



DEPARTMENT OF JUSTICE

Are You Ready? Competition and Innovation in Communications

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I. Introduction

Buongiorno and thank you for that kind introduction.¹ I appreciate the opportunity to open this conference on competition in the fast-changing and dynamic communications industry.

So, my first question for you this morning is, “Are you ready?” That’s what the famous Italian inventor Guglielmo Marconi asked with the first radio broadcast over water, on May 13, 1897. After inventing what was then “cutting edge” radio technology here in Italy, Marconi sent that message across the Bristol Channel in England; soon after that he was sending messages across the Atlantic. Tapped out in Morse code, it said: “Are you ready?” This was followed by: “Can you hear me?” And, the reply: “Yes, loud and clear.” Wireless communications was born.

The world, of course, has never been fully ready for the many incredible advancements radio communications have enabled. But, it has been more than eager to embrace them. For over a century, since that first radio broadcast across the Bristol Channel, the communications industry has been marked by constant innovation. It’s a dynamic industry that has delivered enormous value to consumers, starting here, in the birthplace of wireless communications, to countries around the world.

Makan Delrahim, the Assistant Attorney General for Antitrust at the United States Department of Justice, spoke in Rome a few weeks ago. He recalled the epithet that “all roads lead to Rome,” and the power of network effects on display in the Roman Empire.² Today’s conference topics are built on the power of network effects—how they deliver value to markets, and how they can hinder the competitive process.

Indeed, with the development of advanced networks and the Internet of Things, we are entering a world of ubiquitous connectivity. Instead of “all roads lead to Rome,” a more

¹ My thanks to Anna Sallstrom and Cory Brader, both attorneys in the Antitrust Division’s Telecommunications Section, and David Lawrence, Counsel to the AAG, for assistance in the preparation of these remarks.

² <https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-jevons-colloquium-rome>

descriptive epithet for our time is “all roads lead to everywhere and everything” or, maybe, “all roads lead to all roads.”

The ongoing development of wireless communications that Marconi helped advance, and eventually commercialize, has forever changed our world. There are now network connections and wireless signals crisscrossing the globe. This city of Milan and my home in Washington, D.C. no longer seem quite so far apart.

In fact, I can hold up my smartphone from this podium and see if I have any text messages from distant Nigro family relatives in San Fele, Italy, or obtain critical, time sensitive information, such as a picture of the Italian Caprese avocado toast my daughter ate for breakfast today.

In the modern era, however, it is also so much more than simply sending messages. In the last century, telecommunications was one of the most important industries in every economy in the world. It was how people and businesses shared information in real time. In the next century, however, many industries will rely on telecommunications not just to communicate, but as an integral part of the services their customers’ desire. Telecom is rapidly evolving from being a means of communication to providing the platform on which other industries operate.

Consider Amazon or Uber in the United States. Retail businesses and transportation services once stood beside communications providers as pillars of industry. Now, retail and transportation depend on communications not just to do business more expeditiously, but as part of the service itself. Telecom is quickly becoming inextricably intertwined with many other industries and changing the way we do business; it is restructuring entire industries.

Throughout the decades since Marconi first sent his message, we have seen that innovation and consumer welfare are best served by competition and competitive markets. When the pace of innovation is stifled by external controls, be they unnecessary regulations or monopolists, consumers suffer. That is what I would like to talk about today – our responsibility as Department of Justice officials to enforce the antitrust laws through effective law enforcement, rather than unnecessary regulation. Regulated markets tend to react more slowly to the rapid changes that are the lifeblood of dynamic industries such as communications. In

contrast, by preserving competition through effective antitrust enforcement, markets and competitors are free to embrace innovation at the pace of invention, unconstrained by the reigns of a regulator.

I'll begin my remarks by talking about some general principles of antitrust enforcement and remedies in dynamic industries, before touching on a few of the key topics that will be the focus of the panels the next two days.

II. Maintaining Competitive Structures for Dynamic Markets

The United States' first federal antitrust law, the Sherman Antitrust Act, was passed in 1890, seven years before Marconi sent that message asking: "Are you ready?" When it came to having a tool to maintain competitive markets, the country was ready—it had in place a law enforcement regime designed to protect competition and competitive markets.

