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Consumer Benefits from Cable-Telco Competition

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* This report was commissioned by the National Cable and Telecommunications Association. The methodology, analysis, and conclusions are the authors' own.

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Executive Summary

Competition in telecommunications has brought significant benefits to residential and small business customers. Over 7 million customers now subscribe to cable telephone service, and that number is growing rapidly as cable providers are now realizing their goal to offer telephone service to the vast majority of households in the United States.

Cable telephony has evolved to become an IP (Internet Protocol) based service. IP-based service is lower-cost, lower-priced, and rich with enhanced calling features compared to traditional telephone services. The major cable providers offer a comprehensive bundle of telephone services, including unlimited calling within the United States, at prices at or below \$40.00 per month.

We project that 23.7 million households will subscribe to cable telephone services by 2011. Based on an \$11.19 average price difference between cable telephone service and traditional telephone services, we calculate annual benefits of \$1.3 billion in 2007 climbing to \$3.2 billion in 2011. The sum total of these benefits for the five-year period is \$11.2 billion.

VoIP providers, whose customers provide their own broadband connection (*over the top* or “OTP” VoIP), also bring competitive pressure to bear in the market. We estimate benefits to their customers in 2007 of \$857 million, which will increase to \$1.862 billion in 2011. Over a five-year period, these benefits will amount to \$6.8 billion.

These benefits, however, are dwarfed by the indirect benefits from the competitive pressure placed on the ILECs by competitors. The ILECs’ response to competition has already benefited consumers. Initially, this response was to competition from the UNE-P-based CLECs. With the threat from UNE-P now disappearing, however, continued and even growing benefits from this competitive response rests on the viability and profitability of facilities-based CLECs, especially the cable companies.

Based on the competitive response observed to date, and even assuming no additional price cuts by the ILECs, we estimate benefits from telecommunications competition to the 107 million households in the U.S. with telephones to be approximately \$70 billion over the next five years.

Small business customers also benefit from competition for telephone service in general, and from cable telephone service in particular. The small business customer can cut his or her

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telephone bill by about 50 to 70 percent by using a cable provider's telephone service.

We rely on a much more conservative assumption about the savings to small business customers from competition. We estimate that over a five-year period, cable telephone service will provide small business customers with a savings of \$525.8 million off their telephone bills. This class of customers will also benefit from the competitive pressure placed on the ILECs. We estimate this benefit, which will accrue to 4.5 million small businesses, will equal \$13.4 billion over the next five years.

Total consumer benefits from all sources equal more than \$100 billion over the next five years.

Total Savings from Cable-Telco Competition (in millions)

Category	Savings
Cable, Residential Market	\$11,221
Cable, Small Business Market	\$526
OTP VoIP	\$6,755
ILEC Competitive Response, Residential Market	\$69,593
ILEC Competitive Response, Small Business Market	\$13,440
Total	\$101,534

Competition is not a sure thing. The incumbent local telephone carriers ("ILECs") dominate the residential local telephone market service with an 87% market share, and therefore have the incentive and ability to thwart competition by raising the costs of their rivals. Although the cable companies can control the costs of their own networks, they are not immune to anticompetitive actions of the ILECs. So long as the cable companies have a much smaller share of the local telephone market, the ILECs would be able to impose artificial interconnection costs on them, and thereby gain a significant competitive advantage.

Consequently, the consumer benefits from competition, which are estimated in this report, will not be realized unless Congress and federal and state regulators maintain vigilance over interconnection requirements, which the competitors have relied on since the passage of the Telecommunications Act of 1996.

I. Introduction and Background

The telecommunications industry in the United States has experienced a roller-coaster ride over the ten-year period following the passage of the Telecommunications Act of 1996. Passage of this Act was expected to stimulate intense competition in the telecommunications industry by facilitating entry into local markets by long distance carriers and other competitive local exchange carriers (CLECs). As a trade-off for long distance carrier entry into local markets, the Bell Operating Companies (BOCs) were provided with a mechanism to free themselves from the U.S. District Court restrictions on their entry into the long distance market. Most observers anticipated a complex and confusing transition period to competition; nevertheless they hoped it would result in vigorously competitive markets, which would benefit users in all segments of the telecommunications market.

Markets did not fulfill the expectations that robust competition would develop in all major local telephone markets. There was a “land rush” by competitors into some segments of the market. CLEC investment in fiber optic networks in major business districts exploded. The long distance companies entered local markets very aggressively using the unbundled network elements of the incumbent local exchange carriers (ILECs). And the BOCs broke through into the long distance market, quickly gaining substantial shares of the market. As of December 2003, the CLECs provided almost 16% of residential and small business telephone lines and 32% of business lines.¹ Competition from the CLECs in the residential market, however, rested on very thin ice. Of the total 18.7 million lines provided by CLECs to residential customers, 16.5 million were provided over the unbundled network element platform (UNE-P).² UNE-P permitted rapid, widespread entry by CLECs, but it was dependent totally on the legality of FCC rulemaking and the will of the FCC to continue to pursue the goal of facilitating entry by UNE-P-based CLECs.

In December 2004, following a long period of litigation and regulatory warfare at the FCC and state commissions, the FCC adopted an order that eliminated the UNE-P requirement (except for grandfathered customers for a brief transition period)³. The impact of this decision was compounded by the acquisition of the two largest CLECs operating in the residential market (*i.e.*,

¹ Federal Communications Commission, *Local Telephone Competition: Status as of December 31, 2005*, July 2006, Table 2. (Hereafter: FCC Local Telephone Competition Report)

² FCC Local Telephone Competition Report, 2006, Tables 2 and 4

³ Federal Communications Commission, *Order on Remand*, WCC Docket No. 04-314, December 15, 2004

* This report was commissioned by the National Cable and Telecommunications Association. The methodology, analysis, and conclusions are the authors' own.

