



# Home Broadband Adoption 2006

---

**Home broadband adoption is going  
mainstream and that means user-generated  
content is coming from all kinds of internet  
users**

28 May 2006

---

**John B. Horrigan, Associate Director for Research**

## Summary of Findings

---

### **Home broadband adoption grew by 40% from March 2005 to March 2006, twice the growth rate of the year before.**

The number of Americans who have broadband at home has jumped from 60 million in March 2005 to 84 million in March 2006 – a leap of 40%. This is a substantial increase in the rate of broadband adoption compared with the previous year. A significant part of the increase is tied to internet newcomers who have bypassed dial-up connections and gone straight to high-speed connections. This is a striking change from the previous pattern of broadband adoption.

- As of March 2006, 42% of all American adults had a high-speed internet connection at home. In March 2005, 30% of all adults had high-speed internet at home.
- This growth in broadband adoption has been fueled in part by an increase in internet penetration in the past year, from 66% to 73%. Nearly half of these new internet users subscribe to high-speed services at home.
- The 40% increase in home broadband adoption from March 2005 to March 2006 is double the 20% rate of increase that occurred from March 2004 to March 2005.

---

### **Growth in broadband adoption has been very strong in middle-income households, and particularly fast for African Americans and those with low levels of education.**

- Broadband adoption grew by 68% since March 2005 among people living in households with incomes between \$40,000 and \$50,000 per year.
- Broadband adoption among African Americans increased by 121% between 2005 and 2006.
- Home high-speed adoption also grew rapidly in the 2005 to 2006 timeframe among those with less than a high-school education (by 70%) and senior citizens (by 63%), although in both cases the initial adoption level was very low – 8% for seniors and 10% for less-than high school graduates.
- The pace of adoption growth in rural areas was also brisk (39%), though not any

This Pew Internet & American Life Project report is based on the findings of two daily tracking survey on Americans' use of the internet and broadband connections. The first survey was conducted from November 29, 2005 to December 31, 2005 among 3,011 number of American adults, 1,931 of whom number are internet users. The margin of error for the overall sample is +/- 2%. For results based internet users, the margin of sampling error is +/- 2%. The second survey was conducted between February 15, 2006 and April 6, 2006 among 4,001 number of American adults, 2,882 number of whom are internet users. In that sample the margin of error on the overall sample is +/- 2% and the margin and on the internet population is +/- 2%

different from the growth rate in suburban and urban America. It is still the case that broadband penetration rates in rural areas lag those in suburban and urban areas.

---

**In a reversal of market share, telephone companies offering digital subscriber line (DSL) services have overtaken cable companies in the broadband world.**

- As of March 2006, DSL connections constitute half (50%) of all home broadband connections and cable modems have a 41% share.
- When the Pew Internet Project first reported on the composition of the home broadband market based on March 2003 data, 67% of home broadband users logged on using cable modems and 28% used DSL.
- By March 2005, the share for cable had fallen to 50% of home broadband subscribers and DSL's share stood at 41%.
- Fixed wireless as a means to go online at a high-speed at home is starting to have a presence in the market; 8% of home high-speed users, or about 6 million American adults, have wireless broadband connections.

---

**Price differences may partly explain the strong growth of DSL subscription.**

- In December 2005, DSL users reported an average monthly bill of \$32 for service, while cable modem users reported an average monthly bill of \$41.
- The DSL/cable modem price gap was narrower in February 2004. Then DSL users reported an average monthly bill of \$38, while the figure for cable modem users was \$41.
- DSL has captured a majority of subscribers in the fast-growing middle or lower-middle income range of the market. Among broadband-using households with income between \$30,000 and \$50,000 annually, 55% use DSL and 35% have cable modem service.

---

**48 million internet users have posted content to the internet and the large majority of them are home broadband users.**

- Overall, 35% of all internet users have posted content to the internet.<sup>1</sup> Specifically, we asked about four types of online content: having one's own blog; having one's own webpage; working on a blog or webpage for work or a group; or sharing self-created content such as a story, artwork, or video.
- An even higher percentage of home broadband users – 42% or about 31 million people – have posted content to the internet. They account for 73% of home internet users who were the source of online content.

---

<sup>1</sup> Data on online content creation are drawn from the Pew Internet and American Life Project's December 2005 survey of 3,011 adult Americans; 1,014 were home broadband users.

- Having a fast, always-on internet connection at home is associated with users' posting content to the internet and thereby shaping the environment of cyberspace.
- Although home dial-up internet users get involved in putting content online, they do not do so at the same rate as broadband users. Just 27% of dial-up users, or about 13 million adults, have placed some sort content online.
- Sharing a variety of creations online is among the most popular kinds of user-generated content. Overall, 36 million internet users have shared *their own* artwork, photos, stories, or videos on the internet. That comes to 26% of internet users. Home broadband users account for about two-thirds of this number.
- Home is not the only place from which people upload content. Among the 11% of online Americans with access only at work or some place other than work or home (such as a library), 21% have posted some content to the internet. That comes to 5 million people.

---

**User-generated content is not just for a certain class of high-speed internet users.**

- When the Pew Internet and American Life Project first asked about user-generated content among early-adopter high-speed users in January 2002, a "broadband elite" of mostly male technophiles were responsible for most of this activity.
- Today, broadband users living in households earning under \$50,000 in annual household income are slightly *more likely* than those in higher-income homes to say they put content online – by a 46% to 41% margin.
- User-generated content is driven by young home high-speed users. Fully 51% of "under 30" home broadband users have posted content to the internet compared with 36% of home high-speed users older than 30.

---

**Voice over internet protocol (VoIP) services are at the early stages of consumer acceptance, with 3% of online users saying they use a VoIP service at home. VoIP awareness has shot up 86% since early 2004.**

One other development tied to the expansion of broadband in American homes is the emergence of phone services that run over high-speed internet connections.<sup>2</sup>

- 61 million Americans in December 2005 said they have heard of VoIP services, an 86% increase from the 33 million who said this in February 2004.<sup>3</sup>
- At this early stage of adoption of VoIP, about half of those with VoIP at home say they still have traditional landline service at home.

---

<sup>2</sup> Data on VoIP are drawn from the Project's December 2005 survey of 3,011 adult Americans.

<sup>3</sup> Although VoIP services function better for users with high-speed internet connections at home, the question on VoIP awareness was asked of all respondents.

- VoIP is making greater inroads among “early adopter” technophiles typically at the vanguard of emerging online trends. One in ten (10%) of these early adopters have VoIP telephone service at home.

