

Changes in the Use of Electronic Means of Payment: 1995-2007*

BY LORETTA J. MESTER

This article updates the tables originally published in an article by Loretta Mester in the March/April 2000 *Business Review* and subsequently updated in the Second Quarter 2006 issue.


In “The Changing Nature of the Payments System: Should New Players Mean New Rules?” (*Business Review*, Federal Reserve Bank of Philadelphia, March/April 2000), I presented some data from the 1995 Federal Reserve Survey of Consumer Finances on the use of electronic banking. This survey of more than 4,000 households, which is designed to be representative of all households in the U.S., is redone every three years. Attached are updates of the statistics indicating how the usages of various means of electronic payment have changed between 1995 and 2007.

As seen in Exhibit 1 and in the accompanying charts, usage of electronic forms of payment, including ATMs, debit cards, automatic bill paying, and smart cards, has risen from about 78 percent of households in 1995 to almost 92 percent of households in 2007. Debit card use, which about doubled between 1995 and 1998, has

been steadily increasing (although at a slower pace) since then and now stands at nearly 67 percent of all households. Increases were seen in all categories by age, income, and education. Use of direct deposit increased except for those over age 60. Automatic bill paying fell across all categories, but the percentage of households now using it remains double what it was in 1995. Nearly 80 percent of households have an ATM card, with the largest growth seen in those over age 60. There was little change in the percentage of households that use some type of computer software to manage their money: The percentage stood at about 19 percent in 2007. Respondents under 60 years old, those with higher income, and those with college degrees are more likely to use a computer for money management.

As seen in Exhibit 2 and the accompanying charts, households that do business with at least one financial institution continued to increase usage of automated methods of conducting this business. However, there was also an increase in the fraction of house-

holds, to almost 85 percent, reporting that one of the main ways they deal with at least one of their financial institutions is in person. There was a sizable increase in the percentage of households that use the telephone as one of the main ways of conducting business. This might reflect cell phone usage, but both voice and touchtone usage increased. Overall use of electronic means of doing business — either ATM, phone, fax, direct deposit and payment, other electronic transfer, and/or computer — continued to increase between 2004 and 2007. In 2007, about 93 percent of households used an electronic method as one of their main ways of conducting business, and differences by income, education, and age have become less pronounced. Differences in the popularity of ATM/debit card usage across age groups remain: Almost 86 percent of those under 30 years old use ATM/debit cards as one of their main ways of conducting business, while around 50 percent of those over 60 years old use them. Still, the usage by those over 60 has more than tripled since 1995.

The largest increase between 2004 and 2007 was seen in the percentage of households that use a computer, the Internet, or an online service to do business. In 2007, over 50 percent of households used these methods, up from 34 percent in 2004 and less than 4 percent in 1995. Youth, high income, and a college degree continue to be associated with a higher incidence of computer banking. While the computer remains a less popular means of doing business with financial institutions compared with other methods, its popularity is catching up to that of using mail or the phone. 



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free of charge at www.philadelphiafed.org/research-and-data/publications/.

* The views expressed here are those of the author and do not necessarily represent the views of the Federal Reserve Bank of Philadelphia or the Federal Reserve System.

Forthcoming as exhibit 1 in *The Statistical Abstract of the United States*, 2010.

EXHIBIT 1, PART 1

Percent of U.S. Households That Use Each Instrument: 1995, 1998, 2001, 2004, 2007, and 2007^a

