Postal Rate Commission
Submitted 5/3/2006 3:14 pm
Filing ID: 48707
Accepted 5/3/2006

USPS-T-8

BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON, DC 20268-0001

POSTAL RATE AND FEE CHANGES, 2006

Docket No. R2006-1

DIRECT TESTIMONY
OF
PETER BERNSTEIN
ON BEHALF OF THE
UNITED STATES POSTAL SERVICE

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DIRECT TESTIMONY
OF
PETER BERNSTEIN

AUTOBIOGRAPHICAL SKETCH

My name is Peter Bernstein. I am vice-president of RCF Economic and Financial Consulting, Inc., where I have been employed since 1992. As vice-president, I have major responsibilities at RCF in forecasting, econometrics, and quantitative analysis. In R2005-1, I submitted testimony discussing recent market developments affecting the volumes of different postal products. In R2001-1, I submitted testimony on the impacts of technological alternatives on mail volume. I have also submitted testimony on Ramsey pricing in R97-1, R2000-1, and R2001-1, and testimony in the MC97-2 parcel classification reform case. I have assisted Dr. George Tolley, president of RCF, in the development of his testimony for Docket Nos. R94-1, MC95-1, MC96-2, R97-1, R2000-1, and R2001-1.

In addition to my responsibilities at RCF, I have been a faculty member of the department of economics at DePaul University of Chicago since 1992, where I have taught courses in economics, finance, and econometrics. I was a faculty member of the department of economics at Loyola University of Chicago from 1987 to 1991, and taught classes at the University of Chicago Graduate School of Business in 1987.

In 1985, I earned a Masters Degree in Finance and Economics from the University of Chicago Graduate School of Business and I have completed all course work and examinations toward a Ph.D. from the University of Chicago. I received a B.A. in Economics from the University of Chicago in 1981.

PURPOSE AND SCOPE OF TESTIMONY

The purpose of this testimony is to shed light on the recent declines in First-Class Mail volumes. Several hypotheses have been presented to explain why First-Class Mail volumes were lower in 2005 than they were in 2001. This testimony demonstrates that the main reason for this decline is the continuing diversion of First-Class Mail volumes as a result of greater use of various technological alternatives. The testimony examines several sources of data, including postal volumes, demographic information, and extensive analysis of information contained in the annual Household Diary Studies.

I. INTRODUCTION AND OVERVIEW

First-Class Mail volumes peaked at 103,526 million pieces in 2000 and remained essentially the same at 103,520 million pieces in 2001. In 2005, volume was 98,071 million pieces, a 5.3 percent decline from the level four years earlier. Since 1970, there had never before been a four-year period in which First-Class Mail volumes declined, until these past few years.

Several hypotheses have been put forward to account for this recent decline in First-Class Mail volumes, but the most reasonable explanation is that volumes have been adversely affected by a variety of technological changes that have created alternatives to the use of First-Class Mail. In fact, electronic diversion – as it is called -- has been going on for many years and it also explains why First-Class Mail volume growth slowed during the decade prior to this recent period of decline.

This testimony is organized as follows. Chapter II presents evidence of electronic diversion by examining trends in First-Class Mail volumes. Chapter III considers some of the other explanations for the changes in historical trends. In Chapter IV, technologies that affect the mail are described and data showing growth in the use of these various technologies are presented. Chapter V turns to analysis of Household Diary Study data to gain further insight into the sources of the recent decline in First-Class Mail volumes. Chapter VI discusses the role of the Internet and details the substantial differences between households that do and do not have Internet access. Chapter VII examines changes in household bill payment activity over the past few years. Some brief conclusions are presented in Chapter VIII. This testimony also includes a library reference, USPS-LR-L-105, which presents the Household Diary Study data used in this testimony.

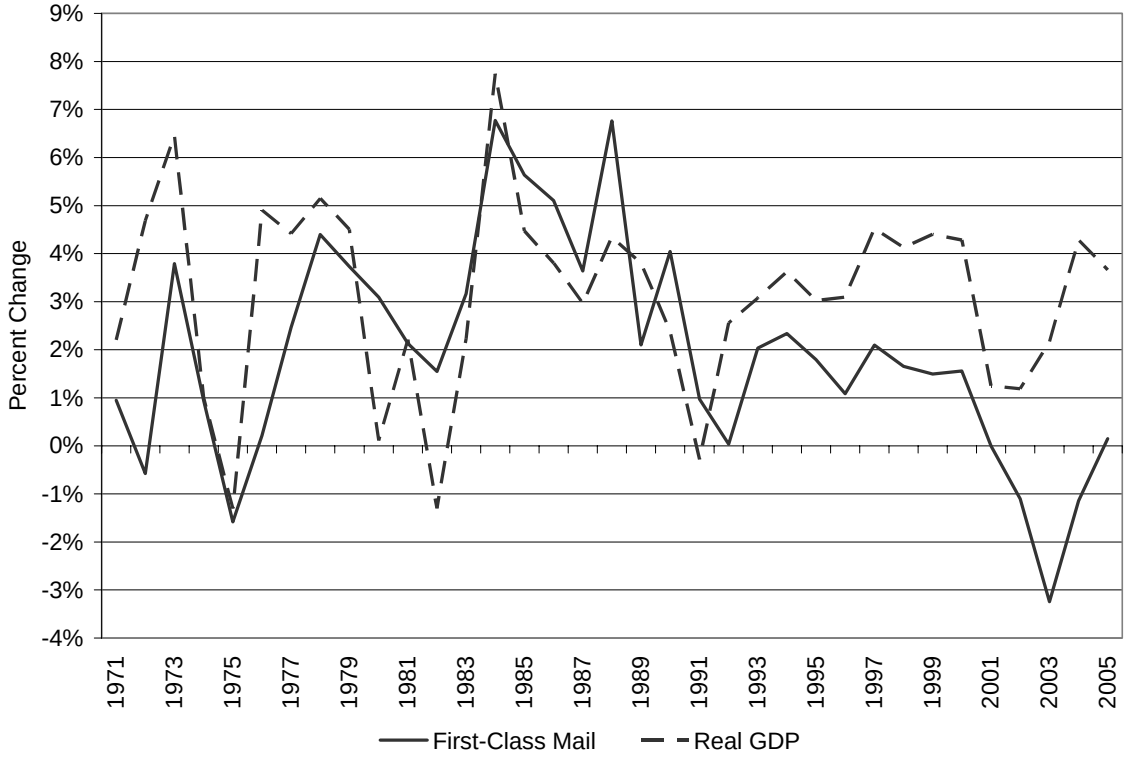
Many of the issues discussed in this testimony have been previously discussed in greater detail in my R2005-1 and R2001-1 testimonies. The reader who wishes a more complete understanding of the impacts of technology on mail volumes may find it helpful to review those earlier testimonies.

Electronic diversion impacts are accounted for in the econometric demand equations estimated by Thomas Thress (USPS-T-7) and are included as factors in his volume forecasts. Therefore, the purpose of this testimony is not to provide specific estimates of historical or future electronic diversion, but to provide a narrative that accompanies the testimony of Mr. Thress.

II. EVIDENCE OF THE DIVERSION OF FIRST-CLASS MAIL

Chart 1 compares the annual percent changes in First-Class Mail volumes with percent changes in the overall economy, measured by real gross domestic product (GDP). Twenty years ago, First-Class Mail volumes were growing faster than real GDP. A decade ago, First-Class Mail volumes were still growing, but at a rate less than growth in real GDP. Recently, First-Class Mail volumes have declined, not just in comparison to GDP, but in absolute terms as well.

Chart 1
Annual Percentage Change in First-Class Mail Volume and Real GDP



Source: US Postal Service and Federal Reserve

Several hypotheses have been put forth to explain this change in First-Class Mail volumes, but the most plausible explanation is that volume has been reduced by electronic diversion. Electronic diversion has typically been defined as the direct replacement of postal mail by an electronic alternative, as for

example, an online bill payment in place of a payment by mail. However, electronic diversion can also refer to the more general decline in the use of mail resulting from the myriad technological developments which changed the traditional relation between the mail and overall economic activity. Referring again to the data in Chart 1, one can create distinct periods as shown in Table 1. One period runs from 1979 through 1991, and is a time when First-Class Mail volume growth exceeded growth of real GDP. Another period is from 1992 through 2000, in which First-Class Mail continued to grow, but at a rate that was on average slower than the growth of real GDP. The last period is from 2001 through 2005, and is a period in which First-Class Mail has ceased to grow and actually ended the period at a lower level than when the period began.

Table 1
First-Class Mail Volume and Real GDP

Annual Average Change	1970 - 1978	1979 - 1991	1992 - 2000	2001 - 2005
First-Class Mail Volume	1.3%	3.7%	1.6%	-1.1%
Real GDP	3.7%	2.6%	3.7%	2.6%
Difference	-2.4%	1.1%	-2.1%	-3.7%

Source: US Postal Service and Federal Reserve

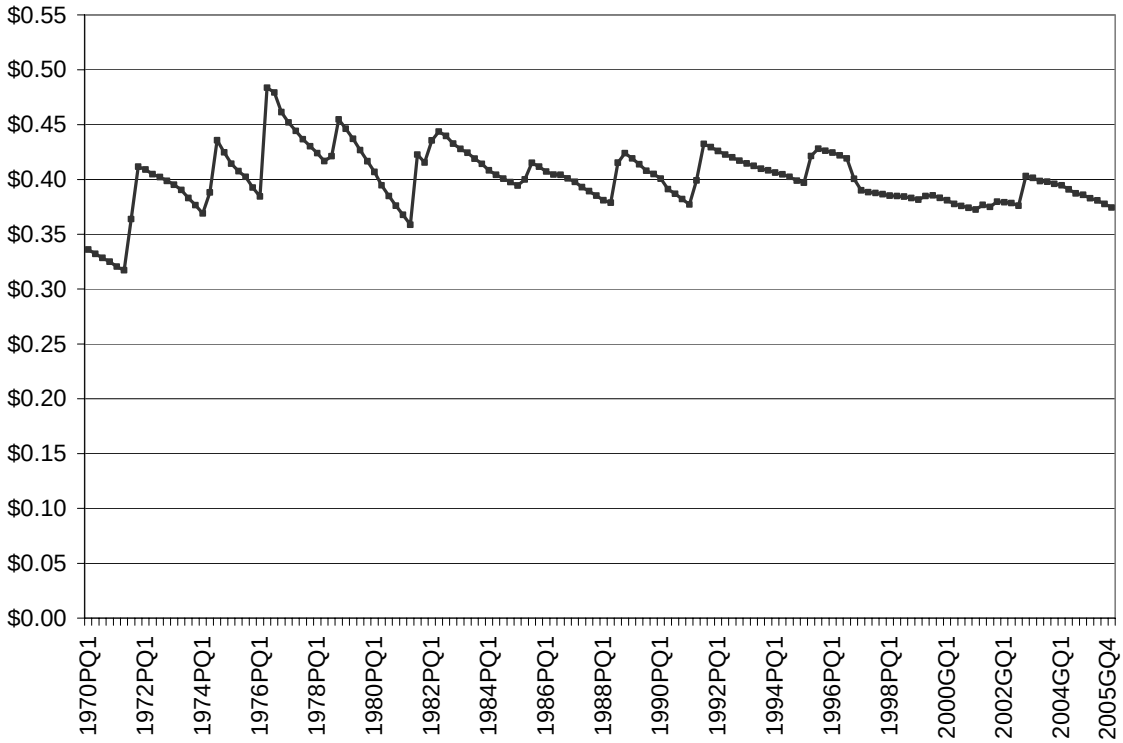
Note that another period, from 1970 to 1978, was not included in the above discussion. This was also a period in which First-Class Mail volume grew at a slower rate than real GDP, even declining in some years. The fact that this period was followed by a period of rapid growth might suggest that periods of relative or absolute decline need not be indicative of the future.

However, much of the slowdown in First-Class Mail volume in the early 1970s is explainable by the increase in real First-Class Mail rates as the Postal Service moved from being a partially subsidized entity to a self-sufficient one. From the first postal quarter of 1970 through the fourth postal quarter of 1978,

the real price of First-Class Mail increased 35 percent. Postal rates, specifically the introduction and expansion of workshare discounts, were also a factor in the 1978 to 1991 period during which volume growth outpaced growth in real GDP.

But as shown in Chart 2, for the past 20 years, First-Class Mail rates have been essentially unchanged in real terms, rising following a postal rate case and then declining by an approximately equal amount as inflation reduces the real price of the newly established rate. And so, the changing relation between First-Class Mail volumes and overall economic performance that appears to have begun in the early 1990s and accelerated in the past few years is not explainable by changes in the real price of First-Class Mail.

Chart 2
Real Price of First-Class Mail



Source: US Postal Service and Federal Reserve

That this period in which First-Class Mail volume growth began to slow and then turned negative coincides with a number of technological advancements in computers, communication, media, and the Internet is beyond question. But the pervasiveness of the change may have a tendency to obscure its significance. We may find ourselves thinking that this is how things have always been and forgetting how different things really have become.

Consider this testimony, and compare it with testimony filed in the R94-1 case. At that time, draft testimony was mailed from our firm, RCF, to the Postal Service. Corrections to the text, in those exceedingly rare occasions in which corrections were necessary, were mailed as well, as were responses to interrogatories and Commission requests for information. If outside parties were to obtain copies of the testimony and discovery responses, they typically received the documents through the mail. Rebuttal testimony, when filed, would be mailed to the Postal Service. And when the Commission issued its Opinion and Recommended Decision, it would be mailed to the witnesses at RCF.