AT&T and MCI) by the two largest BOCs (*i.e.*, SBC and Verizon). As a result of these events, the share of the residential market served by CLECs using facilities owned by the ILECs has been shrinking steadily.⁴

Competition is growing in the residential and small business market from several types of service providers, including cable television companies, wireless telephones, and VoIP (voice over Internet) providers. Nevertheless, the ILECs still maintain a dominant position in the residential and small business markets, with an 87% share of the residential market, according to the most recent FCC statistics.⁵ Until competition is fully established in these markets, which will take many more years under the best of circumstances, the ILECs will have the incentive and ability to foreclose competitors' access to the market by using a variety of tactics that can raise their rivals' costs.

Of these three classes of competitors, cable television will provide the greatest competitive pressure over the long run. Cable television lines pass 99% of households in the U.S. and an increasing number of small businesses.⁶ Cable television companies provided telephone service to 7.4 million homes as of June 2006, and will be capable of providing telephone service to more than 80% of U.S. households within a short period of time.⁷

Wireless competition is an important factor in the market, but does not provide as powerful a competitive threat as cable telephony for three reasons. First, only a small number of households appear to be willing to "cut the cord" and use wireless service as a complete substitute for wireline telephone service.⁸ Second, the two largest wireless carriers (Cingular and Verizon) are owned or controlled by the BOCs, who have little incentive to cannibalize their own wireline

⁴ Between June 2004 and December 2005 the number of UNE-P lines has fallen from 17.1 million to 10.8 million lines. Over the same period, resold lines increased by 300 thousand and unbundled loops (without switching) increased by 250 thousand. FCC Local Competition Report, Table 4.

⁵ FCC Local Competition Report, Table 2. This report shows the ILECs with 94.4 million residential lines and the CLECs with 13.9 million lines, as of December 31, 2005.

⁶ Residential statistics obtained from Kagan Research, LLC, *Broadband Technology*, February 17, 2006, at 5. (Hereafter "Kagan Report"). Business market statistics obtained from the Insight Research Corporation, "Cable Telephony in Small Businesses: The Competitive Threat to ILECs 2004-2009, May 2004. (Hereafter, "Insight Report").

⁷ See Kagan Report, at 5.

⁸ Most analysts doubt that more than eight percent of users are "cutting the cord," with some analysts claiming that wireline replacement is only two to three percent. See, "Cutting the Cord for Mobile Phones," *E Commerce Times*, September 8, 2006.

businesses. Third, competition from the wireless providers is also at risk from the same threat of increased interconnection costs facing the cable provider.

VoIP service providers unaffiliated with a cable company or ILEC, such as Vonage, are also important players in the market, but they do not control access to their own customers. Their customers must subscribe to a broadband service, which is provided either by an ILEC through DSL or by the local cable company. These VoIP companies cannot provide market discipline to the same degree as the sole facilities-based competitors to the ILECs, *i.e.*, the cable companies.

Competition in telecommunications brings enormous benefits to consumers. This has been proven time and time again, by events in the markets that were opened to competition and protected from monopoly abuse. Competition in the terminal equipment market, which had previously been controlled by the Bell System monopoly, encouraged the delivery of superior products and lower prices for all types of equipment, including telephone sets, PBXs, answering machines, and facsimile machines. Competition in the long distance market is a powerful and well-documented example of the benefits of moving from monopoly to competition.⁹

Competition is not a sure thing. As shown by the rapid demise of the UNE-P-based competition, CLEC competition can be stifled and even eliminated by a combination of regulatory fiat by the FCC and the abuse of market power by the Bell monopolies. Although owning their own facilities allows the cable companies to control their costs, this does not mean they are immune to anticompetitive actions. Specifically, the cable companies cannot provide telephone service unless they are able to connect their customers with the ILECs' customers. So long as the cable companies have a smaller share of the market, the ILECs can use their dominant position to impose artificial interconnection costs on them, and thereby maintain a significant competitive advantage. Consequently, the consumer benefits from competition, which are estimated in this report, will not be realized unless Congress and federal and state regulators maintain vigilance over interconnection requirements, which the competitors have relied on since the passage of the Telecommunications Act of 1996.

The latest example of the threat posed by a unilateral exercise of market power by the ILECs is the "Missoula Plan" for so-called reform of Intercarrier Compensation. This seemingly

⁹ Michael D. Pelcovits, "Long Distance Telecommunications," in *Network Access, Regulation, and Antitrust*, ed. Diana L. Moss, American Antitrust Institute, Routledge 2005

benign attempt to “accommodate today’s Intermodal, competitive and increasingly Internet-oriented communications environment,” will create artificial barriers to competition from cable companies, wireless carriers, and other non-facilities-based entrants.¹⁰ Our report does not provide an analysis of how the Missoula Plan distorts markets and denies opportunities for competition. Rather the purpose of this report is to quantify the risk to consumers from measures that could lead to re-monopolization of the residential and small business telecommunications market. The entire benefits to competition measured in this report are at risk should the pro-competitive policies not be maintained and enforced over the next several years.

II. Competition from Cable Telephony

Cable telephony has already brought significant benefits to consumers. Until recently, cable companies provided telephone service using older circuit-switched technology. This required significant investment in telephone-specific technology and limited the range of services that could be provided to customers. Subscription to cable telephony service reached about three million customers using the old technology.¹¹

Over the past two years, cable providers have initiated telephone service by carrying voice over their managed IP networks. These IP-based services are made available at a lower cost and lower price than comparable traditional telephone services, and provide an astounding array of enhanced service features. The price of a cable telephone service to residential customers, which includes unlimited local and long distance calling and a dozen calling features, is as low as \$34.95 per month, plus approximately \$6.00 in taxes and other fees. The features of a typical cable phone service are shown in the chart below.