We also had much to learn in those early days. The drafters of the Sherman Act did not understand key market concepts in communications like network effects and gatekeeper power, or economic concepts like HHIs and Upward Pricing Pressure. They, however, endorsed a law enforcement regime, rather than a regulatory regime, which proved wise—they lacked the depth of thinking that we do about the features of communications markets that can sometimes make them conducive to competitive problems. But, they did understand there were dangers from the misuse of corporate power, even as they were hesitant to interpose governmental authority over free enterprise. We are wrestling with the same tension today.

In resolving that tension, let us be clear about the proper role of the government in dynamic industries. We are not inventors; I know I am certainly not, which is why I am here speaking to you today. We do not develop new technologies. Nor do we provide incubators for inventors—that is what free and competitive markets do. Our job is to use law enforcement to protect those free markets and competition, to the benefit of consumers, innovators, and the economy as a whole. At our best, we protect the environment in which the modern-day Marconis have reason and opportunity to tinker, invent and invest to bring new technologies to market.

That is precisely the intuition underlying this Antitrust Division’ approach to merger settlements. Mergers change market structures. The question for us is whether the change is good or bad for consumers. When anticompetitive harm results from changes in market structure, attempting to wrestle the firm to behave in a way that we think replicates a competitive outcome makes no sense, even assuming we can guess what the competitive outcome would be, or should be, absent the merger. A problem caused by a structural change requires a structural fix. It is not our job as law enforcers to use our power to approve transactions as an opportunity to step in and order the firm to adhere to certain dictates. Regulatory restrictions and dynamic markets do not mix well.

That is our guiding principle: whenever feasible, competition, as maintained through effective antitrust enforcement, is preferable to regulation. Competitive markets dynamically weigh risk and reward, support investment, and pivot to new innovation. Regulation, in contrast, is rigid and tends to be slow moving—lagging both competitive problems and new innovations. The literature describes as “regulatory lag” the delay between changes in market conditions or technology and the adjustment of regulations based on those factors.³ Particularly when attempting to regulate access to markets as a solution to a competitively problematic market structure, regulation and its resulting lags will typically mean delayed entry, expansion, or innovation.

A story from communications law history underscores the point. In the 1950s, a Texas rancher and inventor thought there should be a way to make and receive a phone call while riding a horse or tending to an oil field. So, Thomas F. Carter set out to build a device to attach to his telephone, then on AT&T’s monopoly network, that would use radio signals to transmit out in the field.⁴ In many ways, his invention, the Carterfone, was the first mobile phone.

AT&T was then a nationwide telephone monopolist in the United States, and it sought to block the Carterfone. At the time, its equipment business, Western Electric, was vertically

³ See *K. Telecommunications Act*, 116 Harv. L. Rev. 442, 452 (2002) (describing “regulatory lag” as the “delay between a change in market conditions or production technology and the adjustment of regulations that are based on those factors,” and noting in some contexts regulatory lags are considered a source of regulatory inefficiency).

⁴ Andrew Pollack, “The Man Who Beat AT&T,” *New York Times*, July 14, 1982.

integrated with its telephone system, and naturally fought innovators who tried to develop new equipment.

Moreover, AT&T had the assistance of FCC regulation, using a tariff filed with the FCC in 1957 to prohibit interconnection of non-AT&T equipment like the Carterfone.⁵ So AT&T was able to employ an FCC tariff to block the Carterfone.

Carter eventually turned to legal action. He filed suit in federal court in 1965, but that case was dismissed.⁶ So nearly a decade after first attempting to bring his invention to market, in 1966 the industry regulator, the FCC, undertook an inquiry into the effect of its own rules.⁷ Two and a half years later, the FCC issued its famous 1968 Carterfone decision, insisting that AT&T permit the attachment of devices like Mr. Carter's to the telephone network.⁸

There we see the belated benefits of regulation. Over a decade after its invention, and eleven years after AT&T filed an FCC tariff prohibiting its use, Mr. Carter had won access to the markets with the assistance of the sector regulator.