Today, it is likely that this testimony, perhaps all of the testimonies in this case, all interrogatories and information requests, the Commission's decision, and the many other documents produced in the rate case will not generate one single piece of mail. Compared to the almost 100 billion pieces of First-Class Mail sent annually, the diversion of Postal Service rate case related mail is trivial. Also trivial are the insurance claim forms sent over the Internet, the architect's plans attached to an e-mail, the RFP downloaded from a Web site, the health club dues paid automatically from a credit card, the social security check automatically deposit in a bank account, and the business invoice processed through an electronic data interchange. Individually, none of these matter; collectively, they matter a lot.

III. ALERNATIVE HYPOTHESES

The fact that the decline in First-Class Mail volume growth coincides with the expansion of technological alternatives to the mail does not prove that the former was caused by the latter. Alternative explanations for the change in First-Class Mail volumes have been presented. While there is merit to some of these hypotheses, careful consideration shows that none of them adequately explains the behavior of First-Class Mail.

A. Economic Factors

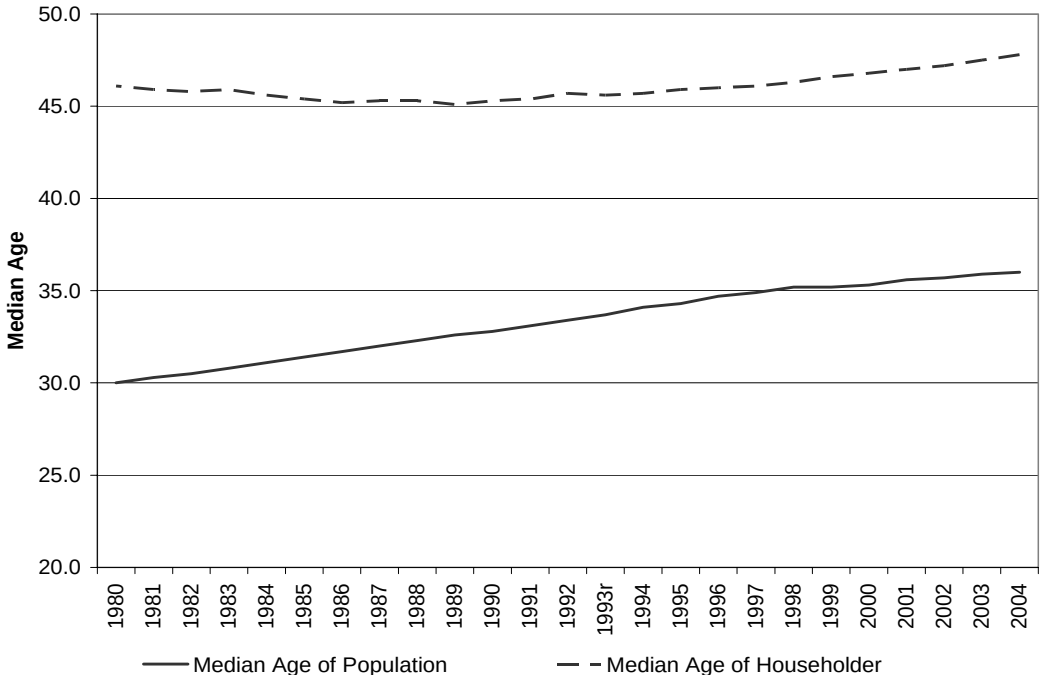
It has been argued that the stagnation and decline in First-Class Mail volumes has been due to an adverse economic environment, specifically a slowdown in economic growth and an increase in real postal prices. While these factors clearly affect First-Class Mail volumes, they act as better explanations for short-term variations in volume growth around an existing trend. For example, the declines in First-Class Mail volumes in 2002 and 2003 were exacerbated by a weak economy and an increase in real postal rates. Nonetheless, contrast the performance of First-Class Mail volumes in 2002 and 2003 with the performance in 1991 and 1992, another period in which a recession coincided with a rate case. In the earlier instance, First-Class Mail volume increased 1.0 percent over the two-year period. In the more recent period, volume declined 4.3 percent.

Moreover, over the past four-year period, real GDP has grown and real postal rates have fallen, yet First-Class Mail volumes are lower than they were in 2001. Therefore, economic factors alone do not explain the recent decline in volume. This point is further demonstrated by looking just at 2004 and 2005, a period in which real rates declined and the economy performed well. Still, First-Class Mail volumes in 2005 were lower than in 2003.

B. Demographic Factors

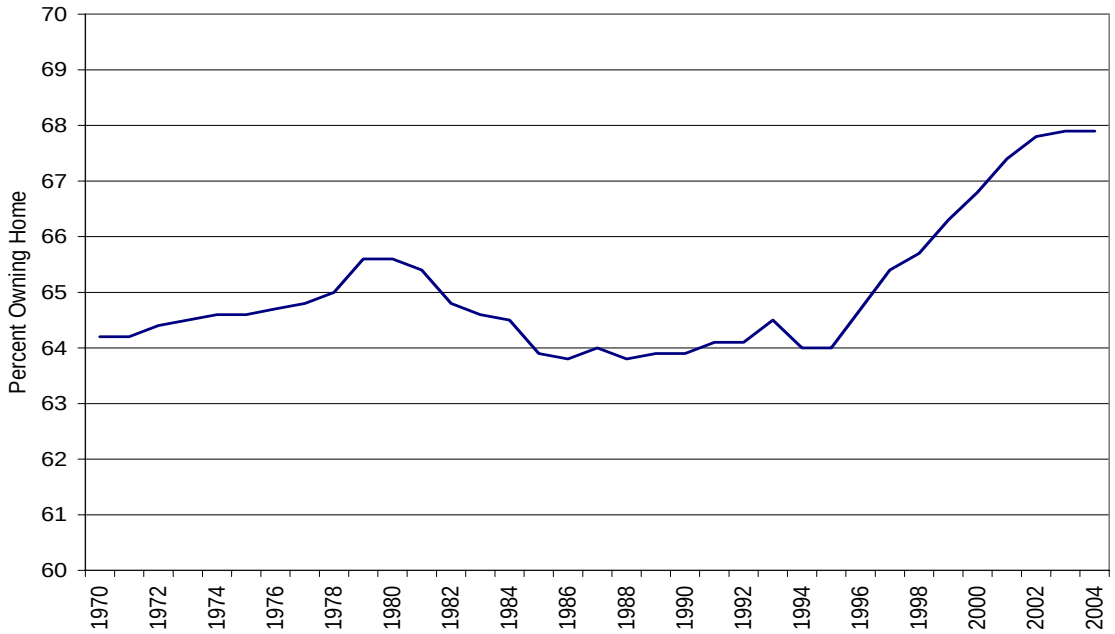
Another hypothesis is that changes in the demographics of the US population explain the change in the behavior of First-Class Mail. However, many key demographic characteristics have changed in ways that should lead to more, not less, First-Class Mail. For example, the US population is gradually aging – older people typically receive more mail than younger people. The rate of homeownership – homeowners typically receive more mail than renters – is at an all-time high. Educational attainment levels have also grown over time, and mail volume is positively related to education. The percentage of the adult population (age 25 and older) with at least a college degree has increased from 17.0 percent in 1980 to 21.3 percent in 1990 to 27.7 percent in 2004. Over that same period, the percentage without at least a high school degree has fallen in half. These demographic characteristics, obtained from the US Census Bureau, are presented in Charts 3, 4 and 5.

Chart 3
Median Age of Population and Heads of Households



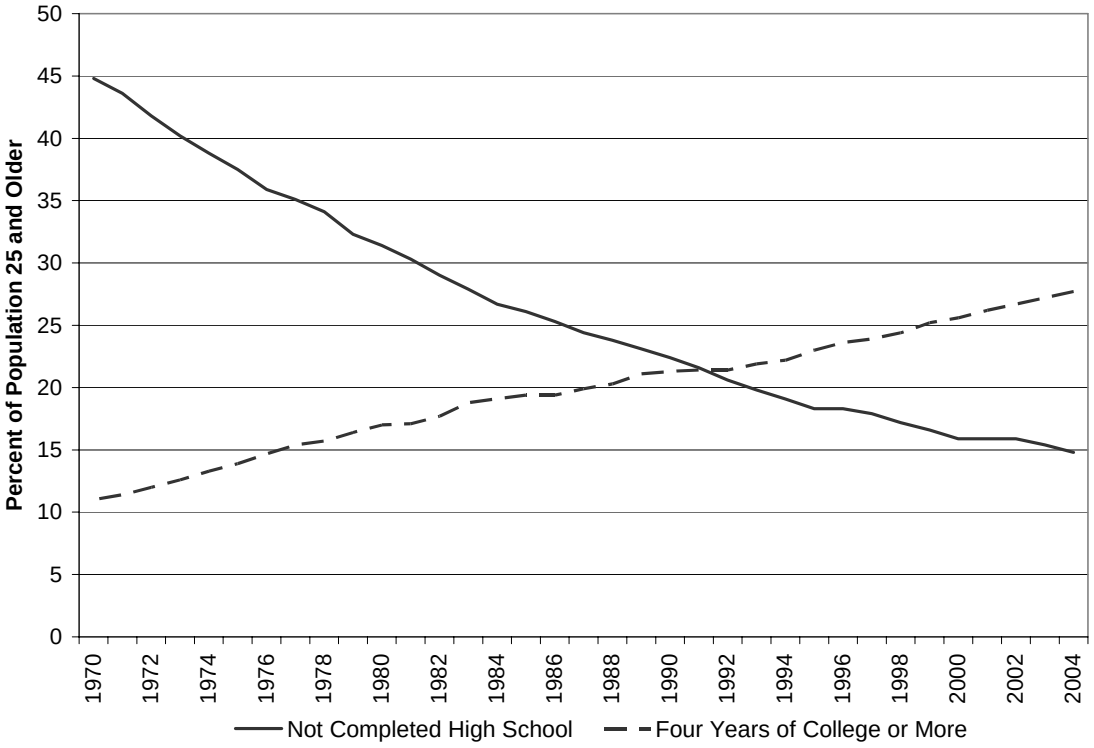
Source: US Census Bureau

Chart 4
Home Ownership



Source: US Census Bureau

Chart 5
Educational Attainment (Age 25 and Older)



Source: US Census Bureau

C. Immigration

One demographic change that could have an adverse impact on First-Class Mail volumes is the increase in immigration into the United States. According to the Census Bureau, 4.7 percent of the US resident population was foreign-born in 1970. By 1990, that percentage had risen 7.9 percent and in 2003, it reached 11.9 percent.

Americans use the mail more intensely than people from other nations, meaning that immigrants to the US have moved from a country that makes less use of the mail. It seems reasonable that these immigrants, at least in their early years in the US, might continue some of the behavior of their home country and use the mail less intensively than native born Americans. Whether this is a function of cultural or language differences, or simply a reflection of the fact that immigrants tend to have lower incomes, it is not unreasonable to expect that an increase in immigration to the US could affect traditional patterns of mail use within this country.

But immigration does not explain the slowdown and decline of First-Class Mail volumes because while immigrants may use the mail less than the native-born, they do use the mail some. Increases in population, from any source, should lead to increases in mail volume. Moreover, as Table 2 shows, the rate of growth in the native-born population has been greater since 1990 than it was in the 1980s.

Table 2
US Population: Annual Average Growth

Years	Total US	Native-Born
1970 – 1980	1.03%	0.87%
1980 – 1990	0.94%	0.75%
1990 - 2003	1.17%	0.83%

Source: US Census Bureau

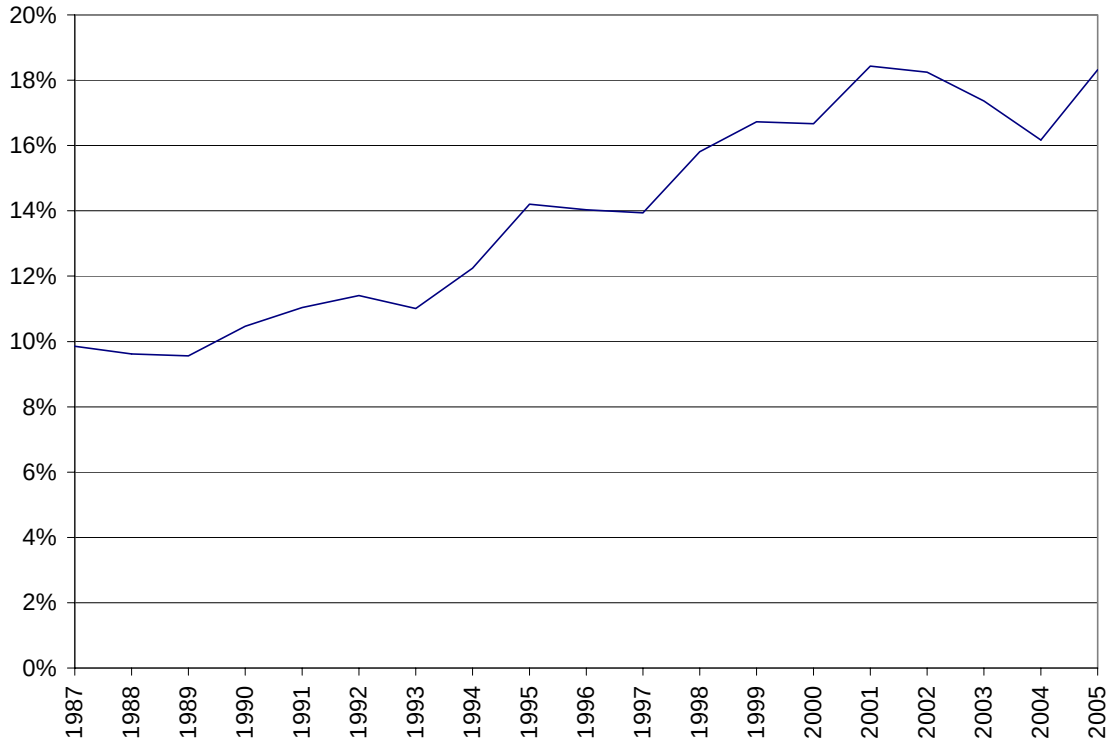
The increase in the growth rate of the immigrant population has occurred along with an increase in the growth rate of total population and an increase in the growth rate of the native-born population. Therefore, increased immigration does not explain the slowdown and subsequent decline in First-Class Mail volumes.

