phone makers may need to accept whatever terms they’re presented with,” which, she asserted, “could mean” that mobile phone manufacturers “end up paying unjustified royalties, and that their customers have to pay more than they should.”

Commissioner Vestager’s talking points are several years out of date. Important legal developments have limited, if not completely eliminated, an SEP holder’s ability to engage in exploitative licensing practices in the European Union. Most important, her statement ignores the 2015 decision of the Court of Justice of the European Union (CJEU) in *Huawei v. ZTE*,³ which emphasized that an SEP holder that has committed to license its SEPs on fair, reasonable, and nondiscriminatory (FRAND) terms may request an injunction against an infringer only if it has (1) notified the infringer about the infringement and (2) extended to the infringer a FRAND offer.⁴ Therefore, only an SEP holder that has already extended a FRAND offer to the infringer will be eligible to obtain an injunction (and even then, the infringer might be able to block the issuance of an injunction if the infringer meets the specific requirements announced in *Huawei*). Conversely, an SEP holder that has demanded exploitative licensing terms would be ineligible to obtain an injunction against the infringer. It is not remotely correct for

² I have analyzed at length the legal and economic developments in the disputes over SEPs. See J. Gregory Sidak, *Holdup, Royalty Stacking, and the Presumption of Injunctive Relief for Patent Infringement: A Reply to Lemley and Shapiro*, 92 MINN. L. REV. 713 (2008); J. Gregory Sidak, *Patent Holdup and Oligopsonistic Collusion in Standard Setting Organizations*, 5 J. COMPETITION L. & ECON. 123 (2009); J. Gregory Sidak, *The Meaning of FRAND, Part I: Royalties*, 9 J. COMPETITION L. & ECON. 931 (2013); J. Gregory Sidak, *The Proper Royalty Base for Patent Damages*, 10 J. COMPETITION L. & ECON. 989 (2014); J. Gregory Sidak, *The Meaning of FRAND, Part II: Injunctions*, 11 J. COMPETITION L. & ECON. 201 (2015); J. Gregory Sidak, *The Antitrust Division’s Devaluation of Standard-Essential Patents*, 104 GEO. L.J. ONLINE 48 (2015); J. Gregory Sidak, *Mandating Final-Offer Arbitration of FRAND Royalties for Standard-Essential Patents*, 18 STAN. TECH. L. REV. 1 (2015); J. Gregory Sidak, *Tournaments and FRAND Royalties*, 1 CRITERION J. ON INNOVATION 101 (2016); J. Gregory Sidak, *International Trade Commission Exclusion Orders for the Infringement of Standard-Essential Patents*, 26 CORNELL J.L. & PUB. POL’Y 125 (2016); J. Gregory Sidak, *Evading Portfolio Royalties for Standard-Essential Patents Through Validity Challenges*, 39 WORLD COMPETITION 191 (2016); J. Gregory Sidak, *Apportionment, FRAND Royalties, and Comparable Licenses After Ericsson v. D-Link*, 2016 U. ILL. L. REV. 1809; J. Gregory Sidak, *Does the International Trade Commission Facilitate Patent Holdup?*, 1 CRITERION J. ON INNOVATION 601 (2016); J. Gregory Sidak, *A FRAND Contract’s Intended Third-Party Beneficiary*, 1 CRITERION J. ON INNOVATION 1001 (2016); J. Gregory Sidak, *Enhanced Damages for Infringement of Standard-Essential Patents*, 1 CRITERION J. ON INNOVATION 1101 (2016); J. Gregory Sidak, *The Value of a Standard Versus the Value of Standardization*, 68 BAYLOR L. REV. 59 (2016); J. Gregory Sidak, *Testing for Bias to Suppress Royalties for Standard-Essential Patents*, 1 CRITERION J. ON INNOVATION 301 (2016); J. Gregory Sidak, *What Aggregate Royalty Do Manufacturers of Mobile Phones Pay to License Standard-Essential Patents?*, 1 CRITERION J. ON INNOVATION 701 (2016).

³ Case C-170/13, *Huawei Techs. Co. v. ZTE Corp.* (July 16, 2016).

⁴ *Id.* ¶¶ 61–64.

⁵ *Id.* ¶¶ 65–67.

Commissioner Vestager to suggest that the SEP holder may use an injunction to extract “whatever terms” it wants from a licensee.

