

Comments on the Verizon-SpectrumCo Deal

February 2012

Scott Wallsten*

**Before the
Federal Communications Commission
Washington, DC 20554**

In the Matter of)
)
Cellco Partnership D/B/A Verizon Wireless,)
SpectrumCo, LLC and Cox TMI Wireless, LLC) WT Docket No. 12-4
)
For Consent To Assign Licenses and Authorization)

Introduction

Verizon Wireless recently agreed to acquire spectrum from SpectrumCO and Cox TMI Wireless. The deal consists of two components. First, Verizon has offered to pay a total of about \$3.6 billion, or about \$0.67 per MHz-POP, for 122 AWS-1 licenses from SpectrumCo and 30 AWS-1 licenses from Cox.¹ Deutsche Bank analyst Brett Feldman estimates these licenses cover 284 million people with an average depth of 20 MHz.² Second, Verizon Wireless and the relevant cable companies (Comcast, Time Warner Cable, Cox, and Bright House Networks) will enter into joint agreements, including marketing of each other’s services and creating a joint operating entity to conduct research.

These comments discuss each component of the transaction. The discussion of the spectrum sale focuses on the role of secondary markets, their relevance for economic efficiency, and how the sale fits into that framework. Many of the details of the joint marketing and joint operating entity agreements are not in the public record, so it is not possible to make definitive statements about them. The discussion of the business agreements, therefore, focuses on their potential implications for competition and efficiency.

The Spectrum Sale: Secondary Markets in Action

Secondary markets play a crucial role in the economy. eBay’s \$45 billion market value³ is a testament to the value of trading used goods, but secondary markets are far more important than that. Sales of, for example, used cars, houses, and even commercial aircraft dwarf new sales (in unit sales, if not dollar value).⁴

Secondary spectrum markets

Secondary markets are no less important with respect to spectrum. Their importance grows when considering that, unlike other goods, “pre-owned” spectrum is just as valuable as freshly-auctioned spectrum. Moreover, because the supply of “new” spectrum to the market is at best

¹ Brett Feldman, *Key Updates on Major Spectrum Deals*, Industry Update (Deutsche Bank, Markets Research, February 5, 2012), 11.

² Feldman, *Key Updates on Major Spectrum Deals*.

³ As of February 20, 2012.

⁴ John W. Mayo and Scott Wallsten, “Secondary Markets: The Quiet Economic Value Creator,” Georgetown Center for Business and Public Policy Economic Policy Vignette, December 2011.

intermittent, the role of secondary markets in allocating the available spectrum to its highest-valued uses is even more important.

Most policy discussions regarding spectrum allocation focus on auctioning “new” spectrum. In many respects, this focus is appropriate—auctions revolutionized the way the FCC allocated spectrum and have generated tremendous innovation and consumer benefits. As important as they are, auctions focus only on the initial allocation. Post-auction transactions are crucial for ensuring that spectrum continue to move to its highest-value use as market conditions change.⁵

In 2001 a group of 37 economists argued that the FCC should work to create conditions conducive to secondary spectrum trades,⁶ and the FCC has worked steadily towards that goal.⁷ In many respects, secondary markets are a major FCC policy success story. For example, the Commission has substantially reduced the time from application to approval (Figure 1) and approximately 10 billion MHz-POPs of spectrum has changed hands every year since 2003.⁸

Figure 1: Average number of days from application to transfer spectrum license to approval

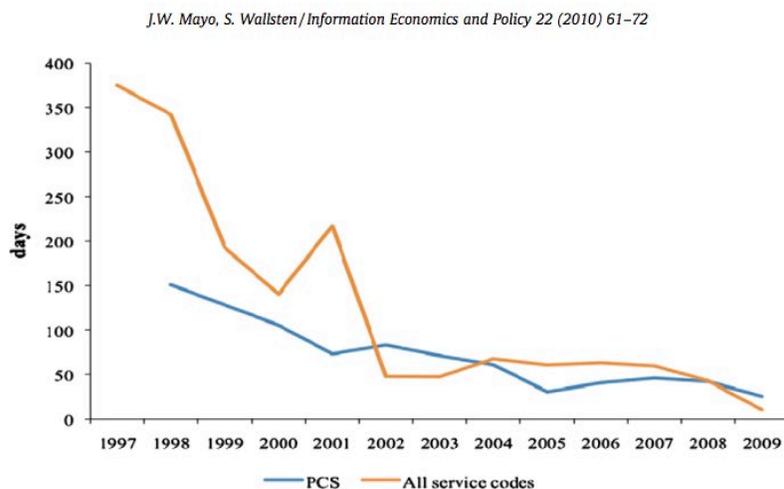


Fig. 3. Time from application receipt to approval.

Source: Wallsten Mayo 2010, fig 3.

Most secondary trades are relatively small, but large sales are not uncommon. Larger license transfers often involve mergers and acquisitions, but not always. Table 1 shows select large license transfers from 1998 through 2009.

⁵ For detailed discussions of the role of secondary markets in spectrum, see John W. Mayo and Scott Wallsten, “Secondary Spectrum Markets as Complements to Incentive Auctions”, June 2011; John Mayo and Scott Wallsten, “Enabling Wireless Communications,” *Information Economics and Policy* 22, no. 1 (March 2010): 61–72.

⁶ Martin Neil Baily et al., *Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets: Comments of 37 Concerned Economists* (Washington, DC, 2001).

⁷ In particular, the FCC has worked to reduce bureaucratic transactions costs, such as filing requirements and the time it takes for the FCC to approve or deny transfers. See, for example, Federal Communications Commission, *Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets* (Washington, DC, 2004).

⁸ Mayo and Wallsten, “Enabling Wireless Communications.”

Table 1: Large Voluntary Secondary Market Transactions of PCS Spectrum

Table 8

Large, voluntary, non pro forma secondary market transactions in PCS spectrum.