D. Shifts into Standard Mail

Another hypothesis is that First-Class Mail volumes have been shifting into Standard Mail. There is some evidence of shifts of advertising mail between First-Class and Standard Mail in recent years. However, the data do not support the view that the longer-term slowdown in First-Class Mail volumes is due to a shift of First-Class advertising mail into Standard Mail. Since 1987, the share of First-Class Mail that is advertising mail appears to have increased, indicating there has been no long-term trend away from First-Class advertising.

Chart 6 shows the advertising share of mail received by households based on Household Diary Study data from 1987 to 2005. The Household Diary Study is an annual survey of about 5,000 households that obtains information about the mail received by households as well as household demographic characteristics. From 1987 to 2005, First-Class advertising mail has increased from about 10 percent of the First-Class Mail received by households to about 18 percent. This finding runs counter to the notion that the changing trends in First-Class Mail volumes are due to a shift of advertising mail into Standard Mail. Chapter V of this testimony provides an extensive look at Household Diary Study data.

Chart 6
First-Class Advertising Mail
(as Share of First-Class Mail Received by Households)



Source: Household Diary Study

The findings in Chart 6 are hardly conclusive, for a number of reasons. First, the Diary Study focuses on mail received by households and, therefore, does not include advertising mail sent to non-households. Moreover, even within its count of household mail, the Diary Study is subject to random variations due to sampling error, as opposed to real changes in mail volume patterns. This problem is especially severe in the period from the late 1990s to 2000 when there was a change in the contractor in charge of the Diary Study. Therefore, the rise, then decline, then rise in the advertising share seen in the last few years could be a result of survey sample problems or it could be a reflection of underlying developments in the advertising market. Thus, it is possible that some of the decline in First-Class Mail volume in 2003 and 2004 could have

been due to a shift of advertising mail into Standard. Still, the data do not support the notion that there has been any long-term shift away from advertising via First-Class Mail toward Standard Mail. Instead, the data contradict that theory.

The same conclusion can be drawn by looking at the history of Standard Mail. Table 3 presents a comparison of growth in Standard Mail volume and real GDP, separated into the same periods described in Table 1 for First-Class Mail.

Table 3
Standard Mail Volume and Real GDP

Annual Average Change	1970 - 1978	1979 - 1991	1992 - 2000	2001 – 2005
Standard Mail Volume	3.7%	7.0%	4.2%	2.3%
Real GDP	3.7%	2.6%	3.7%	2.6%
Difference	0.1%	4.4%	0.6%	-0.3%

Source: US Postal Service and Federal Reserve

The striking feature of Table 3 is the rapid growth in Standard Mail in the period from 1979 through 1991. [Actually, the surge in Standard Mail volumes began in 1977 and continued through 1988, but the periods are chosen to match those shown for First-Class Mail.] A second feature is that aside from this period of rapid volume growth, Standard Mail volumes have grown at about the same pace as real GDP. The key finding, however, is that there is no evidence of an unusually strong growth in Standard Mail volumes which would be expected if meaningful amounts of advertising mail were shifting into Standard from First-Class.

Therefore, while mailers no doubt shift advertising mail between First-Class and Standard, depending on changes in relative rates or the marketing objectives of the mail, the evidence does not support the hypothesis that the slowdown and decline in First-Class Mail volumes is due to advertising mail shifting from First-Class to Standard.

E. The Natural Decline of a Mature Industry

Another explanation for the recent decline in First-Class Mail volume is that it reflects a natural decline inherent to a mature industry such as the mail. There is no question that the mail is a mature industry, the U.S. Post Office having been formed in 1775. Yet, it seems odd that an industry that is 210 years old, as it was in 1985, could be growing faster than the economy as a whole, but an industry that is 230 years old, as it was in 2005, is obviously moribund because of its age.

In addition, there is no necessary law of economics that posits that mature industries, or mature firms within an industry, must decline. IBM or General Motors did not lose their positions as leaders of their industries simply because they were mature. They lost ground because of marketplace changes that worked against their businesses.

The newspaper industry has declined as readership regularly fell, a fate that appears not to have struck the magazine industry. Horseracing is sometimes described as a mature industry facing a natural decline; baseball is not. And more to the point, the mature industry hypothesis is assumed to affect First-Class Mail, but not Standard Mail.

But the biggest problem with the view that the stagnation of First-Class Mail volumes is part of the natural decline of a mature industry is that it is more of an observation than an explanation. Obviously, if First-Class Mail volumes are declining, the First-Class Mail “industry” is in decline. The questions are why, and why now?

IV. TECHNOLOGICAL DEVELOPMENTS

A. Sources of Electronic Diversion

Table 4 lists various types of First-Class Mail and some possible sources of diversion for each mail type. For example, e-mail can substitute for many different types of household-to-household mail, as can such things as personal web pages, E-vite (an e-mail invitation service), and even the use of a camera phone to transmit vacation photos instead of sending a post card.

Household bill payments can be diverted through online bill payment, and also through non-Internet based payments such as automatic deduction from a checking account or use of a credit card for recurring payments. Various forms of correspondence between households and businesses can be done through fax, e-mail, or by visiting a company website.

Non-household to household mail is also subject to electronic diversion. Some bills and statements are sent through e-mail or obtained by visiting a company website. Direct deposits of social security checks, other government benefits and tax refunds substitute for mailings to households. E-mail marketing and other forms of Internet advertising can replace First-Class advertising mail. Tickets to sporting or other events can be printed from a home computer instead of being sent through the mail.

Finally, non-household to non-household bills, statements, and payments, are subject to the same sources of diversion as households. In addition, many companies use electronic data interchange (EDI) for payment or invoice information. Business (and household) dealings with government have changed as well, with more and more information available from government websites, eliminating the use of some First-Class Mail. And Table 4 is hardly an exhaustive list of all the possible sources of electronic diversion.

Table 4
Sources of Electronic Diversion

Type of First-Class Mail	Possible Sources of Electronic Diversion
Household-to-Household	
Personal Letters	E-mail
Holiday/Greeting Cards	E-mail Personal web pages digital photos
Invitations	E-Vite Informal E-mail contacts
Post Cards	E-photos from camera phone E-mail of digital photos
Other—documents, photographs	Scanner, pdf, and e-mail attachment
Household-to-Non-Household	
Bill Payments	Online payment Automatic deduction Recurring payment through credit card
Tax Forms	E-file
Correspondence	E-mail or fax Web site (FAQs and Contact Us)
Subscription renewals	Fax, e-mail, or publisher website
Other—documents, photographs	Scanner, pdf, and e-mail attachment
Non-Household to Household	
Bills	E-billing bill suppression online banking
Statements	E-statements statement suppression online banking
Payments	Direct deposit
Advertising	E-mail other forms of Internet advertising
Correspondence	E-mail
Insurance forms, etc	E-mail Company website
Ticket purchases & delivery	E-delivery
Non-Household to Non-Household	
Statements, invoices, tax forms	EDI Fax electronic filing
Advertising	E-mail other forms of Internet advertising
Correspondence	E-mail Company website
Architectural plans	Web site
Other—documents, photographs	Scanner, pdf, and e-mail attachment
Health records, patient information	Web site

B. Technology Data

Tables 5 through 16 present data on various measures of technology use. Many of these tables are updates of material presented in my R2005-1 testimony, which included fuller discussions of the data. The purpose of this section is merely to demonstrate the considerable growth in the use of many of the technologies listed in the preceding section as possible sources of the diversion of First-Class Mail.

1. Internet Penetration

Table 5 presents information on household Internet penetration based on Household Diary Study data from 1998 through 2005. The number of households with Internet access more than tripled from 1998 to 2005, rising from 22.9 million to 81.5 million households. During this time period, the share of households with the Internet increased from less than one-quarter to nearly three-quarters, evidence of the dramatic change in the use of this technology over a fairly short period of time.

Table 5
Households with Internet Access, in millions and as percent of total

	1998	1999	2000	2001	2002	2003	2004	2005
Households	22.9	31.0	49.9	64.2	67.9	78.3	79.1	81.5
Percent	22.5%	30.0%	47.6%	60.8%	63.7%	70.3%	70.6%	72.2%

Source: Household Diary Study

2. Internet Use

Internet access is not the same as Internet use because some people with Internet access rarely go online. Nielsen NetRatings divides the Internet population into two groups: the Internet universe (those with access) and active Internet users (those who went online during a given month). They also collect data on the at-home and at-work Internet populations, recognizing that many

people use the Internet at both these locations. Nielsen reports the number of individual users, as opposed to the Diary Study data which are based on households.

Table 6
Internet Access and Active Internet Users (millions)

	1999	2000	2001	2002	2003	2004	2005
At-Home Access	119.2	149.6	174.6	168.1	186.5	199.9	203.8
At-Home Use	74.1	100.3	104.6	109.5	132.2	139.5	143.8
At-Work Access	n.a.	38.5	44.9	48.7	51.3	57.7	61.1
At-Work Use	n.a.	36.1	40.3	44.3	47.2	53.2	57.1

Source: Nielsen NetRatings, December values except October 2000

According to Nielsen, the number of active at-home Internet users doubled from 1999 to 2005. There has also been considerable growth in the number of workers with Internet access and the number of workers who used the Internet during the given month. The at-work data indicate that the Internet is becoming more and more common in the workplace.

3. Broadband Subscribers

Tables 5 and 6 indicate that the overall growth in Internet penetration is slowing. But rapid growth is occurring within the Internet market as many users with dial-up services upgrade to the faster, always on, broadband technology. According to Leichtman Research Group, there were approximately 40 million broadband subscribers in 2005, with the vast majority of subscribers being residential, as opposed to business users. Table 7 shows that the number of broadband subscribers increased by more than 20 percent in 2005 and is seven times greater than it was in 2000.

Table 7
Broadband Subscribers (millions)

	1998	1999	2000	2001	2002	2003	2004	2005
Subscribers	0.460	1.400	5.800	11.000	17.369	24.624	33.288	40.211

Source: Leichtman Research Group, end of year value except 2005Q3

4. Time Spent Online

Another important metric is time spent online. Data from Nielsen NetRatings show that time online at home more than doubled from December 1999 to December 2002. Thereafter, Nielsen changed their methodology for estimating time online, leading to a large reported increase in 2003. Nonetheless, over the past two years, time online has continued to grow. In December 2005, Internet users logged a total of 4,410 million hours online.

Table 8
Hours Spent Monthly Online At Home (millions)

1999	2000	2001	2002	2003	2004	2005
614	1,010	1,063	1,328	3,570	4,234	4,410

Source: Nielsen NetRatings, December levels except October 2000

5. E-Mail Traffic

Estimates of e-mail traffic vary. As reported by Forbes.com on February 7, 2006, the research firm IDC estimates that there will be 84 billion e-mails sent per day worldwide in 2006. Multiplying this daily number by 365 yields a total of more than 30 trillion e-mails sent for the year. Although this is a worldwide number, the implication is that Americans receive several trillion e-mails annually.

CNN.Com (October 12, 2005) cited work by the Radicati Group, which estimated that Americans received an average of 76 e-mails per day. If this number is applied to the active Internet population, the annual number of e-mails received is close to four trillion. If the number is applied to the entire US population, the total is closer to eight trillion e-mails annually.

No doubt, the vast majority of e-mails represent communications that never would have been sent by mail. But to conclude from this observation that e-mail does not replace any letter mail is like arguing that there are no fish in the ocean. Clearly, there are vast sections of the ocean where there are no fish, but

though fish occupy a tiny fraction of the total volume of ocean water, they do exist. There are fish in the ocean and just as assuredly there are e-mails that divert First-Class Mail volumes. If, for the sake or argument, 99.9 percent of e-mails did not divert any mail, it would still mean that for every trillion e-mails sent, one billion pieces of letter mail are diverted. If "only" 99.8 percent of e-mails did not divert any mail, then each trillion e-mails would divert two billion pieces of mail.

6. Online Banking Households

Online banking refers to Internet access to bank accounts and the use of the Internet to pay bills, check account balances, and move money between accounts. Online banking also allows for e-mail correspondence between the customer and the bank, including electronic statements and notifications of unusual activity or overdraft warnings.

According to eMarketer, in 2005, 40 million households used online banking in the prior six months, and 35 million households used it in the prior 60 days. Both of these use levels are markedly higher than in the past, having approximately doubled since 2001.

Table 9
Online Banking Households (millions), by frequency of use

	2000	2001	2002	2003	2004	2005
Prior Six Months	16.0	22.0	28.0	33.0	36.0	40.0
Prior 60 days	12.5	17.6	21.9	26.8	31.5	35.0

Source: eMarketer, "Online Banking Customers: Attitudes and Activities," November 2005

7. Households Using Electronic Bill Payment Methods

The Recruitment Questionnaire portion of the Postal Service's Household Diary Study gathers information about household bill payment activities. Table 10 shows that the percent of households that report paying some bills

electronically increased from 21.3 percent in 1998 to 67.8 percent in 2005. Electronic payments include automatic deduction from a checking account, online bill payment, payment by phone, ATM, or recurring charge to a credit card.

Table 10
Households Using Electronic Payments

Year	Automatic Deduction	Online Payment	Any E-Payment
1998	19.6%	1.1%	21.3%
1999	19.3%	1.7%	21.9%
2000	32.3%	4.2%	36.0%
2001	33.4%	7.6%	41.1%
2002	42.5%	10.6%	51.7%
2003	42.6%	13.8%	52.7%
2004	49.6%	20.9%	63.3%
2005	52.6%	24.4%	67.8%

Source: Household Diary Study

Automatic deduction from a checking account is the most common form of electronic payment, used by more than half of the households. One quarter of households used online bill payment in 2005, almost double the percentage that did so in 2003 and many times more than did so in 1998.

