

I, Michael J. Angelakis, declare under penalty of perjury that the foregoing declaration is true and correct. Executed on April 7, 2014.



Michael J. Angelakis

# **EXHIBIT 5**

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**An Economic Analysis of the Proposed  
Comcast – Time Warner Cable Transaction**

**April 8, 2014**

**Gregory L. Rosston  
Michael D. Topper**

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**I. Introduction**

**A. Qualifications**

1. Dr. Rosston is the Deputy Director and a Senior Fellow of the Stanford Institute for Economic Policy Research (“SIEPR”), Co-Director of the Public Policy program and a Professor by courtesy of Economics at Stanford University. He received his Ph.D. and M.A. in economics from Stanford University and A.B. with Honors in economics from the University of California, Berkeley. Dr. Rosston’s specialties include industrial organization, antitrust, and regulation with an emphasis on telecommunications. He served at the Federal Communications Commission (“FCC”) for three and one-half years as Deputy Chief Economist, as Acting Chief Economist of the Common Carrier Bureau, and as a Senior Economist in the Office of Plans and Policy. In these positions, Dr. Rosston had significant involvement with, among other things, the FCC’s implementation of areas of competition and Internet policy. He returned to the FCC as Senior Economist for Transactions to assist the Commission with its analysis of the competition issues involved in the proposed acquisition of T-Mobile by AT&T.

2. Dr. Rosston’s research focuses on telecommunications and competition policy. He has been the author or co-author of a number of articles relating to Internet and telecommunications competition policy and has co-edited two books on telecommunications, and helped organize many telecommunications conferences. Dr. Rosston served as the co-Chair of the Commerce Spectrum Management Advisory Committee and assisted the President’s Council of Advisers on Science and Technology in a recent report. At Stanford, Dr. Rosston regularly teaches courses that involve telecommunications and competition policy.

3. Dr. Rosston has testified as an independent academic expert on competition and telecommunications matters in hearings at the FCC, the United States Senate Commerce Committee, the House Commerce Committee, the California State Senate Committee on Banking, Commerce and International Trade, and the National Telecommunications and Information Administration of the Department of Commerce. He has also advised companies and organizations on antitrust matters and served as an expert witness on competition issues, including testifying before the Copyright Arbitration Review Panel with regard to the allocation of cable distant signal copyright royalties. Dr. Rosston submitted reports and participated in an

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FCC panel on the Comcast-NBCUniversal transaction. His curriculum vitae is included as Appendix 1.

4. Dr. Topper is a Senior Vice President and Co-Head of the Antitrust & Competition Practice at Cornerstone Research, where he has worked since 1994. Previously, he was an Assistant Professor in the Department of Economics at the College of William & Mary, and a Lecturer in the Department of Economics at Stanford University. He received his Ph.D. and M.A. in Economics from Stanford University. He has also received an M.S. in Engineering Economic Systems from Stanford University and a B.S. in Systems Engineering from the University of Virginia.

5. While at William & Mary and Stanford, Dr. Topper taught courses in microeconomics, econometrics, and antitrust economics. Before receiving his doctorate in economics, he worked as an engineering economist at Bell Laboratories and Bell Communications Research.

6. Dr. Topper's consulting work over the last twenty years has focused on the application of microeconomics, econometrics, and quantitative analysis to litigation and regulation in a range of industries. He has worked on matters involving antitrust and competition, telecommunications policy, intellectual property, class certification, product liability, discrimination and contractual issues. He has submitted expert reports and testimony in competition matters, including expert reports submitted in FCC proceedings and testimony submitted to the Copyright Royalty Board regarding the allocation of cable distant signal copyright royalties. Dr. Topper submitted a report to the FCC in the Comcast-NBCUniversal transaction. His curriculum vitae is included as Appendix 2.

**B. Assignment**

7. Comcast Corporation ("Comcast") has entered into an agreement with Time Warner Cable ("TWC") whereby Comcast will acquire 100 percent of TWC's equity in exchange for Comcast Class A shares ("CMCSA").<sup>1</sup> The proposed transaction is a straightforward acquisition of TWC, and Comcast plans to retain all of TWC's existing assets, subject to divestitures of cable systems with approximately 3 million customers. We have been asked by counsel for

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<sup>1</sup> We refer to the newly created entity as "the combined company" or "Comcast" and refer to the acquisition as "the transaction."

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Comcast to analyze the competitive benefits and efficiencies that are likely to result from the transaction. We analyze potential benefits to residential and business customers, as well as to advertisers. In the course of our investigation into these issues, we have interviewed company personnel and have examined data and documents from Comcast and TWC and a variety of third-party and public sources.

8. We have also been asked to assess whether there are any cognizable risks of anticompetitive effects from the transaction. We examine the implications of the transaction for competition in video distribution, video programming, and advertising. Dr. Mark Israel is submitting a declaration focused on the broadband Internet aspects of this transaction. In particular, Dr. Israel's report covers the competitive benefits to residential and business broadband consumers in greater detail, as well as competition issues in residential and business broadband and the Internet backbone.