---

**People get broadband for the speed, but a lot of dial-up users say they are not interested in upgrading to high-speed at home.**

- When asked why they got broadband, nearly three in five (57%) broadband users say they simply want a faster connection.
- Only 4% cite a factor pertaining to price (either falling rates or promotional offerings) as a reason they got broadband.
- Although speed matters for broadband users, few know exactly what connection speed they have at home; 17% said they knew their home connection speed, while 81% acknowledged ignorance.
- When dial-up users are asked whether they would like to change to broadband, 39% say they are interested in doing this, and 60% say they are not. Some possible reasons for so many dial-up users saying they do not plan to upgrade are:
  - Some 22% of dial-up users who do not want to get broadband at home have a high-speed connection at work.
  - Dial-up users who do not want to switch to broadband are older and have lower incomes than dial-up users who express a desire to switch.

---

**The price of broadband has dropped in the past two years and the availability of broadband providers to consumers has changed modestly.**

- Home high-speed internet users told us in December that they pay \$36 per month for service, down from \$39 per month reported by home broadband users in February 2004.
- For DSL, reported monthly bills fell from \$38 to \$32, while cable modem users reported no change (from \$41) in monthly bills between February 2004 and December 2005.
- Dial-up users report a monthly cost for internet service of \$18 in December 2005, compared with \$23 in February 2004.
- The cost gap between dial-up and broadband internet service stood at \$18 in December 2005 versus \$16 in February 2004.
- Most home broadband users in December 2005 (61%) said they have more than one broadband service provider where they live. That is about the same share of home broadband users (64%) who said this in February 2004.
- One quarter (25%) of broadband users in December 2005 said they did not have more than one home high-speed provider to choose from, compared with 19% who said this in February 2004.

| <b>Home Broadband Adoption 2006:<br/>Summary of Findings at a Glance</b>  |
|---|
| Home broadband adoption grew by 40% in the year prior to March 2006, twice the growth rate of the year before.  |
| Growth in broadband adoption has been very strong in middle-income households, and particularly fast for African Americans and those with low levels of education.  |
| In a reversal of market share, telephone companies offering digital subscriber line (DSL) services have overtaken cable companies in the broadband world.   |
| Price differences may partly explain the strong growth of DSL subscription.   |
| 48 million internet users have posted content to the internet and the large majority of them are home broadband users.  |
| User-generated content is not just for a certain class of high-speed internet users.  |
| Voice over internet protocol (VoIP) services are at the early stages of consumer acceptance, with 3% of online users saying they use a VoIP service at home. VoIP awareness has shot up 86% since early 2004. |
| People get broadband for the speed, but a lot of dial-up users say they are not interested in upgrading to high-speed at home.  |
| The price of broadband has dropped in the past two years and the availability of broadband providers to consumers has changed modestly.   |
| Source: John B. Horrigan. <i>Home Broadband Adoption and Online Content Creation</i> . Washington, DC: Pew Internet & American Life Project, May, 2006.   |

# **Contents**

**Summary of Findings**

**Acknowledgements**

**Part 1. Broadband Adoption in the United States**

**Part 2. User-generated Content and Interactivity at the  
Cutting Edge**

**Methodology**

# Acknowledgements

About the Pew Internet & American Life Project: The Pew Internet Project produces reports that explore the impact of the internet on children, families, communities, the work place, schools, health care, and civic/political life. The Project aims to be an authoritative source on the evolution of the internet through collection of data and analysis of real-world developments as they affect the virtual world. Support for the non-profit Pew Internet Project is provided by The Pew Charitable Trusts. The Project is an initiative of the Pew Research Center. The Project's website: [www.pewinternet.org](http://www.pewinternet.org)

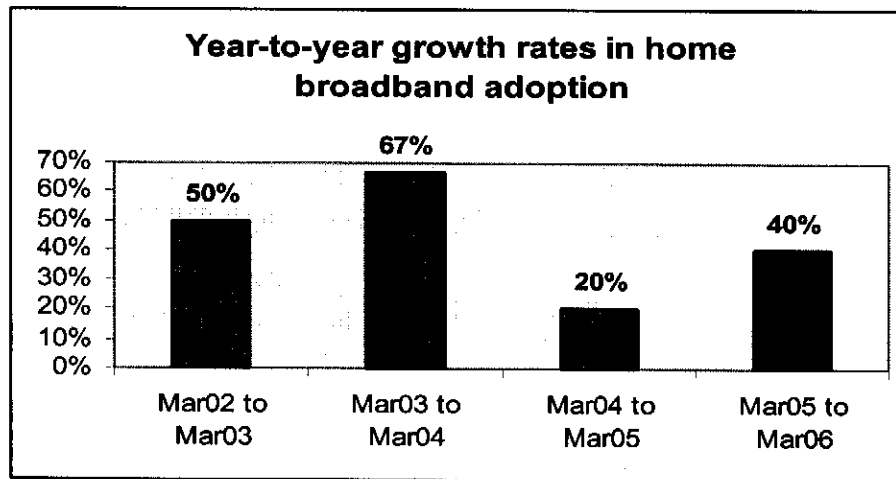
About Princeton Survey Research Associates: PSRA conducted the surveys that are covered in this report. It is an independent research company specializing in social and policy work. The firm designs, conducts, and analyzes surveys worldwide. Its expertise also includes qualitative research and content analysis. With offices in Princeton, New Jersey, and Washington, D.C., PSRA serves the needs of clients around the nation and the world. The firm can be reached at 911 Commons Way, Princeton, NJ 08540, by telephone at 609-924-9204, by fax at 609-924-7499, or by email at [ResearchNJ@PSRA.com](mailto:ResearchNJ@PSRA.com)



