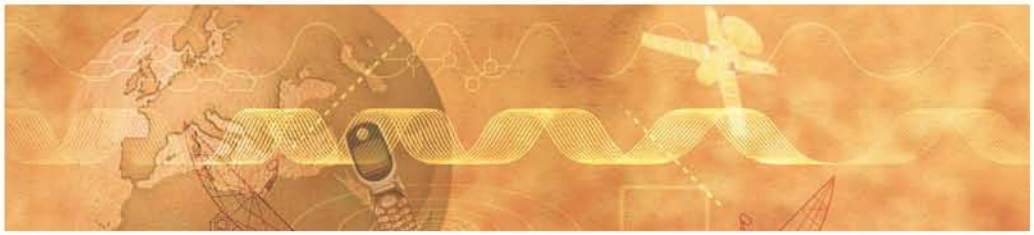
Exhibit A

11 December 2008

The Effectiveness of Mobile Wireless Service as a Competitive Constraint on Landline Pricing: Was the DOJ Wrong?

William E. Taylor and Harold Ware[1]



The US Department of Justice (DOJ) recently concluded that "the available evidence does not establish that mobile services currently represent an effective competitive constraint on landline access pricing."[2] We disagree: data on price trends and substitution of wireless for landline services show that mobile services currently represent an effective competitive constraint on landline access pricing.

First, as shown in Figure 1, the relative price level of wireless compared to wireline service—i.e., the ratio of the wireless Consumer Price Index (CPI) to the wireline telephone CPI—fell dramatically (by about 30%) from 1998 to 2001.[3] By increasing the proportion of wireline customers for whom wireless was a comparably-priced substitute, this decline brought wireless into more direct competition with wireline service. Indeed, as the FCC noted, "a significant number of households began to have wireless service" instead of wireline service in 2001.[4]

[1] Dr. Taylor is a Senior Vice President at NERA. Dr. Ware is a Vice President at NERA. This note is based on a presentation by Dr. Ware at the June 2008 International Telecommunications Society conference in Montreal, Canada, and on testimony by Dr. Taylor on behalf of Verizon Virginia.

[2] US Department of Justice, *Voice, Video and Broadband: The Changing Competitive Landscape and Its Impact on Consumers* (the *DOJ Report*), November 2008 at 88.

[3] Derived from Bureau of Labor Statistics CPI Data.

[4] See FCC Trends in Telephone Service, February 2007, Table 7.4, footnote 1.

Figure 1: Wireless Prices Have Decreased Relative to Landline Prices

Second, although the *DOJ Report* [at 88] states that "relatively stable" landline prices are consistent with the DOJ's view that wireless services do not constrain wireline prices, the appropriate competitive analysis asks whether landline prices held above competitive market levels are affected by wireless service prices and demand, not necessarily what happens at current landline access prices. This point is relevant because, as the *DOJ Report* reminds us [at 34], "(l)ocal telephone services traditionally have been subject to regulation to achieve public policy goals (such as ensuring that service is universally available at reasonable prices)." Thus, there is little reason to believe that current wireline access prices represent competitive market prices, or to believe that competition from wireless would necessarily lower basic landline prices.

Third, as a result of the price changes summarized above and as shown in Table 1, wireless charges are comparable to average monthly charges paid by local exchange company (LEC) á la carte customers.

- Most (about 75%) of residential landline "basic-service customers" purchase a "synthetic package" of local and long distance services for about $36 per line per month.[5]
- Customers with wireless service can simply drop their landline if their wireless plan has enough usage. Others can upgrade their wireless plans to ones with larger usage or family share plans so that they can drop their landlines. The incremental charges for adding more minutes and/or additional phones for current wireless customers are only about $10 to $30 per month, depending on their carrier and the plan needed.
- For customers who buy only landline basic services, the least expensive wireless service options—increasingly prepaid wireless—provide viable, comparably-priced substitutes for low usage customers.
- The $30 mobile wireless options are viable alternatives to basic services (which cost about $21) because they include toll calling and valuable vertical features such as voice mail, call waiting, caller ID, and others. And, of course, mobile service is worth more because you can "take it with you."