¹⁰ “Missoula Plan,” filed at the FCC in CC Docket No. 01-92 on July 24, 2006, at 1.

¹¹ Kagan Report, at 5.

Features of Typical Cable Phone Service

- Call Waiting, Caller ID, Call Blocking, Three-Way Calls
- Call Screening, Repeat Dialing, Speed Dialing, Voice Mail
- Unlimited Local and Long-Distance Calls, 911 Access, Bundled Billing
- Allow Customers to Manage Features on the Internet
- Assign Specific Ringtones to Different Numbers

Price comparison between cable and ILECs

Customers using cable telephone services save a significant amount compared to comparable services offered by the ILECs. For example, a subscriber to one of Verizon’s Freedom packages pays in the range of \$34.95 to \$61.99 per month plus at least \$10.00 in fees and taxes. Comparable services from AT&T and BellSouth cost approximately \$50.00 plus fees and taxes. Depending on the features sought by the customer, the savings provided by cable telephone service can be as high as \$27 per month, as shown in the table below.

<i>Telephone Product Type</i>	<i>Product</i>	<i>Price</i>
<i>Cable</i>	Cablevision	\$34.95
	Comcast	\$39.95
	Cox	\$39.95
<i>Traditional</i>	AT&T Personal Choice Plus + Nat'l Connections Select	\$49.95
	BellSouth PreferredPack Plan + PreferredPack Unlimited	\$48.94
	Qwest Choice Home + Choice Unlimited	\$44.99
	Verizon Freedom Essentials	\$34.95 - \$44.99
	Verizon Freedom	\$53.99 - \$61.99

III. Quantification of Benefits to Cable Telephony Customers

We now quantify the benefits accruing to cable telephony customers over the next five years. This requires an analysis and projection of the number of cable telephone subscribers and an estimate of the average monthly savings per subscriber.

Forecasting Future Sales

We forecast future sales of cable phone subscriptions to both homes and small businesses using the Bass model of product adoption, which is well-recognized and widely used in business and academic settings.¹² The Bass model describes new sales in year t , S_t , as a function of three key parameters: the market potential, m , the coefficient of adoption due to external influences (such as the mass media), p , and the coefficient of adoption due to internal influences (*i.e.*, word-of-mouth from previous adopters), q . The functional form is:

$$S_t = p(m - N_{t-1}) + q(N_{t-1}/m)(m - N_{t-1}),$$

where N_{t-1} is the cumulative number of past subscribers as of the previous year. Thus, $m - N_{t-1}$ represents the total number of customers who have not yet, but will at some time, purchase cable telephone. This relationship indicates that a constant proportion, p , of not-yet-adopters ($m - N_{t-1}$), will adopt due to external media influences each year, while a growing proportion, $q^* (N_{t-1}/m)$, of not-yet-adopters will adopt due to word-of-mouth influences each year.

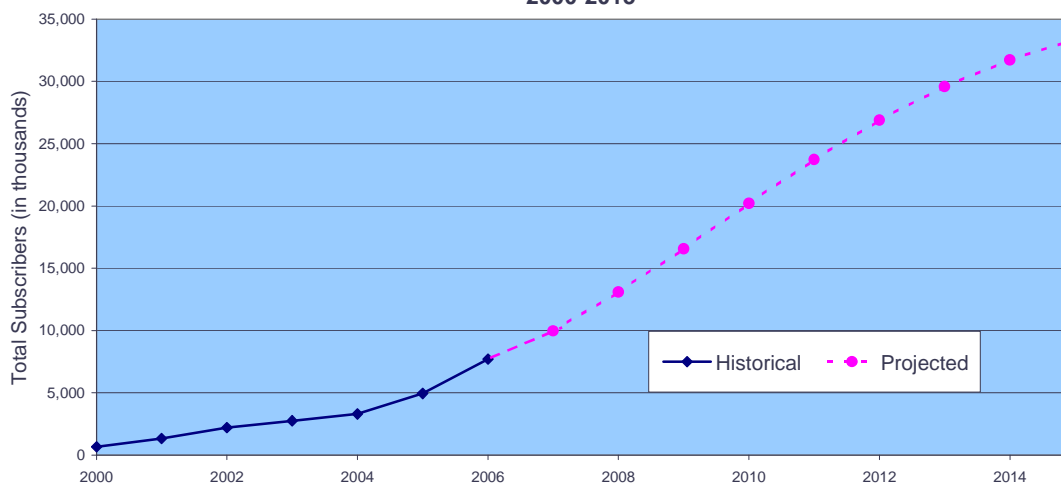
We estimate the market potential over the next fifteen years for cable telephone services to be 37.5 million subscribers. This is based on the experience in the long distance market where facilities-based providers achieved approximately a 35% share of the market within 15 years following divestiture. Using data on past adoption of cable telephone by residential customers, we estimate the p and q parameters to be .001 and .387, given the estimated market potential of about 37.5 million subscribers.¹³ Accordingly, we forecast residential users of cable telephone services to be around 10.0 million in 2007, growing to 23.7 million by 2011.¹⁴ The entire adoption curve for a 15-year period is shown in the chart below.

¹² Frank Bass, "A New Product Growth Model for Consumer Durables," *Management Science*, 1969.

¹³ The potential market is the 107 million households with telephones in the US (*Telephone Subscribership in the United States*. FCC: May 2006.) This estimate of the entire market is then multiplied by 35%, which is the market share that major competitors to AT&T in the long-distance market reached after about 12 years of competition. This market share figure is based on data in: *Long Distance Market Shares: Fourth Quarter 1998*. FCC, March 1999.