**II. Executive Summary**

**A. Competitive Benefits and Efficiencies**

9. The proposed combination of Comcast and TWC will lead to transaction-specific efficiencies that will benefit current and future residential consumers, businesses, and advertisers across the footprint of the combined company. The transaction-specific efficiencies primarily stem from three economic mechanisms: economies of scale, expanded geographic reach, and sharing of current complementary technologies and services. As discussed below, with a larger scale and geographic reach than other cable operators (including TWC), Comcast has been more successful in enhancing its network and technology, as well as developing and deploying new products and services. After the transaction, advanced products and services will be more readily available to customers in TWC territory. In addition, the new company will have the scale to better compete with its national and global competitors.

10. This transaction increases Comcast's scale by adding approximately eight million customers (after any divestitures), and allowing it to compete for additional customers in the nearly 30 million homes currently passed by TWC systems (without accounting for divestitures). Increased scale will allow Comcast to spread fixed investment costs – which are increasingly necessary, as discussed in Section IV.A.1, to maintain and upgrade an advanced network and to

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develop new and compelling technologies in the video and broadband industries – across a greater number of current and future customers, making it less expensive on a per-customer basis for Comcast. Scale can make the difference between investing in a new product or service and not investing, and scale can accelerate the introduction of products, services, and network and equipment enhancements.

11. Over the past few years, Comcast has been able to develop and deploy one of the most advanced networks and some of the cable industry’s most innovative technologies in part because of its existing scale. For example, Comcast has migrated all of its systems to digital, has the most advanced set-top box and video platform (X1), and has deployed DOCSIS 3.0 in 99.8 percent of its footprint. Below are a few examples that underscore some of the efficiencies that are likely to result from additional scale:

- Comcast should be able to bring more advanced set-top box platforms and Internet protocol (IP) cable services to market sooner because it will have a larger potential customer base that justifies larger upfront investments.
- The combined company will be able to invest in network infrastructure, data centers, and other facilities to compete more effectively for enterprise business customers and multi-location businesses because it will have a geographic footprint covering most major business areas across the country.
- The scale of the combined company will increase its ability to create apps for a wide variety of devices, allowing customers to access video content in new ways. The combined company’s increased scale should also increase device manufacturers’ incentives to pre-install apps that will increase availability of video content on third-party devices.
- Comcast will have greater incentive to increase investment in the deployment and measurement of advanced advertising services to deliver targeted, relevant advertising and to enable a more robust, ad-supported video-on-demand (“VOD”) and TV Everywhere ecosystem.

12. The expanded geographic reach of the combined company will increase its ability to serve customers whose needs span the existing footprints of Comcast and TWC. For example:

- On the residential side, expanded geographic reach will facilitate more extensive provisioning of a more robust public Wi-Fi network.

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- On the business side, expanded geographic reach will increase the ability of the combined company to serve super-regional and enterprise businesses, providing enhanced competition in a market traditionally dominated by incumbent local exchange carriers (“ILECs”).
- The increased geographic reach of the combined company coupled with the ability to deliver advertisements targeted to specific households and advanced advertising services on VOD and other platforms should offer more options for advertisers and more popular content for consumers.

13. The combined company will share technologies and services across its expanded footprint, which will benefit residential consumers, businesses, and advertisers. By combining Comcast’s and TWC’s different products and services, as well as the specialized knowledge and proprietary technologies required to develop, deploy, and deliver them, the transaction should allow customers in the expanded footprint to benefit from the comparative advantages of Comcast and TWC. For example:

- With the knowledge and experience Comcast brings from its own transition to all-digital, it is likely Comcast will transition the TWC systems to all-digital faster, more efficiently, and with less customer disruption than TWC would, which means consumers should have access to more advanced services sooner.
- Residential customers in TWC’s current footprint will benefit from Comcast’s X1 platform and, over time, from its larger VOD and TV Everywhere libraries.
- Business customers with locations in TWC’s current footprint will benefit from Comcast’s expertise in serving small businesses. Similarly, business customers with locations in Comcast’s current footprint will benefit from TWC’s expertise in certain services for mid-sized businesses, including hosted software services provided by its NaviSite subsidiary.

14. The investments in and development of technologies and services enabled by this transaction for one set of customers will have spill-over benefits that improve service for other customers. For example, an expansion of the fiber backbone to reach more sites and compete for business customers will also benefit residential customers because residential and business services use common backbone infrastructure. In addition, investments in Comcast’s backbone network will likely make the network more reliable. Similarly, technologies to free up

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bandwidth and increase transmission speeds should improve service for both residential and business customers.

15. There also are important feedback effects likely to arise from this transaction that would benefit residential consumers, businesses, and advertisers. The development and refinement of advanced products, services, network infrastructure, and equipment from increased scale and expanded geographic reach should enhance customer experiences and increase usage, which in turn would make the combined company a more attractive partner for equipment manufacturers, technology companies, and application or content developers because the company will offer a more attractive customer base, more exposure, more revenue opportunities, and greater efficiencies. As a result, the combined company is more likely to explore and develop new technologies, products, and services because it should have more willing partners. Comcast's increased quality should also spur other competing video, broadband, and voice providers to invest more in developing and refining their products and services, further benefitting customers.

16. Increased scale and geographic reach from this transaction should lead to a range of efficiencies and benefits for residential consumers, businesses, and advertisers. Comcast and TWC can and do compete vigorously with other distributors for increased scale within their current footprints, but within-footprint competition does not offer the increase in scale afforded by this transaction, which comes from allowing Comcast to compete for customers in an expanded footprint.