Table 1: Charges for Landline and Mobile Wireless

Service	Monthly Charge*
Á La Carte Charges for Landline Service	
"Synthetic Bundle" of Local & Long Distance Services	$36
Basic Flat Rate Service Only	$21
Upgrade Existing Mobile Wireless Plan	
Add Minutes to Existing Plan	$10 - $20
Add Minutes & Phone to Family Plan	$20 - $30
Convert to Family Plan & Add Minutes	$30
Subscribe to New Mobile Wireless Plan	
0 – 130 Anytime Minutes	$10 - $25
200 – 400 Anytime Minutes	$30

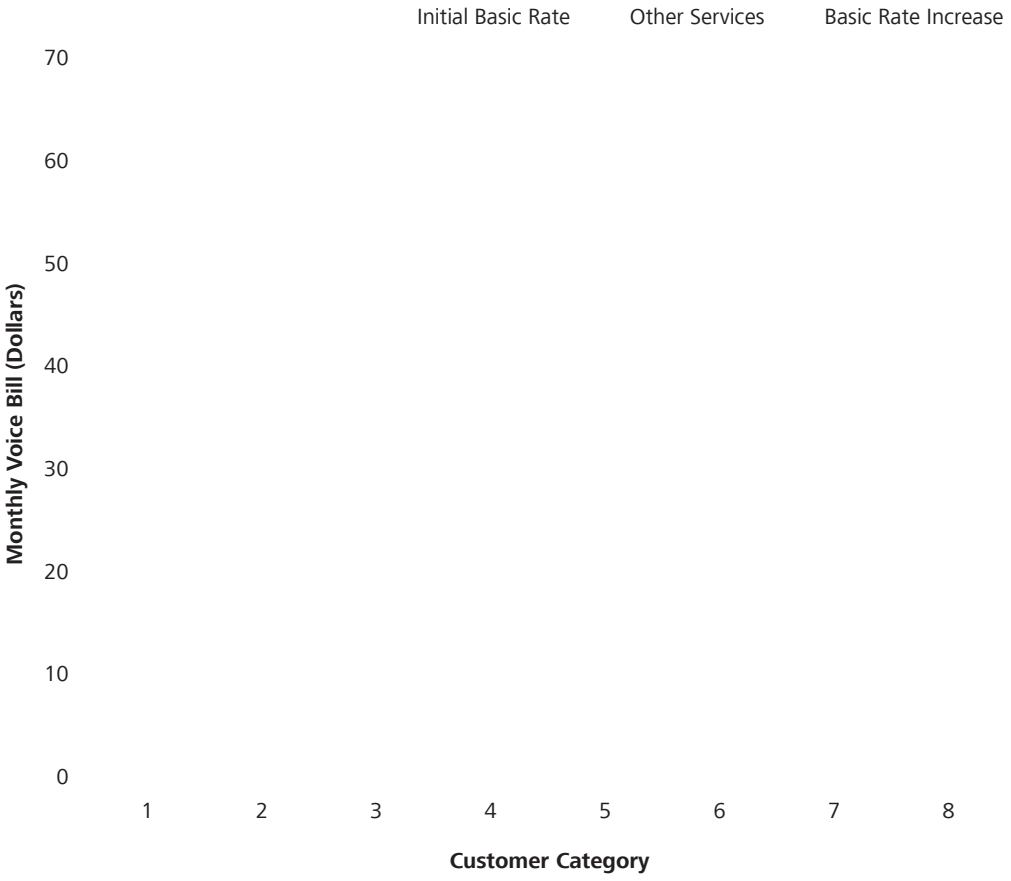
* Wireless plans include: voice mail, call waiting, caller ID, and other features. Two hundred- to four hundred-minute plans include unlimited nights and weekends. Charges for upgrading existing plans are incremental charges for adding sufficient usage to replace average landline usage. Landline average flat rate from FCC, *Reference Book of Rates, Price Indices, and Household Expenditures for Telephone Service*, 2007, at iv, and Table 1.1.; synthetic bundle charges are NERA estimates (See Harold Ware, "Can Competition Regulate Rates for Basic Telephone Services?" presented at the International Telecommunications Society Conference, Montreal, Canada, June 2008.). Wireless charges from provider websites accessed mid-2007.