Chapter VII of this testimony provides a closer look at household bill payments.

8. ACH Transactions

Automatic Clearinghouse (ACH) transactions refer to the volume of electronic payment transactions that occur over the ACH inter-bank network transfer system in the United States. ACH transactions include such things as direct deposit of payroll, social security payments, other government benefits, tax refunds, direct payment of consumer bills, and business-to-business payments.

As shown in Table 11, it is estimated that there were about 14 billion ACH transactions in 2005, two billion more than in 2004 and more than twice the number in 2000.

Table 11
Total ACH Transactions (millions)

Year	Total ACH Transactions	Percent Change	Absolute Change
1989	1,331		
1990	1,549	16.4%	218
1991	1,964	26.8%	415
1992	2,206	12.3%	242
1993	2,559	16.0%	353
1994	2,933	14.6%	374
1995	3,407	16.2%	474
1996	3,929	15.3%	522
1997	4,549	15.8%	620
1998	5,344	17.5%	795
1999	6,122	14.6%	778
2000	6,883	12.4%	761
2001	7,994	16.1%	1,111
2002	8,943	11.9%	949
2003	10,017	12.0%	1,074
2004	12,009	19.9%	1,992
2005	14,075	17.2%	2,066

Source: NACHA, 2005 based on preliminary data

9. E-Commerce Statistics

E-commerce, also known as online shopping, has also grown considerably in recent years, as sales have approximately doubled since 2002. Although E-commerce may not divert letter mail, and in fact its growth contributes to the delivery of packages, the increase in E-commerce activity is reflective of the growing acceptance of the Internet as a means for conducting financial transactions.

Table 12
E-Commerce Sales, in billions and as share of total retail sales

	2000	2001	2002	2003	2004	2005
Total	$27.2	$34.2	$44.7	$55.7	$69.2	$86.3
Share	0.9%	1.1%	1.4%	1.7%	2.0%	2.3%

Source: US Department of Commerce

While the E-commerce share of total retail sales remains low, a more telling statistic might be the increase in the number of Internet users who have made an online purchase. Ipsos reports that by 2005, more than 70 percent of all active Internet users (18 and older) have made at least one online purchase. In 1999, fewer than 30 percent had. This increase further demonstrates the continuing integration of the Internet into the lives of millions of people.

10. Global Servers

Servers store and display content over the World Wide Web and are commonly used by companies that maintain their own Internet sites. According to the web site Security Space, there were 24.5 million servers around the world in 2005, ten times the number of 2000, indicative of the great expansion of computers and the Internet in the business world.

Table 13
Global Servers (millions)

1998	1999	2000	2001	2002	2003	2004	2005
1.3	1.9	2.4	4.4	8.5	13.4	18.2	24.5

Source: Security Space, 4th Quarter values

11. Internet Advertising Spending

Internet advertising can substitute for First-Class Mail advertising. Internet advertising spending grew rapidly in the late 1990s, rising to $8 billion in 2000, or more than three percent of total advertising spending. As a result of the dot.com crash and the general decline in the advertising market, Internet advertising fell to $6 billion in 2002. Since then, spending has more than doubled, reaching

$12.5 billion in 2005, or 4.6 percent of all advertising expenditures. Thus, despite the decline in this market in 2001 and 2002, Internet advertising spending is 50 percent greater than it was at the peak of the dot.com bubble.

Table 14
Internet Advertising Expenditures
Total and as Share of Total Advertising

Year	Total ($ millions)	As Share of Advertising
2005	12,500	4.6%
2004	9,600	3.6%
2003	7,267	3.0%
2002	6,010	2.5%
2001	7,134	3.1%
2000	8,087	3.3%
1999	4,621	2.1%
1998	1,920	0.9%
1997	907	0.5%
1996	267	0.2%

Source: Internet Advertising Bureau
Robert Coen, McCann-Erickson

C. Summary of Technological Developments

Table 15 presents a summary of the recent growth in the use of various technologies, focusing on the percent change over the past year and over the past four-year period, which corresponds to the four-year period in which First-Class Mail volumes declined. As the table shows, some categories – like Internet households and time spent online -- are growing relatively slowly. Other categories, such as online banking households and ACH transactions are showing more rapid growth, and some categories, such as broadband subscribers, online bill pay households, and global servers increased 20 percent in the past year. Over the past four years, each of these technologies has seen growth of at least 24 percent, and several have more than doubled.

The obvious conclusion is that the use of technological alternatives to the mail will continue to increase in the future.

Table 15
Summary of Recent Growth in Use of Various Technologies

Technology Use	Change 2004 - 2005	Change 2001 - 2005
Internet Households	+3%	+24%
At-Home Internet Users	+3%	+37%
At-Work Internet Users	+7%	+42%
Time Spent Online At-Home	+4%	+315%*
Broadband Subscribers	+21%	+265%
Online Banking Households	+11%	+99%
Online Bill Pay Households	+19%	+240%
Electronic Payment Households	+9%	+74%
ACH Transactions	+17%	+76%
E-Commerce Sales	+27%	+153%
Global Servers	+35%	+457%
Internet Advertising Revenues	+30%	+75%

* Data series revised, unrevised increase of 24% since 2003

Sources: various, see text

V. ANALYSIS OF HOUSEHOLD DIARY STUDY DATA

A. Introduction

Evidence of the recent declines in First-Class Mail volumes is found in an analysis of Household Diary Study data. The Household Diary Study is a survey of households, commissioned by the Postal Service on an annual basis since 1987. It provides information on mail sent and mail received by the survey households, as well as information about the demographic characteristics of these households. The data are obtained from two sources. Initially, a Recruitment Questionnaire survey is given to approximately 10,000 households. About half of these households go on to complete the Diary Study, from which detailed information on household mail volumes is obtained.

Because it collects information only about households, the Diary Study must be viewed as a secondary source of postal volume data. The primary source of these data is the Postal Service's quarterly RPW reports, which provide total volumes by mail category. Ultimately, it is total mail volume – not just mail volumes involving households – that determines the Postal Service's revenues, costs, and financial position. Therefore, information from the Diary Study must be examined in light of known information about total mail volume.

Beyond being a secondary data source, the Diary Study is also subject to variations due to its reliance on a survey sample. Statistical adjustments are used to correct for observed differences between the characteristics of the survey sample and the characteristics of the total population. Nevertheless, this process cannot be perfect. For example, if two separate Diary Study surveys were conducted in a given year, the results of those two surveys would be different due to sampling variability. Actual mail volumes for that year, however, are a given. Therefore, differences between two hypothetical surveys in a given year must be due to differences in the underlying samples, not differences in

actual mailer behavior. To an extent, sampling variability affects data across more than one year. Consequently, it cannot be concluded that all changes in Diary Study results from one year to the next are due to actual changes in behavior.

Finally, the Diary Study itself has undergone various changes over the years. Questions have been revised, new queries have been added, and others have been removed. The most important change, though, was the switch from Diary Study surveys conducted by Chilton Associates (surveys from 1987 through 1999) to surveys conducted by NuStats (surveys from 2000 through 2005). As this testimony will show, there is compelling evidence that in the final years of the Chilton surveys, mail volume to households was undercounted. This problem appears to be corrected now, though there is also evidence that the 2000 survey may have undercounted mail to households as well. An obvious consequence of this undercounting is that comparisons between household mail volumes in the late 1990s, or even in 2000, with household mail volumes in more recent years give a false appearance of large increases in household mail volume that are extremely unlikely to have occurred.

Despite the aforementioned drawbacks, the Diary Study provides valuable information about households and the mail that is not available from any other source. It is therefore a useful document for understanding issues beyond the change in overall levels of mail volumes. It makes possible analysis of the relationships between mail sent and received by households, and various household characteristics such as income, age of household head, Internet access, and home ownership. The Diary Study also provides information on the type of mail received by households. For example, within First-Class Mail, data on the number of bills, financial statements, advertising, and correspondence mail received are recorded. Data are also recorded on the industry of sender so

that it is possible to examine annual volumes sent to households from, say, the credit card industry.

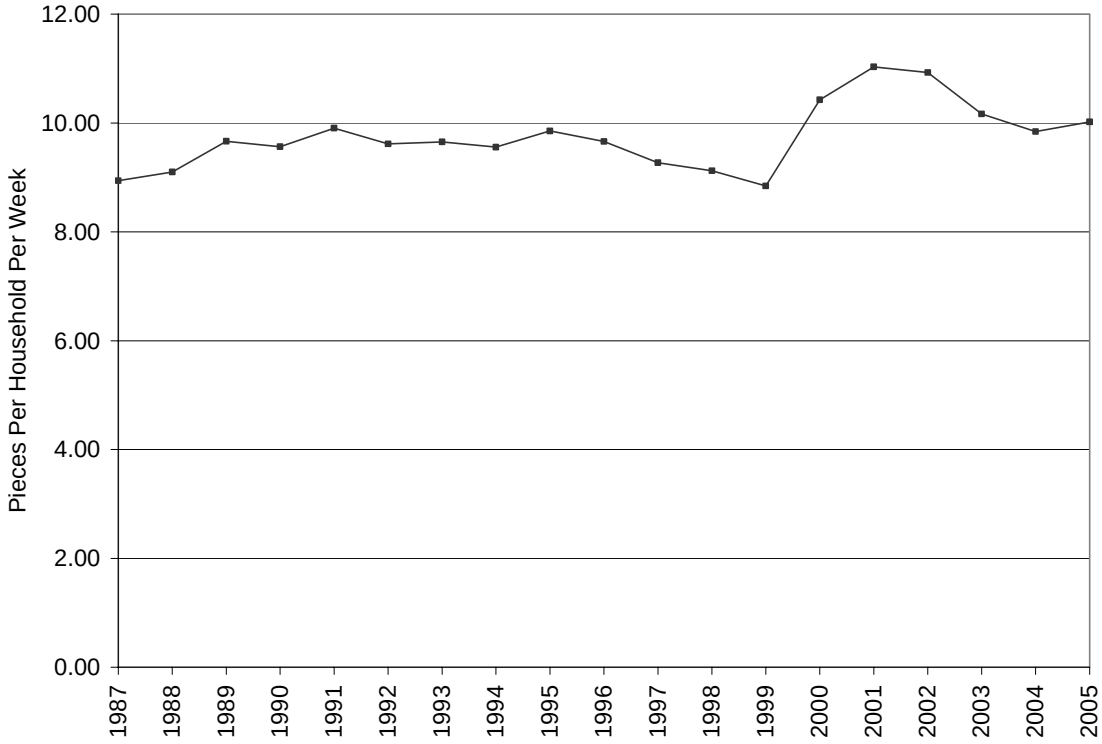
B. First-Class Mail Received by Households

1. Total First-Class Mail

Chart 7 presents Diary Study data for First-Class Mail received by households from 1987 through 2005. The data are expressed as pieces per household per week. Looking at the entire period, there appears to have been an increase in First-Class Mail received as pieces per week rose from 8.94 in 1987 to 10.02 in 2005. However, the data clearly show a large jump in reported volume in 2000, from 8.84 pieces per week in 1999 to 10.42 pieces per week in 2000, a gain of 17.9 percent. Another substantial increase is shown in 2001, with pieces per week rising an additional 5.8 percent. That First-Class Mail received per household increased almost 25 percent over a two-year period in which total First-Class mail volume rose 1.6 percent is obviously implausible. Instead, the reported increase was more likely due to differences between the 1999 survey conducted by Chilton and the 2000 and 2001 surveys conducted by NuStats.

Note also that Diary Study volumes reported in this testimony may differ slightly from those reported in the published Diary Studies because of revisions to historical data, different treatment of missing values, and rounding. USPS-LR-L-105 includes the Diary Study data used to generate the tables and graphs presented in this testimony. This testimony also makes use of data from the forthcoming 2005 Diary Study, which will be filed as a separate library reference when the published report becomes available.

Chart 7
First-Class Mail Received by Households



Source: Household Diary Study

Further evidence supporting the view that the reported increases in 2000 and 2001 are statistical anomalies comes from comparing total First-Class Mail received by households with total First-Class Mail, known from the Postal Service's RPW reports. Annual mail received by households is calculated by multiplying pieces per week by 52 and then by the total number of households in the United States. From that calculation, an implicit estimate of First-Class Mail received by non-households can be calculated. These data are presented in Table 16.