17. Partnerships or licensing arrangements among cable companies operating in different geographic regions could be alternative mechanisms to increase scale and geographic reach. However, developing and deploying new platforms and technology, whether for video, broadband, voice, or some other service, often requires risky, business-specific investment. Each company in a partnership or licensing agreement will be wary of making investments whose return hinges on the future behavior of other companies. There are a number of reasons for difficulties and frictions in reaching agreements through contracts, including different expectations about costs, demand, and profits, different perceptions of and attitudes toward risk, different business models, different embedded technologies and networks, varying experiences of different operators, and the complexity and uncertainty of the technology involved. This transaction will help overcome some of these difficulties and frictions. In addition, because of

the rapid pace of technological change, partnerships might otherwise have to be created for a large number of potential new products, which would slow investment, innovation, and benefits to consumers.

18. The combined company will face the same vigorous competition across its lines of business that Comcast and TWC do as stand-alone companies. Indeed, if anything, the increased development and acceleration of enhanced products and services by the combined company will likely encourage a competitive response from the companies with which Comcast and TWC compete to provide residential services, business services, and advertising. For example, the proposed combination has already prompted a response from AT&T CEO Randall Stephenson, who stated that the prospective transaction increases the urgency for AT&T to build out its fiber network.

19. Comcast customers, including those on systems acquired through previous transactions, have benefitted from previous transactions in which Comcast expanded its geographic reach. After its 2002 acquisition of AT&T Broadband, Comcast was able to deploy new and improved services for customers across its expanded footprint, including the footprint of AT&T Broadband. Similarly, after Comcast acquired cable systems from Adelphia in 2006, it invested heavily in upgrading the Adelphia systems so it could provide customers with advanced services.

**B. No Competitive Concerns Related to Video Programming**

20. Various parties have raised competitive concerns about the transaction's impact on the distribution, acquisition, and sale of video programming: 1) that Comcast would gain market power in the distribution of video programming and charge end-user customers supra-competitive prices; 2) that Comcast would gain market power as a buyer of video programming and drive its payments for content below competitive levels (horizontal "monopsony" concerns); 3) that Comcast would have an incentive to deny carriage to unaffiliated programming to benefit its own programming (vertical "program carriage" concerns); 4) that the transaction would give Comcast market power in the sale of programming so that it could charge supra-competitive prices to other MVPDs, including other cable companies with which it does not compete (horizontal "market power" concerns); and 5) that Comcast would have an incentive to deny its

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programming to rival MVPDs and online video distributors (“OVDs”) to increase profits from Comcast’s MVPD service (vertical “program access” concerns).

21. Our analysis shows that none of the competitive concerns listed above arises as a result of this transaction.

22. First, Comcast’s and TWC’s cable franchise areas generally do not overlap so the two companies do not compete for MVPD customers. Comcast will continue to face the same vigorous competition from DBS and telco MVPDs and other video programming distributors post-transaction that Comcast and TWC do currently and will not gain the ability to raise prices to any end-user consumers. The bottom line is that the transaction will not alter the number of MVPD choices of any consumer, or lead to an increase in concentration in any local markets, since the companies’ cable systems do not overlap.

23. Second, the transaction will not give Comcast market power in program acquisition. Because the transaction will not reduce competition in video distribution, as just noted, Comcast will continue to have the same incentive and need to acquire programming to compete with other distributors. In addition, content providers can sell their programming to a large open field besides Comcast that includes more than 70% of the MVPD audience plus rapidly growing OVDs, some of which are reportedly introducing competitive multichannel offerings. Content providers have also gained bargaining power, as evidenced by significant programming fee increases. As a result, Comcast will not gain market power as a buyer of video programming and will not be able to drive its payments for content below competitive levels.

24. Third, Comcast will continue to face vigorous competition from other MVPDs and will control only a limited share of programming after the transaction. If it were to discriminate against non-affiliated programming in program carriage in order to attempt to weaken competing networks and enhance the profitability of its own programming, Comcast would risk losing customers to other MVPDs without gaining much benefit to its own programming. In other words, competition in video distribution and programming lead to the conclusion that the transaction will not raise any vertical program carriage concerns.

25. Fourth, the transaction will not give Comcast market power in the sale of programming to other video distributors. TWC’s programming assets are limited and largely regional or local in

nature. Thus, the transaction will not increase materially the concentration of programming at the national or regional level. Comcast will continue to have a limited share in video programming and to face strong competition from non-affiliated content providers at both the national and regional level. Consequently, Comcast will not gain market power to charge a supra-competitive price for its programming after the transaction.

26. Fifth, Comcast will not gain incentives to withhold programming from other video distributors to attempt to benefit its distribution business. After the transaction, Comcast will account for a limited share of customers both nationally and in areas where it will acquire TWC systems. Retransmission consent and license fee revenue from Comcast's broadcast and cable networks have made licensing to other video distributors a productive and important part of the company's business. These facts, along with the strong competition from a broad range of other content providers, mean that denying other video distributors access to Comcast's affiliated programming (or charging above-market rates) could cost Comcast significant revenues while yielding limited benefit to the combined company's cable systems. Therefore, the transaction will not raise any vertical program access concerns.

27. Finally, under current market conditions, Comcast has successfully negotiated carriage agreements with various MVPDs, OVDs, and content providers in recent years. Because the transaction will not give Comcast market power in program buying or selling, the market dynamics that have worked for Comcast, other distributors and content providers in recent negotiations will continue to allow the parties to reach competitive, mutually beneficial agreements post-transaction. The Commission's program access and carriage rules are in place to address any remaining competitive concerns, while the conditions in the NBCUniversal transaction are an additional backstop.