	ATM ^b				Debit Card				Smart Card ^b					
	1995	1998	2001	2004	2007	1995	1998	2001	2004	2007	1995	1998	2001	
All Households	62.5%	67.4%	69.8%	74.4%	79.7%	17.6%	33.8%	47.0%	59.3%	67.0%	1.2%	1.9%	2.9%	
By Age:														
Under 30 years old	72.3%	75.6%	78.1%	83.0%	84.8%	24.4%	45.0%	60.6%	74.4%	78.3%	1.8%	2.6%	2.6%	
Between 30 and 60 years old	68.6%	76.1%	76.8%	82.3%	85.9%	19.7%	38.6%	53.4%	67.6%	74.9%	1.5%	2.3%	3.3%	
Over 60 years old	44.2%	41.9%	48.9%	51.6%	63.5%	9.6%	16.0%	24.6%	32.5%	43.9%	0.3%	0.5%	2.1%	
By Income:														
Low income	38.5%	45.9%	46.8%	53.0%	58.8%	7.0%	19.7%	29.2%	41.2%	48.1%	0.7%	1.5%	1.9%	
Moderate income	61.5%	64.4%	67.4%	73.4%	78.5%	16.0%	31.6%	46.3%	57.4%	68.0%	0.6%	3.1%	3.0%	
Middle income	70.9%	72.0%	75.2%	78.3%	87.5%	20.5%	36.6%	50.0%	64.3%	75.0%	1.3%	2.0%	2.4%	
Upper income	77.2%	82.3%	83.7%	86.5%	91.0%	25.1%	43.8%	57.8%	69.3%	75.8%	1.8%	1.7%	3.7%	
By Education														
No college degree	54.7%	60.1%	63.7%	67.4%	74.0%	14.3%	29.2%	42.3%	54.9%	63.7%	0.8%	1.8%	2.4%	
College degree	80.4%	82.1%	81.6%	86.4%	90.3%	25.2%	43.1%	56.2%	67.0%	72.9%	2.1%	2.0%	3.8%	

^aThe percentages reported are based on the population-weighted figures using the revised Kennickell-Woodburn consistent weights for each year. (For further discussion see the Survey of Consumer Finances codebooks at www.federalreserve.gov/pubs/oss/oss2/scfindex.html). This exhibit reports percentages for all households.

^bThe questions on ATMs and smart cards asked whether any member of the household had an ATM card or a smart card, not whether the member used it. The other questions asked about usage. The question on smart cards was dropped after the 2001 survey.

^cLow income is defined as less than 50 percent of the median household income; moderate income is 50 to 80 percent of the median; middle income is 80 to 120 percent of the median; and upper income is greater than 120 percent of the median. Each survey refers to income in the previous year. Median income in current dollars was \$32,264 in 1994; \$37,005 in 1997; \$41,990 in 2000; \$43,318 in 2003; and \$48,201 in 2006.

Source: 1995, 1998, 2001, 2004, 2007 Survey of Consumer Finances data as of March 3, 2009, Federal Reserve System, and author's calculations.

EXHIBIT 1, PART 2

Percent of U.S. Households That Use Each Instrument: 1995, 1998, 2001, 2004, and 2007^a

	Direct Deposit				Automatic Bill Paying				Software ^b				Any of the Methods: ATM, Debit Card, Smart Card, Direct Deposit, Automatic Bill Paying, or Software						
	1995	1998	2001	2004	2007	1995	1998	2001	2004	2007	1995	2001	2004	2007	1995	1998	2001	2004	2007
All Households	46.7%	60.5%	67.3%	71.2%	74.9%	21.8%	36.0%	40.3%	47.4%	45.5%	18.0%	19.3%	19.1%	77.7%	85.5%	88.9%	90.7%	91.8%	
By Age:																			
Under 30 years old	31.0%	45.2%	48.8%	54.0%	61.3%	17.7%	30.5%	32.1%	36.5%	35.7%	17.0%	20.4%	21.4%	76.3%	80.2%	83.8%	87.6%	88.6%	
Between 30 and 60 years old	42.8%	58.0%	64.8%	68.2%	72.6%	24.4%	38.6%	44.1%	50.3%	48.8%	22.0%	21.9%	21.6%	78.7%	87.5%	89.9%	90.9%	92.4%	
Over 60 years old	63.3%	74.8%	83.2%	87.0%	86.4%	18.2%	33.0%	35.9%	46.5%	42.9%	9.0%	12.8%	12.3%	76.1%	83.7%	89.4%	92.0%	92.1%	
By Income:																			
Low income	32.5%	44.3%	51.9%	54.8%	60.5%	9.7%	17.1%	18.2%	24.6%	23.8%	6.1%	6.8%	7.7%	56.7%	69.3%	74.3%	78.0%	79.7%	
Moderate income	42.9%	58.8%	63.1%	64.0%	68.5%	17.5%	30.5%	35.1%	40.5%	37.8%	10.7%	11.1%	10.7%	78.4%	87.2%	88.6%	88.7%	91.1%	
Middle income	48.3%	66.1%	65.7%	73.2%	76.8%	23.4%	42.8%	45.1%	52.8%	50.2%	16.3%	17.8%	18.8%	85.1%	89.4%	92.5%	95.5%	96.4%	
Upper income	58.3%	70.4%	80.2%	83.6%	86.6%	32.1%	49.3%	55.2%	62.4%	61.6%	29.9%	31.4%	30.5%	89.6%	94.9%	97.1%	97.5%	98.4%	
By Education																			
No college degree	40.3%	54.4%	61.8%	64.3%	68.9%	18.1%	30.2%	33.7%	39.5%	38.0%	10.9%	12.4%	11.9%	71.4%	80.7%	85.1%	86.6%	88.4%	
College degree	61.0%	72.6%	78.0%	83.2%	85.9%	30.1%	47.7%	53.2%	61.1%	59.3%	31.8%	31.3%	32.2%	91.8%	95.1%	96.4%	98.0%	98.2%	