Year ^a	ULS file #	Purpose ^b	Assignor/transferee	Assignee/transferee	MHz-Pop (millions)
1998	50027CWAL98	AA	AT&T Wireless PCS, Inc.	Triton PCS, Inc.	239
	50353CWAL98	AA	AT&T Wireless PCS, Inc.	Telecorp PCS, L.L.C.	238
	50514CWAL98	AA	WirelessCo, L.P.	Brookings Municipal Utilities	184
1999	3642	TC	AirTouch Communications, Inc.	Vodafone Airtouch Plc	926
	13040	AA	Cox PCS license, L.L.C.	Central Wireless Partnership	654
	16680	AA	OPCS Three, LLC	Cook Inlet/VS GSM III PCS, LLC	538
2000	130159	AA	Comcast WCS Communications Inc	AT&T Wireless Acquisition I, Inc.	915
	217007	TC	Cook Inlet Region, Inc.	VoiceStream Wireless Corporation	819
	50022CWTC00	TC	Cook Inlet Region, Inc.	VoiceStream Wireless Corporation	537
2001	439918	AA	WirelessCo, L.P.	AT&T Wireless Services, Inc.	888
	439920	AA	Cox PCS license, L.L.C.	AT&T Wireless PCS, LLC	654
	558997	AA	BellSouth Carolinas PCS, L.L.C.	PRT Communications, LLC	307
2002	773370	TC	Comcast Corporation	AT&T Comcast Corporation	463
	709607	AA	WirelessCo, L.P.	Omnipoint Holdings, Inc.	282
	998379	AA	WirelessCo, L.P.	Powertel Jacksonville Licenses, Inc.	272
2003	1512230	AA	Metricom, Inc. [c]	WCS Wireless License Subsid., LLC	1290
	1535182	AA	WirelessCo, L.P.	AT&T Wireless PCS, LLC	845
	1140571	AA	AT&T Wireless PCS, LLC	WirelessCo, L.P.	573
2004	1656065	TC	AT&T Wireless Services, Inc	Cingular Wireless Corporation	4036
	1656149	TC	AT&T Wireless Services, Inc	Cingular Wireless Corporation	915
	1938332	TC	NextWave Telecom Inc.	Cellco Partnership	840
2005	2040073	TC	Nextel Communications, Inc.	S-N Merger Corp.	1030
	2040051	TC	Nextel Communications, Inc.	S-N Merger Corp.	629
	2040058	TC	Nextel Communications, Inc.	S-N Merger Corp.	535
2006	2621531	TC	WCS Wireless, Inc.	NW Spectrum Co.	1740
	2545782	TC	BellSouth Corporation	AT&T Inc.	1590
	2546993	TC	BellSouth Corporation	AT&T Inc.	923
2007	3123328	TC	CCTV Wireless, Inc.	CCTV Wireless I, LLC	1137
	3216818	AA	WirelessCo, L.P.	Verizon Wireless Telecom Inc.	669
	3216464	AA	Sprint PCS license, L.L.C.	Cellco Partnership	654
2008	3205282	AA	Aloha Spectrum Holdings Co., LLC	AT&T Mobility II LLC	2,210
	3449481	TC	EchoStar Corporation	TerreStar Corporation	1,148
	3443563	TC	CCTV Wireless I, LLC	TerreStar Corporation	1,137
2009	3675333	AA	New Cingular Wireless PCS, LLC	Verizon Wireless (VAW) LLC	513
	3694162	AA	Tuscarora Communications, LLC	MetroPCS AWS, LLC	27
	3682956	AA	Union Telephone Company	AT&T Mobility II LLC	27
	3753778	AA	NTELOS Inc.	Bellevue Wireless, LLC	11
	3686227	AA	Citizens' Telephone Co-Operative	AT&T Mobility II LLC	9

Source: ULS Assignments and Transfers database.

Source: Mayo & Wallsten 2010, Table 8.⁹

Other large transactions have occurred since this list was assembled. For example, AT&T acquired about 2.2 billion MHz-POPs from Qualcomm in 2011. Additionally, as part of the breakup fee for terminating its proposed merger, AT&T will transfer about 1.5 billion MHz-POPs to T-Mobile.¹⁰

Verizon Wireless – SpectrumCo/Cox TMI spectrum sale

Under the proposed transaction now being considered by the FCC, Verizon Wireless would purchase an average of about 20 MHz of spectrum in the 1700 and 2100 MHz band (AWS-1)—about 5.9 billion MHz-POPs—from SpectrumCo and Cox. By quickly moving spectrum currently lying fallow to an entity that plans to use it, this transaction epitomizes the importance of secondary markets. When secondary transactions are not possible, spectrum can languish for years while arrangements are made to auction it.

⁹ Ibid. Table 8.

¹⁰ Feldman, *Key Updates on Major Spectrum Deals*, 12.

As wireless services have become more valuable cable companies have been trying to determine a strategy for making wireless complementary to their own services. One possibility was to build a new wireless network. SpectrumCo (which originally included Cox) spent \$2.4 billion in 2006 in Auction 66 for that option.¹¹ Ultimately, they decided not to exercise the option to build a network, perhaps because they decided it would not be sufficiently profitable, they lacked the relevant expertise to build a nationwide wireless network, or they found more cost-effective ways to provide wireless connectivity. Regardless of the reason, the cable companies found themselves owning a valuable asset that they were not using.

At the same time, both the FCC and wireless companies are searching for ways to put more spectrum to use. The proposed transaction would accomplish precisely what the FCC envisioned when it began promoting secondary markets: quickly moving spectrum to more productive uses without the need for a long, complicated process of reclaiming and re-auctioning the spectrum.

Competitive Concerns

As Figure 1 above suggests, the FCC treats most spectrum license transfer requests as notifications¹² rather than as actions requiring approval, resulting in a relatively streamlined process. Certain transactions, however, are not immediately granted. In particular, the Commission does not grant immediate approval when transfers “raise potential public interest concerns relating to eligibility and use, foreign ownership, designated entity/entrepreneur matters, or competition.”¹³ In practice, this rule applies to large spectrum transfers, which sometimes, but not always, involve mergers.

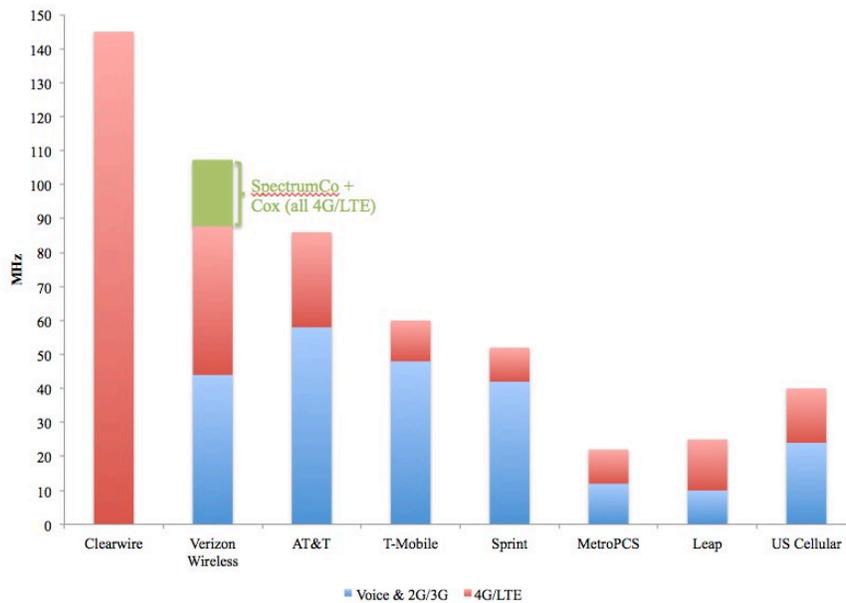
The proposed transaction does, indeed, involve relatively large amounts of spectrum. Figure 2 shows the average depth in MHz of current spectrum holdings by major wireless operators, including the spectrum that Verizon Wireless would acquire in this deal. This deal would involve an average of about 20 MHz of nearly nationwide spectrum, or about 5.9 billion MHz-POPs of coverage.

¹¹ Federal Communications Commission, *FCC Advanced Wireless Services Auction No. 66 Final*, 2006, <http://wireless.fcc.gov/auctions/66/charts/66cls2.pdf>.

¹² More accurately, in most conditions the FCC forebears from requiring individual review of most applications.

¹³ Federal Communications Commission, *Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets*, para. 4.

Figure 2: Average depth, in MHz, of spectrum holdings of major wireless carriers



Source: Feldman, Brett. *Key Updates on Major Spectrum Deals*. Industry Update. Deutsche Bank, Markets Research, February 5, 2012.

The most important feature of this deal from the perspective of consumers and innovation is that it moves spectrum that was not being deployed by its original purchasers to an entity actively building a 4G/LTE network.

The competitive analysis the FCC conducts in this case should be similar to its analysis of AT&T’s purchase of spectrum from Qualcomm.¹⁴ In particular, the Commission noted in that transaction, “This transaction does not result in the acquisition of wireless business units and customers or change the number of firms in any market, so our competitive analysis considers only the competitive effects associated with the increases in spectrum that would be held by AT&T post-transaction.”¹⁵ Similarly, the proposed Verizon Wireless - SpectrumCo transaction also does not involve the acquisition of any wireless business units, transfer of customers, or change in the number of firms.