**C. No Competitive Concerns Related to the Sale of Advertising**

28. Another potential competitive concern that has been raised is that the transaction could give Comcast the incentive and ability to exercise market power in the sale of video advertising. This concern is without basis.

29. The sale of video advertising is highly competitive and this transaction will not reduce such competition for either national or local video advertising. Because it does not change the

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ownership of any national networks, the transaction does not change the competitive landscape for national advertising. In local cable advertising, Comcast and TWC do not compete with one another now, so the transaction will not reduce cable advertising competition in any local market.<sup>2</sup> In the small number of Designated Market Areas (“DMAs”) with both an NBC O&O station and a non-negligible number of TWC customers, there are differences between the spot broadcast advertising sold by the NBC O&O and the spot cable advertising sold by TWC that limit substitution between the two for some advertisers, and both face significant competition from other content providers and other media including online advertising.<sup>3</sup> Finally, TWC’s regional and local programming assets are modest and their acquisition will not impact local advertising competition.

30. We develop these opinions in more detail in the remainder of this declaration. Section III summarizes the market landscape in video distribution, video programming, and advertising before and after the transaction.<sup>4</sup> Section IV provides an economic framework for analyzing the consumer benefits of the transaction, and presents specific examples of the benefits to residential consumers, businesses, and advertisers. Section V addresses competitive concerns about the transaction’s impact on video services, and Section VI addresses competitive concerns about the transaction’s impact on advertising.

### **III. Market Landscape Before and After the Transaction**

#### **A. Video Distribution**

31. Comcast currently has 21.7 million MVPD customers (roughly 22% of the MVPD customers nationally).<sup>5</sup> Comcast’s cable systems are mainly located in the Northeast, Mid-Atlantic, Midwest, Florida, New Mexico, Colorado, Northern California, Oregon, and

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<sup>2</sup> While TWC also sells local advertising on behalf of other MVPDs, including Comcast in some markets, the only change resulting from this transaction would be Comcast managing sales instead of TWC. In markets in which Comcast sells advertising on behalf of TWC and other MVPDs, there will be no change.

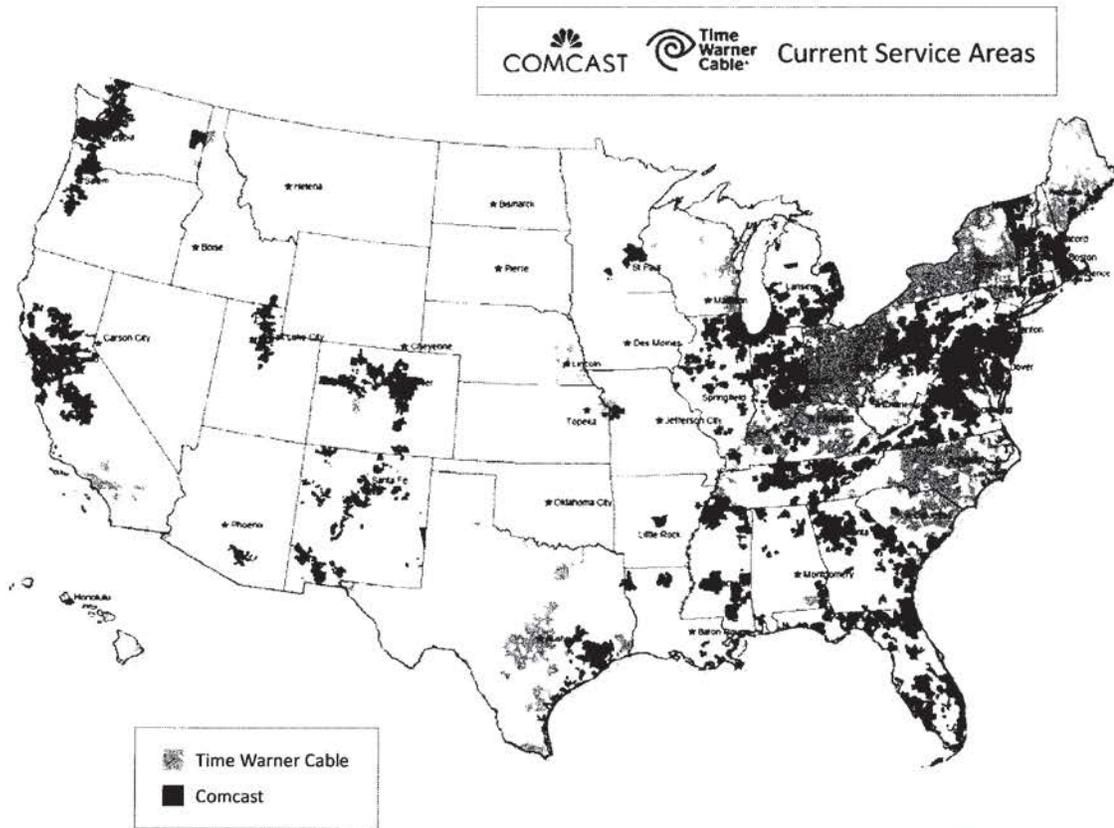
<sup>3</sup> Both the Commission and the DOJ have asserted that local broadcast and cable advertising are in separate markets, in which case this transaction would raise no advertising competition issues. See FCC Memorandum Opinion and Order in the Matter of Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc. for Consent to Assign Licenses and Transfer Control of Licensees, January 20, 2011. See also Complaint, United States Department of Justice Antitrust Division v. Gannett Co., Inc., Belo Corp., and Sander Media LLC, December 16, 2013.