# Part 1.

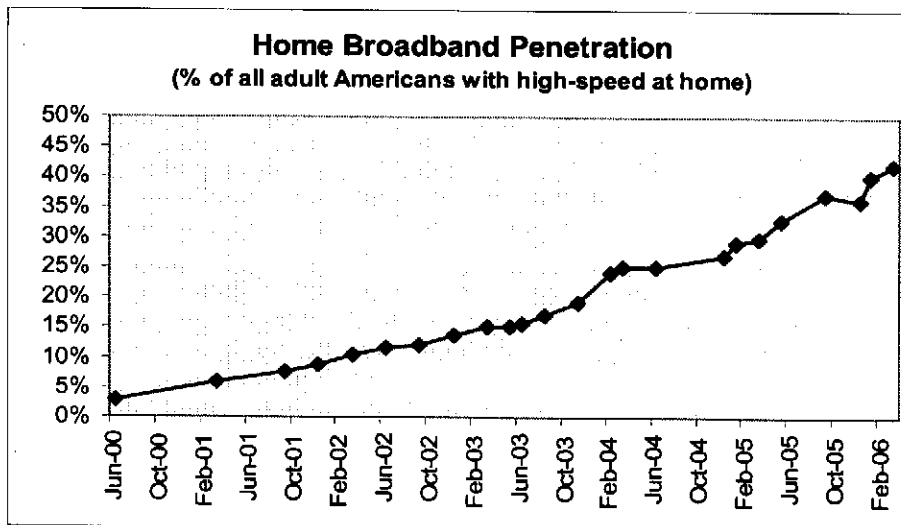
## Broadband Adoption in the United States

Broadband growth in the United States in early 2006 has resumed its fast upward trajectory. As of March 2006, 42% adult Americans – or 84 million people – have high-speed at home, up from 30% who had broadband at home in March 2005. This represents a 40% increase in the number of people with high-speed connections at home over a year's time. To put this growth rate in context, in a comparable timeframe of a year earlier, broadband adoption at home grew by 20% from March 2004 to March 2005. The chart below shows growth rates in broadband adoption in recent years.



The 2005-2006 growth rate means that home broadband adoption has gone from single-percentage point penetration rates to over 40% of adult Americans in just six years' time.

## Part 1. Broadband Adoption in the United States



With 25 million more Americans using broadband at home in early 2006 than a year earlier – which was the entire population of home broadband users at the end of 2002 – it is worth asking about the sources of this growth. To some extent, the rise in broadband penetration is linked to growth in overall internet penetration since the end of 2004, with more new online users beginning their internet experiences with high speed connections than has traditionally been the case. Our surveys show that 60% of adult Americans were internet users during November 2004, a figure that stood at 66% in January 2005; as of March 2006, 73% of adults said they were internet users. Whereas 35% of new internet users (i.e., those online for a year or less) connected at home by high-speed in the winter of 2004, that figure increased to 45% for new internet users by the winter of 2005.

25 million more Americans were using broadband at home in March 2006 as compared to March 2005. That equals the total number of home high-speed users in the United States at the end of 2002.

A seven percentage point increase in internet penetration from 2005 to March 2006, with these new users signing up for broadband at the rate noted above, accounts for about 25% of home broadband growth. The remaining increase came from current users switching from dial-up to broadband. Although we do not have a panel of respondents to allow us to pinpoint exactly the source of the growth, the table below comparing penetration across demographic groups at the two points in time paints a picture of strong growth across a wide range of population segments.

## Part 1. Broadband Adoption in the United States

Docket No. UT-061625

Exhibit DLT-7R

February 16, 2007

PAGE 11

| <b>How Broadband is Spreading Through the Population</b>                       |                                 |                                 |                           |                     |
|--|---------------------------------|---------------------------------|---------------------------|---------------------|
| Changes in the percentage of each group who have broadband connections at home |                                 |                                 |                           |                     |
|  | % with broadband at home (2005) | % with broadband at home (2006) | Percentage point increase | Percentage increase |
| <b>Gender</b>  |                                 |                                 |                           |                     |
| Male   | 31%                             | 45%                             | 14%                       | 45%                 |
| Female   | 27                              | 38                              | 11                        | 41                  |
| <b>Age</b>   |                                 |                                 |                           |                     |
| 18-29  | 38                              | 55                              | 17                        | 45                  |
| 30-49  | 36                              | 50                              | 14                        | 39                  |
| 50-64  | 27                              | 38                              | 11                        | 41                  |
| 65+  | 8                               | 13                              | 5                         | 63                  |
| <b>Race / ethnicity</b>  |                                 |                                 |                           |                     |
| White (not Hispanic)   | 31                              | 42                              | 11                        | 35                  |
| Black (not Hispanic)   | 14                              | 31                              | 17                        | 121                 |
| Hispanic (English speaking)  | 28                              | 41                              | 13                        | 46                  |
| <b>Educational attainment</b>  |                                 |                                 |                           |                     |
| Less than high school  | 10                              | 17                              | 7                         | 70                  |
| High school grad   | 20                              | 31                              | 11                        | 55                  |
| Some college   | 35                              | 47                              | 12                        | 34                  |
| College +  | 47                              | 62                              | 15                        | 32                  |
| <b>Household income</b>  |                                 |                                 |                           |                     |
| Under \$30K  | 15                              | 21                              | 6                         | 40                  |
| \$30K-50K  | 27                              | 43                              | 16                        | 59                  |
| \$50K-\$75K  | 35                              | 48                              | 13                        | 37                  |
| Over \$75K   | 57                              | 68                              | 9                         | 19                  |
| <b>Community type</b>  |                                 |                                 |                           |                     |
| Urban  | 31                              | 44                              | 13                        | 42                  |
| Suburban   | 33                              | 46                              | 13                        | 39                  |
| Rural  | 18                              | 25                              | 7                         | 39                  |

**Sources:** 2005 data comes from the Pew Internet Project's combined January-March tracking survey of 4,402 adults; 1,265 were home broadband users. 2006 data comes from the Pew Internet Project's February 15 through April 6 survey of 4,001 adults; 1,562 were home broadband users.

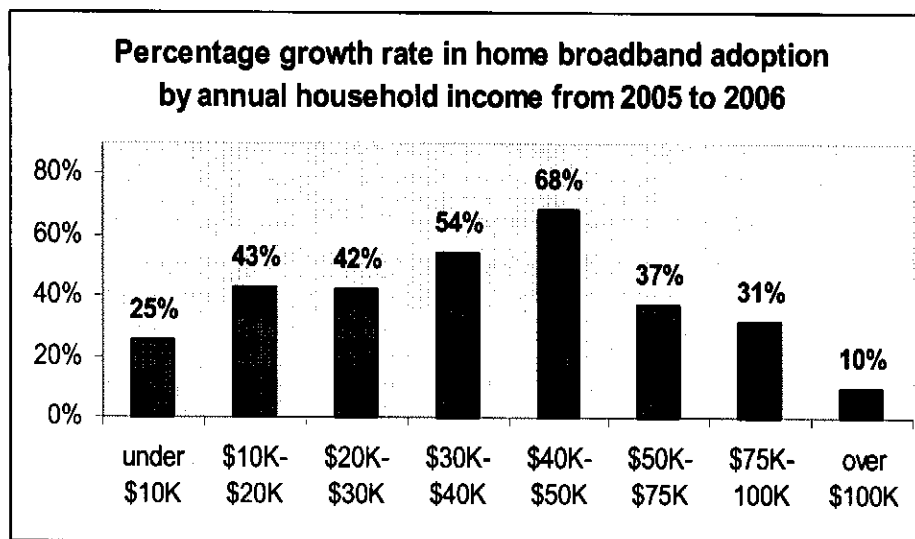
Relatively low adopters from 2005 had the largest growth rates into 2006. African Americans, for example, report a whopping 121% growth rate, which is both large and statistically significant. Four other groups exhibited rapid growth rates:

- Those who did not finish high school,
- Senior citizens,
- Those whose annual household incomes are in the \$30,000 to \$50,000 range,
- High school graduates.