¹⁴ The estimate of total subscribers in a year is the average of subscriber estimates for all four quarters.

US Residential Cable Phone Subscribers 2000-2015



Calculating Consumer Savings

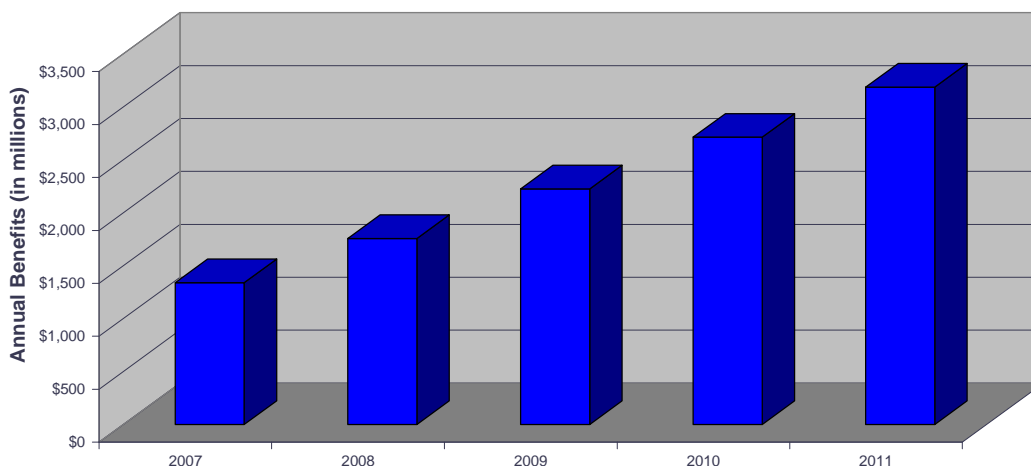
In order to estimate these customers' savings on telephone service, we use the figures derived by J.D. Power on the average revenue per subscriber for cable and ILEC services.¹⁵ According to this study, customers of cable telephony reported spending \$42.40 per month on average for telephone service.¹⁶ Customers of the ILECs reported spending an average of \$53.59 per month on telephone service. This indicates that cable phone services cost \$11.19 less per month on average than their ILEC competitors' traditional phone services.

We use this estimate of cost saving and then apply it to the number of cable telephone subscribers derived from our market diffusion model. This yields annual benefits of \$1.3 billion in 2007, and climbs to \$3.2 billion in 2011. The yearly benefits are shown in the graphic below.

¹⁵ J.D. Power and Associates. *J.D. Power and Associates Reports: Cable Companies Dominate Customer Satisfaction Rankings for Local and Long Distance Telephone Service*. July 12, 2006.

¹⁶ This estimate of spending exceeds the prices shown on page 5 for a number of cable companies. This may be due to the addition of taxes and fees and supplementary services, such as international calling.

Direct Benefits to Residential Customers of Cable Telephone



The sum total of these benefits for the five-year period is \$11.2 billion, as shown in the table below. (This does not include any benefits to small business customers, which are discussed in a subsequent section of the report.)

Direct Benefits to Residential Customers of Cable Phone (in millions)

	2007	2008	2009	2010	2011	5-year Total
Cable Phone Subscribers	10.0	13.1	16.6	20.2	23.7	
Annual savings	\$1,340.1	\$1,757.4	\$2,224.9	\$2,712.8	\$3,185.6	\$11,220.9

This estimate of \$11.2 billion in total savings is very likely to underestimate the benefit to cable customers for a number of reasons: First, as shown above in our comparison of the total cost to the subscriber of the ILECs' calling plans and the corresponding plans of the cable providers, actual savings are likely to be much greater than the \$11.19 differential used in the calculation. The price difference between comparable ILEC and cable bundled service plans is sometimes as high as \$27 a month.

Second, the \$11.19 average price difference between the ILEC and cable customers

ignores any difference in the nature of services purchased by these customers. Since ILEC prices are generally higher and many customers are very slow to respond to either a competitor's price or the ILECs' own competitive response, the average ILEC customer will buy fewer services than the average cable customer. When an ILEC customer switches to a cable provider, the customer will not only get a lower price but also the benefit of the features and unlimited calling typical of the cable companies' plans. These benefits are not included in the \$11.2 billion savings.

IV. Benefits from Competition from OTP VoIP providers

Another type of new entrant into the residential market is the "over-the-top" (OTP) VoIP provider, which provides service directly to customers who lease broadband access on their own. The largest of these providers, Vonage, serves approximately two million subscribers and has a market capitalization of \$1.25 billion.¹⁷ Dozens of other OTP VoIP providers market their services to customers throughout the United States. It has been estimated that there are currently 2.6 million OTP VoIP subscribers, excluding those provided by the BOCs.¹⁸

OTP VoIP providers generally offer service at prices below the cable providers. There are a number of reasons for this, aside from the reduced level of customer service and service features, such as a battery back-up and installation.

In order to estimate the direct benefits to consumers from the OTP VoIP providers, we assume that their average prices are \$10 per month less than cable, which is the approximate price difference in the current market.¹⁹ Therefore, these providers' customers will save \$21.19 per month compared to the ILECs' prices.

