

Mobile Wireless Service to “Cut the Cord” Households in FCC Analysis of Wireline Competition

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Verizon filed petitions in 2006 seeking forbearance from certain regulations, including dominant carrier regulation applicable to its mass market switched access services and unbundling regulations, in six geographic areas.¹ In its December 2007 decision to deny these petitions, the Commission used market share statistics that reflected both wireline voice customers and certain mobile wireless voice customers—those that subscribe only to mobile wireless voice service and have “cut the cord” to wireline voice service.² Specifically, the numerator used to calculate Verizon’s share included Verizon’s wireline voice customers and Verizon mobile wireless customers that have “cut the cord.” The denominator includes wireline customers of Verizon and competitors and all “cut the cord” customers.

It is my understanding that, in determining whether or not to forbear applying (1) dominant carrier economic regulation to mass market switched access services, and (2) unbundling regulations to DS-0, DS-1 and DS-3 loops and DS-1 and DS-3 interoffice transport facilities, the Commission evaluates, among other things, the degree of competition in providing wireline voice services to “mass market” customers.³ By including mobile wireless voice services in its calculation of market shares, the Commission appears to have concluded that mobile wireless voice services should be considered part of the wireline services market. Based

¹ *In re Petitions of the Verizon Telephone Companies for Forbearance to 47 U.S.C. § 160(c) in the Boston, New York, Philadelphia, Pittsburgh, Providence and Virginia Beach Metropolitan Statistical Areas*, Memorandum Opinion and Order, 22 FCC Rcd. 21293, ¶ 1 (rel. Dec. 5, 2007) (“*Verizon 6-MSA Order*”).

² *Id.* ¶¶ 27, 37 and Appendix B.

³ *See, e.g., id.* ¶ 37 (“We begin our analysis by examining competition in the retail and wholesale markets in the relevant MSAs. With respect to retail competition for mass market customers, Verizon’s MSA-wide mass market shares . . . taken in conjunction with other factors[] are not sufficient to warrant forbearance from dominant carrier regulation. Consistent with our precedent, we likewise are not persuaded that these data, in themselves, support the grant of forbearance from UNE obligations.”).

on the evidence I have reviewed, there is ample reason to doubt a market definition that includes mobile wireless services in the wireline services product market. If the relevant market includes only wireline services but not mobile wireless services, then including mobile wireless services in share calculations as the Commission has done does not accord with normal practices in assessing competition and tends to overstate the extent of competition.

Merger Guidelines approach to market definition

It is my understanding that the FCC assesses whether to grant a petition for forbearance from dominant carrier and unbundling regulations based in part on the extent to which the petitioner faces competition in the provision of the services for which it seeks forbearance. In order to undertake such an analysis, it is necessary to define the relevant product market. A considerable body of thought and experience in the assessment of competition has been developed in the context of antitrust analysis. The DOJ-FTC Merger Guidelines lay out a widely accepted method to define a “relevant market.”⁴ The purpose for defining a relevant market is to distinguish products or services that compete closely with one another from products or services that are less important to competition. The Commission has itself used the Merger Guidelines approach to define relevant markets.⁵

Following the Merger Guidelines approach, a relevant market is “a product or group of products such that a hypothetical profit-maximizing firm that was the only present and future seller of those products (‘monopolist’) likely would impose at least a ‘small but significant and nontransitory’ increase in price.”⁶ The Merger Guidelines also define the relevant market as the

⁴ U.S. Department of Justice and the Federal Trade Commission, *Horizontal Merger Guidelines*, 57 F.R. 41552 (1992) (rev. Apr. 8, 1997) (“Merger Guidelines”).

⁵ See, e.g., *In re Verizon Communications Inc. and MCI, Inc. Applications for Approval of Transfer of Control*, Memorandum Opinion and Order, 20 FCC Rcd. 18433, ¶ 21 (rel. Nov. 17, 2005) (“*Verizon/MCI Merger Order*”); see also *In re Applications of Nextel Communications, Inc. and Sprint Corporation For Consent to Transfer Control of Licenses and Authorizations*, Memorandum Opinion and Order, 20 FCC Rcd. 13967, ¶ 39 (rel. Aug. 8, 2005) (“*Sprint/Nextel Merger Order*”).

⁶ Merger Guidelines, §1.11.

narrowest set of products or services that meet the criteria.⁷ In practice, the Merger Guidelines method considers a narrow set of products or services and investigates whether that set of products or services meets the criteria to be a relevant market. If the criteria for a relevant market are not met, the Merger Guidelines approach broadens the set of products or services under consideration and investigates whether the criteria are met by the broader set. Once a set of products or services is identified that meets the relevant market criteria, the Merger Guidelines approach proceeds to analyze the structure (i.e., the number and relative size of suppliers) of the relevant market.