Table 16
Total, Household, and Non-Household Received First-Class Mail
(millions of pieces)

Year	Postal Service Total First-Class	Percent Change	HDS Reported Received by Households	Percent Change	Estimated Received by Non-Households	Percent Change	HH Share	Non-HH Share
1987	78,623		41,307		37,316		52.5%	47.5%
1988	83,939	6.8%	42,704	3.4%	41,235	10.5%	50.9%	49.1%
1989	85,704	2.1%	45,976	7.7%	39,728	-3.7%	53.6%	46.4%
1990	89,168	4.0%	46,247	0.6%	42,921	8.0%	51.9%	48.1%
1991	90,034	1.0%	48,276	4.4%	41,759	-2.7%	53.6%	46.4%
1992	90,065	0.0%	47,482	-1.6%	42,583	2.0%	52.7%	47.3%
1993	91,897	2.0%	47,990	1.1%	43,907	3.1%	52.2%	47.8%
1994	94,045	2.3%	47,908	-0.2%	46,137	5.1%	50.9%	49.1%
1995	95,732	1.8%	50,369	5.1%	45,363	-1.7%	52.6%	47.4%
1996	96,773	1.1%	50,049	-0.6%	46,724	3.0%	51.7%	48.3%
1997	98,801	2.1%	48,709	-2.7%	50,092	7.2%	49.3%	50.7%
1998	100,434	1.7%	48,298	-0.8%	52,137	4.1%	48.1%	51.9%
1999	101,936	1.5%	47,469	-1.7%	54,467	4.5%	46.6%	53.4%
2000	103,526	1.6%	56,805	19.7%	46,721	-14.2%	54.9%	45.1%
2001	103,520	0.0%	60,512	6.5%	43,009	-7.9%	58.5%	41.5%
2002	102,379	-1.1%	60,529	0.0%	41,850	-2.7%	59.1%	40.9%
2003	99,059	-3.2%	58,869	-2.7%	40,190	-4.0%	59.4%	40.6%
2004	97,926	-1.1%	57,270	-2.7%	40,657	1.2%	58.5%	41.5%
2005	98,071	0.1%	58,845	2.8%	39,226	-3.5%	60.0%	40.0%

Source: Household Diary Study, Postal Service

If the Diary Study data are correct, then during the two-year period from 1999 through 2001, household received First-Class Mail increased 27 percent and non-household received mail declined 21 percent. Again, this is implausible. Looking at First-Class Mail volume shares, the data show that mail received by households was just over 50 percent of the total from 1987 through 1996, at which time it began to decline, falling to 46.6 percent in 1999. In 2000, the reported share of First-Class Mail received by households jumped to 54.9 percent and then in 2001, to 58.5 percent. To assume these reported volume figures are accurate strains any notions of credibility.

In fact, any year in which the percentage change in volume received by households and the percentage change in volume received by non-households are large in magnitude and of the opposite sign is evidence of a data problem. The reason is that if mail received by households is overestimated, mail received by non-households will be underestimated because the total volume is known. This feature is clearly present in 2000 (reported household mail up 19.7 percent, estimated non-household mail down 14.2 percent) and in 2001 (reported household mail up 6.5 percent, estimated non-household mail down 7.9 percent).

The household data since 2001 are more consistent. Total First-Class Mail (down 5.3 percent), mail received by households (down 2.8 percent), and mail received by non-households (down 8.2 percent) all showed declines.

In summary, the reported growth in First-Class Mail received by households that appears to have begun in 1999 and continued into 2000 is likely false. More recent data confirm the decline in First-Class Mail found in the official Postal Service volumes.

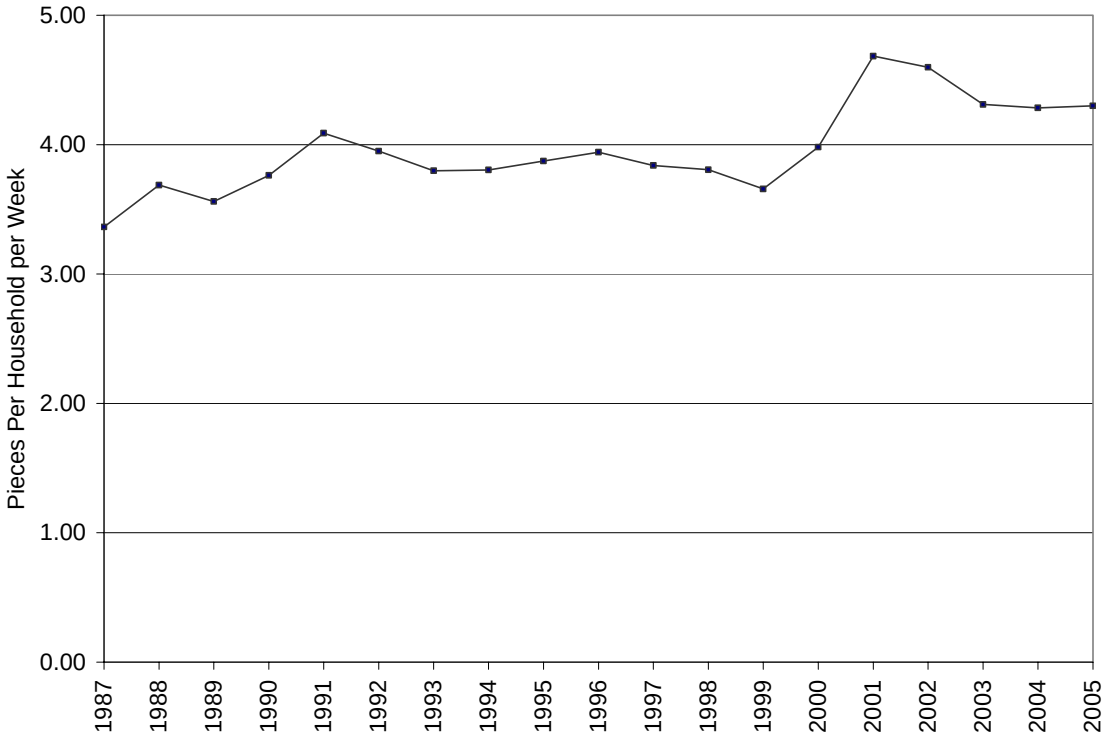
2. Bill and Statement Mail

The same problem affecting total First-Class Mail received by households confounds the analysis of the different components of First-Class Mail received. For many years, bill and statement mail volumes increased as households increased their holdings of credit cards and other financial accounts. Moreover, it is common for a household to have two phone accounts (a land-line and a mobile phone), a cable or satellite TV account, and perhaps a separate Internet account. Thus, it seems reasonable that the volume of bill and statement mail would be higher than in the past.

Recently, there has been concern about the loss of bill and statement mail as mailers move toward electronic presentation and as households move toward account consolidation (e.g., combining phone, cable, and Internet service into a

single account). A cursory look at the Diary Study data contradicts this concern, as First-Class bills and statements received by households have increased from a reported 3.66 pieces per household per week in 1999 to 4.30 pieces per week in 2005, as shown in Chart 8.

Chart 8
First-Class Bill and Statement Mail



Source: Household Diary Study

Again, the 1999 and 2001 data confound this analysis, as reported bill and statement volume increased from 3.66 pieces to 4.68 pieces per week, a 28 percent rise during this two-year period.

Table 17
Bills and Statement Mail Received by Households
(pieces per household per week)

1999	2000	2001	2002	2003	2004	2005
3.66	3.98	4.68	4.60	4.31	4.28	4.30
	8.8%	17.7%	-1.8%	-6.2%	-0.6%	0.3%

Source: Household Diary Study

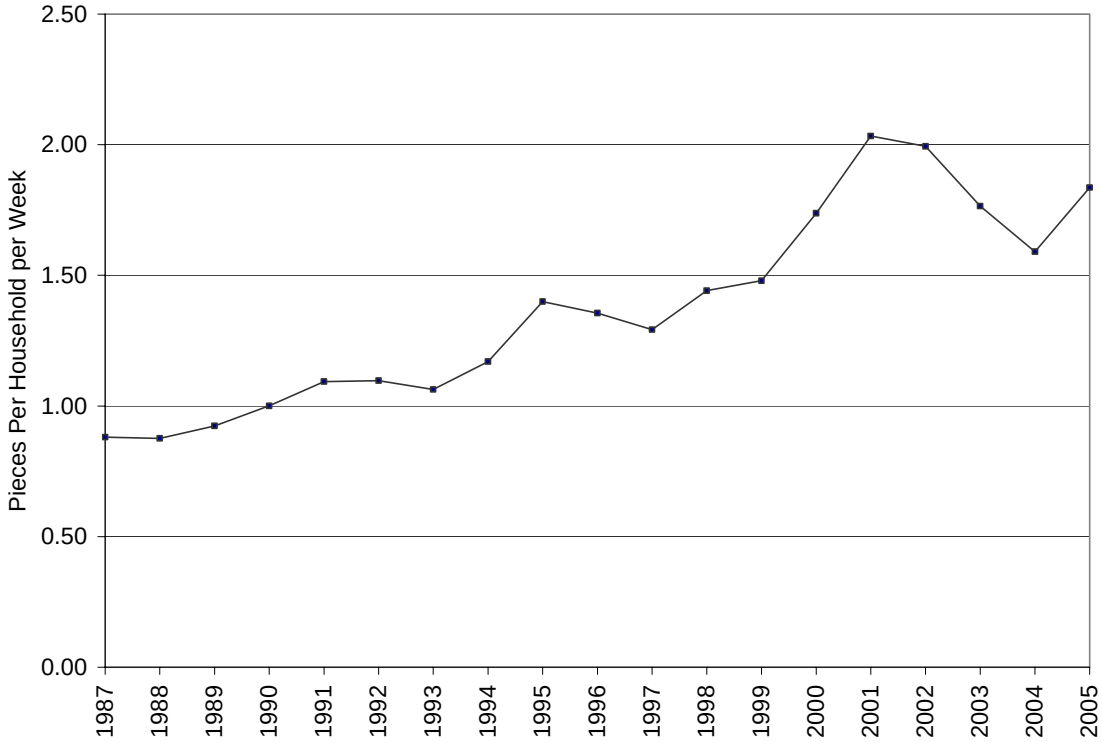
Focusing instead on the data from 2001 through 2005, the trend is clear. Bills and statements received by households fell from 4.68 pieces per week to 4.30 pieces per week, a decline of 8.2 percent. In fact, the data show the impact of the economic recession on the volume of bills and statement received, with volumes per household declining from 2001 to 2003. Note, however, that even though the economy posted solid economic growth in 2004 and 2005, bill and statement volumes per household were essentially flat over this time period.

Thus, while it seems reasonable that bill and statement mail volumes are greater today than they were in 1987, the data also suggest that bill and statement volumes are no longer growing, thereby removing one of the historical sources of First-Class Mail volume growth.

3. Advertising Mail

Chart 9 shows volumes of First-Class advertising-only mail received by households (pieces per week) based on the Diary Study data from 1987 through 2005. Advertising-only mail is distinguished from what is referred to as advertising-enclosed mail, for example, a utility bill that also includes advertisement. From this point forward, advertising-only mail will be referred to simply as advertising mail.

Chart 9
First-Class Advertising Mail



Source: Household Diary Study

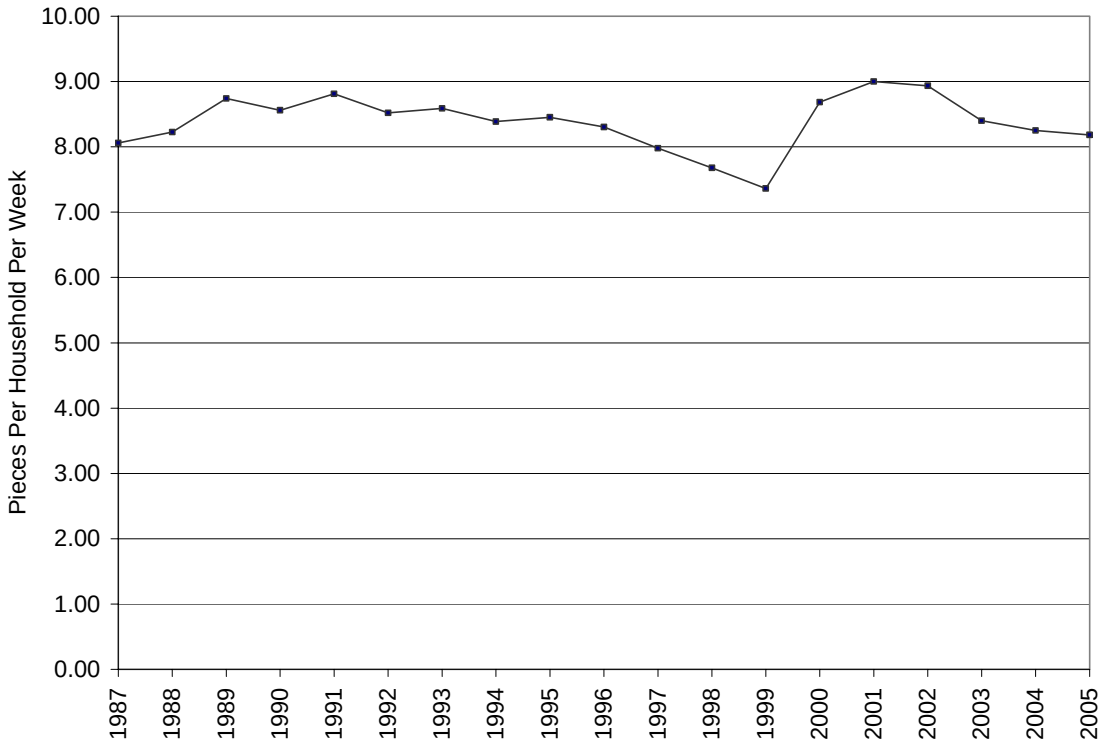
There is a clear upward trend in the volume of First-Class advertising mail received by households over the 1987 through 2005 period. As with total First-Class Mail received by households, there are rather large jumps in volume in 2000 and 2001, but even outside of these years, there is an overall increase in volume during the 1987 – 2005 period.

It is quite possible that First-Class advertising mail volumes are driven by many of the same factors that drive Standard Mail. As such, the growth in advertising mail volumes mirrors a similar growth in Standard Mail volumes. Volumes in recent years have been choppy, perhaps because of the cyclical nature of the advertising industry and perhaps because of the aforementioned impact of the change in Diary Study contractors in 2000. Focusing on the period

since 2001, the data do not show a consistent increase or decrease in First-Class advertising mail received by households.

To the extent that First-Class advertising mail may be more like Standard Mail than other First-Class Mail, it may be useful to look at the non-advertising portion of First-Class Mail. Chart 10 presents the volume of non-advertising mail received by households (in pieces per week) from 1987 through 2005. Non-advertising mail received per household in 2005 was the same as in 1987. The decline in the later 1990s seems likely a result of the survey problems discussed earlier, as is the jump in 2000. In any case, the non-advertising portion of First-Class Mail sent to households, like total First-Class Mail, is lower in 2005 than in 2001, and, for that matter, lower in 2005 than in 1991.