To support her conjecture that SEPs are priced excessively, Commissioner Vestager mentioned, without identification or citation, “[o]ne recent study” claiming “that 120 dollars of the cost of each smartphone comes from paying royalties for the patents it contains.” She did not say how that number was calculated—or even whether the figure includes royalties paid for inessential implementation patents rather than solely SEPs. She also did not explain why a cumulative royalty of \$120, if it were correct, would be excessive under EU law. Commissioner Vestager must have believed that this unnamed study rests on reliable economic analysis (otherwise, why would she have mentioned it?) and that the study supports the legal conclusion that the cumulative royalty payment for SEPs practiced in smartphones is excessive and justifies intervention under EU competition law.

However, Commissioner Vestager’s statement that the cumulative royalty payments for SEPs reach \$120 for smartphones—which would amount to 30 percent of the retail price for a \$400 smartphone—contradicts empirical studies. In 2016, I estimated the aggregate royalty actually paid for SEPs used in smartphones practicing the 3G and 4G standards; I found that this aggregate royalty was far below the \$120 per device that Commissioner Vestager subsequently suggested.⁶ My article replicates and extends a study conducted by Keith Mallinson a year earlier, although my methodology and assumptions differ somewhat from his.⁷ Like Mallinson, I examined the revenues of the major types of SEP holders to estimate the total royalty payments that SEP holders receive. Consistent with Mallinson’s classifications, I considered four categories of SEP holders: (1) major mobile communications SEP holders with established licensing programs, (2) patent pools, (3) large implementers (companies whose primary business is to design, manufacture, and sell downstream devices) that cross-license the SEPs that they own, and (4) other patent-assertion entities (PAEs). The companies in the first category are Alcatel-Lucent, Ericsson, Nokia, InterDigital, and Qualcomm. Companies in the third category include Apple, Huawei, RIM, Samsung, and LG.⁸ From

⁶ Sidak, *What Aggregate Royalty Do Manufacturers of Mobile Phones Pay to License Standard-Essential Patents?*, *supra* note 2.

⁷ Keith Mallinson, *Cumulative Mobile-SEP Royalty Payments No More Than Around 5% of Mobile Handset Revenues* 6, WISEHARBOR (2015), <http://www.wiseharbor.com/pdfs/Mallinson%20on%20cumulative%20mobile%20SEP%20royalties%20for%20IP%20Finance%202015Aug19.pdf>.

⁸ Sidak, *What Aggregate Royalty Do Manufacturers of Mobile Phones Pay to License Standard-Essential Patents?*, *supra* note 2, at 710. Unlike the first category of large SEP holders with established licensing programs, patent holders in this third category are, in Mallinson’s estimation, “inevitably unable to extract large total licensing fees because they have the overriding priority of protecting their downstream devices businesses . . . from patent infringement challenges. They cross-license instead of seeking to maximise patent fees earned in cash payments.” Mallinson, *supra* note 7, at 6.

the fourth category, I excluded the major SEP holders included in the first group of SEP holders.⁹

I found that, even after making conservative assumptions that would tend to inflate SEP holders' revenues,¹⁰ SEP holders collected an aggregate royalty of approximately 4 to 5 percent of global handset revenues.¹¹ This aggregate royalty would correspond to a total amount of \$15 to \$20 for a \$400 device, which is only one-sixth (or less) of the \$120 estimate that Commissioner Vestager evidently found credible. Two other studies—Mallinson's original paper¹² and a subsequent paper by Alexander Galetovic, Stephen Haber, and Lew Zaretski¹³—have similarly found that the cumulative royalty for SEPs ranges from 3.3 percent to approximately 5 percent of global handset sales, which equates to between \$13.20 and \$20 in SEP royalties on a \$400 smartphone.¹⁴

In sum, Commissioner Vestager's suggestion that the cumulative SEP royalty for smartphones is \$120 is an overstatement by at least a factor of six. Her mistaken views on SEPs thus risk justifying antitrust intervention when prices are not plausibly disproportional to the value of the licensed technology, much less excessive as a matter of EU law.

