DEPARTMENT OF JUSTICE

Antitrust Enforcement in High-Technology Industries: Protecting Innovation and Competition

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I. Introduction

Good morning. Thank you for the invitation to speak at the 2012 New York State Bar Association Annual Antitrust Forum. I look forward to having an engaging discussion about the role of antitrust in high-technology markets with my fellow speakers and commenters Michael, Jay and Bruce. I would also like to thank Bill for moderating today's discussion.

In 2011, Apple overtook Exxon-Mobil as the world's most valuable publicly-traded company, with a market capitalization of $337 billion – a symbolic event highlighting the growing importance of high-technology industries to our modern economy. As our economy has evolved, so has our application of the antitrust laws. It is true the antitrust laws were passed and initially applied to "smokestack" industries, while today they are applied to the cloud. But the antitrust laws are flexible and can account for the dynamic analysis that is so important today. They are not an outdated relic of the past; to the contrary, competition is a key driver of innovation and technological change, and the antitrust laws play an important role in protecting the innovation incentives created by market competition. This environment is what pushes companies to constantly innovate and allows them to profit when they do. At the Antitrust Division, we ensure that competition from new products and new technologies is not stifled.

Vigilant protection of competition is particularly important in high-tech industries, which have the potential to grow our economy and raise consumer welfare through the introduction of new technologies, products and methods of doing business.

II. High-Tech Industries Economic Overview

Before I dive into a discussion of how the Division approaches enforcement in "high-tech" industries, I think it would be useful to outline some of the common features shared by high technology companies and industries. First, rapid innovation, both in terms of creating new products and platforms, and in significantly reducing production costs, tends to be a necessary condition to staying competitive. As a result of the pace of innovation, high-tech industries often experience greater dynamic effects than other industries. Second, these firms often have high fixed-costs and low marginal costs, or large supply-side economies of scale, which can affect pricing strategy and analysis.

Third, industries are often IP-intensive and rely on numerous technology standards in order to ensure basic compatibility. Interoperability is key.

Finally, they often have significant network effects, which are characterized by demand-side economies of scale. An important characteristic of a network is "positive feedback", i.e., the value of the network increases with the total number of users on the network or platform.

This era of platform competition—where the owner or sponsor of the platform owns or creates only one piece of the ecosystem, and many complementary products are required for the platform to be popular with consumers—can be beneficial, by increasing the value of the network to users, but it can also create barriers to entry. Platforms become successful due to scale-generating network effects; the more users of a platform there are, the more complementary products are created, which in turn attracts more users. Furthermore, many platforms naturally create or are designed to have "lock-in," such as when a consumer's music collection purchased on one platform cannot be

transferred to another. Platforms can also feature "tipping," where an entire market may go to a single player or platform once a certain threshold is reached. With tipping, exclusionary practices that deny access to established standards can be particularly effective.

All of these features are important considerations that factor into an antitrust analysis.

III. Static and Dynamic Efficiency and Harms

Also important to the analysis are two types of efficiency that drive economic growth: static and dynamic. Static efficiency focuses on the short run and refers to the process of driving marginal prices down to marginal costs (and thus reducing the deadweight loss). Dynamic efficiency involves new products and technical change. Incremental dynamic efficiency refers to the process of reducing costs by refining existing products, processes and capabilities – in other words, shifting the supply curve out. The more important, "leap-frog" form of dynamic efficiency refers to the large gains in consumer welfare that arise from successfully implementing entirely new products (moving the demand curve out to meet a new, unmet demand) and new ways of doing business (moving the supply curve out to create more efficient production). To give the definition a little more flair, Joseph Schumpeter, the famous economist who demonstrated the link between economic growth and dynamic efficiency, described dynamic efficiency as "competition from the new commodity, the new technology, the

new source of supply, the new organization . . . [that] commands a decisive cost or quality advantage."[1]

It is now well understood that dynamic efficiencies, and, in particular the leap-frog type, account for the lion share of economic growth. For example, Nobel Laureate Robert Solow found that gains from labor and capital intensity (incremental dynamic efficiency) only accounted for one-eighth of U.S. growth in GNP between 1909 and 1949. The other seven-eighths of growth were due to "technical change," i.e., dynamic efficiencies.[2] Subsequent studies based on Solow's model, while defining the exact contribution of technical change at different levels, have always been consistent with the finding that leap-frog dynamic efficiency is the primary engine of productivity growth.[3]