Some petitioners argue that the license transfer should be analyzed by also taking into account other features of the transaction including, in particular, the applicants’ joint marketing agreement.¹⁶ The applicants argue that the “Commercial Agreements are not relevant to the license assignment applications.”¹⁷

¹⁴ Federal Communications Commission, *In the Matter of Application of AT&T Inc. and Qualcomm Incorporated For Consent To Assign Licenses and Authorizations*, Order, December 22, 2011, http://transition.fcc.gov/Daily_Releases/Daily_Business/2011/db1222/FCC-11-188A1.pdf.

¹⁵ *Ibid.*, para. 29.

¹⁶ Eric Graham et al., “Re: Assignment of Licenses to Verizon Wireless from SpectrumCo and Cox TMI Wireless, LLC WT Docket No. 12-4”, January 18, 2012, <http://apps.fcc.gov/ecfs/document/view?id=7021754441>.

¹⁷ Bryan N. Tramont, Michael Hammer, and J.G. Harrington, “Re: Application of Cellco Partnership D/b/a Verizon Wireless and SpectrumCo LLC For Consent To Assign Licenses; Application of Cellco Partnership D/b/a Verizon

The commercial agreements do appear to represent a new type of cooperation between competitors, and therefore are potentially more interesting from a competitive point of view than the spectrum license transfer. Yet, unless the Commission expands its definition of the relevant product market to include all broadband services rather than wireless broadband services it is more productive to consider the license transfer separately from the commercial agreements.¹⁸ Additionally, although I am not a lawyer, it is not clear to me what authority the FCC has over the operating agreements if the two components are separate. However, it is clear that the DOJ should scrutinize the agreements to ensure that the procompetitive benefits outweigh any anticompetitive harms.

No low-frequency spectrum at stake

In its analysis of the AT&T-Qualcomm deal the FCC focused on spectrum concentration, both using a broad definition of the relevant spectrum and, more narrowly, on its effect on spectrum below 1GHz.¹⁹ The Commission chose to place special emphasis on sub-1GHz spectrum because it “possesses superior propagation characteristics that create certain advantages in the provision of mobile service, especially in rural areas.”²⁰ In his dissenting statement Commissioner Copps focused explicitly on the question of concentration in the sub-1GHz spectrum.²¹

The proposed transaction between Verizon Wireless and SpectrumCo, however, involves no low-frequency spectrum. Instead, it involves AWS-1 spectrum, in the 1700 and 2100 MHz bands. As a result, an issue the FCC believes is crucial to competition—concentration of spectrum in the sub-1GHz band—is not affected at all by this transaction.

How to measure concentration?

Spectrum concentration may be measured in several possible ways, even ignoring geographic definitions and focusing only on national totals. One approach is to examine control of spectrum licensed by mobile broadband providers, as the FCC did in the AT&T-Qualcomm deal.²² Figure 3 shows this information, including how the shares would change if the FCC approved the transaction. In terms of MHz-POPs, Clearwire holds about 31 percent of the spectrum, followed by Verizon Wireless with 20 percent and AT&T with 19 percent. That order would not change after the transaction, although, of course, Verizon’s share would increase (to 23 percent) while the others’ shares would decrease.

Wireless and Cox TMI Wireless, LLC, WT Docket No. 12-4”, February 9, 2012, <http://apps.fcc.gov/ecfs/document/view?id=7021859384>.

¹⁸ To be sure, wireless and wireline broadband are becoming closer competitors, and researchers and antitrust officials should pay close attention to the trend for the purpose of proper market definition. Generally speaking, however, a combined wireline and wireless product market will be less concentrated than either viewed separately.

¹⁹ Federal Communications Commission, *In the Matter of Application of AT&T Inc. and Qualcomm Incorporated For Consent To Assign Licenses and Authorizations*, para. 49.

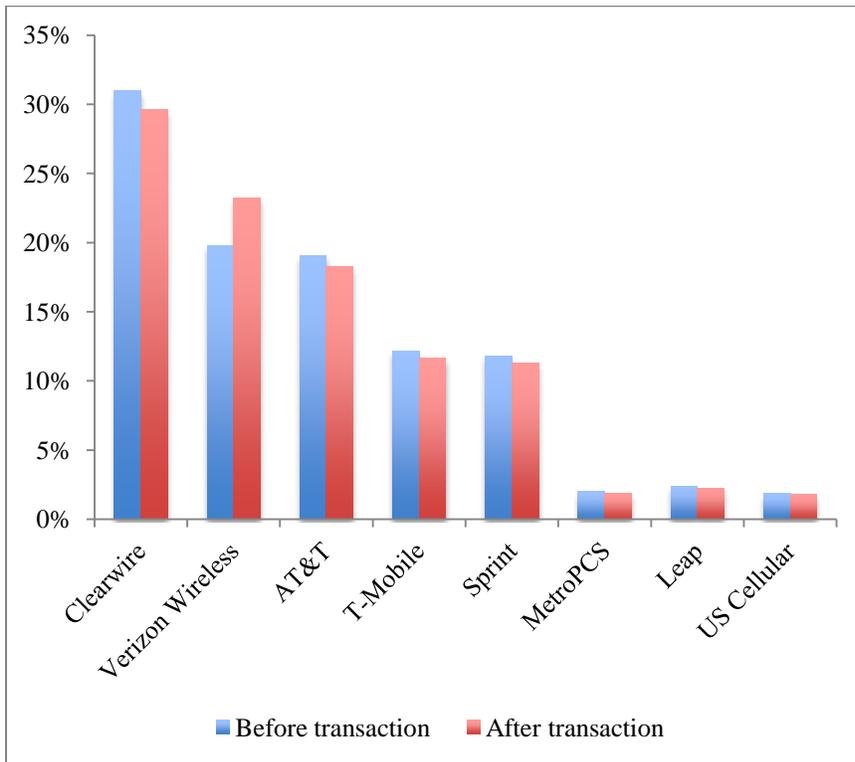
²⁰ *Ibid.*, para. 46.

²¹ Michael J. Copps, *Dissenting Statement of Commissioner Michael J. Copps, In the Matter of Application of AT&T Inc. and Qualcomm Incorporated for Consent to Assign Licenses and Authorizations*, WT Docket No. 11-18 (Federal Communications Commission, December 22, 2011),

http://transition.fcc.gov/Daily_Releases/Daily_Business/2011/db1222/FCC-11-188A2.pdf.

²² Federal Communications Commission, *In the Matter of Application of AT&T Inc. and Qualcomm Incorporated For Consent To Assign Licenses and Authorizations*, para. 45.