Applying the Merger Guidelines approach to wireline services

Applying this method to the question at hand, one begins by considering the narrowest potential market definition — whether wireline voice services provided to mass market customers constitute a relevant market.⁸ One asks whether, if there were only one firm providing wireline voice service to a specific geographic area now or in the future, it would be profitable for such a firm to raise prices by a small but significant amount (e.g., 5-10 percent) for a significant period of time (e.g., one year).

A critical part of the answer to this question depends on how current purchasers of wireline voice services would respond to such a price increase. This is easiest to see by considering the extremes. If no purchaser of wireline services would drop its service in response to such a price increase, it would clearly be profitable for the hypothetical monopolist to raise price. At the other extreme, if all purchasers of wireline services would drop their service in response to such a price increase, it would clearly not be profitable to raise price. Such extremes are almost never observed, however. It becomes an empirical question to determine the extent to

⁷ *Id.* § 1.0.

⁸ The Commission has concluded in other proceedings that wireline services should not be included in the relevant market for mobile wireless services. See e.g., *In re Applications of AT&T Wireless Services, Inc. and Cingular Wireless Corporation For Consent to Transfer Control of Licenses and Authorizations*, Memorandum Opinion and Order, 19 FCC Rcd. 21522, ¶ 239 (rel. Oct. 26, 2004) (“*AT&T/Cingular Merger Order*”). The issue discussed here—whether mobile wireless services should be included in the market for wireline services—though related, is different because the analysis starts by considering a hypothetical price increase for wireline services, not mobile wireless services.

which customers would decrease their purchases in response to such a price increase. It is also worth noting that growth or decline in the number of wireline voice customers for reasons other than a change in the price of wireline is not part of the market definition analysis.⁹

When the degree of price responsiveness has been determined, it is often useful to consider the variable profit margin¹⁰ that the hypothetical monopolist earns. Charging a higher price to customers that retain their service tends to increase profits, while giving up variable profits on customers that drop their service tends to decrease profits. Whether the hypothetical price increase is profitable overall—which in turn determines whether the set of products or services under consideration is a relevant product market—normally depends on the balance between these two factors.

Economists use the term “demand elasticity” to describe the extent to which customers will reduce their level of purchase in response to a change in price, holding other factors constant.¹¹ When the demand elasticity is known or can be estimated quantitatively, it has a direct role in determining whether or not the products or services under consideration are a relevant market. Very commonly, no suitable elasticity estimate is available, forcing analysts to rely on various indicators to guide a judgment about demand elasticity.

The most recent estimate of demand elasticity for wireline services in the U.S. of which I am aware is found in a 2003 paper by Rodini, Ward and Woroch.¹² The authors use data from 2000 and 2001 to estimate the demand elasticity for secondary fixed lines. They find that the

⁹ The market definition test is concerned with whether a hypothetical price increase would be unprofitable due to the loss of sales relative to the level of sales absent the price increase. If demand is shrinking or growing, this is adjusted for in assessing the level of sales that would be made absent the price increase.

¹⁰ Variable profit margin is usually defined as the difference between price and variable cost, expressed as a percentage of the price. Variable costs are those that increase or decrease with increases or decreases in the quantity of goods or services produced.

¹¹ Formally, demand elasticity can be expressed as the percentage change in quantity purchased associated with a 1 percent change in price.

¹² See Mark Rodini, Michael R. Ward and Glenn A. Woroch, “Going mobile: Substitutability between fixed and mobile access,” 27 *Telecommunications Policy* 457, 457-476 (2003).

demand for secondary fixed lines is relatively inelastic: -0.62 in 2001. In other words, an increase of 1 percent in the price of a secondary line would lead customers to decrease the number of such lines by only 0.62 percent. The authors also note that the demand for primary fixed lines is even more inelastic (i.e., the demand elasticity would be a smaller number in absolute value).¹³

Other authors have used the Rodini-Ward-Woroch demand elasticity estimate to answer the market definition question regarding wireline voice service.¹⁴ In this case, the determination is very easy. When the demand elasticity for a product is in the relatively inelastic range, an increase in price results in an increase in total revenues.¹⁵ Using the available estimate, a price increase of 1 percent is estimated to reduce the number of secondary (or primary) fixed lines by less than 1 percent, resulting in an increase in total revenues. Regardless of the variable profit margin, a price increase would be profitable. From this it follows that wireline service exhibiting the estimated demand elasticity is a relevant market.