## Part 1. Broadband Adoption in the United States

The numbers for growth in lower income categories are important because it shows fast growth rates among a large segment of the population – approximately 40% of Americans tell us their annual household incomes are under the \$50,000 threshold. In collecting data on income, respondents are asked to place themselves in one of eight income categories that are read to them. Many respondents – about 20% – opt not to provide this information. Of those who do, the median (or middle) category chosen is the fifth one – a household income between \$40,000 and \$50,000 per year.

The middle income category is the one which experienced the most growth in broadband adoption from 2005 to 2006. The chart below displays the growth rates from 2005 to 2006 across the disaggregated income categories.



Income is, of course, a factor in broadband adoption. As the table on page three shows, 15% of those who live in households with income under \$30,000 annually have broadband compared with 57% of those in households whose incomes exceed \$75,000 annually. But the data do show that broadband is no longer just the province of upper-income Americans.

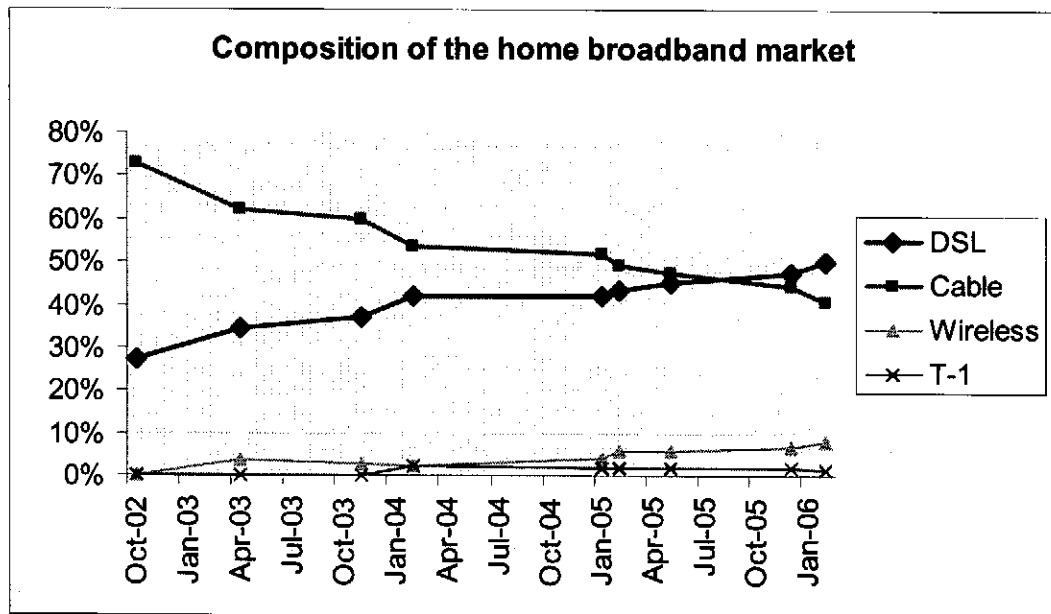
As noted, many respondents do not tell us what their income is, but they do share whether they have high-speed connections at home. Among the roughly 20% of respondents who refuse to answer the income question, 22% had broadband connections at home in 2005; for respondents from our 2006 survey who did not provide information on income 31% had broadband at home. This is a growth rate of 41% from 2005 to 2006.<sup>4</sup>

<sup>4</sup> Although it is hard to precisely impute the income levels of those who refuse to answer our survey question on income, the relatively low level of broadband and internet adoption generally (60% of non-respondents to the income question are internet users), suggests a sizeable share are in the lower income ranges.

## Part 1. Broadband Adoption in the United States

### DSL is starting to overtake cable in the broadband marketplace.

When asking people about their online connection speed, the survey question reads: “Does the computer you use at home connect to the internet through a dial-up telephone line, or do you have some other type of connection, such as a DSL-enabled phone line, a cable TV modem, a wireless connection, or a T-1 or fiber optic connection?” This yields not only whether people have broadband connections at home, but also the type of connection they use.



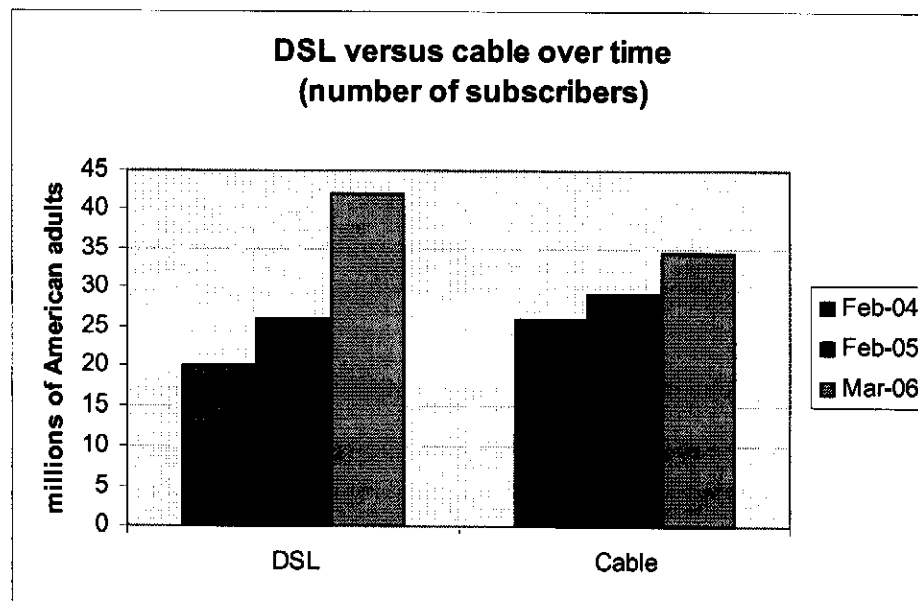
DSL providers have made steady progress over time in increasing their market share of home broadband. According to our March 2006 survey, 50% of those with high-speed connections at home log on using DSL compared with 41% who use cable modems. As a home high-speed connection, wireless has also increased its presence – from next to nothing in 2002 up to 8% of the home broadband market as of March 2006. This translates into approximately six million Americans who use a wireless connection to get online at high-speed at home.