Chart 10
Non-Advertising First-Class Mail

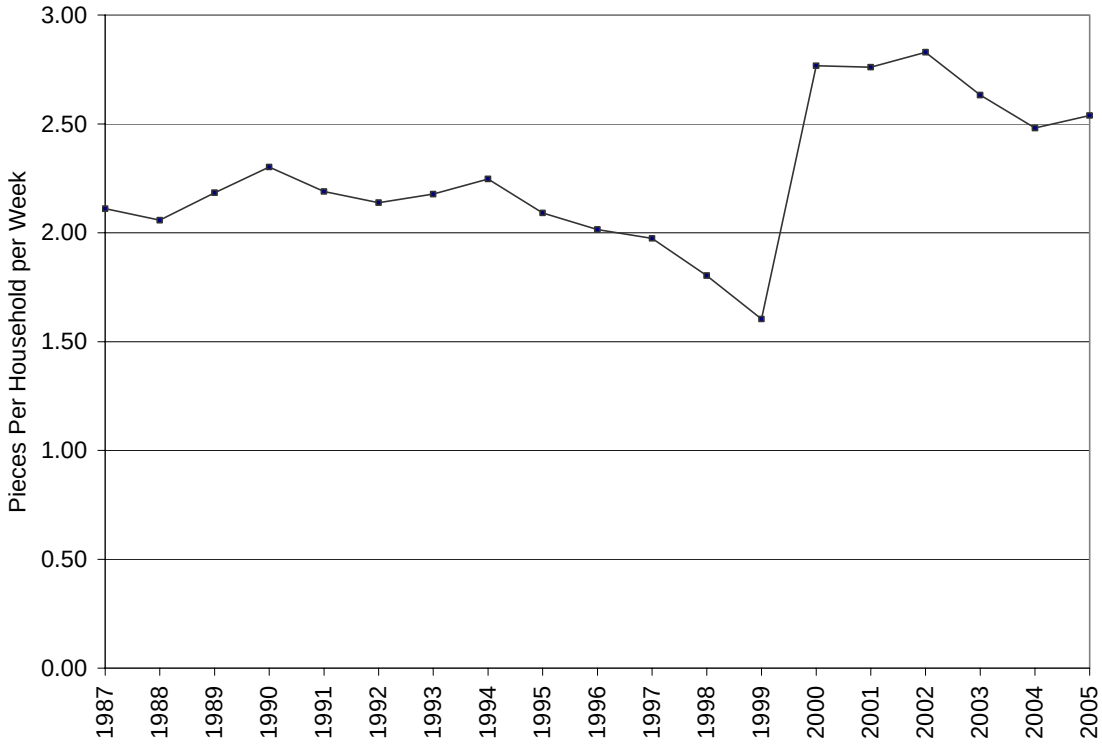


Source: Household Diary Study

4. Other Mail Sent by Non-Households

Chart 11 presents volume of other (not bills, statements, or advertising) mail sent by non-households to households. The large jump in volume in 2000 is clearly spurious. As such, there appears to be no discernible trend in the volume of this mail segment.

Chart 11
First-Class Other Mail Sent from Non-Households



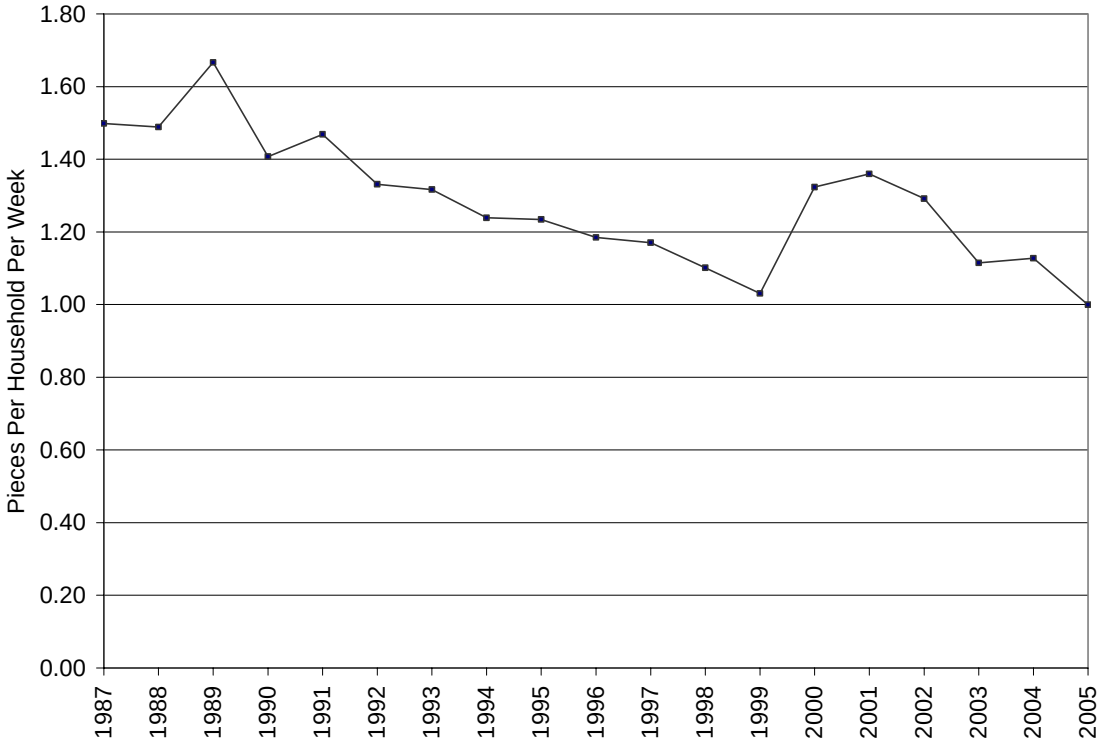
Source: Household Diary Study

5. Household-to-Household Mail

Chart 12 looks at household-to-household mail. This mail segment has been declining since at least 1989. The reported increases in 2000 and 2001 are inconsistent with the long-term history of household-to-household First-Class Mail. Instead, the rate of volume decline appears to be increasing, as shown in Table 18. From 1987 through 1999, pieces per week of household-to-household mail volume decreased an average of 3.1 percent per year. Since 2000, the

volume decline has averaged 5.5 percent per year. Excluding the unusual increase in reported household-to-household volume in 2001, the average annual decline is 7.4 percent per year from 2001 through 2005. Looking at the entire time period, the average annual decline is 2.2 percent per year.

Chart 12
First-Class Household-to-Household Mail



Source: Household Diary Study

Table 18
Household-to-Household First-Class Mail

	1987	1999	2000	2001	2005
Pieces per HH per Week	1.50	1.03	1.32	1.36	1.00
Avg. % Change 1987 – 1999		-3.1%			
Avg. % Change 2000 – 2005			-5.5%		
Avg. % Change 2001 – 2005				-7.4%	
Avg. % Change 1987 - 2005					-2.2%

Source: Household Diary Study

C. Conclusions

From 1987 through 2005, total First-Class Mail volume increased 25 percent. Diary Study data are roughly consistent with this long-term increase, as reported volumes received by households increased 42 percent while volumes received by non-households rose five percent. Whether this change shows an erosion of First-Class Mail sent to the non-household sector, or is a by-product of the variations inherent in Diary Study data, is not clear.

Examination of recent trends in household-received First-Class Mail is obscured by the apparent impact of the change in Diary Study contractors in 2000. From 1999 to 2001, reported volumes received by households increased 27 percent, an implausible result given that total First-Class Mail rose just 1.6 percent. If true, it implies a 21 percent decrease in First-Class Mail sent to non-households over a two year period, also an implausible result.

Since 2001, the data show greater consistency with known First-Class Mail volumes. Total First-Class Mail, First-Class Mail received by households, and First-Class Mail received by non-households have all declined. Individual components of First-Class Mail received by households have declined as well. Bills and statements, advertising, and other non-household sent mail received per household were all lower in 2005 than in 2001, in contrast with their historical performances which appear to have been rising or flat. Household-to-household mail volumes continue to decline.

Still, we are left with the issue of what the Diary Study reveals about the recent decline in First-Class Mail volumes. The data show that the decline in volumes has occurred across all different types of First-Class Mail. Perhaps, then, the answer can be found not by looking at different types of First-Class Mail, but by looking at different types of households. Table 19 divides Diary Study households into two equal groups: the half of households that received the

least First-Class Mail and the half of households that received the most First-Class Mail. The table also presents the average number of pieces received by each of these household types in 2001 and in 2005.

The households that received the least amount of First-Class Mail received an average of 5.3 pieces per week in 2005, the same level of mail received by the lower-half households in 2001. In contrast, the households that received the most mail in 2005 received less mail than these top-half households received in 2001. Pieces per household fell from 16.7 per week in 2001 to 14.8 per week in 2005, a decline of almost twelve percent. Therefore, Table 19 shows that the source of the decline in First-Class Mail volumes, at least at the household level, has been because households that receive the most mail are receiving less than they were before.

Table 19
Households That Receive the Least and Most First-Class Mail

	Households that receive the least First-Class Mail		Households that receive the most First-Class Mail	
	2001	2005	2001	2005
Pieces per Week	5.3	5.3	16.7	14.8
% with Internet	50.7%	61.8%	70.9%	82.5%

Source: Household Diary Study

Table 19 also presents the percent of each type of household that has Internet access. For both types of households – those that receive the least mail and those that receive the most – Internet penetration has increased, consistent with overall increase from 2001 through 2005. But the households that receive the most mail, the households that are receiving less than they did in the past, have a noticeably higher level of Internet penetration. Further analysis of the differences between Internet and non-Internet households is therefore warranted.

VI. INTERNET AND NON-INTERNET HOUSEHOLDS

A. Household Internet Penetration Data

A curious finding in the Household Diary Study data is that households that have Internet access receive more mail than households that do not have Internet access. This result is implicit in Table 19, which showed that households that receive the most mail are more likely to have the Internet. More generally, Diary Study data show that in 2005, households with Internet access received an average of 10.97 pieces of First-Class Mail per week, while households without Internet access received an average of 7.56 pieces of First-Class Mail per week.

The result is "curious" because a considerable amount of attention has been paid to the adverse impact that the Internet and other technologies have had on First-Class Mail volume. See, for example, my testimonies and Thomas Thress's testimonies in R2001-1 and R2005-1, and earlier testimonies of Dr. George Tolley. While mail received by non-households is also subject to electronic diversion, the household mail results could cast some doubt on the importance of diversion as a driver of First-Class Mail volumes.

Of course, there are obvious reasons why households with Internet access receive more First-Class Mail than households without access. Internet households have higher incomes, are headed by a person with more education who is more likely to be a homeowner, and these households have more credit card and bank accounts. All these factors lead to more First-Class Mail volume.

Before addressing the role of demographics, a review of Diary Study information on household Internet penetration is in order. The Diary Study began asking households whether they had Internet access in 1998. Prior to that, the Diary Study asked if households had a computer with a modem, which only indicated the ability to access the Internet.

Table 20 presents the percentage of Diary Study households that reported having at-home access to the Internet. Household Internet penetration increased from 22.5 percent of households in 1998 to 72.2 percent of households in 2005. The Diary Study data are consistent with other sources which show a similar rise in Internet penetration during this time period.

Table 20
Household Internet Penetration

1998	1999	2000	2001	2002	2003	2004	2005
22.5%	30.0%	47.6%	60.8%	63.7%	70.3%	70.6%	72.2%

Source: Household Diary Study

Table 21 shows household Internet penetration by age of the household head, again using Diary Study data from 1998 through 2005. Table 21 shows that Internet penetration has grown across all age groups, but the largest increases have come among households headed by older people. Internet penetration among households headed by someone aged 65 to 69, for example, increased from 5.6 percent of such households in 1998 to 64.7 percent in 2005. For households headed by someone aged 55 to 64, penetration rose from 19.1 percent to 73.1 percent over this same time period.

Table 21
Internet Penetration by Age of Household Head

	18-24	25-34	35-44	45-54	55-64	65-69	70+	Total
2005	73.5%	75.9%	82.8%	82.6%	73.1%	64.7%	40.6%	72.2%
2004	63.4%	76.8%	81.6%	80.0%	71.2%	57.2%	40.8%	70.6%
2003	74.1%	79.2%	81.8%	79.5%	67.5%	52.0%	39.2%	70.3%
2002	56.1%	70.5%	78.3%	74.0%	62.3%	48.5%	36.2%	63.7%
2001	63.2%	74.1%	73.1%	70.3%	55.8%	47.8%	31.6%	60.8%
2000	39.8%	56.3%	62.9%	54.7%	45.7%	34.2%	23.7%	47.6%
1999	21.6%	34.1%	39.9%	43.8%	24.6%	15.1%	6.3%	30.0%
1998	20.4%	27.8%	30.9%	30.3%	19.1%	5.6%	5.4%	22.5%

Source: Household Diary Study

In fact, in 2005, household Internet penetration in the 55 to 64 year age bracket was essentially the same as in the 18 to 24 and 25 to 34 age brackets. Furthermore, although it is customary to associate the Internet with younger people, Internet access is greatest in households headed by someone age 35 to 54.

Thus, the assumption that youth is the distinguishing feature of Internet users may be mistaken. Instead, Table 21 indicates that age plays a larger role at the other end of the age distribution with households headed by someone age 70 or older having a noticeably lower level of Internet penetration than those headed by someone age 18 through 69.

B. Demographic Differences

Therefore, aside from households headed by someone age 70 or older, age does not appear to play an important role in household Internet access. Household income, on the other hand, does. Table 22 shows the income distribution of households with and without the Internet, based on 2005 Diary Study data.