The *Carterfone* decision is rightly celebrated for opening up the monopoly telephone system to innovative new equipment. But consider that it took Tom Carter three years to win that result through a proceeding at the FCC, eleven years after the tariff was filed. Do you see what I mean about regulatory lag? Think about all the inventors and innovators who were not so persistent and who just never bothered in the decades prior. Even as *Carterfone* demonstrates the benefits of regulation when it produces a competitive result, it also exemplifies its pitfalls.

Indeed, compare what Apple and Steve Jobs did as they developed the iPhone in 2007. In a competitive U.S. wireless market, he was able to find a launch partner with AT&T, which sought exclusive access to the device in order to gain a competitive advantage. The rest, as they say, is history.

⁵ In the Matter of Use of the Carterfone Device in Message Toll Telephone Service; Federal Communications Commission, 13 F.C.C.2d 420 (1968) (describing application of Tariff Nos. 132 filed April 16, 1957, and subsequently superseded by tariff FCC No. 263) (“Carterfone”).

⁶ *Carter v. AT&T*, 250 F. Supp. 188 (1966).

⁷ *Carterfone*, 13 F.C.C.2d 420 (1968)

⁸ *Id.*

It is remarkable to think that if Apple's iPhone had followed the same path to the market that the Carterfone did, we would be looking forward to FCC action this year.

Whereas in a regulated monopoly market, the first mobile phone took over a decade to reach the market; in a competitive wireless market, the iPhone took just a few short years. How much would consumers have lost these last ten years if the iPhone had needed to seek court or FCC intervention to change the world?

The answer is too much. Particularly in dynamic and innovative markets, consumers do not deserve to pay the price of delay. That is why we believe in competitive markets unbridled by the reigns of regulation and behavioral dictates. Thus, as AAG Delrahim has said, we disfavor regulatory settlements and, instead, have a strong preference for structural settlements because they leave competitors and markets free to adapt and change with product availability and consumer demand.

Our recent settlement in connection with the Bayer/Monsanto transaction is a good example of this philosophy.⁹ Any farmer will tell you that agriculture is an incredibly innovative industry. As they have for millennia, seeds like corn and cotton are undergoing constant technological development to improve their yields. Meanwhile, seed treatments that ward off insects and disease are at the forefront of agricultural innovation.

As you know, Bayer proposed to acquire Monsanto in a \$66-billion-dollar transaction. We worked with the parties to resolve all of our competition concerns with a historic divestiture. The proposed final judgment requires Bayer to divest businesses and assets valued at approximately \$9 billion dollars. More importantly, none of the competitive problems, including the areas of vertical concern, were attempted to be managed using behavioral dictates.

A few features of that settlement underscore our approach in dynamic markets. First, we undertook a thorough investigation and we were ready to litigate while also coordinating across

⁹ See <https://www.justice.gov/atr/case/us-v-bayer-ag-and-monsanto-company>.

jurisdictions. Although our friends at the EC were also working on their own review, we worked closely with them to coordinate our remedies.¹⁰

Most importantly, the relief we obtained is purely structural. Bayer has agreed to divest itself of all of the businesses and assets needed to fully address both our horizontal and our vertical concerns with the transaction.¹¹ While there are temporary commitments in place to effectuate the divestiture, it is important to note that they are a means to support the structural relief we obtained. After those transition commitments have passed, the market structure obtained in the settlement will remain, and throughout it will remain flexible to innovation and evolution in the industry.

We have also included in the Bayer/Monsanto settlement a number of new provisions to allow for more effective enforcement of the decree. Along with enforcement provisions that have been in all of our recent settlements, we have also added a new provision regarding the interpretation of the decree, which we intend to include in all decrees going forward.

That emphasis on structural solutions to structural problems is particularly important in dynamic industries like agriculture and communications. When new technologies and modes of doing business are rapidly evolving, how can static behavioral commitments meaningfully solve competitive problems? Equally concerning, how can we write behavioral commitments that do not themselves risk hindering innovation and investment? As AAG Delrahim explained in a speech last November, regulatory remedies fall short by attempting “static solutions to the realities of dynamic markets.”¹² In dynamic industries especially, antitrust remedies should preserve the flexibility of competitively structured free markets, unconstrained by regulation.