[5] About 40% of residential landline customers buy á la carte voice services, and about 75% of these buy a "synthetic package" of local, toll service, and possibly vertical features from á la carte voice offerings. The average charge for flat rate local service is $21 per line per month and the average long distance bill is $11 per line per month. Adding $4 per month for optional local services like call waiting brings the total to $36.

Fourth, as illustrated in Figure 2 below, competition for synthetic bundles regulates prices for basic service even for those few customers who do not subscribe to other services. Figure 2 shows the monthly expenditure of customers who purchase synthetic bundles, ranging from Customer 1, who purchases access only, to Customer 8, who purchases access and many other services. A $2 increase in the basic rate increases synthetic package charges for Customer Types 2-8—including those for whom packages provide vigorous competition.

- An increase in basic rates increases the charges for synthetic packages, as well as the price for standalone basic service.
- The potential loss of the more lucrative (and more numerous) synthetic package customers deters basic rate increases because ILECs charge the same price to all customers who buy basic services.
- Even if Customer 1 faces limited competitive choices, the fact that Customer Types 3-8 have many choices and there are many such customers means that customers who spend less—including Customer 1—are protected from supracompetitive price increases.

Figure 2: Competitive Packages Protect Customers Who Only Purchase Basic Service



Fifth, changes in price and demand from 2001 through 2007 imply that wireless is a substitute for wireline service rather than a complement. Ask yourself what would happen (all else equal) if landline prices rose relative to wireless prices (or if wireless prices declined relative to landline prices): would demand for wireless service increase or decrease? The only reasonable question on the table is by how much would wireless demand increase?

- The price of wireless service relative to wireline service declined by about 12%.[6]
- From December 2001 to December 2007, the number of wireless-only households increased by about 18.4 million.[7] This dramatic wireless increase translates into a loss of 20.3 million landline access lines, assuming an average wireless-only household would have purchased 1.1 landline access lines. Adjusting for the number of newly formed households that never subscribed to landline service, we estimate that about 18.6 million landline access lines were replaced by wireless connections. (Total landline residential lines actually declined by about 30 million. However, we confine this analysis to shifts from landline to wireless connections.) The reduction of 18.6 million residential wired lines represents a change of about 16.5% of the average number of residential lines over the period at issue.
- The percentage reduction in wireline demand associated with gains in wireless-only households divided by the percentage reduction in the relative price of wireless to wireline services implies a cross-price elasticity of about 1.4. Calculating the elasticity based on the percentage change in relative price is a way to control for the increase in wireline service prices over the period.[8] We would have preferred to estimate price elasticity from the coefficients of a demand function that controls for other factors such as changes in taste and income. However, our calculation strongly suggests that wireless is a good substitute for landline.

Sixth, our analysis shows that wireless is at least as potent of a competitor as cable telephone service. In contrast, the DOJ found that cable telephone is a significant competitor to LECs, but that wireless competed mainly for usage and second lines. As shown in Figure 3 below, we estimate that residential cable telephone lines and the number of wireline access lines displaced by wireless-only households grew from about 9 million at the end of 2003 to 38.1 million at the end of 2007, and *most of the landline losses were to wireless.*[9]