II. THE WIDENING ATLANTIC

Commissioner Vestager's remarks on cumulative SEP royalties illustrate why a rift between EU and American antitrust enforcers will likely emerge during the Trump administration. The Obama administration so conspicuously favored implementers over SEP holders¹⁵ that, by September 2015, the Assistant Attorney General for the Antitrust Division of the U.S. Department of Justice thought it necessary to assure the bar that the Division does not "use antitrust enforcement to regulate royalties."¹⁶ Similarly, after the Federal Trade Commission (FTC) in 2013 had twice challenged an SEP holder's request for an injunction with a similar solicitude for the welfare of implementers,¹⁷ Chairwoman Edith Ramirez said in 2014 that she was "seriously

⁹ Sidak, *What Aggregate Royalty Do Manufacturers of Mobile Phones Pay to License Standard-Essential Patents?*, *supra* note 2, at 716 n.40.

¹⁰ *Id.* at 703–04, 709.

¹¹ *Id.* at 718 tbl.9.

¹² Mallinson, *supra* note 7.

¹³ Alexander Galetovic, Stephen H. Haber & Lew Zaretski, *A New Dataset on Mobile Phone Patent License Royalties* (Hoover Institution Working Grp. on Intell. Prop., Innovation & Prosperity, Working Paper No. 16011, 2016).

¹⁴ *Id.* at 12–13; Mallinson, *supra* note 7, at 1.

¹⁵ Sidak, *The Antitrust Division's Devaluation of Standard-Essential Patents*, *supra* note 2.

¹⁶ Bill Baer, Assistant Attorney Gen., Antitrust Div., U.S. Dep't of Justice, Remarks as Prepared for Delivery at the 19th Annual International Bar Associate Competition Conference, Reflections on the Role of Competition Agencies When Patents Become Essential 10 (Sept. 11, 2015).

¹⁷ See Decision and Order, Robert Bosch GmbH, No. C-4377 (F.T.C. Apr. 23, 2013); Decision and Order, Motorola Mobility, L.L.C., No. 121-0120 (F.T.C. July 24, 2013).

concerned” that “antitrust authorities may be willing to impose liability based solely on the royalty terms that a patent owner demands for a license to its FRAND-encumbered SEPs.”¹⁸ She said that such interventions would typically be “focused on reducing royalty payments for local implementers as a matter of industrial policy, rather than protecting competition and long-run consumer welfare.”¹⁹ These statements of assurance would have been unnecessary had the Antitrust Division and the FTC not previously created doubt.

The Trump administration will surely be more concerned than the Obama administration was about the harm to dynamic efficiency from using antitrust policy to suppress royalties for SEPs. Steven Salop and Carl Shapiro, economics professors at Georgetown and Berkeley who consult in antitrust matters through Charles River Associates, have speculated that there are two potential approaches that President Trump could take with respect to antitrust enforcement.²⁰ The first would be interventionist and have “the overarching goal of reducing the power of large corporations in the American economy.”²¹ The second would be “a highly permissive, minimalist approach to antitrust (outside of price fixing enforcement) of the type associated with Robert Bork and former Supreme Court Justice Antonin Scalia,”²² which Salop and Shapiro evidently disfavor.

That Salop and Shapiro cannot envision a Trump administration capable of any greater nuance than these two approaches makes one wonder whether they know anybody who knows anybody who voted for Trump. It is also telling that their high-level predictions about antitrust in the Trump administration promptly drill down specifically on, of all topics, SEPs. They claim that a “laissez-faire” approach to royalties for SEPs would lead to “potentially huge amounts of money . . . flow[ing] from ordinary consumers purchasing smartphones . . . to a small number of entities . . . that hold SEPs relating to smartphones.”²³ Salop and Shapiro evidently stand with Commissioner Vestager.

But I doubt that President Trump will be standing with her. As Salop and Shapiro observe,²⁴ Joshua Wright, the former FTC commissioner who leads the Trump transition’s antitrust team, has written extensively on SEPs and specifically argued that royalty stacking (assuming that it occurs) should not concern antitrust enforcers “unless there is evidence that royalty

¹⁸ Edith Ramirez, Chairwoman, Fed. Trade Comm’n, Address at 8th Annual Global Antitrust Enforcement Symposium: Standard-Essential Patents and Licensing: An Antitrust Enforcement Perspective 8 (Sept. 10, 2014).

¹⁹ *Id.*

²⁰ Steven C. Salop & Carl Shapiro, *Whither Antitrust Enforcement in the Trump Administration?*, ANTITRUST SOURCE (forthcoming), <http://faculty.haas.berkeley.edu/shapiro/trumpantitrust.pdf>.

²¹ *Id.* at 2 (manuscript).

²² *Id.* at 11.