With that background in mind, let me turn to some of the specific topics we will be discussing the next two days.

¹⁰ The United States and EC both issued statements on March 21, 2018, relating to their concerns and coordinated review. Compare http://europa.eu/rapid/press-release_IP-18-2282_en.htm with <https://www.justice.gov/atr/press-statement-1>.

¹¹ See Competitive Impact Statement, *United States v. Bayer AG et al.*, (No. 18-cv-01241 D.D.C. May 29, 2018) available at <https://www.justice.gov/atr/case-document/file/1066681/download>.

¹² <https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-keynote-address-american-bar>.

III. Wireless, 5G, and the Internet of Things

First, wireless. We have come a long way from Marconi's radio and the Carterfone, and even from the introduction of the iPhone. Mobile wireless network infrastructure has become a crucial component of any advanced society.

According to GSMA, Europe and the US have the highest levels of mobile user engagement in the world. Just to give you a sense of the scope—the US has 400 million wireless subscribers; that's more subscribers than the entire US population. Meanwhile, in Europe, there are 456 million mobile subscribers—that is over 84% of the population.¹³

Mobile wireless is critical to both economies. Wireless services alone generate \$189 billion in annual revenue,¹⁴ and devices add to that another \$84 billion.¹⁵ And that is just the services themselves, with trillions of dollars in commerce flowing over the networks. Millions upon millions of jobs are supported by wireless infrastructure.

Yet demand continues to grow. In tomorrow's economy, not only will each individual be “connected” but most consumer products will be as well. Already, a connected carbon monoxide detector can save lives by turning off a home's furnace when it senses danger. The possibilities to add value to people's lives through further device interconnectivity on the Internet of Things is enormous. As more and more devices connect and machine learning technologies provide greater uses for that connectivity, demand will likely continue to increase at an enormous rate.

Some claim that 5G technologies appear poised to meet that increasing demand; that they represent a leap forward in capabilities. We may, some argue, see speeds ten times faster than LTE, or more, alongside lower latency and greater security.

What does that mean for competition enforcement? As in medicine, first, we should do no harm. With companies and infrastructure developers rapidly innovating and testing new models, we should be wary of trying to prescribe the correct path forward. Free market

¹³ <https://www.gsmaintelligence.com/research/?file=89a59299ac2f37508b252124726a1139&download>.

¹⁴ <https://docs.fcc.gov/public/attachments/FCC-17-126A1.pdf> at p. 20, para 31.

¹⁵ <https://www.statista.com/statistics/412262/global-smartphone-sales-value-north-america/>.

competition provides the best means by which to test and to hone the emerging wireless networks to provide a platform for tomorrow's economy.

Just as we hope to let free market competition play out, however, we should avoid market structures that require regulatory intervention. I doubt anyone desires a return to the days of a regulated monopoly provider that can exclude new equipment like the Carterfone. Wherever the 5G evolution takes us, I hope we can agree that a competitive market, not a regulated one, is our goal. It is certainly a priority of the Antitrust Division to push for policies that promote the development of — and competition in — 5G technologies.

IV. Consumer Welfare and Big Tech

Another item on the agenda for this conference is big tech, and how we should be thinking about competition among large tech players and in emerging virtual markets. Indeed, these topics have been on the agenda for many events this year. People around the world are thinking hard about the development of massive online platforms and aggregators that generate tremendous network effects. How do we maintain the value they deliver to consumers at the same time as we use antitrust enforcement to police the competition in their industries?

A few key points to bear in mind. First, the Antitrust Division has active matters in this area as well. We expect a decision any day from the United States Supreme Court on our *American Express* case. After a lengthy trial, the district court found that American Express restrained competition on the merchant side of its platform—the market in which credit card networks compete for the business of merchants. The Supreme Court is now considering an appeal from that decision that asks what consideration should be given the other side of the platform. Whatever it decides, its ruling will likely impact how we think about antitrust enforcement for platform businesses.