In looking at the share of home high-speed users who use DSL versus cable modems, it is worth noting that the sample for the December 2005 survey was drawn from a list of landline telephone numbers. This excludes households whose only source of telephone access is from a cell phone – a growing group of Americans. A recent report from the Pew Research Center for the People & the Press shows that, when comparing responses from a landline sample with those from a sample that includes cell phone respondents (and cell-phone-only respondents), there are generally not significant differences across a

## Part 1. Broadband Adoption in the United States

variety of questions.<sup>5</sup> However, differences were evident when focusing on how people get broadband at home. Including cell phone respondents narrows the advantage DSL has in market share by 5 percentage points in the Pew Research Center study. In the context of this report, that would reduce, but not reverse, the lead DSL currently has over cable modems. And it would not affect the trend in Pew Internet data that shows DSL steadily gaining market share in recent years.

The changes in market share have occurred while the market has grown. In February 2004, when 48 million adults had high-speed at home, 20 million had DSL connections and 26 million used cable modems. By March 2006, when 84 million adults had broadband at home, 42 million use DSL for high-speed compared with 34 million who use cable.



Both cable and DSL have been gaining subscribers over the past several years, but DSL has clearly been gaining subscribers at a faster rate than cable. DSL has gained most of the fastest growing segment of the market – the middle to lower-middle income group. Within that group, whose home broadband adoption rate grew by 59% from 2005 to 2006, 55% have DSL at home, while 35% have cable modems for their high-speed access at home.

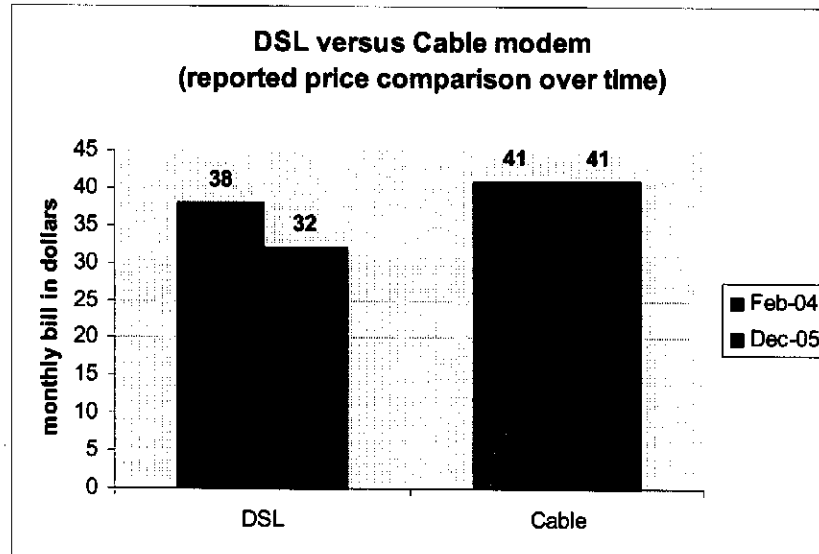
### Fueled by dropping DSL prices, broadband is 8% cheaper than in 2004.

When asked what they pay monthly for their internet service, DSL users report, in our December 2005 survey, an average bill of \$32; those with cable modem service report

<sup>5</sup> Pew Research Center for the People & the Press, *The Cell Phone Challenge to Survey Research*, May 15, 2006. Available online at: <http://people-press.org/reports/pdf/276.pdf>.

## Part 1. Broadband Adoption in the United States

\$41.<sup>6</sup> This is a much larger price spread than was the case in February 2004, when we last asked this question. Then, DSL users said they paid \$38 per month for home high-speed service compared for \$41 per month that those with cable modem high-speed service reported paying. In other words, DSL was just a few bucks cheaper than cable modem service in 2004 – \$3 to be exact. By the end of 2005, DSL service was \$9 less expensive, on a monthly basis, than cable modem high-speed internet service.



For all types of connections, home broadband users report that they pay an average of \$36 per month for their internet service. This compares with \$39 per month that home high-speed users reported paying when we asked home high-speed users the same question in February 2004. That is a decrease in the monthly cost of broadband of about 8% over this time period.

For dial-up internet users, there has also been a change in what they pay for service. In December 2005, home dial-up users say their monthly bill for internet service was approximately \$18, compared with \$23 in February 2004. This represents a decline of 19%. The gap reported between the cost of high-speed and dial-up service at home did, however, grow somewhat, from \$16 in 2004 to \$18 by the end of 2005.

---

### **Most broadband users have some choice when it comes to service provider, though that is less true for rural Americans.**

One would expect that users with the choice of more than one high-speed internet provider to benefit from the choice through lower prices. We asked respondents if they knew how many home broadband vendors provided service in their area. Fully 61% said

<sup>6</sup> The data in the previous sections of this part of the report comes from our March 2006 survey. The data reported in this section and in later parts of the report, which focus on specific activities people do with their home high-speed connections, comes from our December 2005 survey of 3,014 American adults.

## Part 1. Broadband Adoption in the United States

that there is more than one high-speed internet provider available to them; 25% said “no,” with 13% responding that they did not know. This compares with 64% who said there was more than one high-speed provider in February 2004, 19% who said “no,” and 18% who did not know.

Looking at what people reported paying for service, respondents with more than one home high-speed service provider said they paid \$36 monthly for service. Those who said they did not have more than one provider reported a monthly bill of \$38. In February 2004, respondents with more than one home broadband provider said their monthly internet bill was \$38; those who said they did not have more than one provider said they paid \$43 per month for high-speed service.

Rural areas are the places with the highest incidence of having one high-speed service available to them. Among rural respondents, 35% said they did not have more than one high-speed provider available to them versus 24% of non-rural respondents who said this.