Figure 3: Share of licensed spectrum controlled by wireless operators



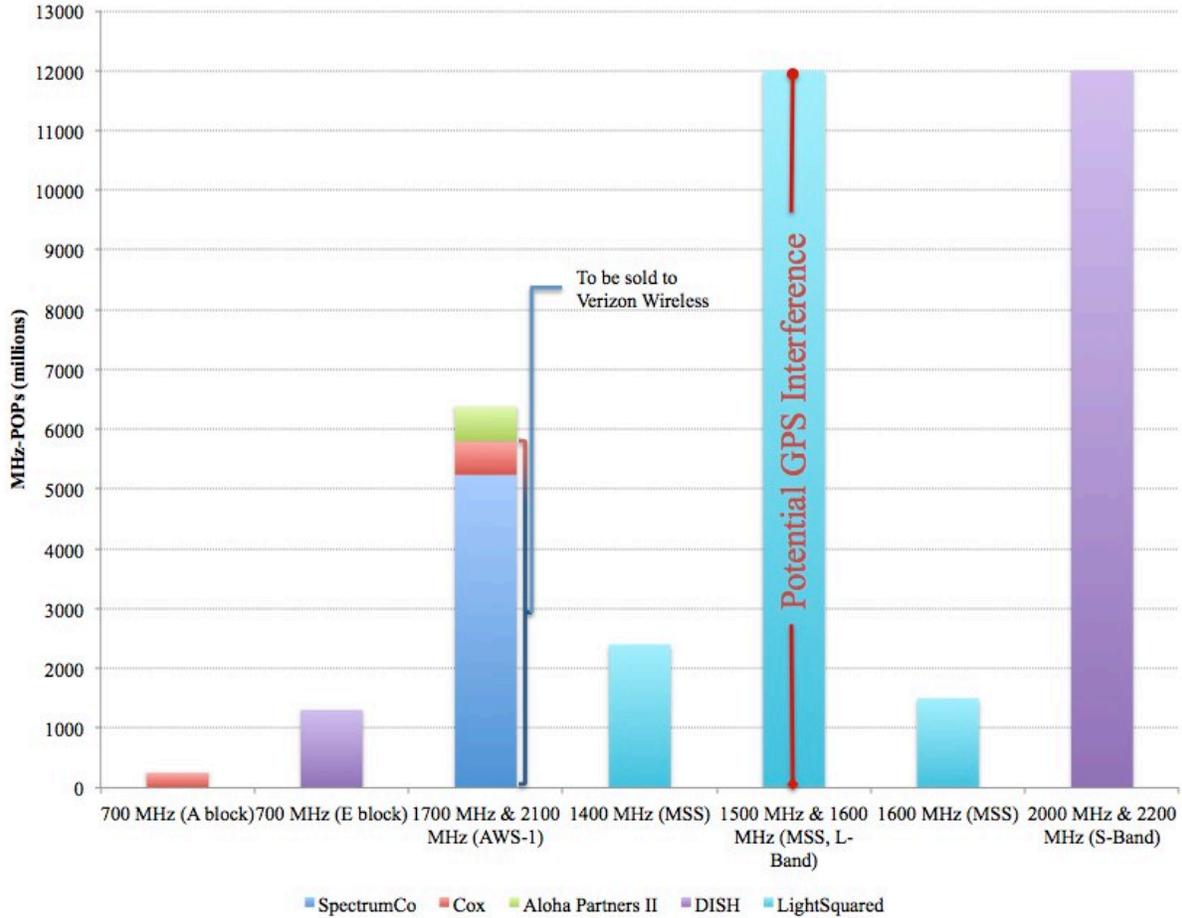
Source: Derived from Feldman, Brett. *Key Updates on Major Spectrum Deals*. Industry Update. Deutsche Bank, Markets Research, February 5, 2012.

The spectrum shares shown in Figure 3, however, do not necessarily show the most relevant information. Spectrum is an input into the relevant product—mobile broadband—and spectrum concentration matters to the extent that it makes entry or expansion difficult. As a result, it is more appropriate to examine the concentration of all relevant spectrum, not just spectrum held by providers. Indeed, the comparison in Figure 3 highlights the inherently flawed nature of examining only spectrum held by operators: All operators' shares change because the transaction itself increases the size of the implied relevant market.²³

If we are concerned with concentration of the input then the denominator should include all relevant spectrum, not just spectrum held by operators. Figure 4 shows that about 36 billion MHZ-POPs of spectrum are held by entities not currently operating wireless networks in those bands.

²³ That is, when calculating the shares, not only does the numerator for Verizon Wireless change, but the denominator (the total amount of available spectrum) also changes.

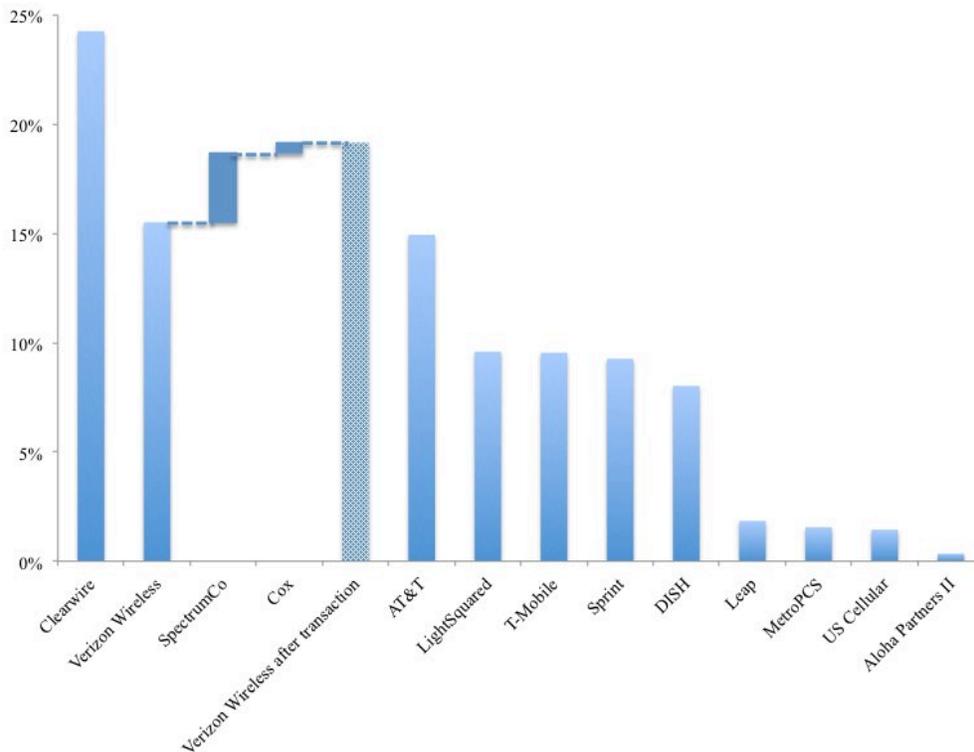
Figure 4: Privately licensed spectrum not currently deployed, but potentially available for mobile broadband



Source: Feldman, Brett. *Key Updates on Major Spectrum Deals*. Industry Update. Deutsche Bank, Markets Research, February 5, 2012.

Figure 5 shows the shares of licensed spectrum potentially available for licensed wireless broadband held by all licensees, regardless of whether they currently operate a network. Under this approach, Clearwire still has the largest share of spectrum, but only about 24 percent instead of 31 percent. Verizon Wireless has about 16 percent of available spectrum, which would increase to almost 20 percent after the transaction.

Figure 5: Share of licensed spectrum by licensees



Source: Feldman, Brett. *Key Updates on Major Spectrum Deals*. Industry Update. Deutsche Bank, Markets Research, February 5, 2012.

A key implication of this discussion is that with respect to spectrum allocation, the FCC is concerned about concentration of an input whose relative scarcity is, in large part, a function of policy decisions.

That is, the Commission can influence spectrum shares through both the numerator and the denominator: It can reduce spectrum concentration by preventing certain firms from acquiring more spectrum, or it can increase the amount of spectrum available. To the extent that the FCC is concerned about concentrated spectrum concentrations, it should redouble its own efforts to release more spectrum to the marketplace. An additional 500 MHz available for mobile broadband, as recommended in the National Broadband Plan,²⁴ would almost double the available spectrum and, tautologically, halve the current spectrum shares (before it is auctioned).

To be sure, making more spectrum available is easier said than done, and the Commission is working hard to make that happen. In particular, Congress recently granted the FCC's request for the authority to operate "incentive auctions" to reclaim and auction spectrum from

²⁴ Federal Communications Commission, *National Broadband Plan: Connecting America* (Washington, DC, March 2010), <http://www.broadband.gov/>.

broadcasters.²⁵ Incentive auctions are a crucial step in the right direction to increasing available inputs for wireless broadband.