A finding that wireline service is a separate relevant market without including mobile wireless service does not imply that there is no substitutability between wireline and mobile wireless services. It simply means that, in response to a small wireline price increase, purchasers of wireline service would not turn from wireline service to mobile wireless service in such great numbers that the wireline price increase would be unprofitable. In other words, one cannot rely on the presence of mobile wireless alternatives to constrain the price of wireline service. Rather, the price of wireline services is constrained principally by competition among firms supplying wireline service and by regulation.

¹³ Earlier studies have also found the demand for wireline service to be inelastic. As one paper put it, “Other work in this area generally supports [the] finding that the price elasticities for landline service approach zero in recent periods. . . .” Christopher Garbacz and Herbert G. Thompson, Jr., “Demand for telecommunications services in developing countries,” 31 *Telecommunications Policy* 276, 278 (2007).

¹⁴ Phoenix Center for Advanced Legal and Economic Public Policy Studies, Policy Bulletin No. 10, “Fixed-Mobile ‘Intermodal’ Competition in Telecommunications: Fact or Fiction?” Mar. 31, 2004, <http://www.phoenix-center.org/pcpb.html>.

¹⁵ This can be verified in most basic economics textbooks. *See, e.g.*, Paul A. Samuelson and William D. Nordhaus, *Economics* 72 (17th ed. 2001).

Shares within a relevant market

Once a relevant market has been defined, competition analysis normally proceeds to determine the shares of sales that each supplier makes (or, in some cases, could make) in the relevant market. Normal procedure does not include assigning a share to customers that choose not to purchase the product in the relevant market. In the case of wireline service, shares would be assigned to the ILEC, CLEC and cable providers based on their sales or the number of lines in service. Households with no wireline connection, such as those that had “cut the cord,” would not be included in the share calculation. Including households with no wireline connection would depart from standard economic practice and could overstate the amount of competition for wireline services.

Additional evidence regarding a wireline market

As noted above, determining the set of products or services that belongs in a well-defined relevant market rests on facts regarding demand elasticities and margins. In general, the greater the number of substitutes, and the closer or more similar those substitutes are to the products or services in question, the higher the demand elasticity will be. The demand elasticity for a product or service is not immutable, and can change over time. Given that Rodini-Ward-Woroch derived their demand elasticity estimate for wireline telephone service using data from 2000 and 2001, it is appropriate to consider whether secondary indicators offer evidence as to the extent to which demand elasticity for wireline telephone service has changed. Nonetheless, I am not aware of any analysis that shows that the demand for wireline service has become sufficiently elastic that wireline service (exclusive of wireless services) is no longer a relevant market.

Wireline and mobile wireless services are obviously similar in that they both offer voice communication. However, they also have numerous distinguishing characteristics. Wireline service typically provides high and consistent transmission quality, unlimited service for a flat rate, a common connection point for all members of a household, subscription costs that are generally lower than for mobile wireless service, and more accurate and reliable enhanced 911

emergency capability than mobile wireless service.¹⁶ Mobile wireless service can be used both at home or away, often limits the usage available without additional fees, typically costs more than wireline service, offers variable transmission quality, and is often limited by the battery life of a user's cell phone. Mobile wireless service can also combine text or Internet capabilities with conventional phone service.

Moreover, while the flat-rate pricing features familiar to wireline customers are increasingly available to mobile wireless users,¹⁷ and the practice of offering larger "buckets" of monthly minutes as part of a subscription package has made mobile wireless pricing structures more closely resemble the typical wireline pricing structure, prices for wireline and mobile wireless service still differ greatly. For example, AT&T offers a voice-only unlimited wireless calling plan for \$99.99 per month.¹⁸ By contrast, Verizon's unlimited local and long distance landline calling plan is only \$46.99 per month.¹⁹ Similarly, Verizon offers unlimited wireless local and long distance calling and mobile Internet for \$99.99 per month,²⁰ but Verizon's

¹⁶ Three-quarters of landline telephone users responding to a recent survey said that voice quality, reliability and consistency of service were greater with their landline home phone than with mobile wireless service. *See* <http://newscenter.verizon.com/press-releases/verizon/2008/new-survey-shows-83-percent-of.html> (last visited Apr. 3, 2008).

¹⁷ At least since 2000 and continuing into 2008, the Commission has pointed to the beginning and spread of unlimited local wireless calling plans. *See Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, Fifth Report, 15 FCC Rcd. 17660, 17668-69 (rel. Aug. 18, 2000), and Twelfth Report, 23 FCC Rcd. 2241, ¶ 113 (rel. Feb. 4, 2008).