Table 22
Household Income in 2005

	Internet Households	Non-Internet Households
Under $25,000	12.1%	38.3%
$25,000 to $49.999	20.3%	30.2%
$50,000 to $79,999	32.6%	15.9%
$80,000 and above	26.6%	4.8%
Don't Know / Refused	8.4%	10.8%
Total	100.0%	100.0%
Median Household Income	$61,362	$29,215

Source: Household Diary Study

The bottom line figure shows that the median income of Internet households in 2005 was more than twice that of non-Internet households. Data for other years show a similar ratio. Closer examination reveals that non-Internet households are three times more likely to have an income below $25,000 and almost one-sixth as likely to have an income above $80,000. So, not only are the median incomes different, but there are wide differences at the extremes of the income distribution.

The educational attainment of the head of the household also differs considerably across the two groups. Table 23 shows that more than one-quarter of non-Internet households are headed by someone without a high school diploma, three times the rate for Internet households. In contrast, more than one-third of Internet households are headed by someone with a college degree, three times the percentage of non-Internet households.

Table 23
Educational Attainment of Head of Household in 2005

	Internet Households	Non-Internet Households
No High School Diploma	9.8%	27.6%
High School Diploma Only	27.7%	36.9%
Some College or Tech School	27.7%	23.2%
College or More	34.2%	10.7%
Don't Know / Refused	0.6%	1.7%
Total	100.0%	100.0%

Source: Household Diary Study

Finally, Table 24 presents other information about Internet and non-Internet households, again using 2005 Diary Study data. Internet households are more likely to own their own home. Internet households have on average 10.8 financial accounts (including credit card accounts) compared with an average of

just 6.9 accounts for non-Internet households. The greater rate of home ownership and the higher number of financial accounts also explain why Internet households receive more First-Class Mail than non-Internet households.

Table 24
Other Household Economic Characteristics in 2005

	Internet Households	Non-Internet Households
Home Owner	82.8%	72.6%
Renter	16.8%	26.9%
Total Financial Accounts	10.8	6.9
Credit Card Accounts	5.9	3.9
Other Financial Accounts	4.9	3.0

Source: Household Diary Study

Therefore, when comparing mail volume received by Internet households to volume received by non-Internet households, one is really looking at households that have twice the median income, three times as likely to be headed by a college graduate, and hold 60 percent more financial accounts. Therefore, the relevant issue is not whether Internet households receive more First-Class Mail than non-Internet households, but given the demographics of Internet households, whether they receive less mail than they otherwise would.

C. Internet Access vs. Internet Use

Even that relatively straightforward question posed in the preceding section is not easily answered from analysis of Diary Study data. Internet access is not the same as Internet use. Nielsen NetRatings, for example, reports that as of December 2005, 203.8 million Americans had access to the Internet in their homes, but only 143.8 million (about 70 percent of the total) actually went online at least once during that month. Since once-monthly use is a low standard, it is safe to say the number of Americans who are regular Internet users is even lower than the Internet access universe.

Moreover, people who do not have Internet access in the home may access the Internet from work. Nielsen reported that 57.1 million Americans went online from their workplace in December 2005. Certainly, many of these at-work users also used the Internet at home. Nielsen stopped reporting total use (at-home and at-work combined) in December 2002. At that time, they found 131.9 million active users, of whom 109.5 million went online from home and 44.3 million went online from work. Subtracting the at-home users from the total users gives 22.4 million unique at-work users (users at-work but not at-home), or approximately half the total at-work users. It is likely that as at-home Internet use has increased, the number of people who only access the Internet at work has declined, but there is no doubt a sizable portion of the population who use the Internet without having Internet access in their household.

Finally, within any Internet household, the Internet user may not be the household head. For example, a teenager may use the Internet while his or her parents do not. To the extent that the Internet adversely affects mail volumes, Internet use solely by an individual who does not generate (much) mail may mask the overall impact of the Internet across all households.

Thus, the fact that a Diary Study household reports that it has Internet access does not mean that anyone in that household, or any adult in that household, is a regular user of the Internet. In addition, a Diary Study household that reports that it does not have Internet access could have an adult in the household who uses the Internet at work.

D. Conclusions

Diary Study data show the vast differences between households that have the Internet and those that do not. Internet households have a median income that is over twice that of non-Internet households. The head of an Internet household is three times more likely to be a college graduate than the head of

non-Internet household, while a non-Internet household head is three times more likely to not have a high school degree. Internet households are more likely to own their homes, have more credit cards and other financial accounts, and no doubt have other characteristics that distinguish themselves from households that do not have the Internet.

Put differently, in a world in which more than 70 percent of households have the Internet, it is the households without the Internet that are the exception. To illustrate this point, consider a particular subset of households, those headed by a person age 45 to 54 and with a household income between $65,000 and $80,000. According to the Diary Study, 93 percent of households within this group had access to the Internet in 2005. Clearly, then, the seven percent of households in this group without the Internet are different – different because they are rare within this cohort. Is one to estimate the impact of the Internet on household mail received by comparing the mail received by the obviously unusual non-Internet households with the great majority of other households? Suppose, in the not too distant future, Internet penetration within some subgroup reaches 99 percent? Are we to focus on the remaining one percent of households to analyze the impact of this technology on mail volumes? Or are we to conclude, far more reasonably, that these non-Internet households are simply different from most others and comparisons of mail volume received carry little, if any, significance.

Moreover, even within the Internet-household population, there are no doubt different levels of use of the Internet. Some households may use the Internet very rarely, others may use it primarily in ways that are not directly related to the mail, and for other households the Internet has had more fundamental impacts on the way they interact with friends, businesses, the government, and their use of the mail. Thus it is reasonable to expect that the

Internet has had little or no impact on mail volumes sent or received by some households, while having an adverse impact on volumes sent or received by other households.

Fortunately, there is direct information about household use of the Internet and other technologies as it relates to one important component of First-Class Mail – household bill payments.

VII. HOUSEHOLD BILL PAYMENTS

A. Introduction

Over the last few years, there has been substantial growth in the use of alternatives to paying bills by mail. These alternatives include payment by automatic deduction from a checking account, online payment, and payment by phone or through an ATM. In addition, there is evidence that more and more households are using credit cards for recurring bill payments. This chapter uses information from the Recruitment Questionnaire portion of the Household Diary Study to analyze trends and developments in household bill payments.

The recruitment portion of the Diary Study is an initial survey of about 10,000 households, of which about half are also included in the Household Diary Study itself. The recruitment survey does not record detailed information about mail received but does include an extensive section regarding household bill payment activities. It is these data that are used in the following analysis.

The recruitment data are subject to some of the same complications arising from the change in contractors in 2000. For that reason, much of the analysis focuses on the 2000 to 2005 period, when the data are more consistent. Moreover, just as Diary Study household mail volumes can be compared with total mail volumes, Diary Study bill payment data can be compared with other sources of information on this subject. The increases in the use of electronic alternatives to paying bills by mail found in the Diary Study are corroborated by a variety of other sources, some of which were mentioned in my R2005-1 testimony at pages 24 to 34.

B. Trends in Household Bill Payments (1990 to 2005)

1. Shares of Bills Paid by Method

Table 25 shows the share of bills paid by different methods on an annual basis from 1990 through 2005. Payment methods considered include: by mail, in person, by automatic deduction from a checking account, online payment, and "other" electronic payments, which include payments by phone, ATM, or the use of a credit card to make a recurring payment. Note that "credit card" was first included as an option in the 2001 survey, which explains most of the jump in other payments at that time.

Table 25
Share of Household Bills Paid by Different Methods

Year	By Mail	In Person	Auto Deduction	Online	Other Electronic
1990	84.0%	13.5%	2.1%	0.1%	0.3%
1991	84.8%	12.6%	2.2%	0.1%	0.4%
1992	84.3%	12.8%	2.4%	0.2%	0.4%
1993	84.5%	11.9%	3.1%	0.1%	0.4%
1994	85.0%	11.7%	2.9%	0.1%	0.4%
1995	85.5%	10.6%	3.2%	0.2%	0.5%
1996	84.4%	10.5%	4.0%	0.4%	0.7%
1997	84.8%	9.9%	4.0%	0.6%	0.7%
1998	85.1%	9.5%	4.3%	0.7%	0.6%
1999	84.4%	9.3%	4.6%	1.0%	0.6%
2000	79.4%	9.5%	7.3%	2.2%	1.6%
2001	78.4%	7.5%	7.0%	3.6%	3.5%
2002	75.0%	8.1%	8.4%	4.3%	4.3%
2003	73.5%	7.2%	8.9%	6.0%	4.3%
2004	69.3%	6.5%	9.6%	9.5%	5.1%
2005	66.6%	6.6%	10.4%	11.1%	5.2%

Source: Household Diary Study Recruitment Questionnaire

The share of household bills paid by mail remained close to 85 percent from 1990 through 1999, and then began to decline, falling to 75 percent in 2002

and to 66.6 percent in 2005. It is possible that some of the reported decline from 1999 to 2000 is due to the change in Diary Study contractors in that year. All the same, the consistency of the mail payment share from 1990 through 1999, and the consistency of the decline in the mail payment share since 2000, indicates that the changes shown in Table 25 are real.

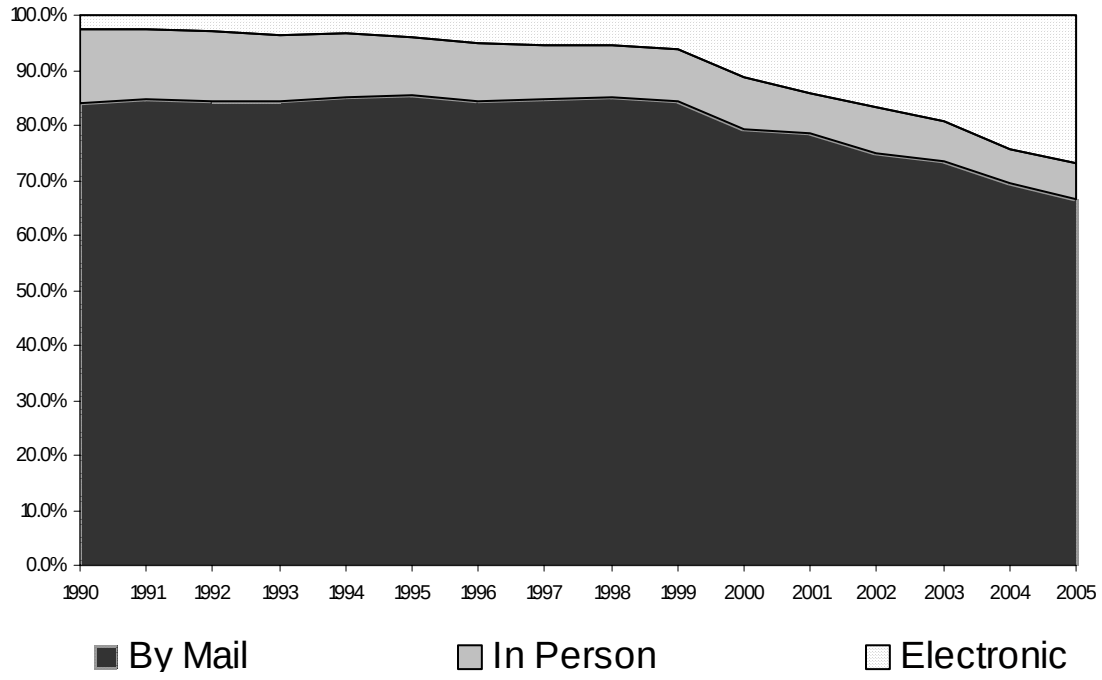
To put this decline in perspective, consider that the Recruitment Questionnaire reports that households paid about twelve bills per month in 2005. Extrapolating that per household per month figure to the entire population yields a total of about 16.3 billion bill payments for the entire year. If the share of bills paid by mail had remained at 85.0 percent, about 13.9 billion bills would have been paid by mail in 2005. Instead, the number of bills paid by mail was on the order of 10.9 billion, a loss of three billion pieces of single-piece letter mail over the period from 1999 through 2005.

Alternatively, one can look at the diversion of mailed bill payments in 2005 alone. In 2004, 69.3 percent of household bills were paid by mail. If that share had persisted into 2005, there would have been about 11.3 billion household bill payments through the mail. Instead, there were 10.9 billion, indicating a loss of 400 million mailed bill payments in 2005 alone, or more than one percent of total First-Class single-piece letter mail, lost in a single year from a single source of diversion.

Clearly then, electronic bill payments represent a classic example of the diversion of letter mail. Long-term trends in bill payment methods might be understood better by aggregating all the electronic methods into a single category. Chart 13 shows the decline in bill payment by mail and the rise in the share of bills paid electronically. The electronic share increased from 2.5 percent in 1990 to 26.8 percent in 2005. Put differently, in 1990, there were

more than 33 bills mailed for each one paid electronically, by 2005 this ratio had declined to just 2.5.

Chart 13
Shares of Bills Paid by Mail, In-Person, and Electronically



Source: Household Diary Study Recruitment Questionnaire

2. Share of Households Using Each Method

Another measure of interest is the percentage of households that use each method to pay bills. These data are shown in Table 26. Table 26 also aggregates the different electronic methods to show the percentage of households who use any electronic method. Note that unlike the bill payment share results shown in Chart 13, aggregation across different payment methods cannot be done simply by adding the percentages of households that use each electronic method because the same household may use more than one electronic payment method.