---

### **People are likely to cite the need for faster access speeds as the reason for upgrading to broadband.**

The desire for a faster connection speed is the primary motivator for getting a high-speed connection at home. Nearly three-fifths (57%) of respondents specifically cited the need for faster access or greater connection speed when asked their reason for getting broadband. Several other categories of response indicate that the desire for more speed is an important factor: 6% said their dial-up connection was too slow and frustrating, 4% said they wanted to download files faster, and 2% cited entertainment as a reason. Few people mentioned price – 3% said the price of broadband fell to a more affordable level and 1% said they responded to a promotional offering.

In addition to the desire for speed, it is possible that having tasted high-speed connections at the work place, some users will be motivated to get it at home as well. That is true for one-third (33%) of users with broadband at home and work; they say that the high-speed connection had “a lot” to do with their decision to purchase the service for the home. Most (51%) said that high-speed at work did not affect their decision to get it at home.

|  |
|--|
| When asked whether they know the connection speed of their home high-speed internet service, 81% of respondents said they didn't know. |
|--|

With speed looming large as a factor behind broadband adoption, we probed further to see how many broadband users were aware of the speed of their home connection. One reason for this is that companies increasingly draw comparisons of the connection speeds they offer to those of their competitors. Though connection speed clearly is important for broadband users, it is hard to pin them down on their precise connection speed. Just one



## Part 1. Broadband Adoption in the United States

in six (17%) were able to give a response as to what their home connection speed was, and 81% did not know or were not sure.

---

### Some people are not interested in broadband at home.

With broadband adoption increasing apace in the United States and nifty online applications being developed that run best over fast connections, it may be hard to believe that many people would want to stick with their dial-up internet connections. However, when asked whether they would like to have high-speed at home, 39% of dial-up users say they would, and 60% say they are not interested in upgrading to broadband.

There are a couple of reasons for this apparent oddity. First, 22% of dial-up users who say they do not want to change to broadband at home have high-speed connections at work. Some of these home dial-up users may be content to surf the Web at a high-speed at work and take care of the basics – such as email – over their home dial-up connection.

Second, some demographic factors may come into play in keeping some people in the dial-up column. Age is a possible explanation; 46% of dial-up users who do not want broadband are over age 50, while 32% who want to get broadband are over age 50. In general, advancing age means less interest in power surfing online – which broadband enables. Income could also play a role. Dial-up users who say they do not plan to switch to broadband are more likely to have lower incomes than the average internet user; 45% of these users fall in the under \$50,000 per year household income category compared with 40% of dial-up users who would like broadband.

Finally, it is worth noting that people's preferences probably do not stay fixed over time. Roughly 40% of dial-up users have said they do want to switch to broadband when we have asked this question over the past four years; 40% of dial-up users said this in February 2004 and 38% said this in October 2002. However, the pool of dial-up users has shrunk markedly in this time frame – from 38% of all adults with dial-up connections at home in October 2002 to 22% in March 2006.

Even though many (40%) of dial-up users say they don't want to switch to broadband, it is likely that some of these users will change their tune over time and decide to make the change to high-speed.

Although we do not have the same panel of respondents to identify changes in attitudes, the decrease in dial-up from 2002 to 2006 is undoubtedly due to many people who said they wanted to switch to broadband in fact making the switch. For the share of dial-up users who want to switch to broadband to stay steady at 40% – in the face of a declining pool of dial-up users – some dial-up users who said they did not want broadband in the past must shift over to the set of people who today say they want broadband.

## **Part 2.**

### **User-generated Content and Interactivity at the Cutting Edge**

Previous studies by the Pew Internet & American Life Project found that a home high-speed internet connection draws people deeper into internet use, and the data from our December 2005 survey add further weight to this finding. Half of online users (53%) say they spend more time online since getting a high-speed internet connection at home, while 40% say the amount of time they spend online has not changed since getting broadband (6% say they spend less time online).

The “time effect” shows up when broadband and dial-up users are asked to estimate the amount of time they spent online “yesterday.” The upper-end choices for the time estimates are between “two and three hours,” between “three and four hours,” and more than four hours.” For broadband users, 43% say that, on the typical day, they spend more than two hours on the internet – 18% say they spend more than four hours. For dial-up users, 33% say they spend more than two hours online on the typical day and 10% say they spend upward of four hours online.

These differences – identified by asking people what they did “yesterday” – are compounded because dial-up and broadband users go online “yesterday” at very different rates. Among home dial-up users, 56% go online on the typical day, in contrast to the 77% of broadband users who say they get online on the typical day. When more broadband than dial-up users say they spend more than four hours online on the typical day in the percentage terms noted above, that difference does not take into account that a broadband is more likely than a dial-up user to go online to begin with on the average day.

The December 2005 survey probed two dimensions of how broadband users’ increased engagement with the internet might play out: posting content to the internet and use of the emerging interactive voice online application – voice over internet protocol (VoIP) phone calling.

---

#### **Forty-eight million American adults have posted content to the internet.**

Overall, 35% of internet users posted online content that fall into one of the categories listed below; that comes to 48 million American adults.

Since most of the content items are of a personal nature, the table below focuses mainly on content creation among adult internet users with access at home, although the first column reports results from all internet users asked the questions. Most (89%) internet

## Part 2. User-generated Content and Interactivity at the Cutting Edge

users have access at home and the same share of user-generated content originates from online users with home access. Broadband users, not surprisingly, are more partial to putting content online than dial-up users, with 42% of broadband users having done that versus 27% of dial-up users. In other words, among home online users who have posted content to the internet, 73% have broadband; that is about 31 million adults.

| User-generated online content  |                    |                |                   |                 |   |  |
|--|--------------------|----------------|-------------------|-----------------|---|--|
|  | All internet users | All home users | Broadband at home | Dial-up at home | Millions of Americans with home internet access who do activity | Millions with internet access only at places other than home or work |
| Create or work on your own online journal or blog  | 8%                 | 8%             | 11%               | 4%              | 9 million   | 2 million  |
| Create or work on your own webpage   | 14                 | 15             | 17                | 11              | 18 million  | 2 million  |
| Create or work on webpages or blogs for others including friends, groups you belong to, or work        | 13                 | 13             | 16                | 9               | 16 million  | 2 million  |
| Share something online that you created yourself, such as your own artwork, photos, stories, or videos | 26                 | 28             | 32                | 20              | 32 million  | 4 million  |
| Percent who have done at least one the above "content" activities                                      | 35                 | 36             | 42                | 27              | 43 million  | 5 million  |

Source: Pew Internet & American Life Project December 2005 survey. Margin of error for internet users is  $\pm 2\%$ .