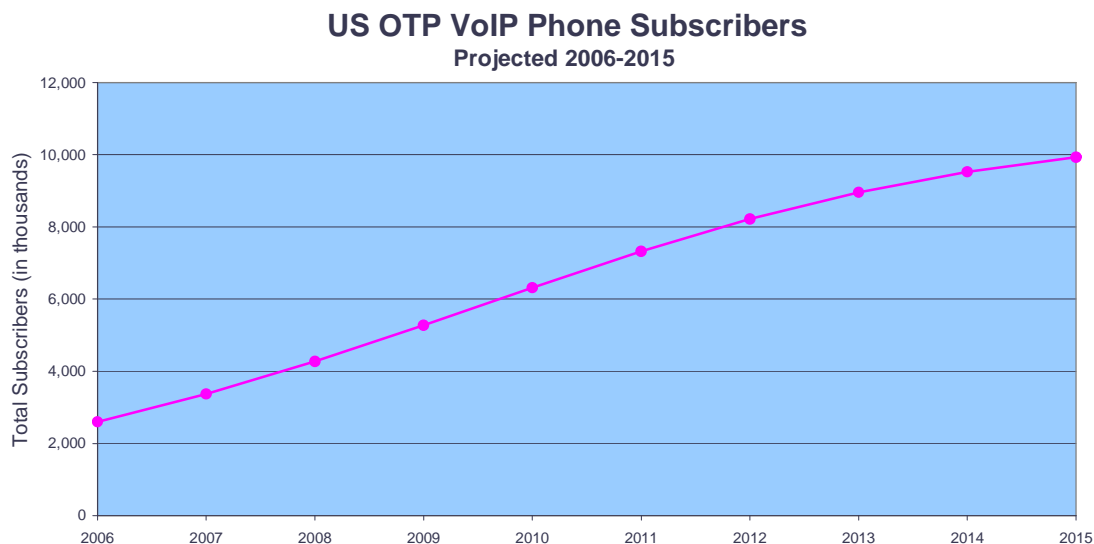
We approach the calculation of direct benefits for this market segment using the same method described above for the cable companies. We use the same market diffusion model, but

¹⁷ Number of customers as of June 30, 2006 is 1.85 million. See, Vonage Holding Company, S-1 Filing, August 21, 2006. Market capitalization is given as of September 7, 2006.

¹⁸ From ZDNET, at <http://blogs.zdnet.com/ITFacts/index.php?cat=28>, citing Telephia as source.

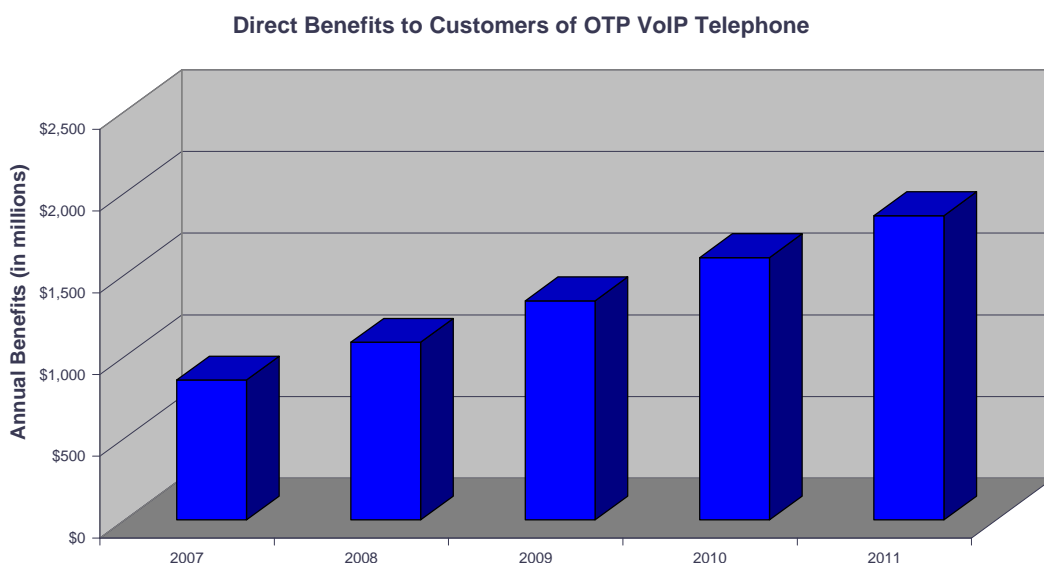
¹⁹ Vonage's Premium Unlimited residential bundle, for example, is currently priced at \$24.99 per month (\$10 less than Cablevision's price). See <http://vonage.com/index.php?ic=1>.

adjust it to reflect a smaller initial level of sales and projected long-run adoption saturation level of sales from the OTP VoIP providers.²⁰ The diffusion curve is shown in the graph below.



We estimate yearly cost savings for OTP VoIP providers by multiplying the estimates of subscribers each year by the cost savings of \$21.19 per month. This yields annual benefits, as shown in the graph below, ranging from \$857 million in 2007 to \$1.862 billion in 2011.

²⁰ We estimate the long-run saturation level to be 10.7 million. We calculate this by multiplying the potential market of 107 million by 10%, a rough estimate of the market share that small competitors to AT&T in the long-distance market reached after about 12 years of competition.



The sum of the yearly benefits over five years is \$6.755 billion, as shown in the table below.

Direct Benefits to Residential Customers of OTP VoIP (in millions)

	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>5-year Total</i>
VoIP Subscribers	3.4	4.3	5.3	6.3	7.3	
Annual savings	\$857.4	\$1,087.0	\$1,341.7	\$1,606.5	\$1,862.4	\$6,755.1

V. Competitive Response by the Incumbents

We have estimated above the potential benefits from cable telephony and OTP VoIP providers over the next five years to be \$11.2 billion and \$6.8 billion, respectively. These benefits,

however, are dwarfed by the indirect benefits from the competitive pressure placed on the ILECs by competitors. The competitive response by the ILECs to competition will benefit all customers.²¹

The magnitude of indirect benefits can be gauged by looking at the ILECs' response to the entry by the CLECs into the local market. The CLECs introduced services that offered unlimited local and long distance services and bundled calling features, such as call waiting, caller ID, and voice mail. This led the ILECs to respond with their own bundled service offerings. The ILECs' new bundled services were priced well below the amount customers would have paid for a bundle of services assembled at the tariffed rates for the components of the package.