Commercial Agreements

In addition to the spectrum purchase, the parties have entered into commercial agreements. These agreements include two primary components. First, Verizon Wireless and the relevant cable companies—Comcast, Time Warner Cable, Bright House Networks, and Cox—will market each other’s products. Second, the companies will form a joint operating entity as an “innovation technology joint venture to develop new products and services that will integrate both wired and wireless technologies for consumers.”²⁶

The firms contend that these arrangements are pro-competitive, allowing them to offer bundles of services that they cannot offer by themselves and giving consumers discounts—up to \$300 in regions where joint marketing has started—for taking these bundles.²⁷ Opponents argue that “this transaction would weaken the incentives for each of these companies to compete with one another in the provisioning of high-speed Internet, wireless, and MVPD services....”²⁸

Determining the effects of the agreements on competition requires careful analysis of documents that are not part of the public record.²⁹ As a result, these comments do not draw any conclusions on the net competitive effects. Instead, I attempt to build a framework for analysis, discussing the ways in which the agreements might be pro- or anti-competitive.

In the broadest sense, the business agreements fit neatly into questions of the boundaries of the firm, as most prominently discussed by Ronald Coase in 1937.³⁰ His key insight was that transactions costs are largely responsible for the existence of the firm, and because those costs differ across products and services and change over time, “it is not possible to draw a hard and fast line which determines whether there is a firm or not.”³¹ Thus, firms engage in myriad and changing arrangements in order to achieve efficiencies. These arrangements can include mergers and acquisitions, divestitures, joint marketing and research, and other contractual activities.

²⁵ Grant Gross, “Congress Passes Bill That Opens up TV Spectrum,” *PCWorld*, February 17, 2012, sec. Business Center,

http://www.pcworld.com/businesscenter/article/250230/congress_passes_bill_that_opens_up_tv_spectrum.html.

²⁶ Neil Smit, “Comcast, Time Warner Cable, Bright House Networks and Verizon Wireless Enter into New Agreements,” *Comcast Voices*, December 2, 2011, <http://blog.comcast.com/2011/12/comcast-time-warner-cable-bright-house-networks-and-verizon-wireless-enter-into-new-agreements.html>.

²⁷ Troy Wolverton, “Comcast Offers Discount on Verizon Wireless Service,” *MercuryNews.com* (San Jose, CA, February 1, 2012), http://www.mercurynews.com/business/ci_19862713.

²⁸ Joel Kelsey, Chris M. Riley, and Matthew F. Wood, “RE: Verizon Wireless and SpectrumCo Application for Assignment of 122 AWS Licenses”, December 22, 2011, 2, <http://apps.fcc.gov/ecfs/document/view?id=7021753227>.

²⁹ Rick Kaplan, *In the Matter of Application of Cellco Partnership D/b/a Verizon Wireless and SpectrumCo LLC For Consent To Assign Licenses Application of Cellco Partnership D/b/a Verizon Wireless and Cox TMI Wireless, LLC For Consent To Assign Licenses*, Second Protective Order (Federal Communications Commission, January 17, 2012), http://transition.fcc.gov/Daily_Releases/Daily_Business/2012/db0117/DA-12-51A1.pdf; Rick Kaplan, *In the Matter of Application of Cellco Partnership D/b/a Verizon Wireless and SpectrumCo LLC For Consent To Assign Licenses Application of Cellco Partnership D/b/a Verizon Wireless and Cox TMI Wireless, LLC For Consent To Assign Licenses*, Protective Order (Federal Communications Commission, January 17, 2012), http://transition.fcc.gov/Daily_Releases/Daily_Business/2012/db0117/DA-12-50A1.pdf.

³⁰ R. H. Coase, “The Nature of the Firm,” *Economica* 4, no. 16, New Series (November 1, 1937): 386–405.

³¹ *Ibid.*, 392, fn1.

Of all possible firm interactions, mergers receive the most intense scrutiny from antitrust authorities given their relative permanence. Collaborations among firms—including among competitors—are more complicated to analyze, but can still yield significant market changes, for better or for worse.

The Federal Trade Commission and the U.S. Department of Justice (DOJ) define “competitor collaboration” in their *Antitrust Guidelines for Collaborations Among Competitors* as one that “comprises a set of one or more agreements, other than merger agreements, between or among competitors to engage in economic activity, and the economic activity resulting therefrom. ‘Competitors’ encompasses both actual and potential competitors. Competitor collaborations involve one or more business activities, such as research and development (‘R&D’), production, marketing, distribution, sales or purchasing. Information sharing and various trade association activities also may take place through competitor collaborations.”³² The *Guidelines* suggest reasons why such collaborations can be pro-competitive and reasons why they can be anticompetitive.

The *Guidelines* note, “In order to compete in modern markets, competitors sometimes need to collaborate.... Such collaborations often are not only benign but procompetitive.”³³ In particular,

The Agencies recognize that consumers may benefit from competitor collaborations in a variety of ways. For example, a competitor collaboration may enable participants to offer goods or services that are cheaper, more valuable to consumers, or brought to market faster than would be possible absent the collaboration. A collaboration may allow its participants to better use existing assets, or may provide incentives for them to make output-enhancing investments that would not occur absent the collaboration. The potential efficiencies from competitor collaborations may be achieved through a variety of contractual arrangements including joint ventures, trade or professional associations, licensing arrangements, or strategic alliances.

Efficiency gains from competitor collaborations often stem from combinations of different capabilities or resources. For example, one participant may have special technical expertise that usefully complements another participant’s manufacturing process, allowing the latter participant to lower its production cost or improve the quality of its product. In other instances, a collaboration may facilitate the attainment of scale or scope economies beyond the reach of any single participant. For example, two firms may be able to combine their research or marketing activities to lower their cost of bringing their products to market, or reduce the time needed to develop and begin commercial sales of new products. Consumers may benefit from these collaborations as the participants are able to lower prices, improve quality, or bring new products to market faster.³⁴

On the other hand, however, the FTC and DOJ also acknowledge, “in some cases, competitor collaborations have competitive effects identical to those that would arise if the participants merged in whole or in part. The Agencies treat a competitor collaboration as a horizontal merger in a relevant market and analyze the collaboration pursuant to the Horizontal Merger Guidelines if appropriate.”³⁵ The agencies detail some of these potential harms:

³² Federal Trade Commission and U.S. Department of Justice, *Antitrust Guidelines for Collaborations Among Competitors* (Washington, DC, 2000), 2–3.

³³ *Ibid.*, 1.

³⁴ *Ibid.*, 6.

³⁵ *Ibid.*, 5.

Competitor collaborations may harm competition and consumers by increasing the ability or incentive profitably to raise price above or reduce output, quality, service, or innovation below what likely would prevail in the absence of the relevant agreement. Such effects may arise through a variety of mechanisms. Among other things, agreements may limit independent decision making or combine the control of or financial interests in production, key assets, or decisions regarding price, output, or other competitively sensitive variables, or may otherwise reduce the participants' ability or incentive to compete independently.

Competitor collaborations also may facilitate explicit or tacit collusion through facilitating practices such as the exchange or disclosure of competitively sensitive information or through increased market concentration. Such collusion may involve the relevant market in which the collaboration operates or another market in which the participants in the collaboration are actual or potential competitors.³⁶

The Guidelines should provide officials with a useful starting point for evaluating the commercial agreements: because the agreements include marketing and research activities they nicely fit the FTC-DOJ definition of “competitor collaboration.” And, similarly, they create the prospect of both the benefits and the risks inherent in such agreements.