In looking across the different kinds of user-generated content that we probed, there is an element of the internet being the medium *for* creativity and the internet being an *outlet* for creativity people bring to worldwide web. Blogging and, perhaps to a somewhat lesser extent, maintaining one's own web page, are creative undertakings that take place mainly at the keyboard. For the 36 million Americans who share their own creations online, several of the topics we queried, such as artwork, photos, or videos, start offline, and then people use the internet as a tool of distribution.

There is a significant statistical association between creating online content and having a home broadband connection.

With home broadband users accounting for 73% of those who post content to the internet, it is worth noting that 62% of home internet users have high-speed internet connections at home. This means that people with broadband connections account for more than their fair share of content postings to the internet. Some of this may be due to who broadband users are – more likely to be young and therefore more accustomed to expressing themselves using the internet. It is conceivable that some people subscribe to broadband *because* they want to share their creations online. Finally, the availability of the high-speed connection might draw some users to posting things to the internet. Whatever the root causes, there is a significant statistical association between having a home broadband connection and users' putting content online.

## Part 2. User-generated Content and Interactivity at the Cutting Edge

---

### User-generated content is no longer just for the “broadband elite.”

When the Pew Internet Project, in our January 2002 callback survey of home high-speed users, first asked users whether they post content online, we asked a broad question about whether respondents had posted *any* content to the internet, such as Web pages. At that time, 16% of broadband users said they had done this. Most of this user-generated content (80%) came from a group of broadband users we termed the “broadband elite.” Demographically, the broadband elite fits a classic early adopter profile for technology users – heavily male, well educated, and comfortable financially.<sup>7</sup> This was at a time when roughly 10% of American adults had high-speed connections at home.

Today, with 42% of Americans with having home high-speed, user-generated content is much less the realm of only a certain class of home broadband users. Online men are still more likely to post content online than women – by a 37% to 32% margin for all internet users and a narrower 43% to 39% gap for broadband users. When focusing on sharing a personal creation online (e.g., artwork, photos, stories, or videos), 34% of men have done this versus 29% of women.

However, when looking across income levels, there is an even distribution of user-generated content. For home broadband users in the lower portion of those who report household income figures to us, fully 46% of respondents in broadband households in the “under \$50,000” income range have put some sort of content on the internet. Some 37% of these respondents have shared a personal creation online and 13% have their own blogs. For respondents with home high-speed who report household incomes of more than \$50,000 per year, 41% say they have posted some sort of content online, 10% have their own blogs, and 32% have shared online content they have created. Finally, recall that many respondents do not tell us their household income. Among home broadband users in this group, 36% have been the source of user-generated online content.

Young internet users – especially those with broadband at home – are the most likely contributors of content to cyberspace.

Age, however, remains a distinguishing feature among those who put things online *and* have high-speed at home. For broadband users under the age of 30, 51% have placed content on the internet, 25% have their own blogs, and 41% have posted online a bit of content they created themselves. For those over 30 with high-speed at home, 36% have been a source of online content, 6% have their own blogs, and 28% have posted any sort of creative work to the internet.

---

<sup>7</sup> See John B. Horrigan and Lee Rainie, *The Broadband Difference: How online Americans' behavior changes with high-speed Internet connections at home*. Available online at: [http://www.pewinternet.org/pdfs/PIP\\_Broadband\\_Report.pdf](http://www.pewinternet.org/pdfs/PIP_Broadband_Report.pdf).

## Part 2. User-generated Content and Interactivity at the Cutting Edge

| <b>A Portrait of Those Who Post Content Online</b>   |                            |
|--|----------------------------|
| The percentage of internet users in each group who have done at least one of the following online: shared something they created themselves like a story or a video, created their own webpage, worked on others' webpages, or created a blog. |                            |
|  | % who are content creators |
| <b>Gender</b>  |                            |
| Men  | 37%                        |
| Women  | 32%                        |
| <b>Age</b>   |                            |
| 18-29  | 43%                        |
| 30-49  | 36%                        |
| 50-64  | 29%                        |
| 65+  | 18%                        |
| <b>Race / ethnicity</b>  |                            |
| White (not Hispanic)   | 32%                        |
| Black (not Hispanic)   | 39%                        |
| Hispanic (English speaking)  | 42%                        |
| <b>Educational attainment</b>  |                            |
| Less than high school  | 32%                        |
| High school grad   | 28%                        |
| Some college   | 37%                        |
| College +  | 38%                        |
| <b>Household income</b>  |                            |
| Under \$30K  | 32%                        |
| \$30K-\$50K  | 32%                        |
| \$50K-\$75K  | 33%                        |
| Over \$75K   | 41%                        |
| <b>Community type</b>  |                            |
| Urban  | 39%                        |
| Suburban   | 34%                        |
| Rural  | 27%                        |

Source: Pew Internet Project's December 2005 survey of 3,011 adults; 1,931 were internet users.

## Part 2. User-generated Content and Interactivity at the Cutting Edge

---

### Some user-generated content posting happens at work – some of it personal in nature.

Many Americans – 30% to be precise – have internet access at home and in the workplace and 8% have access exclusively from work, with another 3% having access only from a place other than home or work. It is quite possible that some “content management” activity goes on when people use the internet at work or elsewhere, although our survey did not ask respondents where they do their online content activities.

Some internet users take time out of the work day to update their personal webpage or blog.

When focusing on users whose only internet access is in the workplace – an admittedly small sample of 148 users – we find that there is personal content creation going on in the workplace. One in five (21%) of these “work only” users have posted content of some sort to the internet, with 8% saying they have their *own* online journal or blog. When adding the 3% of internet users who have online access exclusively from a place other than home or work, the sample size increases to 216 and the results stay the same.

---

### Thinking about trends in content creation

The Pew Internet Project last asked about user-generated content in April 2003, and we asked about it in greater detail than in our December 2005 survey. In 2003, the survey prompted users about twelve different topics related to posting content to the internet. This yielded the finding that 44% of internet users had been the source of online content.<sup>8</sup> The twelve topics included all the elements listed in the four online content questions listed in the table on page 11, although several items, such as posting artwork or audio files, were broken out as separate questions. A few online content activities asked about in 2003, such as posting comments to online newsgroups, were not included in our December 2005 survey.

The differences in the 2003 and 2005 survey questions on content creation make it impossible to compare our overall numbers for user-generated content over this time interval. The questions were asked differently, and the long list of content activities in 2003 likely had the effect of increasing the share of online users who said they had ever posted content to the internet. Such a lengthy list tends to jog people’s memories about activities they may have done.