Table 26
Percentage of Households Using Each Payment Method

Year	By Mail	In Person	Auto Deduct	Online	Phone	ATM	Credit Card	Any E-Payment
1990	94.2%	44.2%	11.6%	0.1%	0.5%	0.6%	n/a	12.5%
1991	95.6%	43.6%	12.8%	0.1%	0.6%	0.7%	n/a	13.7%
1992	96.3%	43.4%	13.4%	0.2%	0.6%	0.6%	n/a	14.3%
1993	96.7%	41.7%	16.6%	0.1%	0.8%	0.6%	n/a	17.4%
1994	96.7%	40.5%	15.8%	0.2%	0.9%	0.4%	n/a	16.6%
1995	97.0%	39.0%	17.2%	0.2%	1.4%	0.7%	n/a	18.6%
1996	96.5%	37.6%	18.5%	0.5%	1.4%	0.8%	n/a	19.9%
1997	97.1%	37.7%	19.8%	0.7%	1.6%	0.7%	n/a	21.3%
1998	96.3%	34.2%	19.6%	1.1%	1.6%	0.6%	n/a	21.3%
1999	96.3%	34.3%	19.3%	1.7%	2.1%	0.7%	n/a	21.9%
2000	93.9%	35.8%	32.3%	4.2%	5.4%	2.0%	n/a	36.0%
2001	94.0%	31.1%	33.4%	7.6%	7.6%	1.8%	11.5%	41.1%
2002	94.9%	34.7%	42.5%	10.6%	9.4%	1.8%	15.0%	51.7%
2003	95.0%	33.5%	42.6%	13.7%	9.6%	0.9%	15.0%	52.7%
2004	94.7%	33.0%	49.6%	20.8%	12.3%	1.1%	19.0%	63.3%
2005	93.8%	33.7%	52.6%	24.4%	14.2%	1.2%	20.0%	67.8%

Source: Household Diary Study Recruitment Questionnaire

Table 26 shows the growth in the percentage of households using electronic payment methods. While the increase in 2000 may be partly due to the change in contractors in that year, the data since 2000 are revealing. Two-thirds of households paid at least one bill electronically in 2005, compared with barely more than one-third doing so in 2000. The share of households using online bill payment has reached nearly one in four, while the share using a recurring credit card charge has risen to one in five.

While the vast majority of households still use the mail to make at least some bill payments, Table 26 also shows that the share that pays no bills by mail is increasing. In 2005, 6.2 percent of all households did not use the mail to pay any of their bills.

C. Two Worlds: Users of Electronic and Non-Electronic Payments

The results of Table 26 suggest that the marketplace is now split into two types of households: those that have used an electronic payment method and those that have not. Accordingly, this section will look separately at the bill payment patterns of the electronic and non-electronic bill paying households using annual data from 2000 through 2005.

A first consideration is that households that use electronic payment methods pay more bills than households that do not use electronic payment methods. In other words, the share of bills represented by electronic paying households is greater than their share of households, as seen in Table 27. The table also shows the average number of bills paid per month for each group, revealing that electronic bill paying households pay on average more bills than non-electronic bill paying households, probably due to income or education differences which also partly explain bill paying behavior. Households that use at least one electronic payment method average 13.0 bills per month, while non-electronic households pay an average of just 10.0 bills per month. Put differently, while 67.8 percent of all households used at least one type of electronic bill payment method, these households accounted for 73.4 percent of all household bills.

Table 27
Electronic Bill Payers as Share of Households and Share of Bills Paid

	Share of Households	Share of Bills	Bills per Month Electronic HH	Bills per Month Non-Electronic HH
2000	36.0%	41.8%	12.7	10.1
2001	41.1%	46.9%	12.9	10.3
2002	51.7%	57.4%	12.9	10.3
2003	52.7%	58.7%	12.5	10.1
2004	63.3%	69.7%	13.4	10.1
2005	67.8%	73.4%	13.0	10.0

Source: Household Diary Study Recruitment Questionnaire

Table 28 looks at the bill payment shares of these two types of households. An interesting result is that households that do not use electronic methods continue to pay about 90 percent of their bills by mail. The decline in bill payments by mail is primarily due to the increase in the number of households using electronic payment methods. However, a secondary impact has been the greater intensity of use of electronic payments by these households. In 2005, households that used electronic methods paid 36.5 percent of their bills electronically and 58.2 percent by mail. In 2000, electronic bill paying households paid 26.6 percent of their bills electronically and 66.1 percent by mail. So there is both an increase in the number of electronic bill paying households and an increase in their intensity of electronic payment use.

Table 28
Bill Payment Shares by Household Use of Electronic Payment Methods

	Use Electronic Methods			Do Not Use Electronic Methods		
	By Mail	Electronic	In Person	By Mail	Electronic	In Person
2000	66.1%	26.6%	7.3%	88.8%	0%	11.2%
2001	64.1%	29.8%	6.1%	91.2%	0%	8.8%
2002	64.5%	29.4%	6.1%	89.2%	0%	10.8%
2003	61.2%	33.0%	5.8%	90.7%	0%	9.3%
2004	60.3%	34.6%	5.0%	90.0%	0%	10.0%
2005	58.2%	36.5%	5.3%	89.9%	0%	10.1%

D. Yet Another World: Online Bill Paying Households

The fastest growing method of electronic payment is online bill payment. This is also a relatively new bill payment option, in comparison with automatic deductions and payment by phone, for example, which have been available for well more than a decade. Online bill payment is also different because it requires access to the Internet while the other payment methods can be made using older technologies. Furthermore, online bill payment may be closely tied to online bill presentment, a development that would affect the volume of bills sent through the mail as well as the volume of mailed payments. Consequently, households that make online bill payments are given separate attention.

The present section, therefore, further decomposes households into three groups: 1) those that have made a bill payment online; 2) those that have not made a bill payment online but have used other electronic payment methods; and 3) those that have not used any electronic payment method. Table 29 shows the relative sizes of each of these household types, both in terms of share of households and in terms of share of household bills.

Table 29
Household and Bill Shares by Payment Method Used by Household

	Pay Bills Online		Pay Bills Electronically, but not Online		Do Not Pay Bills Electronically	
	Households	Bills	Households	Bills	Households	Bills
2000	4.2%	5.4%	31.7%	36.3%	64.1%	58.2%
2001	7.6%	9.7%	33.5%	37.2%	58.9%	53.1%
2002	10.6%	12.7%	41.2%	44.7%	48.2%	42.6%
2003	13.7%	16.6%	39.1%	42.1%	47.2%	41.3%
2004	20.8%	24.9%	42.7%	44.8%	36.4%	30.3%
2005	24.4%	28.6%	43.5%	44.8%	32.1%	26.6%

Source: Household Diary Study Recruitment Questionnaire

In the typical month of 2005, for example, 24.4 percent of households paid at least one bill online, but these households accounted for 28.6 percent of all

household bills. Put differently, average number of bills paid per month by online bill paying households is greater than for households that use other electronic methods and even greater than households that do not use electronic methods at all. This finding is shown in Table 30.

Table 30
Average Bills Paid per Month by Household Type

	Pay Online	Pay Electronically but not Online	Do Not Pay Bills Electronically
2000	14.3	12.5	10.1
2001	14.5	12.5	10.3
2002	14.1	12.6	10.3
2003	13.8	12.0	10.1
2004	14.7	12.7	10.1
2005	14.2	12.3	10.0

Source: Household Diary Study Recruitment Questionnaire

Table 30 shows that for 2005, households that paid at least one bill online paid an average of 14.2 bills per month, households that paid electronically but did not pay online paid an average of 12.3 bills per month, and households that did not use any electronic methods paid an average of 10.0 bills per month. Thus, the fastest growing alternative to payment by mail is affecting the households that pay the most bills.

Table 31 presents a final look at bill payment behavior, showing shares of bills paid by each method for the three types of households described above. The table shows the share of bills paid by mail, online, by other electronic methods, and in person. A key result is that in 2005, households that made online bill payments paid fewer than half of their bills by mail. In fact, these households paid about as many bills online as they paid by mail. Second, online bill paying households make much greater use of this payment option – two to three times greater – than payment by all other electronic methods combined.

Even so, online bill paying households use other electronic methods almost as frequently as households that do not pay online. For example, in 2005, online households paid 18.7 percent of their bills using other electronic methods. Households that pay electronically, but not online, used the other electronic methods to pay 23.2 percent of their bills in 2005. What this shows is that the use of online bill payment is primarily reducing payments by mail, as opposed to "cannibalizing" other electronic payment methods.

Table 31
Bill Payment Shares by Payment Method and Type of Household

	By Mail	Online	Other Electronic	In Person
Households that Pay Bills Online				
2000	41.2%	40.0%	14.6%	4.2%
2001	43.7%	36.5%	16.2%	3.6%
2002	44.7%	32.9%	18.8%	3.6%
2003	41.0%	36.1%	18.5%	4.5%
2004	41.3%	37.6%	17.4%	3.8%
2005	39.0%	38.4%	18.7%	3.8%
Households that Pay Bills Electronically, but not Online				
2000	69.9%	0%	22.4%	7.8%
2001	69.5%	0%	23.8%	6.7%
2002	70.2%	0%	22.9%	6.8%
2003	69.4%	0%	24.3%	6.3%
2004	71.1%	0%	23.1%	5.8%
2005	70.6%	0%	23.2%	6.2%
Households that do not Pay Bills Electronically				
2000	88.8%	0%	0%	11.2%
2001	91.2%	0%	0%	8.8%
2002	89.2%	0%	0%	10.8%
2003	90.7%	0%	0%	9.3%
2004	90.0%	0%	0%	10.0%
2005	89.9%	0%	0%	10.1%

Source: Household Diary Study Recruitment Questionnaire

A final observation is that within each of the three groups, the share of bills paid by mail has been relatively stable over the six years considered. From 2000 through 2005, households paying online paid about 40 percent of their bills by mail, electronic (but not online) paying households paid about 70 percent of their bills by mail, and non-electronic paying households paid about 90 percent of their bills by mail. This result means that a key driver of the future overall mail payment share is likely to be the future composition of households. Combined with the earlier observations about the uniqueness of online bill paying households, these results indicate that future growth in online bill payment – as opposed to other electronic payment methods – could be the key driver of the future share of bills paid by mail.

E. Conclusions

Information from the Recruitment Questionnaire portion of the Household Diary Study shows a consistent decline in the share of household bills paid by mail. After remaining at close to 85 percent throughout the 1990s, the share of bills paid by mail fell to about 66.6 percent in 2005. This decline represents a loss of about three billion pieces of mail from this single source of electronic diversion from 1999 to 2005. In 2005 alone, it is estimated that shifts from payment by mail to other payment methods reduced mail volumes by about 400 million pieces.

The decline in the mail payment share is a direct result of the increase in the use of electronic payment alternatives. In 2005, more than two-thirds of all households paid at least some bills electronically. Moreover, the households that use electronic payment methods pay more bills on average than households that do not use these methods. Thus, the use of alternatives to payments by mail is affecting the households that currently represent the largest source of bill payment volume.

Much of the growth in electronic payments comes from the increased use of online bill payment. One-quarter of all households paid at least one bill online in 2005. As a group, these households pay more bills than the average households and pay less than half of these bills by mail. Again, the households that pay the most bills are the ones that have most substantially reduced their use of the mail for bill payment. This last observation is consistent with the finding presented in the previous chapter that the decline in First-Class Mail volumes received by households is due to a decline in volumes received by those households that receive the most mail.

VIII. CONCLUSIONS

First-Class Mail volume in 2005 was 5.3 percent lower than volume in 2001. Although some of this decline is due to the impact of postal rate increases and an economic recession, economic factors alone do not explain the drop in First-Class Mail volumes. For example, volumes declined from 2003 to 2005, despite a decline in real postal rates and solid economic growth.

The most plausible explanation for the recent drop in First-Class Mail volume is electronic diversion. In fact, electronic diversion has been adversely affecting First-Class Mail volumes for many years. Through the 1990s, for example, First-Class Mail volumes grew at a rate that was noticeably slower than the growth rate of the overall economy, or the growth rate that this mail class experienced in the 1980s.

Electronic diversion takes many forms, from the very direct – an online bill payment instead of a payment by mail – to the less direct – Internet advertising substituting for direct mail advertising – to the even more subtle – the decline in First-Class Mail's traditional role in the US economy. In any case, the slowdown and subsequent decrease in First-Class Mail volumes occurred during a time when households, businesses, and the government made greater use of technological alternatives to the mail.

Analysis of Household Diary Study data, once data anomalies are addressed, confirms this decline in First-Class Mail volumes. Bills and statements, advertising mail, and other mail sent by non-households to households have all declined since 2001, in contrast with the past when these mail streams were either growing or flat. Household-to-household First-Class Mail continues its long-term decline.

Further analysis of the Diary Study shows that the recent decline in volumes is concentrated among those households that have traditionally

received the most mail. These households are also the households that have the highest level of Internet penetration, along with higher than average incomes, educational attainment, and other household characteristics associated with greater receipt of First-Class Mail. Thus, the recent decline in First-Class Mail volumes received by households is primarily occurring within households with the Internet.

More direct evidence of the link between household technological use and First-Class Mail volumes is found in analysis of the Recruitment Questionnaire data on household bill payments. More and more households are using electronic payment alternatives to the mail. As a result, the share of household bills paid by mail has declined from about 85 percent in 1999 to just 66.6 percent in 2005. The decline in the mail payment share represents a loss of about three billion pieces of letter mail since 1999, and a loss of about two billion pieces since 2001, the period during which total First-Class Mail volumes declined.

Moreover, within the two-thirds of households that use some kind of electronic payment, online bill payment is the fastest growing alternative to the mail, now used by one in four households. These households pay fewer than half their bills through the mail. Further exacerbating the problem is the fact that households that pay bills online pay more bills than other households. Therefore, the fastest growing source of electronic diversion of bill payments is affecting the households that would otherwise be paying the most bills by mail. This finding is consistent with the Diary Study finding regarding mail received, showing that households that receive the most mail are receiving less, driving the overall decline in First-Class Mail volumes.