These economic principles matter for antitrust enforcement in high-tech industries for a number of reasons. First, an understanding of the differences between static and dynamic efficiencies is critical to understanding the types of harms that antitrust enforcement is meant to prevent. Knowing the importance of dynamic efficiencies to economic growth means that effective antitrust enforcement needs to identify and prevent not only static harms—the raising or restraint of prices—but also dynamic harms—the frustration or foreclosure of new products or processes.

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[1] JOSEPH A. SCHUMPETER, CAPITALISM, SOCIALISM AND DEMOCRACY 84 (1942).

[2] *See generally* Robert M. Solow, *A Contribution to the Theory of Economic Growth*, 70 Q.J. Econ. 65 (1956).

[3] *See e.g.*, Michael J. Boskin & Lawrence J. Lau, *Capital, Technology, and Economics Growth, in* TECHNOLOGY AND THE WEALTH OF NATIONS 17 (Nathan Rosenberg et al. eds., 1992) (during the four decades following World War II, the estimated contribution of technical progress to economic growth was 49% in the United States, 55% in Japan, 73% in the United Kingdom, 76% in France, and 78% in West Germany).

Second, competition is a critical force in driving gains in efficiency. In William Lewis's book *The Power of Productivity*, Lewis compares the productivity of a number of Japanese and American industries and concludes that vigorous competition on the global market was the key driver of the differences in productivity.[4] As another example, the U.S. Department of Commerce reported in 2010 that technological innovation is linked to three-quarters of the United States' growth rate since the end of World War II.[5]

Third, high-tech industries compete through product innovation and the introduction of new products, not simply lowering prices on existing products.

The Division has a long history of identifying, preventing and correcting static harms. In addition, the Division—through its enforcement actions, guidelines and business review letters—explicitly has addressed dynamic effects in a number of industries.[6]

IV. Why Vigilant Antitrust Enforcement is Important in High-Tech Industries

It has been proposed that antitrust enforcement should adopt a "wait and see approach" in high-tech markets in order to see whether an alleged dynamic harm actually

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[4] WILLIAM W. LEWIS, THE POWER OF PRODUCTIVITY: WEALTH, POVERTY, AND THE THREAT TO GLOBAL STABILITY 25 (2004).

[5] Arti Rai, Stuart Graham, & Mark Doms, *Patent Reform: Unleashing Innovation, Promoting Economic Growth & Producing High-Paying Jobs*, U.S. Dep't of Commerce at 2 (Apr. 13, 2010) *available at* http://www.commerce.gov/sites/default/files/documents/migrated/Patent_Reform-paper.pdf (citing research that 2.5 of the 3.4% average U.S. growth rate since World War II came from factors "intimately linked to innovation).

[6] *See e.g* Cases discussed in Section V; *Horizontal Merger Guidelines,* U.S. Dep't of Justice and Fed. Trade Comm'n (Aug. 2010), *available at* http://www.justice.gov/atr/public/guidelines/hmg-2010.html; Letter from Mr. Joel I. Klein, Ass. Att'y Gen., Antitrust Division, Dep't of Justice, to Carey R. Ramos, Paul, Weiss, Rifkind, Wharton & Garrison, LLP (June 10, 1999), *available at* http://www.justice.gov/atr/public/busreview/2485.pdf; Letter from Joel L. Klein, Ass. Att'y Gen., Antitrust Division, U.S. Dep't of Justice, to Garrard R. Beeney, Sullivan & Cromwell, LLP (June 26, 1997), *available at* http://www.justice.gov/atr/public/busreview/215742 htm.

arises. Due to the importance of dynamic efficiency to economic growth and consumer welfare, vigilant enforcement is essential to the Division across all industries. High-tech industries are no exception, and, furthermore, they have some unique characteristics that make vigilance even more imperative.