The sections below discuss issues relevant to determining the competitive effects of the agreements.

Verizon Communications and Verizon Wireless: Separate Companies?

One key question relevant to evaluating both parts of the commercial agreements is the degree to which Verizon Wireless is a distinct entity from Verizon Communications. This question matters because Verizon competes directly with the cable companies in the provision of wireline broadband service, while Verizon Wireless competes only to the extent that wireless and wireline broadband are substitutes. While wireless and wireline are becoming closer competitors, they remain imperfect substitutes for most consumers.

Any connections between Verizon Communications and Verizon Wireless, no matter how close, do not necessarily mean that joint business arrangements with cable companies are inherently anticompetitive. Rather, the degree of separation helps establish how carefully antitrust authorities should investigate the joint business arrangements. The closer the relationship, the closer scrutiny the deal should be given. But collaborations even by direct competitors are often endorsed.

Verizon Wireless is 45 percent owned by Vodafone, leaving the majority ownership with Verizon. Public Knowledge notes that “under Commission attribution rules, Verizon Wireless is considered identical with Verizon Communications by operation of the ‘single majority shareholder’ rule and the level of control exercised by Verizon Communications. It is for this reason that the Commission does not consider Vodafone’s interest a violation on the statutory prohibition on foreign ownership.”³⁷

³⁶ Ibid., 6.

³⁷ Harold Feld, “RE: Notice of Ex Parte Presentation in: WT Docket No. 12-04,” Notice of Ex Parte Presentation, filed by Public Knowledge, February 11, 2012, <http://apps.fcc.gov/ecfs/document/view?id=7021859602>.

The relevant issue regarding the relationship between Verizon Communications and Verizon Wireless, however, is not how the Commission classifies the companies for bureaucratic purposes. Instead, the relevant questions are those involving how information flows between Verizon Communications and Verizon Wireless, how they make and implement decisions, and what safeguards are in place to ensure that the commercial agreements do not lead to sharing information that may yield anticompetitive outcomes.

Publicly available information suggests reasons to consider Verizon Communications and Cellco d/b/a Verizon Wireless as separate companies for antitrust purposes and other reasons to believe they have incentives to coordinate certain activities.

Certain factors lend credence to the claim that Verizon Communications and Verizon Wireless should be considered separate entities for antitrust purposes. Vodafone's 45 percent ownership means that Verizon Communications cannot simply maximize profits jointly across Verizon Communications and Verizon Wireless because joint profit maximization could, in principle, result in lower returns for Vodafone. It is in Vodafone's interest that Verizon Wireless and Verizon Communications have "an arm's length relationship," and presumably contractual agreements protect Vodafone's minority interest. SEC filings by Verizon Communications and Verizon Wireless are a testament to this arrangement. Verizon Communication's filings separate discussion of the wireless and wireline business, and Cellco Partnership d/b/a Verizon Wireless has filed separately with the SEC.

On the other hand, certain features of the relationship create incentives that may promote information sharing across the units. For example, Cellco's board of directors includes five members from Verizon Communications and four members from Vodafone. In 2010 Verizon Communication's membership on Cellco's board included Verizon's Chairman and CEO, Executive Vice President—Human Resources, Executive Vice President and Chief Financial Officer, and Executive Vice President and Chief Marketing Officer.³⁸ Cellco's filing also shows that board members frequently move from jobs at Verizon Wireless to Verizon Communications, and vice-versa.³⁹

Additionally, Cellco's executive compensation scheme may create incentives to share information across Cellco and Verizon Communications if doing so might increase net profits. On the one hand, According to Cellco's 2010 Form 10-K, "the Verizon Wireless Committee determined that the Company's short-term compensation opportunities should be based upon the Company's stand-alone performance against specified goals."⁴⁰ On the other hand, the report continues, "Since Verizon Wireless comprises a significant portion of Verizon Communications' business, the Verizon Wireless Committee believes that Verizon Communications' relative stock performance is driven in part by Verizon Wireless' overall target long-term performance and,

³⁸ Cellco Partnership, *Annual Report Pursuant to Section 13 or 15(d) of the Securities and Exchange Act of 1934 for the Fiscal Year Ended December 31, 2009*, Form 10-K, March 12, 2010, 40, http://eol.edgarexplorer.com/EFX_dll/EDGARpro.dll?FetchFilingHTML1?SessionID=XukkiWhUFX_cXzg&ID=7121307#D10K_HTM_TX56430_15.

³⁹ *Ibid.*, 40–41.

⁴⁰ *Ibid.*, 52.

accordingly, has elected to link target long-term compensation opportunities to Verizon Communications' relative stock performance."⁴¹

This executive compensation scheme seems to be an eminently reasonable and transparent way to link compensation to firm performance. But linking compensation to the performance of Verizon's stock creates a reason for Cellco's executives to care about the performance of Verizon Communications' non-wireless operations.

Without knowledge of confidential information related to how Verizon Wireless and the proposed Joint Operating Entity will operate, it is not possible to evaluate these tradeoffs. Presumably, the relevant information exists that will allow antitrust authorities to make an informed decision.

The sub-sections below examine issues specific to joint marketing and to the joint operating entity.

Joint Marketing Agreement

Joint production and marketing agreements are common throughout the economy, even among competitors. General Motors and Toyota produced automobiles together for nearly 25 years—ending in 2010—under a joint production agreement while continuing to compete.⁴² Competing airlines take advantage of joint marketing and operations through alliances such as Star Alliance and One World Alliance.⁴³

Shepherd (2006) notes that under different conditions joint marketing agreements may yield pro-competitive or anticompetitive outcomes.

Joint marketing ventures can be procompetitive because, among other things, they can reduce the costs of bringing products to the marketplace, allow the introduction of new products that the participants could not have marketed on their own, or allow entry into new geographic markets. However, these collaborations often raise more serious anticompetitive concerns than other joint ventures because they deal with the core elements of competition: pricing and customers. A marketing joint venture can allow otherwise independent competitors to limit independent decisionmaking, coordinate pricing and output decisions, divide territories or consumers or combine assets in such a way as to undermine their incentives to compete independently. At the very least, the venture may allow its participants to engage in information exchanges about competitively sensitive topics, thereby facilitating collusion.⁴⁴

⁴¹ Ibid.

⁴² Paul Stenquist, "G.M. and Toyota's Joint Venture Ends in California," *New York Times*, April 2, 2010, sec. Wheels, <http://wheels.blogs.nytimes.com/2010/04/02/g-m-and-toyotas-joint-venture-ends-in-california/>.

⁴³ Research on airline alliances finds that they yield pricing efficiencies, some of which benefit consumers and some of which do not. In particular, alliances seem to have brought lower prices where routes involve multiple airlines (Jan K. Brueckner, "International Airfares in the Age of Alliances: The Effects of Codesharing and Antitrust Immunity," *The Review of Economics and Statistics* 85, no. 1 (February 1, 2003): 105–118.), but higher prices on city-pair routes served by the same members of an alliance and fewer independent airlines (William Gillespie and Oliver M. Richard, "Antitrust Immunity and International Airline Alliances," U.S. Department of Justice Economic Analysis Group Discussion Paper, February 2011, <http://www.justice.gov/atr/public/eag/267513.pdf>).

⁴⁴ Jon G Shepherd and American Bar Association. Section of Antitrust Law., *Joint Ventures : Antitrust Analysis of Collaborations Among Competitors*. (Chicago, IL: ABA Section of Antitrust Law, 2006), 10–11.