²³ *Id.* at 15.

²⁴ *Id.* at 5–6.

stacking would have a severely adverse effect on the product market, or, at a minimum, would substantially restrict output.”²⁵ Wright has also emphasized that, “[d]espite the amount of attention patent hold-up has drawn from policymakers and academics, there have been relatively few instances of litigated patent hold-up among the thousands of standards adopted.”²⁶ Similarly, Commissioner Maureen Ohlhausen, who will presumably chair the FTC on at least an acting basis once President Trump takes office, has also cautioned that “[s]imply condemning a high price, a refusal to deal, or the use of a SEP without showing harm to supply- and demand-side limits on market power . . . is not antitrust. It is a regulatory action meant to reengineer market outcomes to reflect enforcers’ preferences.”²⁷

III. INNOVATION, COMPETITION, AND REGULATION IN THE TRUMP ADMINISTRATION

The federal government lacks a unified strategy for promoting innovation and competition and for reducing the burden of economic regulation. President Trump might consider appointing one person to oversee the formulation and implementation of that unified strategy, just as President Ford four decades ago appointed Paul MacAvoy, then a member of the Council of Economic Advisers, to lead the administration’s various efforts to reform economic regulation.²⁸

This third approach to antitrust policy in the Trump administration would differ markedly from the two approaches that Salop and Shapiro describe. It would incorporate an appreciation, derived from public choice theory and from practical experience, that those in government who diagnose market failure often proceed to prescribe a remedy that suffers from a governmental failure of equal or greater severity. To compare a real-world alternative with a perfect world, rather than with feasible alternatives, exemplifies what Harold Demsetz calls the “nirvana fallacy.”²⁹ Antitrust officials in the Obama administration either never heard of the nirvana fallacy or lacked

²⁵ Douglas H. Ginsburg, Bruce H. Kobayashi, Koren W. Wong-Ervin & Joshua D. Wright, “Excessive Royalty” Prohibitions and the Dangers of Punishing Vigorous Competition and Harming Incentives to Innovate, CPI ANTITRUST CHRON., Mar. 2016, at 1.

²⁶ Joshua D. Wright, Comm’r, Fed. Trade Comm’n, Remarks at the Center for the Protection of Intellectual Property Inaugural Academic Conference: The Commercial Function of Patents in Today’s Innovation Economy 20 (Sept. 12, 2013) (citing Bruce H. Kobayashi & Joshua D. Wright, *Intellectual Property and Standard Setting*, in ABA SECTION OF ANTITRUST LAW, HANDBOOK ON ANTITRUST ASPECTS OF STANDARD SETTING 95 (2d ed. 2011)).

²⁷ Maureen Ohlhausen, Comm’r, Fed. Trade Comm’n, Remarks at the Concurrences Review Dinner: What Are We Talking About When We Talk About Antitrust? 3 (Sept. 22, 2016).

²⁸ See Paul W. MacAvoy, *Advising the President of the United States on Economic Policy*, 12 J. COMPETITION L. & ECON. 417 (2016); see also Stephen G. Breyer, *Paul MacAvoy in Memoriam*, 12 J. COMPETITION L. & ECON. 425 (2016); J. Gregory Sidak, *Paul MacAvoy and the Marketplace of Ideas*, 12 J. COMPETITION L. & ECON. 451 (2016).

²⁹ See Harold Demsetz, *Information and Efficiency: Another Viewpoint*, 12 J.L. & ECON. 1 (1969).

the modesty to take its message to heart. To them, the fact that there are as many cell phones in use as there are human beings on Earth was evidence of market failure rather than market success because, in their view, the relevant counterfactual that should guide antitrust enforcers was the even brighter world that they could imagine.

Antitrust lawyers and economists distinguish static competition from dynamic competition.³⁰ Static competition occurs at a given moment among existing products supplied by existing firms in existing markets. The primary dimensions of static competition are marginal changes in price or quality. In contrast, dynamic competition occurs over time, as entirely new products come into existence, often because of the genius of entirely new companies. The key to dynamic competition is innovation, not short-term reductions in price. Dynamic competition produces Schumpeterian “creative destruction”: a new, disruptive firm overthrows the old order and displaces even an entrenched monopolist.³¹ Examples from recent decades include Microsoft, Google, Apple, and Uber. Jerry Hausman has shown us that the benefits to consumers from new products are typically several orders of magnitude greater than the benefits that consumers derive from getting existing products at slightly lower prices.³²