<sup>4</sup> Dr. Mark Israel’s declaration addresses the market landscape in broadband services.

<sup>5</sup> 2013 Comcast Corp. SEC Form 10-K Annual Report (“Comcast 2013 10-K”) at 3.

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Washington. TWC currently has 11.4 million residential and commercial MVPD customers (approximately 11% of the MVPD customers nationally), with its cable systems located largely in New York, Ohio, Southern California, the Carolinas, Texas, Kentucky, Wisconsin, and New England.<sup>6</sup> The map below shows the footprint of Comcast's and TWC's MVPD services. After the transaction, Comcast will have approximately 30 million customers (assuming divestiture of about three million customers), or less than 30% of the MVPD customers nationally.



32. The franchise areas of Comcast's and TWC's cable systems do not overlap so they do not compete with each other for MVPD customers, even where both are present in a region or a local

<sup>6</sup> 2013 Time Warner Cable Inc. SEC Form 10-K Annual Report ("TWC 2013 10-K") at 2 and 4.

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area.<sup>7</sup> Thus, the transaction does not change the number of competing MVPD providers from which any customer may choose and there is no change in the concentration of distributors (as measured by the HHI) in any relevant antitrust market. The acquisition of TWC's existing cable systems passing 29.8 million homes gives Comcast a greater geographic footprint over which it can compete with DBS and telco MVPDs as well as other video distributors.<sup>8</sup>

**B. Video Programming**

33. Comcast owns two national broadcast networks, NBC and Telemundo. Comcast also owns 10 NBC owned and operated ("O&O") stations and 17 Telemundo O&O stations. Since TWC does not own any national broadcast networks or over-the-air television stations, the transaction will not change Comcast's ownership of national broadcast networks or over-the-air television stations.

34. Comcast currently has an attributable ownership interest in 24 national cable networks, including a majority controlling interest in 16 networks such as USA, CNBC, E!, Syfy, MSNBC, Bravo, Golf Channel, Oxygen, and NBC Sports Network. Those 24 national cable networks comprise 9.7% of the 247 national cable networks currently operating.<sup>9</sup> Comcast also has a non-controlling interest in iN DEMAND, a pay-per-view programming service.

35. TWC's ownership interests in national programming services are limited. It has a 6.35% interest in MLB Network and a 29.3% interest in iN DEMAND. Comcast has a non-controlling ownership interest in both services and the transaction will not change the number of national programming services in which Comcast has an attributable interest. In terms of revenues from

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<sup>7</sup> We understand that Comcast currently has fewer than 2,800 residential and SMB customers and 215 business customers in zip codes where TWC also has residential or business customers. Even these customers may not be passed by both companies.

<sup>8</sup> SNL Kagan, "Top Cable System Operators as of 09/30/13 (By Basic Subs)."

<sup>9</sup> SNL Kagan, "Cable Network Ownership (2014)." The figures do not count HD feeds as separate networks. If HD feeds are counted as separate networks, then Comcast has an attributable interest in 47 out of 434 (10.8%) national cable networks. Comcast holds a lower attributable interest in the national SD cable networks now than it did just after conclusion of the NBCU transaction. There are various ways to calculate the number of national programming networks. For example, in the Commission's recent Program Access Notice of Proposed Rulemaking, the Commission concluded that there were approximately 800 national programming networks (including HD networks). See In re Revision of the Commission's Program Access Rules, Notice of Proposed Rulemaking, 27 FCC Rcd 3413 (2012).

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national cable networks, Comcast has a share of 10.51% today, which is smaller than Disney/ABC, Time Warner, and Viacom today and will continue to be smaller post-transaction.<sup>10</sup>

36. Comcast has ownership interests in 12 affiliated Regional Sports Networks (“RSNs”), including 11 in which it has a controlling interest. Most of Comcast’s RSNs carry major league sports teams.<sup>11</sup>

37. TWC owns or controls 16 local or regional networks that include qualifying RSN content, but only one carries major league sports content in English (TWC SportsNet, which features Los Angeles Lakers programming).<sup>12</sup> TWC’s other networks that qualify as RSNs are primarily local in nature and focus on college sports content or, in a few cases, Spanish-language coverage of some NBA and MLB games.<sup>13</sup> TWC also has a minority interest in SportsNet New York, in which Comcast likewise has a minority interest and will remain a minority owner post-transaction.<sup>14</sup> In addition, TWC provides affiliate sales, ad sales, and certain other production and technical services to SportsNet LA, which carries the Los Angeles Dodgers. Therefore, after the transaction, Comcast will only gain a limited amount of regional programming.<sup>15</sup>

38. Overall, Comcast currently has a share of 11.61% of total network revenues (including broadcast, cable, and RSNs), which will increase to 11.86% post-transaction, an increase of just 0.25%.<sup>16</sup>

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<sup>10</sup> Comcast held the same position following the NBCUniversal transaction. In this and later calculations of total revenues from networks owned by a company, the revenues of a network are all attributed to the majority owner if there is one with greater than a 50% ownership stake; if there is not a majority owner, the network’s revenues are assigned to a hypothetical entity with the same name as the network. Because Comcast will not gain controlling interest in more national cable networks in this transaction, its national cable network revenue share will remain at 10.51% post-transaction.