Now that the pressure from the UNE-P-based providers has been eliminated, the consumer benefits from CLEC competition are at risk. The pressure on the ILECs to maintain low prices will come primarily from the cable companies and to a lesser extent from the wireless and OTP VoIP providers. We now attempt to measure the magnitude of these benefits.

Our approach to measuring these benefits is to examine the effect of UNE-P-based competition on the ILECs. The basis of this approach is the fact that, absent pressure from UNE-P-based CLECs, the effect of losing the competitive pressure from facilities-based cable providers would allow the ILECs to raise prices back to where they were prior to entry of the UNE-P-based competitors.²²

To estimate the effect of CLEC competition on the ILECs' rates and the resulting benefit to consumers, we compare the average monthly household expenditure on wireline service between 1998 (the pre-CLEC era) and 2005. According to the FCC, the average household spent \$61 on local and long distance per month in 1998. This measure fell to \$50.16 in 2005,²³ which

²¹ The benefit accrues to customers that stay with the ILECs and to customers that switch to a CLEC. For ILEC customers, this price reduction is their entire benefit. CLEC customers, however, benefit from the ILEC response to competition, which forms a new base price, off of which the CLEC will still offer a discount.

²² The market is now in a transition state between a monopoly and a state of full competition. We have measured the benefits from bringing the current, limited amount of competition into the market. If competition evolves further, the benefits to all customers will increase. The benefits from pro-competitive policies, therefore, are likely to be substantially higher than estimated in this study.

²³ The 1998 figure is taken from *Trends in Telephone Service*. FCC, April 2005, though they cite TNS Telecoms as their data source. The 2005 figure is taken directly from a TNS press release on March 13, 2006 (see <http://www.tnstelecoms.com/press-3-13-06.html>), which provided statistics for the fourth quarter of 2005. The 2005 figure used this calculation differs somewhat from the J.D. Power 2005 estimate of average spending of ILEC customers. There are many possible reasons for this, including the possible use

means that prices have declined by \$10.84 since the introduction of competition in the local market for residential service. Using an estimate of 107 million households,²⁴ we calculate savings of \$69.6 billion over a five-year period.

Savings from the ILECs' Competitive Response is \$69.6 billion over 5 Years

We confirm this result in two ways. First, we estimated the reduction in real prices for telephone service using the US City Average CPI for Telephone Services produced by the U.S. Bureau of Labor Statistics.²⁵ This yields a 24.4% real price decline from June 1998 to June 2006. Assuming that prices were \$50.16 in 2006,²⁶ this implies that the average price was around \$66.37 in 1998, a price decline of over \$16 in that time period. This methodology suggests that indirect benefits from cable telephone and OTP VoIP competition will be more than \$100 billion over the next five years.

Indirect Benefits to Residential Telephone Customers from Competition with Cable (in millions)

<i>Approach</i>	<i>Pre-competition price</i>	<i>Post-competition price</i>	<i>Price difference</i>
Household average expenditure	\$61.00	\$50.16	\$10.84
CPI	\$66.37	\$50.16	\$16.21

Finally, we present an estimate based on a study performed by the Phoenix Center in 2004.²⁷ This study showed that “all you can eat” long distance plans competing with the ILECs result in a savings of around \$69 billion over five years, if these packages are priced at \$50. The latter estimate of savings is conservative, as the prices of several such “all you can eat” services are much lower than \$50 a month; Verizon’s Freedom Essentials plan, as mentioned above, costs between \$34.95 and \$44.99 per month.

of a different sample or the existence of sampling error. In any case, this should not bias the estimate obtained from the two sources for the two different effects of competition.

²⁴ See n. 13.

²⁵ U.S. Bureau of Labor Statistics, CPI, series CUUR0000SEED and CUUR0000SA0.

²⁶ From the fourth quarter 2005 TNS figure cited above.

²⁷ Phoenix Center Policy Bulletin No. 8, January 27, 2004. The Phoenix Center study estimates consumer surplus for the average subscriber to the ILECs’ service compared to the consumer surplus if that customer would subscribe to a UNE-P-based CLEC’s bundled service offering. This analysis is based on a sample of 16,000 telephone bills in 1999. The study does not distinguish between direct and indirect benefits from competition.

These results are confirmed by the recent response of the ILECs to the increased competition from cable companies and other service providers. Several ILECs have lowered the effective prices of their bundled service plans. The timing of the price reduction is closely related to the acceleration of telephone service entry by cable providers in many markets. For example, Verizon recently introduced the Freedom Essentials Plan in 2005,²⁸ which provides a \$14 savings off of the original Freedom plan.²⁹ The Freedom Essentials Plan lacks a few features of the Freedom plan, but these are unlikely to be important or valuable to many customers.³⁰ It is likely that Verizon has retained the old plan in order to avoid having to reduce rates on its base of customers, who do not seek lower prices in response to marketplace developments. For new customers or price-sensitive customers, however, the Verizon website directs their attention to the lower-priced Freedom Essentials plan.

In conclusion, we have found compelling evidence that the BOCs have been forced to respond to competition from the UNE-P-based CLECs and more recently by the cable providers, the OTP VoIP providers, and to some extent by wireless providers. Nevertheless the BOCs still retain a very large share of the residential market, and they are capable of using their dominant position to disadvantage rivals. Therefore, if policymakers were to eviscerate the competitive interconnection policies adopted in the wake of the Telecommunications Act of 1996, and upon which competitors to the BOCs have relied, competitive forces would be weakened and consumers would face a substantial price increase for telecommunications services.