How might these considerations inform President Trump’s antitrust policy? The Antitrust Division and the FTC are best equipped to focus on established product markets. The agencies understandably try to insinuate themselves in competitive disputes in markets experiencing technological disruption. But the efficacy of such intervention is debatable.³³ Moreover, public choice considerations should alert us to the possibility that the enforcement agencies are attracted to the technology sector precisely because that is where the economy is creating the largest amount of wealth. The danger of the agencies’ intervention—particularly if that intervention is so misinformed as Commissioner Vestager views on SEPs are—is that it will retard or dissipate the huge benefits of dynamic competition.

³⁰ See J. Gregory Sidak & David J. Teece, *Dynamic Competition in Antitrust Law*, 5 J. COMPETITION L. & ECON. 581, 603–07 (2009); Howard A. Shelanski & J. Gregory Sidak, *Antitrust Divestiture in Network Industries*, 68 U. CHI. L. REV. 1, 5 (2001).

³¹ See JOSEPH A. SCHUMPETER, *CAPITALISM, SOCIALISM AND DEMOCRACY* 84 (1942).

³² See Jerry A. Hausman, *Valuing the Effect of Regulation on New Services in Telecommunications*, 1997 BROOKINGS PAPERS ON ECON. ACTIVITY: MICROECON. 1, 2; Jerry A. Hausman, *Valuation of New Goods Under Perfect and Imperfect Competition*, in THE ECONOMICS OF NEW GOODS 209 (Timothy F. Bresnahan & Robert J. Gordon eds., Univ. of Chicago Press 1996); Jerry A. Hausman & J. Gregory Sidak, *A Consumer-Welfare Approach to the Mandatory Unbundling of Telecommunications Networks*, 109 YALE L.J. 417, 417–18 (1999); Jerry A. Hausman, *Sources of Bias and Solutions to Bias in the CPI*, 17 J. ECON. PERSP., Winter 2003, at 23.

³³ A recent example during the Obama administration was the embarrassing reversal that the Antitrust Division suffered in the Second Circuit in United States v. American Express, 838 F.3d 179 (2d Cir. 2016). See also J. Gregory Sidak & Robert D. Willig, *Two-Sided Market Definition and Competitive Effects for Credit Cards After United States v. American Express*, 1 CRITERION J. ON INNOVATION 1301 (2016).

When the government referees competitive disputes in a market, the market increasingly resembles a traditional regulated industry populated by public utilities, such as electric utilities and telephone companies. Public utilities are the antithesis of companies like Google and Apple. A high rate of innovation is not the hallmark of regulated industries. The Trump administration would be wise to recognize that antitrust intervention can impose a stultifying regime of *de facto* regulation on a technologically dynamic industry.³⁴

CONCLUSION

Commissioner Vestager credulously repeats a conjecture that the cumulative royalty for SEPs used in smartphones is at least six times greater than what reliable empirical analysis finds it to be. She suggests that EU competition policy is so malleable as to permit intervention even when there are no reliable empirical data that she is willing to identify publicly in support of that conjecture. Antitrust lawyers on both sides of the Atlantic should not be surprised if President Trump rejects Commissioner Vestager's vision of competition and innovation and consequently repudiates much of what has been the Obama administration's vision as well.

³⁴ A related category of economic policy—apart from innovation, competition, and regulation—concerns the economic distortions arising from state-owned enterprises (such as the U.S. Postal Service, Amtrak, and the Tennessee Valley Authority) that compete against the private sector and lose money for the federal government. Such businesses typically have some kind of vestigial statutory monopoly that is subject to regulation typically less effective than the regulation that private-sector companies face. In terms of the economic benefits that can come from innovation and competition, state ownership of enterprise is surely the least efficient form of ownership and control. The proper policy prescription for state ownership is better regulation and management until Congress can authorize privatization and repeal the statutory monopolies. See J. Gregory Sidak, *Maximizing the U.S. Postal Service's Profits from Competitive Products*, 11 J. COMPETITION L. & ECON. 617 (2015); J. Gregory Sidak, *Abolishing the Letter-Box Monopoly*, 1 CRITERION J. ON INNOVATION 401 (2016); David E.M. Sappington & J. Gregory Sidak, *Competition Law for State-Owned Enterprises*, 71 ANTITRUST L.J. 479 (2003).