We should also base enforcement decisions, as always, on evidence and sound economics. The bigness of technology companies as a general matter, or their success in delivering value to consumers, is not alone a basis for antitrust enforcement action. Competition enforcers should act only when an evidence-based assessment suggests antitrust enforcement will prevent real consumer harms. Also, there is a great deal of debate around so-called “big

tech,” but with these relatively new business models it is important our understanding of their economics is sound. For example, some are discussing a framework of thinking about big tech in terms of platforms and aggregators; they believe whereas platforms connect users with content, aggregators connect with users directly and package content for them.¹⁶ If so, these models may imply different competitive incentives and market structures that may be relevant to competition analysis.

Another key point is that the consumer welfare standard is flexible enough to deal with the novel kinds of competition issues presented by online platforms. Although many of these services are zero cost to consumers in a monetary sense, they do cost consumers their time and attention, and oftentimes their data and other information about them. Revealed preferences suggest that consumers place value on their data such that its use forms a dimension of platform competition. Applying a consumer welfare standard through this lens, the antitrust laws are up to the task of analyzing platform industries.

V. Vertical Integration

The Antitrust Division has also prioritized competition in video delivery, as exemplified by our recent enforcement action against the vertical merger of AT&T and Time Warner. We expect a decision from the court tomorrow, so I will not comment on the case.

Vertical issues in telecommunications typically arise from gatekeeper power—the power to affect or control access to a market. In the case of video distribution, this concern arises as Internet disruption threatens to challenge profits that industry incumbents have long enjoyed. We have sought, in a number of past cases, to prevent the harms that arise from aligning the incumbents’ incentive to delay disruptive competition with the ability to do so.

Our Bayer/Monsanto remedy addresses a version of this concern. It requires the structural divestiture of certain important Bayer seed treatment product lines to remedy the competitive harm that would result from the vertical integration of those lines with Monsanto’s leading seed business. Bayer has critical seed treatments products, and so the merger would

¹⁶ E.g., <https://stratechery.com/2015/aggregation-theory/>.

have given it the incentive and ability to raise prices that Monsanto's rival seed companies pay for those treatments, ultimately raising prices for farmers.

By requiring the divestiture of Bayer's seed treatment businesses, we eliminate the incentive and ability to increase prices to Monsanto's rivals. A behavioral remedy, in contrast, would have attempted to dictate the terms on which Bayer sells those seed treatments, even as they undergo continued development and innovation in the years to come. We chose a free market solution over a regulatory one.

An important benefit of structural settlements is that they solve, for good, the competitive problem resulting from the merger. Behavioral commitments, meanwhile, attempt temporary solutions. Many celebrated the Comcast/NBCU settlement conditions back when that merger went forward in 2011. Those conditions expire on September 1, 2018. When we wake up on September 2, the merger will be here; the final judgment will not. Presumably, either all of the adverse effects the final judgment was intended to address have been solved, or not. While I want to be clear not to comment on Comcast/NBCU, more generally, it is our concern about the "or not" world that compels our strong preference for structural fixes to structural problems.

The end result of these regulatory fixes, unfortunately, can be markets that simply beg for more regulation. Some have said that the answer to expiring behavioral remedies is to extend them. Instead of five or seven 7 years, maybe behavioral decrees should be ten or fifteen years, or longer; although a decree that is too long may be just as stifling as one that is too short. Others have said the answer is to impose new sector regulations to fill the gaps. All of those suggestions, however, miss the point of antitrust enforcement as a law enforcement regime. The reason we favor structural relief is because we believe competition, not human dictates, is the best vehicle for promoting consumer welfare. Using antitrust law to impose yet more regulations is counterproductive and distorts incentives to innovate.

VI. Conclusion

Let me conclude by acknowledging how fortunate we are. We live in a time of tremendous potential and rapid change. As consumers, that gives us much to look forward to; as enforcers, it gives us much to think about. The reason competition enforcement has proven time

and time again it is up to the challenge of fast changing markets, is that it has benefitted from a vibrant community of academics, enforcers, and practitioners, thinking through the hard issues as they arise. Now, it is time to do our part. I look forward to an interesting discussion over these next two days.

Thank you.