VI. Effect of Competition in Small Business Market

Several of the cable providers offer voice telephone service to small business customers. These offerings are generally priced far below comparable services offered by the ILECs. For example, Cablevision offers the Optimum Voice service to its online business customers at a price per line of \$34.95 for three lines or fewer and \$29.95 for four or more lines. Optimum Voice

²⁸ “In an effort to compete with the ever-growing customer base of cable companies, Verizon is rolling out two new nationwide plans that are 30 to 46 percent cheaper than its existing plans,” *Telecom Happenings*, v1, no. 12. Tele-Tech Services, December 2005 (see http://www.telecomdb.com/Subscribers/Updates/december_05.htm).

²⁹ Monthly fees, exclusive of subscriber line charge, taxes, and other fees based on rates in Maryland. Comparable prices exist in other jurisdictions.

³⁰ The three major features that distinguish Verizon Freedom from Verizon Freedom Essential are unlimited calling to Canada, three-way calling, and speed dialing.

includes unlimited local, regional, and long distance calling within the U.S., Puerto Rico and Canada, and several calling features as shown in the box below.

Optimum Voice (Cablevision) Service Features:

- Call Waiting, Caller ID, Call Blocking, Three-Way Calling
- Other Call Blocking and Anonymous Calling Features, “Find Me” Forwarding Service
- “My Optimum Voice” Allows Customers to Manage Calling Features, Voice Mail, and Call Details on the Internet
- Assign Specific Ringtones for up to 32 Different Numbers

The savings to small business customers of these cable services are enormous. The average price paid for flat-rate local service by businesses with a single line in urban areas was \$47.90, in October 2005.³¹ This price is for local service only and does not include any calling features or long distance calling. When the cost of these other services are added to the expenditure on basic local service, the average small business pays about \$102 per month,³² which is between two and three times higher than the price of Cablevision’s Optimum Voice product.³³ In other words, the small business customer can cut his telephone bill by about 50 to 70 percent by using a cable provider’s telephone service.

ILECs have made a competitive response to competition in the small business market. For example, Verizon offers a Freedom package to business customers at prices ranging from \$37 to \$41 per month. This package, however, does not include any calling features, which would increase the subscribers charge in a range of \$5 to \$25 per month, depending on the actual features chosen. On an apples-to-apples comparison, then, Verizon’s product is in the range of \$42 to \$66 per month, which implies a price difference between \$7 and \$36 per month relative to cable telephone offerings.

³¹ FCC Reference Book, Table 1.8.

³² A Survey of Small Business Telecommunications Use and Spending, Stephen B. Pociask, for SBA Office of Advocacy, March 2004, at 65. (Hereafter “SBA Survey”)

³³ The FCC figure and the SBA Survey include taxes and fees, so to compare their numbers to Optimum Voice it is necessary to use a price for this service that includes taxes and fees.

Size of the small business market

It is difficult to draw precise boundaries on the definition of a small business. There are 7.25 million business establishments in the United States, and 5.20 million of these are owned by enterprises with fewer than 20 employees.³⁴ This cutoff would correspond to the definition used by Verizon in its description of the businesses to which it targets small business service offerings.³⁵

We have chosen to use an even more conservative definition of small business by limiting this analysis to firms with fewer than 10 employees. This narrows our focus to the type of businesses that are less likely to be served by the traditional CLECs and are much more dependent on competition from cable telephony. According to the U.S. Census reports, there are 4.55 million business establishments in this category.³⁶ This is a much smaller number than cited in studies of the number of small businesses located in areas passed by cable companies.³⁷

Expenditures on local and long distance wireline service by these establishments are shown in the table below.

<i>Number of Employees in the Firm</i>	<i>Number of Establishments</i>	<i>Expenditure on Local and Long Distance</i>
less than 4	3,510,352	\$153
5 to 9	1,037,709	\$345
Total	4,548,061	\$197

Source: Bureau of Census, SBA Survey
Note: Expenditure for total is a weighted average

³⁴ Bureau of the Census, 2003 County Business Patterns.

³⁵ <http://www22.verizon.com/pages/business>

³⁶ Bureau of the Census, 2003 County Business Patterns

³⁷ Insight Research Corporation, "Cable Telephony in Small Businesses: The Competitive Threat to ILECs, May 2004

Effect of Competition on Prices Charged to Small Business

Increased competition, especially from cable companies, has the potential to bring enormous savings to these customers. We estimate these savings using a number of very conservative assumptions:

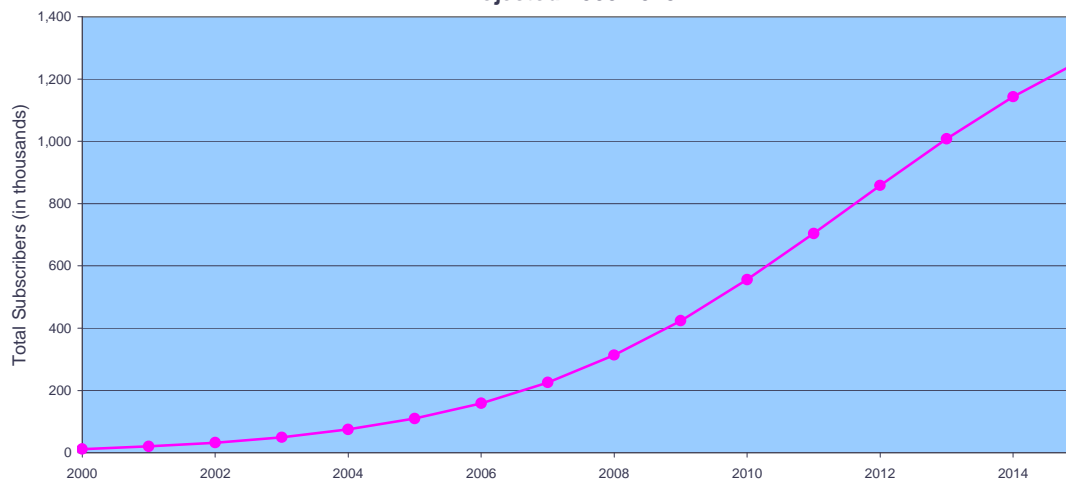
- Cable penetration is estimated to follow the same growth pattern as in the residential market, but lagging two years behind.
- Cable is assumed to save a typical small business customer 10% (off the current price) on its monthly bill compared to prices charged by the ILECs after their competitive response. This is based on the comparison made earlier between Verizon Freedom Business and Cablevision's Optimum Voice.
- The competitive response of the ILECs is assumed to provide all small business telephone customers with a 25% price reduction off of their average monthly bills. This is far below the full potential, because the rates paid by most small business establishments are far above cost, comparable residential rates, or the competitive responses already seen in the marketplace.