The joint marketing agreement between the cable companies and Verizon Wireless allows the participants to sell each others' services. Most immediately, this agreement makes it possible for the cable companies to sell a wireless service along with their wireline voice, video, and data offerings. Verizon Wireless, meanwhile, gains the ability to advertise a landline service outside of its own landline territory.

As Gomes-Casseres notes, "an alliance will affect competition at two levels: *within* the alliance itself (i.e., between the partners) and *outside* the alliance (i.e., between the alliance pair and third parties)."⁴⁵ This alliance is no different.

Competition within the alliance

Piraino (1997) suggests that "Joint ventures pose no anticompetitive risk when their partners could not have entered the relevant market independently of the venture. Such ventures should be deemed *per se* legal."⁴⁶ Within the alliance—that is, the relevant cable companies and Verizon Wireless—a potentially pro-competitive aspect of the agreement for the cable companies is the ability to offer a product—a wireless-wireline combination—that they could not offer on their own. In particular, cable companies cannot offer wireless services without a wireless partner, and Verizon Wireless gains the ability to offer a wireless-wireline combination across a much larger footprint than it could otherwise.⁴⁷

Other issues raise more difficult questions related to competition. One open question is the degree to which this arrangement might change investment incentives for the firms over time. In particular, would the ability to market a cable DOCSIS 3.0 product affect Verizon's incentives to upgrade its copper network in areas that do not have FiOS? The short answer to that question is "no," since Verizon announced as early as 2010 that it was winding down new FiOS construction and did not intend to build fiber throughout its entire territory.⁴⁸

The longer answer is that the decision to invest in future upgrades depends on several factors. First, as discussed above, how much does Verizon Communications take into account profits from Verizon Wireless when it makes investment decisions? If Verizon earns some commission by selling cable services in its own territory then the net change in its earnings resulting from new investment in its own infrastructure may be lower than it might have been otherwise. Is that commission enough to affect investment decisions on the margin? And, if so, does that have competitive implications?

A second open question is whether the agreement has the potential to affect future competition between wireless and wireline services. In particular, 4G/LTE wireless services, with speeds sufficient for HD video streaming, offer the possibility of creating additional competition to home wireline and fixed wireless broadband services. A provider's incentive to offer a wireless

⁴⁵ Benjamin Gomes-Casseres, "How Alliances Reshape Competition," in *Handbook of Strategic Alliances*, ed. Oded Shenkar and Jeffrey J. Reuer (Thousand Oaks, CA: SAGE Publications, 2006), 43.

⁴⁶ Thomas A. Piraino, "A Proposed Antitrust Analysis of Telecommunications Joint Ventures," *Wisconsin Law Review* 639 (1997): 639–704.

⁴⁷ Whether consumers value the ability to combine wireless service with wireline voice, video, or data is not yet clear, but this question is one that can only be answered through business experimentation.

⁴⁸ Marguerite Reardon, "Verizon Nears FiOS Network Completion," *Cnet*, March 29, 2010, http://news.cnet.com/8301-30686_3-20001377-266.html.

service as a wireline competitor will depend on its expected net returns from doing so. Those returns will depend, in part, on how much the firm will cannibalize its own wireline offerings. Earning returns on wireline service outside of Verizon's traditional wireline footprint will reduce the potential net gains of offering a competing wireless service. However, the extent to which the agreement would affect such incentives depends on how much Verizon earns by signing up subscribers to cable service and on competition from other providers.

Competition outside the alliance

An alliance between cable companies and Verizon Wireless can also affect the behavior of other firms. Outside of Verizon's landline footprint, it may have two pro-competitive effects. First, it creates an additional wireless-wireline bundled offer, which will be the first for some regions and an additional competitor in other regions. Second, as Craig Moffett put it, "the marketing machine that is Verizon Wireless will...become a marketing engine for cable broadband, video, and voice services."⁴⁹ If this additional marketing (or additional value of the wireless bundle) makes cable more attractive, then other providers, such as AT&T, may be forced to upgrade their offerings or reduce prices to stay competitive.

Inside Verizon's landline footprint, the agreement may encourage other firms to put together competing offers. For example, DirecTV, which until recently had a joint marketing agreement with Verizon, may choose to enter an agreement with other providers, or the cable overbuilders might enter similar agreements with other wireless providers.

On the other hand, under certain conditions some of those same events could harm consumers. If the potential anticompetitive outcome within the alliance discussed above occurred—such as reducing incentives for wireless and wireline broadband providers to compete—the result could be increased market concentration, which might allow other firms to raise prices and reduce quantity.

To make matters more complicated, it is becoming increasingly difficult to define the relevant markets, especially looking forward. As Hazlett et al (2011) write, "narrowly-defined industries are not particularly useful as the unit of analysis. This is because the competition that matters often comes from outside of the industry."⁵⁰ In this case, wireless providers increasingly rely on companies like Apple, whose iPhone is so desirable that it allows the company to extract significant profits from the providers.⁵¹ Other important Internet companies, like Google and Facebook, and popular content providers, like Disney and Time Warner, are also important parts of this dynamic system that also affect wireline broadband providers. In this context, identifying the effects of alliances becomes increasingly challenging.

⁴⁹ Craig Moffett, "Quick Take - Verizon Buys Spectrum From Cable... The End of the World as We Know It" (Sanford C. Bernstein, LLC, December 2, 2011).

⁵⁰ Thomas Hazlett, David J. Teece, and Leonard Waverman, "Walled Garden Rivalry: The Creation of Mobile Network Ecosystems", October 10, 2011, 6.

⁵¹ David Sarno, "Apple's iPhone Takes Big Bites Out of Wireless Carriers' Profits," *Los Angeles Times*, February 10, 2012, sec. Business, <http://articles.latimes.com/2012/feb/10/business/la-fi-iphone-blues-20120211>.

Innovation Joint Venture

Research joint ventures typically face unique treatment by antitrust authorities because of the special economic nature of research and development (R&D). On the one hand, research collaboration brings the same risks of collusion as other collaborations. On the other hand, because R&D exhibits positive spillovers that allow others beyond the innovator to benefit from R&D investment, firms may underinvest in it from society's perspective. One way to mitigate this market failure is to allow firms to pool resources through research joint ventures (RJVs), and sometimes it may be important to encourage such ventures.⁵²

Special rules allow RJVs to be treated differently from other types of joint ventures. In 1984, Congress passed the National Cooperative Research Act (NCRA). The NCRA made it easier for firms to engage in joint ventures in two ways.⁵³ First, it mandated that the antitrust implications of research joint ventures be investigated by rule of reason. Second, if firms involved in such a joint venture were found guilty of antitrust violations, they would be subject only to actual, not treble, damages.⁵⁴

The law itself could not resolve the tension between the desire to promote research while maintaining protections against collusion. Some were concerned that the NCRA gave firms too much antitrust leeway,⁵⁵ but others believed that the NCRA was "not sufficiently permissive."⁵⁶ Ultimately, Congress agreed that the NCRA did not go far enough and passed the National Cooperative Research and Production Act (NCRPA) in 1993, which modified the NCRA to also, "include downstream activities such as product development, prototyping, and production...."⁵⁷ Antitrust policies towards RJVs were further relaxed by the Standards Development Organization Advancement Act (SDOAA) of 2004. The SDOAA gave the same protection to standards setting organizations that it gave to other RJVs.

⁵² The discussion of the NCRA and the NCRPA draws from Scott Wallsten and Jeff Brown, "Antitrust Policy and Innovation: The Case of the National Cooperative Research Act", April 2007.