<sup>11</sup> For example, Comcast SportsNet Chicago carries the Chicago Bulls (NBA), White Sox (MLB), Blackhawks (NHL), and Chicago Cubs (MLB); Comcast SportsNet Mid-Atlantic carries the Washington Wizards (NBA), and the Washington Capitals (NHL); and Comcast SportsNet New England carries the Boston Celtics (NBA). Cable Sports Southeast recently announced plans to cease operations on May 31, 2014.

<sup>12</sup> See *In re Review of the Commission’s Program Access Rules and Examination of Programming Tying Arrangements*, First Report and Order, 25 FCC Rcd 746 ¶¶ 69 n.249 (2010) (defining “Covered RSN” based on minimum amount of certain sports programming).

<sup>13</sup> TWC owns regional networks with coverage of NBA and other major league sports games in Spanish, including TWC Deportes (L.A. Lakers), Channel 858 (L.A. Clippers and Anaheim Angels through a feed from Fox), and Canal de Tejas (Dallas Mavericks, San Antonio Spurs, and Texas Rangers, through a feed from Fox)

<sup>14</sup> SportsNet New York is currently owned by Sterling Equities (65%), TWC (27%), Comcast (8%), and Sterling Equities will continue to be the majority owner after the transaction.

<sup>15</sup> In addition to RSNs, both Comcast and TWC own a number of local or regional news and lifestyle networks, which we understand are small and have limited revenues.

<sup>16</sup> Including national cable networks and RSNs, and excluding broadcast networks, Comcast’s share of revenue is 10.55% today and will increase to 10.93%. These calculations exclude international programming revenues.

**C. Advertising**

39. As part of their video programming and video distribution businesses, both Comcast and TWC sell advertising to national, regional, and local advertisers. In particular, NBCUniversal sells advertising on the NBC and Telemundo broadcast networks, Comcast's national cable networks, Comcast's RSNs, and NBC and Telemundo O&Os, while Comcast Spotlight sells spot advertising on the local ad availabilities Comcast receives for carrying cable networks as well as on the local and regional networks owned by Comcast.<sup>17</sup> Through its advertising sales division TWC Media, TWC sells advertising on its RSNs and other local networks and on the local ad availabilities it receives from cable networks.<sup>18</sup> Additionally, Comcast and TWC (along with Cox Communications) jointly own National Cable Communications LLC ("NCC"), which aggregates spot cable and satellite advertising on behalf of a number of MVPDs for sale to national and regional advertisers.<sup>19</sup>

40. Since the transaction does not change the ownership of any national networks, the transaction will not increase Comcast's ownership of national broadcast and cable networks on which it sells network advertising. And since the footprints of Comcast's and TWC's cable systems do not overlap, the transaction will not change the number of options for advertisers to reach any cable household. There are a small number of DMAs with both an NBC O&O station and a TWC cable system that both sell spot television advertising: New York, Los Angeles, Dallas, and San Diego. We analyze these overlaps in Section VI.B below and demonstrate that there is no competitive harm.<sup>20</sup> Finally, the advertising sales of TWC's regional and local networks are modest and do not change the competitive landscape in local advertising.<sup>21</sup>

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<sup>17</sup> Comcast Spotlight also sells advertising on behalf of other MVPDs, including TWC, in some markets. However, there would be no change resulting from the transaction in those markets – Comcast would just receive a higher share of total revenues related to the subscribers in TWC's franchise area.

<sup>18</sup> TWC also sells advertising on behalf of other MVPDs, including Comcast, in some markets. For example, TWC manages Adlink in Los Angeles. The transaction will not result in any changes in these markets other than Comcast managing the sales rather than TWC and receiving a higher proportion of revenues related to the subscribers in TWC's franchise area.

<sup>19</sup> Since NCC simply aggregates spot advertising from different MVPDs and Comcast's and TWC's service areas do not overlap, the transaction will not reduce competition in the advertising sold by NCC.

<sup>20</sup> Similarly, there are a small number of DMAs with both a Telemundo O&O station and a TWC cable system (with a non-negligible number of subscribers) that both sell spot television advertising: New York, Los Angeles, Dallas and San Antonio, which we also analyze in Section VI.B.

<sup>21</sup> The principal regional programming networks for which TWC sells advertising are the RSNs in southern California (Time Warner Cable SportsNet, Time Warner Cable Deportes, SportsNet LA, and Channel 858), New York (SportsNet New York), and Texas (Canal de Tejas).

#### **IV. Competitive Benefits and Efficiencies**

41. In this section, we present examples of competitive benefits and efficiencies that are likely to result from the transaction. We start by providing an economic framework for examining how the transaction could facilitate increases in output, enhance competition, and increase the speed and scope of innovation. We then apply this economic framework to residential, business, and advertising services. Also, innovation is unpredictable so that bringing together two innovative cable operators with the scale to justify new investments could lead to many additional products and services that would benefit consumers.