The savings from cable telephony in the small business market are shown below and are broken down into direct and indirect components. Though we do not have data on historical adoption by small businesses, we use the coefficients of external and internal influence estimated for residential consumers³⁸ and an adoption saturation level of 1.6 million³⁹ to forecast sales of cable telephone to small businesses of around 226 thousand in 2007, growing to 704 thousand in 2011, as shown in the graph below.

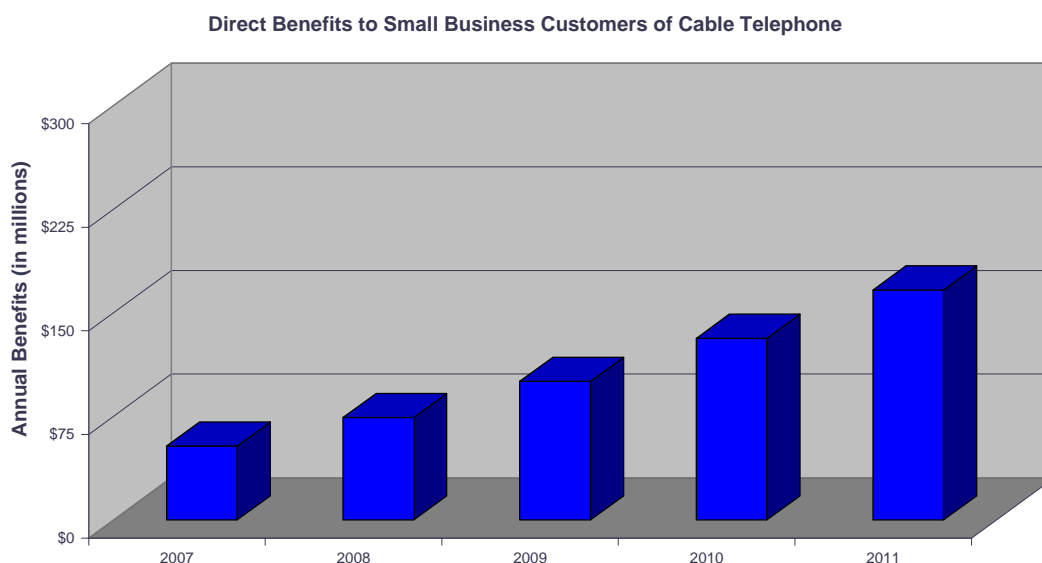
³⁸ This is a conservative assumption as adoption of new technology by businesses often occurs more rapidly than adoption by consumers.

³⁹ This is estimated as 35% of the total number of small businesses in the US with 10 or fewer employees.

US Small Business Cable Phone Subscribers
Projected 2000-2015



Using these forecasted sales and an estimated direct savings of \$19.70 a month for a small business customer, we estimate yearly benefits ranging from \$53.4 million in 2007 to \$166.5 million in 2011.



The total direct benefit to small business customers over a five-year period is \$525.8 million as shown in the table below.

Direct Benefits to Small Business Customers of Cable Phone (in millions)

	2007	2008	2009	2010	2011	5-year Total
Cable Phone Subscribers	0.2	0.3	0.4	0.6	0.7	
Annual savings	\$53.4	\$74.1	\$100.3	\$131.5	\$166.5	\$525.8

We also compute the indirect savings to the small business market as a result of the competitive response by the ILECs. Based on the assumptions described above, the indirect savings to the average small business will be \$39.40 a month. This benefit will accrue to all 4.5 million small businesses. Therefore, we estimate that over a five-year period the total indirect benefits to small business will be equal to \$13.4 billion.

Total Savings from the ILECs' Competitive Response in the Small Business Market is \$13.4 billion over Five Years

VII. Total Savings

Savings from the sources discussed above total \$101.5 billion over the five-year period 2007-2011. These savings are summarized in the table below.

Total Savings from Cable-Telco Competition (in millions)

Category	Savings
Cable, Residential Market	\$11,221
Cable, Small Business Market	\$526
OTP VoIP	\$6,755
ILEC Competitive Response, Residential Market	\$69,593
ILEC Competitive Response, Small Business Market	\$13,440
Total	\$101,534

\$18.5 billion of these benefits are directly observable in the lower prices that customers of cable telephone pay as compared to traditional alternatives, although this calculation still leaves out the value of the increased features that cable telephone services provide. Further, we estimate that the effect of competition from cable and other CLECs leads to a reduction in the overall level of prices of telephone service provided to all customers, yielding a total indirect savings of \$83.0 billion in the next five years.

\$101.5 Billion in Benefits to Consumers over 5 Years from Cable Telephone and OTP VoIP Competition