⁵³ Andrew C. Brod and Albert N. Link, "Trends in Cooperative Research Activity," in *Innovation Policy in the Knowledge-Based Economy*, Economics of Science, Technology and Innovation (23: Kluwer Academic Publishers, 2001); National Science Foundation, *Science and Engineering Indicators* (Arlington, VA, 2006); John T. Scott, "The National Cooperative Research and Production Act", 2005; Carl Shapiro and Robert D. Willig, "On the Antitrust Treatment of Production Joint Ventures," *The Journal of Economic Perspectives* 4, no. 3 (1990): 113–130.

⁵⁴ In order to qualify for these benefits, firms establishing a joint venture must register the joint venture with the Department of Justice and the Federal Trade Commission, noting collaborators and the purpose of the collaboration (Suzanne E. Majewski, "How Do Consortia Organize Collaborative R&D? Evidence from the National Cooperative Research Act," *Harvard Law School Discussion Paper*, 2004). The collaborators must also submit this information for publication in the *Federal Register*. Scott (2005) notes that "The definition [of joint venture] is broad, covering cooperative efforts in R&D, production, application for patents, granting licenses for the venture's results, and the management quite generally of the proprietary interests of the venture. A list of activities not covered by the term 'joint venture' is provided as well; those things include the exchange of information--for example, about prices or sales or profits--not reasonably required to carry out the venture's purposes, or agreeing to restrict the sale products, processes, or services not developed through or produced by the venture." (Scott, "The National Cooperative Research and Production Act.")

⁵⁵ Shapiro and Willig, "On the Antitrust Treatment of Production Joint Ventures."

⁵⁶ Thomas M. Jorde and David J. Teece, "Innovation and Cooperation: Implications for Competition and Antitrust," *The Journal of Economic Perspectives* 4, no. 3 (1990): 75–96.

⁵⁷ Nicholas S. Vonortas, "US Policy Towards Research Joint Ventures," in *Industrial Collaboration in Research and Development* (Edward Elgar, 2003).

Filings under the NCRPA demonstrate the prevalence of RJVs. Between 1985 and 2005, 1206 RJVs were registered with the DOJ and FTC.⁵⁸ Out of that total, 149 involved firms in communications industries (Table 2).

Table 2: Number of RJVs Filed Under the NCRPA by Industry and Year⁵⁹

SIC code	SIC Name	TOTAL	1985-1990	1991-1995	1996-2000	2001-2005
36	Electronic And Other Electrical Equipment And Components, Except Computer Equipment	178	28	70	56	24
48	Communications	149	45	77	24	3
37	Transportation Equipment	136	32	47	50	7
28	Chemicals And Allied Products	93	22	30	31	10
29	Petroleum Refining And Related Industries	82	16	43	16	7
13	Oil and gas extraction	61	13	31	17	0
35	Industrial And Commercial Machinery And Computer Equipment	57	5	18	21	13
73	Business Services	27	3	3	10	11
38	Measuring, Analyzing, And Controlling Instruments; Photographic, Medical And Optical Goods; Watc	26	0	10	5	11
87	Engineering, Accounting, Research, Management, And Related Services	25	2	6	3	14
32	Stone, Clay, Glass, And Concrete Products	23	7	4	10	2
33	Primary Metal Industries	23	7	6	7	3
34	Fabricated Metal Products, Except Machinery And Transportation Equipment	21	2	9	4	6
49	Electric, Gas, And Sanitary Services	11	4	4	3	0
60	Depository Institutions	6	0	3	2	1
80	Health Services	5	1	1	2	1
20	Food and Kindred Products	4	2	1	0	1
24	Lumber and Wood Products, Except Furniture	3	2	1	0	0
30	Rubber And Miscellaneous Plastics Products	2	1	1	0	0
61	Non-depository Credit Institutions	2	0	1	1	0
78	Motion Pictures	2	1	0	1	0
82	Educational Services	2	0	0	2	0
89	Miscellaneous Services	2	1	1	0	0
10	Metal mining	1	0	1	0	0
15	Building construction General Contractors and Operative Builders	1	0	1	0	0
21	Tobacco Products	1	0	1	0	0
27	Printing, Publishing, And Allied Industries	1	0	0	1	0
39	Miscellaneous Manufacturing Industries	1	1	0	0	0
41	Local And Suburban Transit And Interurban Highway Passenger Transportation	1	1	0	0	0
51	Wholesale Trade-non-durable Goods	1	0	0	1	0
65	Real Estate	1	0	1	0	0
79	Amusement And Recreation Services	1	0	0	1	0
	unclassified	257	0	0	0	257
	TOTAL	1206	196	371	268	371

Some aspects of the cable-Verizon Wireless arrangement are promising for innovation: wireless and wireline operators working together may be more likely to make breakthroughs in creating technological complementarities across the two technologies. For example, Comcast noted in its most recent annual report that it is “developing wireless options to extend our services outside the home to provide mobility and create new features that are integrated with our services.”⁶⁰ Similarly, Verizon Wireless operates “Innovation Centers” in San Francisco, CA and Waltham, MA to encourage others to make products that take advantage of its LTE network.⁶¹ It is plausible that working together the companies will make advances they would not have made otherwise.

Nevertheless, as with the joint marketing agreements, the details of the research joint venture will affect how antitrust authorities view it. Most importantly, a key issue is ensuring that the joint operating entity yields new research while minimizing the opportunity for collusive

⁵⁸ Wallsten and Brown, “Antitrust Policy and Innovation: The Case of the National Cooperative Research Act.” Those data came from the CORE Database at the National Science Foundation, which, as far as I can tell, is no longer available. As a result, the readily available data stop in 2005.

⁵⁹ Ibid., Derived from CORE database.

⁶⁰ Comcast Corporation, *Annual Report Pursuant To Section 13 or 15(d) of the Securities Exchange Act of 1934 for the Fiscal Year Ended December 31, 2010*, Form 10-K, February 25, 2011, 5, <http://www.cmcsk.com/secfiling.cfm?filingID=1193125-11-47243>.

⁶¹ <https://www.lte.vzw.com/>

information sharing. This is a difficult balance. For example, to maximize research outputs the joint operating entity may be too narrow. A research collaboration on wireless-wireline technologies might be more effective if CableLabs, which “is dedicated to pursuing new cable telecommunications technologies,”⁶² and Verizon Communications, with its wireline operations, were also involved. Yet, including Verizon Communications would violate the spirit of the rest of the agreement.

Thus, antitrust authorities will have to weigh the potential benefits of collaborative innovation against the possibility of an entity that could be a vehicle for collusive information sharing, whether intentional or not.

Conclusion

The proposed transaction between Verizon Wireless and SpectrumCo and Cox represent potentially major developments in the communications landscape. Some of those developments are almost certainly efficiency-enhancing. In particular, the sale of AWS-1 spectrum by cable companies to Verizon Wireless is a positive development, moving currently unused spectrum to a wireless operator building a 4G/LTE network. The sale has no immediate effect on consumers and does not involve sub-1GHz spectrum, which the Commission has given special attention in the past.

Joint commercial agreements are common throughout the economy, even among competitors. Under some circumstances these arrangements can yield real benefits, both for firms and consumers, but under other circumstances can also yield anticompetitive outcomes. As a result, antitrust authorities often examine such arrangements. Without detailed knowledge of confidential information it is not possible to conclude whether the commercial agreements between the cable companies and Verizon Wireless are, on net, likely to be beneficial or not. Rather than attempt to draw such a conclusion without the relevant information, these comments attempt to assemble a framework for evaluating the ways in which the agreements may be pro- or anti-competitive. Antitrust authorities, who do know the relevant information, can use this framework to help weigh the potential costs and benefits.

⁶² <http://www.cablelabs.com/about/overview/>