##### **A. Economic Framework**

42. There are three primary economic mechanisms that will drive benefits from the transaction: economies of scale, expanded geographic reach, and sharing of technologies and services. Scale can make the difference between investing in a new product and service and not investing, and it can speed up the pace of product and service introductions and enhancements. Expanded geographic reach allows firms to compete more effectively for customers, especially business customers, whose operations span multiple regions. Sharing best practices and services can increase consumers' access to cutting edge services.

43. Contracting is a common mechanism to achieve some of the benefits of increased scale, expanded geographic reach, and sharing of technologies and services. However, in many cases contracting does not achieve all of the potential benefits because of well-known difficulties that arise in contracting, including transactional frictions and costs, differences in beliefs, double marginalization, and the requirement for large investments specific to collaboration with another company in which returns hinge on the future behavior of the other company. Indeed, as discussed below, Comcast and TWC have sought to achieve efficiencies via contracting or consortium approaches in several contexts with mixed results, and the complexity and uncertainty of such arrangements has reduced the benefits relative to what the parties can achieve through the transaction. The transaction will allow current and future customers to reap the benefits that stem from the three main economic mechanisms discussed below.

## 1. Economies of Scale

44. Scale is an important determinant of investment in new technologies and services when most of the required investments are fixed costs—that is, when costs do not depend on the number of customers to whom services will be provided. The fact that fixed costs lead to economies of scale is a fundamental tenet of the economics of the firm.<sup>22</sup> Fixed costs lead to economies of scale because average costs decrease as output increases.<sup>23</sup>

45. As communications technologies have advanced rapidly and the MVPD industry has matured, fixed cost investments in developing new and compelling digital technologies have become more important. When cable operators were still rapidly building out within their franchise areas, one of the main sources of new customers was laying more cable to connect more homes—a variable cost that increases with the number of added homes. Since cable operators now pass the vast majority of homes in their respective franchise areas,<sup>24</sup> they increasingly need to compete for customers with satellite companies, telcos, and other distributors by making investments in the development of new platforms and services and upgrading their networks, all of which have large fixed costs.<sup>25</sup> Large fixed costs give larger MVPDs a relatively greater incentive to invest in developing new platforms and services and in recent years larger MVPDs, including Comcast and TWC, have introduced the most innovative new MVPD video services.<sup>26</sup>

46. With greater scale, the fixed cost of investment can be spread across more potential customers, making any given investment less expensive on a per-customer basis. In making an investment decision, a firm calculates the net present value of an investment by weighing upfront costs against the present value of the stream of cash flows that will result from the investment.<sup>27</sup>

<sup>22</sup> See, e.g., Dennis W. Carlton and Jeffrey M. Perloff, *Modern Industrial Organization*, 4th Ed., p. 36.

<sup>23</sup> See, e.g., Hal R. Varian, *Intermediate Microeconomics*, 6th Ed., p. 364.

<sup>24</sup> According to the Commission, as of the end of 2011, cable MVPD service was available in 98.6% of all U.S. homes. *In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Fifteenth Report*, MB Docket No. 12-203, (“FCC 15th Video Competition Report”), ¶ 33.

<sup>25</sup> See, e.g., SNL Kagan, “After modest 2013 lift, CapEx poised for jump in 2014,” 3/17/14: “U.S. cable providers posted modest capital expenditure increases in 2013 that are expected to give way to more substantial jumps in 2014, further indication that slowing growth does not directly result in slowing investment.” In 2013, top cable companies invested \$2.3 billion in scalable infrastructure and \$524 million in line extensions. SNL Kagan, “After modest 2013 lift, CapEx poised for jump in 2014,” 3/17/14.

<sup>26</sup> See, e.g., FCC 15th Video Competition Report, ¶¶ 99, 101–102, 114–116, 121–122.

<sup>27</sup> See, e.g., Stephen A. Ross, Randolph W. Westerfield, and Bradford D. Jordan, *Fundamentals of Corporate Finance*, 2nd Ed., pp. 220–223.

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To the extent that the firm earns positive cash flows from each additional customer, a greater scale will result in a larger stream of positive cash flows.<sup>28</sup> Comcast uses the net present value framework in helping to evaluate business decisions.

47. As a simple numerical example, suppose a new technology would require an upfront investment of \$100 (regardless of the number of customers) and would result in an expected present value of cash flows of \$1 for each customer.<sup>29</sup> With fewer than 100 customers, it would not make sense for the firm to undertake the investment because the net present value of the cash flows would be less than \$100, while with greater scale (more than 100 customers), the firm would undertake the investment. Because the firm and the customers will share in the total surplus associated with this new technology, both the firm and the customers will be better off with the technology than without it.

48. In addition, although some technologies would still be developed gradually, even by companies without the benefit of larger scale, having a larger scale can accelerate investment in development and deployment of new technology. When considering the timing of a particular investment, a firm maximizes the net present value across different choices of timing.<sup>30</sup> Larger scale may justify more rapid investment and deployment because the potential returns become larger and it is more valuable to garner them sooner; having additional scale may make it profitable to hire more developers and engineers and thereby achieve the same technological improvement in less time. More rapid development and deployment will increase net present value if the increase in the present value of cash flows (due to less discounting) outweighs the increase in the present value of investment costs.

49. Consider the simple numerical example from above. Suppose that making the investment sooner increases the present value of the upfront investment cost to \$150 and the cash flows to \$1.50 per customer, due to less discounting. The investment cost is \$50 greater regardless of the number of customers, but the benefit of making the investment sooner is increasing in the number of customers (\$0.50 times the number of customers). As a result, in this simple example

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<sup>28</sup> See, e.g., Stephen A. Ross, Randolph W. Westerfield, and Bradford D. Jordan, *Fundamentals of Corporate Finance*, 2nd Ed., pp. 298–300.