¹⁸ *See, e.g.*, http://www.wireless.att.com/cell-phone-service/cell-phone-plans/individual-cell-phone-plans.jsp?WT.svl=calltoaction&q_defaultPlanSkuId=sku1210020 (last visited Apr. 8, 2008) (describing AT&T's \$99.99 unlimited Individual Cell Phone Plan, which does not include any data features).

¹⁹ *See, e.g.*, <https://www2.verizon.com/Residential/Phone/Unlimited+Calling+Plans/Unlimited+Calling+Plans.htm> (last visited March 19, 2008); *see also* <http://promo.consumerfiber.com/FiOS-Bundle> (last visited Mar. 21, 2008) (advertising stand-alone retail price (i.e., prior to "Bundle Savings Discount") for "Verizon Freedom Essentials" unlimited calling plan as \$46.99).

²⁰ *See, e.g.*, <http://www.verizonwireless.com/b2c/splash/splash.jsp?v=7> (last visited Apr. 7, 2008) (describing Verizon's Unlimited Anytime Calling Basic Plan, including HTML browsing, but not data messaging, for \$99.99 per month).

unlimited local and long distance landline calling plan bundled with its basic DSL plan is only \$62.48.²¹

At some point in time, mobile wireless service may be a sufficiently close substitute for wireline service that it would serve as a competitive check on wireline prices. However, there is insufficient evidence to support this conclusion. I am not aware that anyone has demonstrated that the demand for wireline service is now so elastic that wireline service (exclusive of wireless service) is not a relevant market.

The evidence the Commission has cited to suggest that mobile wireless service competes with wireline service is largely dated or unpersuasive.²² For instance, the Commission found evidence that in 2005 Sprint planned significant efforts to induce wireline customers to “cut the cord” and expressed hope that the merger of Sprint and Nextel would promote mobile wireless competition with wireline services. This may have been a reasonable expectation in 2005. However, when the Commission makes decisions several years later judging whether mobile wireless belongs in the wireline market, it would now be reasonable to investigate whether the “nascent” intermodal competition the Commission found has materialized. I have been unable to find evidence that Sprint actually pursued the marketing plan the Commission referred to in 2005 or that targeting “cut the cord” customers has been a major Sprint business strategy in recent years, if ever.

The Commission cites as evidence of wireless-wireline competition the increasing percentage of the population that has “cut the cord.” This percentage, by itself, does not give much, if any, insight into the demand elasticity for wireline service. Certain types of consumers who have subscribed to both wireline and mobile wireless services find that the special features of wireline service are not of sufficient value to justify continuing with wireline service, given

²¹ See <http://www22.verizon.com/ForYourHome/NationalBundles/NatBundlesHome.aspx> (last visited Apr. 4, 2008) (offering Verizon “Freedom Essentials” unlimited local and long distance calling plan for \$46.99 per month and Verizon “High Speed Internet Starter Plan” with download speeds of up to 768 Kbps for an average of \$15.49 per month, for a total monthly price of \$62.48).

²² *Verizon/MCI Merger Order* ¶¶ 90-91; *Sprint/Nextel Merger Order* ¶¶ 141-143.

the price and quality of mobile wireless service available. For instance, the value of having a common connection point for all members of a household may be low or zero for single-person households or adults living with unrelated roommates.²³ Such a decision does not provide any additional information about the demand elasticity of consumers that continue to subscribe to wireline service. Yet it is the ability of mobile wireless to constrain the wireline prices charged to these remaining wireline consumers that is at issue in assessing wireline competition.

The Commission has noted that wireline carriers “consider” possible substitution between wireline services and mobile wireless services when making strategic plans regarding wireline services.²⁴ However, the Commission has not disclosed how or to what extent this factor enters the carriers’ strategy decisions. Such consideration may not provide any evidence regarding the degree of price sensitivity between wireline and mobile wireless service. For instance, strategic plans may note that the widespread adoption of mobile wireless service has decreased the minutes of local and long distance traffic over landlines and contributed to a decrease in the number of landlines in use. Such references provide no evidence that landline service providers are altering their prices or services to compete with mobile wireless services. Even if documents provide some evidence of competition, it may be limited to discussions of particular customer types that are most likely to “cut the cord.”

Similarly, Qwest’s petition for forbearance in Denver raises several arguments which shed little or no light on the product market for wireline services. First, Qwest points out that there are more wireless subscribers than wireline access lines in Colorado.²⁵ While it is likely true that consumers who have mobile wireless service would be more willing to drop wireline

²³ The National Center for Health Statistics 2006 survey found, “Nearly one-half of all adults living with unrelated roommates live in households with only wireless telephones (44.2 percent). This is the highest prevalence rate among the population subgroups examined.” See <http://www.cdc.gov/nchs/products/pubs/pubd/hestats/wireless2006/wireless2006.htm> (last visited Feb. 28, 2008).