It is nonetheless notable that user-generated creation was heavily dominated by broadband users in 2003 – at about the same rate as in 2005. In 2003, broadband users

---

<sup>8</sup> Amanda Lenhart, Deborah Fallows, John Horrigan, *Content Creation Online: 44% of U.S. Internet users have contributed their thoughts and files to the online world*. Available online at: [http://www.pewinternet.org/PPF/r/113/report\\_display.asp](http://www.pewinternet.org/PPF/r/113/report_display.asp).

## Part 2. User-generated Content and Interactivity at the Cutting Edge

accounted for 34% of those posting content to the internet, at a time when 32% of home internet users logged on via high-speed. Home high-speed users accounted for 73% of those involved with user-generated content in 2005 against their 62% share among home internet users.<sup>9</sup> The balanced growth in broadband penetration and user-generated content among broadband users is further evidence that posting content to the internet is not just a phenomenon limited to early internet adopters.

---

### Awareness of VoIP and internet phone calling is growing.

The December 2005 survey shows that 13% of internet users say they have made a phone call online, a slight percentage increase since we last asked the question in February 2004 when 11% of internet users said they had. With the growth in online penetration over that time period, that translates into 18 millions of Americans saying they have made a phone call online, up from 14 million in February 2004.

In trying to assess the impact of an emerging technology such as VoIP, it is important to start with measures of basic awareness in the general public. Our December 2005 survey, asked all respondents the following question: “A new kind of telephone service, known as ‘Voice over internet protocol service’ or V-O-I-P is being marketed by companies like Vonage and SunRocket. Have you ever heard of this new kind of online phone service, or have you not heard about this?”

In February 2004, 27% of internet users said they had heard of VoIP – a number that increased to 45% in our December 2005 survey. Translated into millions of Americans, roughly 33 million Americans said they had heard of VoIP in 2004, a number that increased to 61 million by December 2005. This means that awareness of VoIP has grown by 86% in the 22 months since February 2004.

As to use in the home, VoIP had not penetrated the consumer market to any great degree when we first asked about it in 2004. By December 2005, there is the beginning of adoption of VoIP service in the home – 3% of all adult internet users say they have some sort of VoIP service at home. Using only those who have say they have heard of VoIP as a frame of reference for this number, 6% of these respondents have VoIP service at home. About half of those VoIP users have the service in addition to regular landline telephone service and about half have it instead of landline service at home.

In our report “Online News,”<sup>10</sup> which was based on the same December 2005 data detailed here, we identified a group of “high-powered” home broadband users as a special subset of the internet population. These are ardent internet users, willing to try

---

<sup>9</sup> Although the larger 2005 gap in share of content creators over penetration in home internet use for broadband suggests a heavier “broadband bias” for content creation in 2005, multivariate analysis of 2003 and 2005 data shows roughly the same magnitude of effect of a home broadband connection in predicting content creation in both years.

<sup>10</sup> See John Horrigan, *Online News: For many home broadband users, the internet is a primary news source*. Available online at [http://www.pewinternet.org/PPF/r/178/report\\_display.asp](http://www.pewinternet.org/PPF/r/178/report_display.asp)

## **Part 2. User-generated Content and Interactivity at the Cutting Edge**

new things, and usually active in providing feedback to industry and technologists about what they think of novel products. One would expect that this group – which comes to 40% of broadband users and 21% of all internet users – would be open to trying something such as VoIP. Indeed they are. Fully 10% of high-powered users have a VoIP service at home – that amounts to half of all home VoIP users.



## Methodology

This report is based on the findings of two daily tracking surveys on Americans' use of the internet. The first was by Princeton Survey Research Associates International between November 29 to December 31, 2005, among a sample of 3,011 adults, 18 and older. The material in this report dealing with content creation and the attitudes of people towards broadband emerged from this survey. For results based on the total sample, one can say with 95% confidence that the error attributable to sampling and other random effects is plus or minus 1.9 percentage points. For results based Internet users (n=1,931), the margin of sampling error is plus or minus 2.4 percentage points. In addition to sampling error, question wording and practical difficulties in conducting telephone surveys may introduce some error or bias into the findings of opinion polls. The response rate for the December 2005 survey was 28.6%.

The second survey was conducted by Princeton Survey Research Associates International between February 15 to April 6, 2006, among a sample of 4,001 adults, 18 and older. The material in this report dealing with broadband adoption for various demographic groups emerged from this survey. For results based on the total sample, one can say with 95% confidence that the error attributable to sampling is plus or minus 1.7 percentage points. For results based Internet users (n=2,822), the margin of sampling error is plus or minus 2.0 percentage points. In addition to sampling error, question wording and practical difficulties in conducting telephone surveys may introduce some error or bias into the findings of opinion polls. The response rate for the February to April survey was 29.8%.

The sample for these surveys is a random digit sample of telephone numbers selected from telephone exchanges in the continental United States. The random digit aspect of the sample is used to avoid "listing" bias and provides representation of both listed and unlisted numbers (including not-yet-listed numbers). The design of the sample achieves this representation by random generation of the last two digits of telephone numbers selected on the basis of their area code, telephone exchange, and bank number.

New sample was released daily and was kept in the field for at least five days. The sample was released in replicates, which are representative subsamples of the larger population. This ensures that complete call procedures were followed for the entire sample. At least 10 attempts were made to complete an interview at sampled households. The calls were staggered over times of day and days of the week to maximize the chances of making contact with a potential respondent. Each household received at least one daytime call in an attempt to find someone at home. In each contacted household, interviewers asked to speak with the youngest male currently at home. If no male was available, interviewers asked to speak with the oldest female at home. This systematic respondent selection technique has been shown to produce samples that closely mirror

## Methodology

the population in terms of age and gender. All interviews completed on any given day were considered to be the final sample for that day.

Non-response in telephone interviews produces some known biases in survey-derived estimates because participation tends to vary for different subgroups of the population, and these subgroups are likely to vary also on questions of substantive interest. In order to compensate for these known biases, the sample data are weighted in analysis. The demographic weighting parameters are derived from a special analysis of the most recently available Census Bureau's Annual Social and Economic Supplement (March 2005). This analysis produces population parameters for the demographic characteristics of adults age 18 or older, living in households that contain a telephone. These parameters are then compared with the sample characteristics to construct sample weights. The weights are derived using an iterative technique that simultaneously balances the distribution of all weighting parameters.