As I mentioned, high-tech industries often have large supply-side and demand-side economies of scale. These attributes can lead a company, or a small number of companies, to rapidly obtain and sustain a significant market share that can be hard to reverse. In addition, the network effects present in many high-tech markets (especially software markets) can lead to significant first mover advantages, lock-in or transition costs and de facto standards. As a result, high-tech markets are often highly "path dependent"— market winners can be determined by the order in which companies act—and, as mentioned above, are prone to "tipping"[7] The classic example of path dependency is the QWERTY keyboard, whose layout was developed originally in order to slow down the keys on a typewriter; despite the current obsolescence of typewriters, they cannot be replaced due to the large transition cost of retraining users how to type on a new keyboard. A recent example is the optical disc format battle that took place between Blu-Ray and HD DVD. Movie studio alliances shifted over time, with Blu-Ray ultimately getting enough support to reach a tipping point.

Antitrust harms can arise when incumbents take steps to frustrate adoption of a competing platform or the next generation platform. By increasing the costs of using the second platform, the incumbent essentially forces users to "single-home." If network

[7] *See generally*, CARL SHAPIRO & HAL R. VARIAN, INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY (1999), Chapter 7: Networks and Positive Feedback (large demand or supply-side economies of scale and high switching costs can lead to tipping and winner-take-all markets, subject to the constraint that markets demanding variety may be less likely to tip).

effects and scale economies are present, the market may stay tipped. Another equilibrium, one with several platforms, might have been an alternative outcome if network effects were not so strong.

This theory was at the heart of Microsoft's anticompetitive conduct against Netscape. Microsoft's dominance of the desktop was protected by the applications barrier to entry. Practically all application developers wrote to the Windows platform, and porting this software to a competing operating system was cost prohibitive, especially when the developer considered how little revenue was to be gained by developing to a rival platform. The equilibrium was self-fulfilling. Developers would not write for a rival platform unless it had enough end users, and end users would not use the rival platform unless it offered a diverse array of applications.

Netscape threatened Microsoft's dominance not because it was a web browser, but because it offered an alternative platform to which developers could write their code. Microsoft feared that developers would begin to develop applications that would run on top of Netscape, a browser that would run equally well on rivals' platforms as on Windows. Microsoft's anticompetitive actions were undertaken to eliminate this threat and preserve the application's barrier to entry. Microsoft succeeded in those efforts. As a result of Microsoft's exclusionary behavior in the late 1990s, Netscape Navigator's share of the internet browser market rapidly declined despite having been the predominant browser only a few years earlier.[8]

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[8] *See generally*, Jonathan Fildes, *Final goodbye for early web icon*, BBC NEWS, Feb. 29, 2008, http://news.bbc.co.uk/2/hi/technology/7270583.stm (as a result of Microsoft's anticompetitive conduct, Microsoft's Internet Explorer took the place of Netscape Navigator as the predominant internet browser). *Compare* Hiawatha Bray, *Survey: Netscape Losing Browser Market Share to Microsoft*, BOSTON GLOBE, Feb. 11, 1997, at D 2:1 (Netscape share of internet browsers fell from 80% in December 1996 to 59% in February 1997), *with Netscape Lost Market Share to Microsoft in 1st Half of '98*, WALL ST. J., Sep. 29, 1998, at B12 (survey showed Netscape having a 42% share of internet browsers at end of 1997).

Another common critique of antitrust enforcement in high-tech markets is the "one guy in a garage" argument that the rapid rate of disruptive innovation is sufficient, in and of itself, to prevent anticompetitive harm. One cited example of this is the MySpace-Facebook transition in social networking.[9] However, rapid technological progress does not necessarily equate to low barriers to entry. For example, markets may remain difficult to penetrate due to large entry costs for producers, high switching costs for consumers or restricted access to a key input. As I will discuss in greater depth later, Comcast's acquisition of NBC Universal could have allowed Comcast to foreclose competitors to its cable video distribution business by denying important NBCU content to its rivals, especially new entrants that did not have a content library to cross license. Furthermore, to the extent that a market has few to no barriers to entry, traditional antitrust jurisprudence—which in many cases requires an analysis of barriers to entry as part of a market definition and market power assessment—is a sufficient guard against overenforcement of the antitrust laws.[10]

V. Proving Dynamic Harm in Court

That being said, unlike static harms—for which economists have well-developed models to show how a proposed transaction, such as a merger, will affect prices—consensus is still lacking over how to best model future innovation within a specific

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[9] *See* Scott Anthony, *MySpace's Disruption, Disrupted*, HARVARD BUSINESS REVIEW BLOG NETWORK (Dec. 16, 2009, 9:47 AM), http://blogs hbr.org/anthony/2009/12/lessons_from_myspace.html (MySpace market share of social networking sites dropped from 66% in 2008 to 30 % in 2009).