<sup>29</sup> In this example, the expected present value of cash flows takes into account the cost of capital faced by the firm.

<sup>30</sup> See, e.g., Richard A. Brealey and Stewart C. Myers, *Principles of Corporate Finance*, 7th Ed., pp. 137–138.

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a firm with fewer than 100 customers would not make the investment; a firm with between 100 and 150 customers would make the investment; and a firm with more than 150 customers would make the investment sooner. Scale can increase and accelerate investment in new technology.

50. The economies of scale that arise in this transaction come from the combined company's ability to compete for customers in geographic areas that had previously been unavailable to Comcast, in contrast to a more typical merger in which Company A increases its scale by acquiring direct rival Company B that operates in the same product and geographic markets as Company A. If it were the case that one company was merging with a direct rival, then an alternative way to achieve scale would be to compete for more customers in the common product and geographic market and add scale "organically." However, this alternative way to achieve scale does not apply to the current transaction because, as noted above, Comcast and TWC do not compete for MVPD customers. The transaction increases scale by removing some of Comcast's (and TWC's) geographic limitations on scale, allowing the combined company to reach more homes and businesses.

51. This transaction has been described as an increase in Comcast's MVPD customers from approximately 21.7 million to 33.1 million (or 30 million after divestitures), but it can also be seen as an increase in Comcast's homes passed and potential customers from 53.7 to 83.5 million (fewer after divestitures).<sup>31</sup> From TWC's perspective, this transaction will result in an even more significant increase in scale, going from approximately 11.4 million customers to about 33.1 million (or around 30 million after divestitures) MVPD customers and from approximately 29.8 million homes passed to approximately 83.5 million homes passed (fewer after divestitures). The combined company will be competing for these customers with DIRECTV and DISH, both of which operate on a national scale, with AT&T or Verizon (both national companies even though they have wireline plant only in certain geographic territories that are significantly larger than Comcast's or TWC's), and with a variety of other MVPDs in certain geographic areas. In addition, it will compete everywhere with OVDs for certain services (like subscription video on demand, or "SVOD"), particularly with OVDs that are planning to offer linear "over-the-top"

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<sup>31</sup> SNL Kagan, "Top Cable System Operators as of 9/30/13."

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(“OTT”) video service, like Sony and DISH.<sup>32</sup> The company also competes for certain services with Google, Apple, Amazon, and other technology companies with national or even global reach.

52. There are several ways in which the increased scale from the transaction will benefit residential consumers, businesses, and advertisers. Comcast invests around \$1 billion each year in intangible assets, most of which is devoted to software research, development, and deployment to improve its products and services and to develop new ones.<sup>33</sup> A significant cost of developing new products and services is the cost of employing highly trained developers and engineers at Comcast’s technology centers around the country, including Seattle, Silicon Valley, Denver, Washington, DC, and Philadelphia.<sup>34</sup> Comcast employs over 1,000 developers and engineers and holds over 950 patents and pending patent applications.<sup>35</sup> The technologies created by these developers and engineers can be leveraged across all Comcast customers, but the cost of developing and deploying the technology is largely independent of the number of customers.

53. Developing and deploying new technology also requires capital investments (e.g., computing and network resources), some of which are fixed costs.<sup>36</sup> In addition to pure research and development costs, there are additional costs associated with planning, organization, management, and coordination across business units that Comcast incurs in creating new products and services. The ability to spread these costs across a greater number of customers

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<sup>32</sup> Cliff Edwards, “Sony Plans Internet-Based Television Service in U.S. This Year,” *BloombergBusinessweek*, 1/7/14, available at <http://www.businessweek.com/news/2014-01-07/sony-corp-dot-to-introduce-web-based-tv-service-in-u-dot-s-dot-this-year>; Liana B. Baker and Varun Aggarwal, “Dish eyes Internet TV services in landmark Disney deal,” *Reuters*, 3/4/14, available at <http://www.reuters.com/article/2014/03/04/us-dish-disney-idUSBREA222A720140304>.

<sup>33</sup> Declaration of Michael J. Angelakis, ¶ 13.

<sup>34</sup> Interview with Tony Werner (Executive Vice President and Chief Technology Officer, Comcast Cable).

<sup>35</sup> Comcast.com, “Our Story,” available at <http://corporate.comcast.com/our-company/our-story>; Andy Vuong, “Comcast cranks up its research labs to quickly create new video products,” *The Denver Post*, 10/30/11, available at [http://www.denverpost.com/ci\\_19221359](http://www.denverpost.com/ci_19221359); United States Patent and Trademark Office, patent query for Assignee Name “Comcast,” available at <http://assignments.uspto.gov/assignments/q?db=pat&asne=COMCAST&page=1>.

<sup>36</sup> For example, developing the X1 platform required investment in data centers and subsystems that carry out tasks like authentication of users. Interview with Tony Werner (Executive Vice President and Chief Technology Officer, Comcast Cable). As another example, Comcast’s Cloud DVR system required investments in network upgrades, network design, and encoders for local channels. Interview with Sree Kotay (Senior Vice President, Chief Software Architect, Comcast Cable).