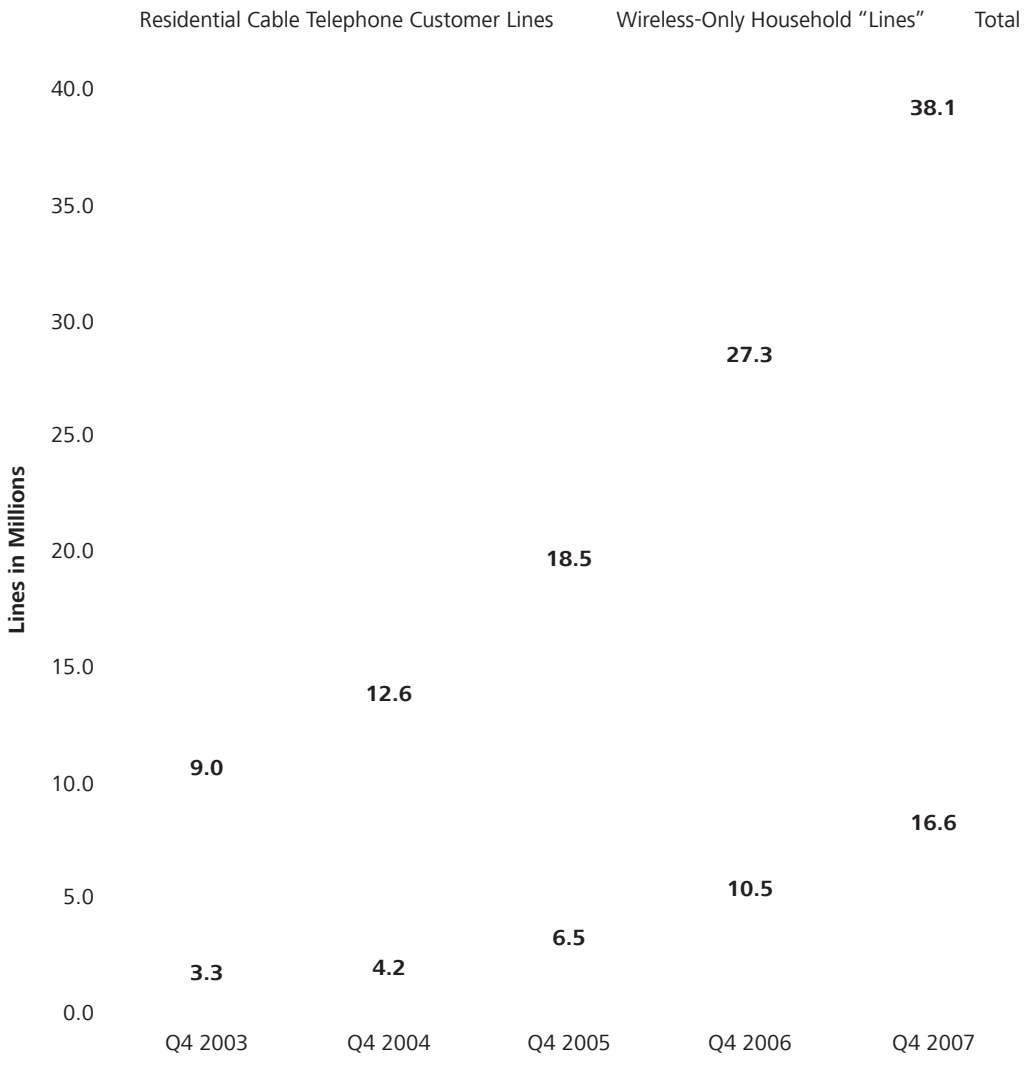
[6] We use the average price over the interval for the denominator of this percentage change because price elasticity is estimated as (change in quantity as a percentage of average of the initial and ending quantity demanded)/(change in price as a percentage of the average of the initial and ending prices).

[7] The increase in wireless-only households is the difference between 1.2 million wireless-only households reported by the FCC for year-end 2001 (*FCC Trends in Telephone Service*, February 2007, Table 7.4) and our estimate of 19.6 million wireless-only households for year-end 2007. Our estimate is based on the NHIS data summarized in Figure 3 below and Census Bureau household counts.