[10] A key exception to this rule is per se violations of antitrust laws, which in many cases do not require an evaluation of market power.

market.[11] This does not mean that the Division lacks the mandate or institutional capability to identity and appropriately remediate dynamic harms that may occur in the future. However, given the greater degree of uncertainty present when assessing dynamic harms, the Division emphasizes the importance of a fact-intensive inquiry into the transaction and the relevant markets and a flexible approach to crafting and supervising remedies. We have very skilled investigators who, through discovery, can understand what drives a firm to innovate, and our economic analyses of these issues continue to increase in sophistication. "Even more so than in other areas, antitrust policy in network industries must pay careful attention to firms' business strategies, the motives behind these strategies and their likely effects, with the ultimate aim of preserving competition, as to promote efficiency and maximize consumer benefits in the long run."[12]

VI. How the Division Approaches Dynamic Effects and Innovation Harms in its Enforcement Actions

In the 120-year history of antitrust law, the concept of innovation markets is relatively new. One of the first Division cases squarely addressing dynamic harms was the Division's 1993 successful challenge of the proposed acquisition of General Motors's Allison Transmission Division by the German company ZF of Friedrichshafen. Without the Division's intervention, the merger would have created significant concentration in the research and development assets necessary for the production of heavy duty

[11] Moreover, as with the well-known *Cellophane* fallacy discussed in introductory antitrust classes, it may well be that current prices already reflect market power and thus static effects would not be an issue. *See* United States v. duPONT & Co., 351 U.S. 377 (1956); George W. Stocking & Willard F. Mueller, *The Cellophane Case and the New Competition*, 45 AMERICAN ECO. REV. 29-63, (Mar. 1955).

[12] Carl Shapiro, Deputy Ass. Att'y Gen., Antitrust Division, U.S. Dep't. of Justice, Antitrust Division in Network Industries, Address before the American Law Institute and American Bar Association: "Antitrust/Intellectual Property Claims in High Technology Markets" (Jan. 25, 1996), *available at* http://www.justice.gov/atr/public/speeches/0593 htm.

automatic transmissions.[13] Subsequently in 1995, the Division and the FTC jointly issued the Antitrust Guidelines for the Licensing of Intellectual Property, which codified the Division's approach to evaluating both technology and innovation markets.[14] For example, when assessing an innovation market, the Division looks at the research and development (R&D) directed to particular new or improved goods or processes, and the close substitutes for that R&D.[15]

Over the following years, the Division successfully challenged a number of proposed mergers that would have decreased future innovation. For example, in 2000 the Division successfully challenged the horizontal merger of Honeywell and AlliedSignal, which were two of the leading manufacturers of aerospace products used by the U.S. military and commercial aviation. Without an enforcement action by the Division, the combined entity would have led to lower incentives to innovate in the relevant markets. While ultimately allowing the merger to consummate, the Division's consent decree required that the two companies divest assets generating $250 million in annual revenue in order to ensure ongoing competition and innovation in the relevant markets.[16] As a result of the Division's 15 years of experience with the effects on innovation from horizontal mergers, in 2010 the Division revised the Horizontal Merger Guidelines to

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[13] *See* Anne K. Bingaman, Ass. Att'y Gen., Antitrust Division, U.S. Dep't of Justice, Antitrust, Innovation and Intellectual Property, Remarks at the Program on Antitrust and Intellectual Property (Oct. 7, 1994), *available at* http://www.justice.gov/atr/public/speeches/0116 htm.

[14] *Antitrust Guidelines for the Licensing of Intellectual Property*, U.S. Dep't of Justice and Fed. Trade Comm'n (April 1995), *available at* http://www.justice.gov/atr/public/guidelines/0558 htm.