²⁴ See, e.g., *Verizon/MCI Merger Order* ¶ 91; and *AT&T/Cingular Merger Order* ¶ 241.

²⁵ Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Denver, Colorado Metropolitan Statistical Area, Declaration of Robert H. Brigham and David L. Teitzel Regarding The Status Of Telecommunications Competition In The Denver, Colorado Metropolitan Statistical Area, WC Dkt. No. 07-97, ¶¶ 36-7 (filed Apr. 27, 2007).

service than those without, this observation conveys no information about the degree of willingness of wireline subscribers to drop wireline service in response to a price increase. After advancing the “cut the cord” argument discussed above, Qwest then states that consumers who have both wireline and mobile wireless services are decreasing wireline usage minutes while increasing mobile wireless service usage minutes. It is possible that some consumers are more willing to drop their landline service if they use it less, but one still cannot tell what the willingness level is and whether it is sufficiently high that mobile wireless service should be included in the relevant market with wireline service.

Suppose that the Commission is able through additional inquiry to gather sufficient evidence to conclude that mobile wireless voice service is part of the same relevant market as wireline voice service. The Commission must still be careful not to use such a finding to infer that mobile wireless voice service belongs in the same relevant product market with wireline services for services other than voice such as ADSL, DS1, and DS3 services. In evaluating whether to grant forbearance in unbundling DS-1 and DS-3 loops and DS-0 loops used to provide ADSL, the Commission considers competition in providing such loops. A comparison of Verizon’s wireless Internet and ADSL offerings is illustrative. Verizon’s mobile wireless Internet “BroadbandAccess Plan”²⁶ provides average download speeds of 600 Kbps to 1.4 Mbps, average upload speeds of 500 to 800 Kbps and a monthly data usage allowance of 5 GB for \$59.99 per month.²⁷ By contrast, one of Verizon’s residential DSL plans, its “High Speed Internet Service Power Plan,” offers faster download speeds of up to 3 Mbps, upload speeds of up to 768 Kbps and no data usage limits for only \$29.99 per month.²⁸ Just as with voice service, it is not clear that mobile wireless offers a competitive alternative to services such as ADSL, DS1, and DS3 services provided by wireline. Without defining relevant product markets with

²⁶ Verizon advertises its BroadbandAccess service as a way to “connect to the Internet, your company intranet or email” and to “enjoy the freedom and mobility to work where you need to without the hassles of Wi-Fi hotspots.” See <http://b2b.vzw.com/productsservices/wirelessinternet/> (last visited Apr. 7, 2008).

²⁷ See <http://www.verizonwireless.com/b2c/store/controller?item=planFirst&action=viewPlanDetail&sortOption=priceSort&catId=409&lid=//global//plans//wireless+internet+plan> (last visited Apr. 8, 2008).

²⁸ See <http://www22.verizon.com/content/consumerdsl/plans/all+plans/all+plans.htm> (last visited Apr. 8, 2008). This rate could increase after the first year.

respect to these services, the Commission cannot make a sound decision regarding what degree of competition exists in providing these services, and thus whether forbearance would harm consumers.²⁹

Conclusion

In evaluating petitions for forbearance, the Commission examines the state of competition for wireline services in a specific geographic area and at a specific point in time. The Commission appears to have little basis for determining that mobile wireless services are now part of the relevant market for wireline services. If circumstances change and if additional evidence is presented, it may be appropriate to make such a determination in the future. For now, however, well-accepted procedures for assessing competition would not calculate wireline shares by including mobile wireless-only customers that do not purchase wireline services because they have “cut the cord.”

²⁹ I understand that in its Anchorage forbearance order, the Commission explicitly declined to define relevant markets. See *In re Petition of ACS Anchorage, Inc. Pursuant to Section 10 of the Communications Act of 1934, as Amended, for Forbearance from Section 251(c)(3) and 252(d)(1) in the Anchorage Study Area*, Memorandum Opinion and Order, 22 FCC Rcd. 195, ¶ 12 (2007). It is sometimes possible to make competitive evaluations without defining a relevant market if one can make limiting statements such as “the relevant market is at least as broad as X.” Such statements should only be made when one has done sufficient analysis of the relevant product market to dispose of the competitive issue and it is not necessary to pursue the market definition exercise to its conclusion. Such statements would be based on, not offered as a substitute for, careful analysis of product substitution issues.