[8] According to US Census data, about 1.4 million households per year were added on average from 2001 to 2007. Based on available (2003 to 2007) NHIS data, we estimate that about 20% of these households (i.e., the average percent of "wireless-only" 18-29 year old adults) decided not to install a landline phone. This implies that only about 290,000 new wireless-only households per year have never purchased a landline. However, over that same period the number of wireless-only households grew by about 3.6 million per year. Thus, we estimate that about 92% of the 3.6 million per year gain in wireless-only households literally replaced their landline service with mobile wireless service.

[9] This estimate is based on the number of wireless-only households plus the number of residential cable telephone customers times 1.1—i.e., it is equivalent to assuming that one in 10 of these customers had a second line/phone.

Figure 3: Growth of Wireless-Only Households and Residential Cable Telephone Lines[10]



[10] Stephen J. Blumberg, PhD, and Julian V. Luke, "Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, July – December 2007," Division of Health Interview Statistics, National Center for Health Statistics. National Cable Television Association, "Cable Voice/Phone Customers 2001-2007." http://www.ncta.com/ContentView.aspx?contentId=61 (the NCTA identified the predecessor of this figure as "Residential Telephony Customers: 2001 to 2006").

Seventh, in our view the DOJ reached several other erroneous conclusions about trends in voice service:

- The DOJ refers to "…a decline in the number of residential landlines, primarily as a result of consumers discontinuing second lines, and entry by cable firms."[11] However, the FCC *Trends in Telephone Service* data for 2001 through 2006, on which they rely, notes that "non-primary" or second lines were estimated using a different source in 2002 than in 2001. Thus, it may be more appropriate to look at trends from 2002 forward.

- We estimate that from 2002 to 2007, most (20 million of the 28 million) residential lines lost were from primary lines.[12]

- And as we describe in detail above, gains in wireless-only households account for more of these losses than cable telephone does. This is the case even though cable had a much larger impact than suggested by the FCC data cited by the DOJ. Based on the December 2007 *FCC Local Competition Report* data, the DOJ states that "up to 8.4 million" residential lines were provided over coaxial cable.[13] However, the December 2007 cable industry data we cite above show that that there were almost 16.6 million residential cable telephone lines at that time.

Finally, the DOJ's conclusion (that "the available evidence does not establish that mobile services currently represent an effective competitive constraint on landline access pricing"[14]) suffers from the classical fallacy of composition. While the *DOJ Report* asserts that substitution to wireless, *by itself*, may be too small to constrain wireline prices, that claim is irrelevant to any policy discussion. The evidence clearly shows that for some (perhaps many) customers, an increase in wireline prices will cause them to shift to wireless services exclusively. Thus, any competitive analysis of wireline access service must take wireless services into account—as wireline carriers obviously do—together with cable and VoIP competitors.

[11] See *DOJ Report* at 12, and Executive Summary at i.

[12] Table 7.4 of the most recent FCC Trends in Telephone Service shows a loss of 7.9 million residential "non-primary" lines from 2002 to 2006. To extend the data through 2007, we used the percentage change in non-primary lines from the FCC ARMIS reports from 2006 to 2007.

[13] See the DOJ Report at 15.

[14] Id. at 88.

About NERA

NERA Economic Consulting (**www.nera.com**) is an international firm of economists who understand how markets work. We provide economic analysis and advice to corporations, governments, law firms, regulatory agencies, trade associations, and international agencies. Our global team of more than 600 professionals operates in over 20 offices across North America, Europe, and Asia Pacific.

NERA provides practical economic advice related to highly complex business and legal issues arising from competition, regulation, public policy, strategy, finance, and litigation. Founded in 1961 as National Economic Research Associates, our more than 45 years of experience creating strategies, studies, reports, expert testimony, and policy recommendations reflects our specialization in industrial and financial economics. Because of our commitment to deliver unbiased findings, we are widely recognized for our independence. Our clients come to us expecting integrity and the unvarnished truth.

Contact

For further information contact:

Dr. Harold Ware
Vice President
White Plains, NY
+1 914 448 4160
harold.ware@nera.com