[15] *See id.* § 3.2.3.

[16] *See* Press Release, Dep't of Justice, Justice Department Requires Divestitures in Merger Between AlliedSignal and Honeywell (Nov. 8, 1999), http://www.justice.gov/atr/public/press_releases/1999/3836.htm; Final Judgment, United States v. Allied Signal Inc., No. 99-2959 (D.D. C. Mar. 22, 2000), *available at* http://www.justice.gov/atr/cases/f223300/223391 htm.

address innovation harms.[17] For example, under the Guidelines, the Division will look at the effect that a merger will have on the combined firm's incentive to innovate,[18] as in the Honeywell-Allied Signal transaction, and at the effects of eliminating a "maverick firm" that "plays a disruptive role in the market."[19]

In most circumstances, the Division will challenge conduct or mergers based on a combination of alleged price effects and innovation harms. However, given the dynamic nature of innovation benefits and harms, we do not take a one-size-fits-all approach to innovation. Instead, we specifically consider the conditions of each market with a focus on what drives innovation in the short and long-term. We look at the type of products that are being invented, the types of barriers to entry, issues raised by intellectual property rights and licenses and the nature of competition in the relevant markets.

To the extent possible, once it has identified an innovation harm, the Division will tailor the remedy in order to maximize the pro-competitive efficiencies. The Division avails itself of a large portfolio of potential remedies, including structural remedies, requiring a one-time action by the parties, and behavioral remedies, which constrain the parties' ability to act in the future. In a number of high-tech investigations, the Division imposed a divestiture structural remedy. For example, in the Comcast / NBC Universal (NBCU) proposed merger, the consent decree required the combined entity to divest its management rights in Hulu, an innovative online video distributor, in order to ensure that Comcast, a traditional cable distributor, would not interfere with Hulu's business

[17] *Horizontal Merger Guidelines,* U.S. Dep't of Justice and Fed. Trade Comm'n (Aug. 2010), *available at* http://www.justice.gov/atr/public/guidelines/hmg-2010 html.

[18] *Id.* § 6.4.

[19] *Id.* § 2.1.5.

model.[20] In addition, in a number of recent consent decrees, the Division implemented a number of narrowly tailored behavioral remedies in order to preserve competition and innovation. The Google / ITA consent decree required Google to continue developing the flight search software,[21] and in the Comcast / NBCU consent decree, the combined entity was required to continue to license NBCU content on specific terms.[22]

a. *Comcast / NBCU*

Comcast is the nation's largest cable company, largest internet service provider, and owner of many cable programming networks. NBCU produces and licenses broadcast and cable programming, sports programming and feature films. NBCU is a co-founder and 32 percent owner of Hulu, one of the most successful online video distributors (OVDs) that competes with traditional video distributors such as Comcast. In December 2009, Comcast and General Electric (GE) entered into an agreement to form a new joint venture to which Comcast and GE would contribute their broadcast and cable network assets. As part of this deal, Comcast would gain control of NBCU from GE through the joint venture.

Comcast's competitors, both in traditional video distribution and online video distribution, require access to NBCU's popular programming in order to both compete effectively and develop successful new models of video distribution. As a result, the Comcast-controlled joint venture would be in a position to foreclose or frustrate the

[20] Final Judgment, United States v. Comcast Corp., 808 F. Supp. 2d 145 (D.D.C., 2011), *available at* http://www.atrnet.gov/subdocs/2011/274713.pdf.

[21] Final Judgment, United States v. Google, Inc., No. 11-00688 (D.D.C. 2011), *available at* http://www.justice.gov/atr/cases/f275800/275897.pdf.

[22] Comcast Final Judgment, *supra* n.20.

development of competing video distributors, especially the nascent OVDs.[23] These tactics likely would have rendered other traditional distributors less effective competitors and delayed, or impeded substantially, the development of OVDs as alternatives to traditional distributors. Consumers likely would have suffered lower quality programming and service: Comcast's rivals would have lacked the incentive or ability to invest in improvements, and the weakened state of competition would have allowed Comcast to decrease investments in its own offerings.

The Division challenged the proposed merger and succeeded in protecting the potential innovation harm by implementing a number of behavioral remedies in the settlement decree entered in the Sept. 1, 2011 final judgment.[24] First, in order to ensure that OVDs had continued and fair access to NBCU content, the joint venture was required to offer either the same content package made available to traditional video distributors or on similar terms to what an OVD could acquire from NBCU's programming peers. Second, in order to ensure that Comcast could not use its position vis-à-vis other players in the television industry to unfairly harm competitors, the joint venture was barred from retaliating against any broadcast network, affiliate, cable programmer, production studio or content provider for licensing content to Comcast competitors or for raising concerns with DOJ or the FCC. Third, the joint venture was required to continue to make NBCU content available to Hulu on terms comparable to what Hulu obtains from its other two owners, Disney and News Corp. In addition, the Division utilized a structural remedy to protect Hulu as an innovative competitor. In

[23] *See* Competitive Impact Statement, United States v. Comcast Corp., No. 11-00106 (D.D.C. Jan. 18, 2011), *available at* http://www.justice.gov/atr/cases/f266100/266158.htm.

[24] Comcast Final Judgment, *supra* n. 20.

order to ensure that Hulu remained a vibrant and innovative competitor in the OVD market, the joint venture was required to relinquish its management rights in Hulu, while being allowed to retain its economic interests.

In sum, after an extensive analysis of the proposed transaction, the Division was able to achieve the pro-competitive efficiencies of the merger while implementing behavioral and structural remedies that prevented the significant potential for innovative harm. Furthermore, it appears that the Division's consent decree is working to protect innovation in the market. For example, since DOJ submitted the proposed consent decree, OVDs have continued to sign deals for NBC Universal content[25] and continue to experiment with subscription models and other initiatives. To meet these competitive challenges, Comcast and other traditional video distributors are launching their own online video distribution services.[26] As this sector continues to evolve and innovate, the Division will continue to monitor and intervene when necessary to ensure that anticompetitive conduct does not interfere with the competitive process.

b. *AT&T / T-Mobile*

The four providers of national mobile wireless service—AT&T, Verizon, Sprint and T-Mobile—account for more than 90 percent of service connections to wireless

[25] *See, e.g.*, Julianne Pepitone, *Netflix Renews Contract for NBC Universal Movies and TV*, CNNMONEY.COM, July 13, 2011, http://money.cnn.com/2011/07/13/technology/netflix_nbc/index htm; Brian Stelter, *In Deal with NBC, Amazon Seeks to Widen Its Video Streaming Service*, N.Y. TIMES, July 29, 2011, *available at* http://www nytimes.com/2011/07/29/business/media/in-deal-with-nbc-amazon-seeks-to-widen-its-video-streaming-service.html.

[26] *See, e.g.*, Ben Fritz & Meg James, *Comcast and Netflix Escalate Fight for Viewers*, L.A. TIMES, Feb. 21, 2012, *available at* http://articles.latimes.com/2012/feb/21/business/la-fi-ct-comcast-vod-20120222; Francis Shammo, CFO, Verizon Commc'ns Inc., Remarks at Deutsche Bank Media and Telecommunications Conference (Feb. 27, 2012), *available at* http://www22.verizon.com/idc/groups/public/documents/adacct/db_vz_transcript_2012.pdf; Julianne Pepitone, *Blockbuster Launches Netflix Streaming Rival—Sort Of*, CNNMONEY.COM, Sept. 23, 2011, http://money.cnn.com/2011/09/23/technology/blockbuster_streaming/.

devices in the United States. T-Mobile, while the smallest of the four national providers, has competed aggressively by developing innovative products and services—such as Android handsets and national Wi-Fi hotspot access—and positioning itself as a value provider. In March 2011, AT&T entered into an agreement to acquire T-Mobile from its parent, Deutsche Telekom AG.

In August 2011, the Division filed to block the acquisition in district court[27] in part because eliminating T-Mobile as an independent competitor would "likely reduce innovation and product variety."[28] T-Mobile itself recognized its role in driving innovation in the wireless industry, as outlined in an internal document entitled "T-Mobile Firsts: Paving the way one first at a time."[29] The document listed the first Android handset, Blackberry wireless e-mail, the Sidekick (a consumer "all-in-one" messaging device), national Wi-Fi "hotspot" access, and a variety of unlimited service plans, among other "first" accomplishments by T-Mobile. Moreover, T-Mobile had the incentive and ability to continue innovating as an independent company. Despite AT&T's arguments that the merger would provide substantial new network capacity and leave sufficient competition, the Division continued its challenge to protect against the very likely price increases and reduction in innovation that would ensue.

[27] Complaint, United States v. AT&T, Inc., No.11-01560 (D.D.C. Sept. 30, 2011), *available at* http://www.justice.gov/atr/cases/f274600/274613.pdf.

[28] Second Amended Complaint, United States v. AT&T Inc., No. 11-01560 at 19 (D.D.C. Sep. 30, 2011), *available at* http://www.justice.gov/atr/cases/f275700/275756.pdf.

[29] *Id.*

Ultimately, AT&T abandoned its proposed acquisition. As a result, T-Mobile has remained as an independent wireless provider and made significant commitments to expanding its 4G LTE service, including announcing a $4 billion investment to modernize its network in February 2012[30] and receiving FCC approval to acquire spectrum from Verizon in August 2012.[31]

c. *H&R Block / TaxACT*

More than 35 million Americans use digital do-it-yourself (DDIY) software to prepare and file federal and state income taxes.[32] H&R Block, TaxACT and Intuit, which produces Quicken and TurboTax, are collectively responsible for 90 percent of all sales of DDIY tax preparation software.[33] Historically, TaxACT acted as a "maverick" player in the DDIY market by disruptively and aggressively pricing its services. For example, TaxACT led the way with high-quality, free product offerings.

In October 2010, H&R Block, the second largest DDIY provider, entered into an agreement to purchase TaxACT, the third largest provider. Due to serious concerns over future incentives to innovate and potential price effects, the Division filed a suit in May 2011 to enjoin the merger.[34] Ultimately, the court sided with the Division; it found that

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[30] Greg Bensinger, *T-Mobile to Pump $4 Billion into Network, 4G LTE Buildout*, WALL ST. J., Feb. 24, 2012, *available at* http://online.wsj.com/article/SB10001424052970203918304577241042653586170 html.

[31] Press Release, Fed. Commc'n Comm'n, FCC Concludes Review of Verizon Wireless-Spectrum Co. Deal and Approves Related Spectrum Transactions, FIERCE WIRELESS (Aug. 23, 2012), http://www.fiercewireless.com/press-releases/fcc-concludes-review-verizon-wireless-spectrumco-deal-and-approves-related.

[32] Press Release, U.S. Dep't of Justice, Justice Department Files Antitrust Lawsuit to Stop H&R Block Inc. From Buying TaxACT (May 23, 2011), http://www.justice.gov/atr/public/press_releases/2011/271570.pdf.

[33] *Id.*

[34] Complaint, United States v. H & R Block, Inc., No.11-00948 (D.D.C. May 23, 2011), *available at* http://www.justice.gov/atr/cases/f271500/271579.pdf.

the merger would have led to an "anticompetitive duopoly."[35] As a result, the DDIY tax filing market remains competitive and innovative, with all three companies launching mobile applications for their tax filing services.

In sum, when a transaction creates significant price and innovation harms that cannot be adequately addressed through narrowly tailored behavioral or structural remedies, the Division will seek to enjoin the merger in order to protect existing competition and future innovation.

VII. Competition Advocacy

In addition to using our enforcement tools to protect competition, the Antitrust Division engages in competition advocacy efforts. Recently, we have focused our attention on issues involving standard setting. [36] Collaborative standard setting has long been crucial for interoperability and for the creation of new platforms on which innovation occurs. Our modern economy and our daily lives are built on interoperability standards. We rely on these standards every day and hardly notice the ease with which they enable products to work together. From the time we get up in the morning and plug

[35] United States v. H & R Block, Inc., 831 F. Supp. 2d 27 (D.D.C. 2011).

[36] *See, e.g.*, Renata Hesse, Deputy Ass. Att'y Gen., Antitrust Div., U.S. Dep't of Justice, Six "Small" Proposals for SSOs before Lunch, Remarks as Prepared for the ITU-T Patent Roundtable (Oct. 10, 2012), *available at* http://www.justice.gov/atr/public/speeches/287855.pdf (proposing pro-competitive changes to SSO's IP policies including placing some limits on the rights to seek an injunction regarding F/RAND-encumbered patents and lowering the transaction costs of determining RAND licensing terms); *Oversight of the Impact on Competition of Exclusion Orders to Enforce Standards Essential Patents: Hearing Before the S. Comm. on the Judiciary*, 112th Cong. (2012) (statement of Joseph F. Wayland, Acting Assistant Att'y Gen., Antitrust Div.), *available at* http://www.justice.gov/atr/public/testimony/284982.pdf. (testimony before the Senate Judiciary Committee on factors the International Trade Commission should consider when evaluating whether it is in the public interest to issue an exclusion order where a F/RAND-encumbered standard essential patent is at issue); Letter from Thomas O. Barnett, Ass. Att'y Gen., U.S. Dep't of Justice, to Robert A. Skitol, Esq., Drinker, Biddle & Reath, LLP 8 (Oct. 30, 2006), *available at* http://www.usdoj.gov/atr/public/busreview/219380.pdf. ; Letter from Thomas O. Barnett, Assistant Att'y Gen., U.S. Dep't of Justice, to Michael A. Lindsay (Apr. 30, 2007), *available at* http://www.usdoj.gov/atr/public/busreview/222978.pdf.

our coffee maker into a compatible outlet, go to work and turn on our computer, log on to the Internet from our favorite WiFi hotspot, make a phone call or send an e-mail from a smartphone, watch a movie on TV or play video games with our family--we benefit from standards.

At the forefront of many of the Antitrust Division's intellectual property (IP) related enforcement and advocacy efforts are concerns about patents declared by their owners to be essential to a standard, which also involves a commitment by that owner to license on reasonable and nondiscriminatory (or RAND) terms or fair, reasonable and nondiscriminatory (or FRAND) terms to implementers of the standard. We refer to such patents as F/RAND encumbered standard essential patents (SEPs).[37] The world at this moment is awash in lawsuits related to patented technologies used to make mobile devices. These occasionally include F/RAND encumbered SEPs. One concern we have is that a patent holder may demand licensing terms that are not consistent with this F/RAND promise and couple that demand with a threat of an injunction or other exclusionary relief.[38] This would have the ultimate effect of undermining both competition and the pro-competitive benefits of the standard setting process.

[37] Some SSOs use the term RAND, and others use FRAND. For today's purpose, I will use F/RAND to refer both types of licensing commitments. Commentators frequently use the terms interchangeably to denote the same substantive type of commitment.

[38] In the United States, a patent owner can sue for patent infringement in federal courts, where injunctions and damages are available as remedies. A patent holder may also seek relief at the International Trade Commission (ITC), which administers trade remedy laws. Under the relevant statute, the ITC conducts investigations into allegations of certain unfair practices in import trade, including infringement of certain statutory intellectual property rights. If the Commission determines that there has been infringement, it may issue an exclusion order. The ITC does not have authority to issue damages as relief.

Thus, we have been actively engaged with both firms and standard setting organizations (SSOs) to encourage behavior that benefits competition.[39]

VIII. Conclusion

It's true that analyzing anticompetitive effects in innovation is not as straightforward as demonstrating static effect; however, the division has demonstrated that this intellectual challenge will not deter it from bringing enforcement actions when innovation is threatened by a merger or anticompetitive conduct. Economic learning has developed significantly in these areas, and to further the interests of consumers, it is vitally important that we pay attention to these industries. As I hope I've made clear, the fact that these industries are highly dynamic in no way implies that they should not be an area of focus. Just the opposite is true.

Thank you again for your time.

[39] *See* Fiona S. Morton, Deputy Ass. Att'y Gen., Antitrust Div., U.S. Dep't of Justice, The Role of Standards in the Current Patent Wars, Address before Charles River Associates Annual Brussels Conference: Economic Developments in European Competition Policy (Dec. 5, 2012), *available at* http://www.atrnet.gov/subdocs/2012/289708.pdf.