^aThe percentages reported are based on the population-weighted figures using the revised Kennickell-Woodburn consistent weights for each year. (For further discussion see the Survey of Consumer Finances codebooks at www.federalreserve.gov/pubs/oss/oss2/scfindex.html) This exhibit reports percentages for all households.

^bThe question on software asked whether the respondent or spouse/partner uses any type of computer software to help in managing their money.

^cLow income is defined as less than 50 percent of the median household income; moderate income is 50 to 80 percent of the median; middle income is 80 to 120 percent of the median; and upper income is greater than 120 percent of the median. Each survey refers to income in the previous year. Median income in current dollars was \$32,264 in 1994; \$37,005 in 1997; \$41,990 in 2000; \$43,318 in 2003; and \$48,201 in 2006.

Source: 1995, 1998, 2001, 2004, 2007 Survey of Consumer Finances data as of March 3, 2009, Federal Reserve System, and author's calculations.

EXHIBIT 2, PART 1

Percent of U.S. Households with at Least One Financial Institution Using Each Method Among the Main Ways of Conducting Business with at Least One of Their Financial Institutions^a

	In Person				Mail				ATM/Debit Card ^b						
	1995	1998	2001	2004	2007	1995	1998	2001	2004	2007	1995	1998	2001	2004	2007
All Households	85.5%	79.5%	77.2%	77.4%	84.9%	56.5%	54.1%	50.4%	50.5%	58.9%	33.8%	52.6%	56.7%	64.4%	73.6%
By Age:															
Under 30 years old	77.0%	73.7%	71.5%	72.9%	79.3%	58.2%	51.9%	50.5%	44.5%	52.4%	53.0%	68.8%	72.6%	79.3%	86.2%
Between 30 and 60 years old	86.8%	81.8%	78.6%	77.3%	84.8%	62.1%	60.4%	56.6%	56.8%	62.7%	37.7%	61.5%	65.0%	72.0%	82.2%
Over 60 years old	86.7%	77.2%	76.8%	79.6%	87.7%	44.0%	39.9%	36.0%	39.2%	53.5%	16.2%	22.3%	29.8%	39.9%	49.5%
By Income^c															
Low income	81.2%	70.3%	68.2%	71.2%	80.9%	32.8%	33.4%	24.7%	28.9%	40.4%	19.6%	34.7%	35.6%	46.6%	53.9%
Moderate income	85.9%	80.4%	76.9%	75.0%	83.0%	48.5%	46.9%	42.0%	42.8%	52.5%	29.6%	47.8%	50.5%	62.3%	71.4%
Middle income	85.7%	81.4%	78.6%	77.8%	86.4%	56.9%	56.4%	58.4%	56.4%	63.0%	37.7%	54.1%	60.7%	65.9%	80.5%
Upper income	87.7%	84.1%	81.8%	81.5%	87.4%	74.3%	69.1%	64.9%	63.0%	70.9%	42.3%	65.2%	69.6%	74.4%	83.3%
By Education															
No college degree	85.8%	79.2%	75.1%	76.9%	84.0%	49.4%	48.2%	43.5%	44.3%	53.8%	27.4%	45.1%	50.1%	59.2%	69.0%
College degree	84.8%	80.2%	81.1%	78.0%	86.5%	71.2%	65.2%	63.0%	60.6%	67.7%	46.7%	66.7%	68.8%	72.9%	81.7%

^aThe percentages reported are based on the population-weighted figures using the revised Kennickell-Woodburn consistent weights for each year. (For further discussion see the Survey of Consumer Finances codebooks at www.federalreserve.gov/pubs/oss/oss2/scfindex.html.) Referring to each financial institution with which the household does business, the survey asked: "How do you mainly do business with this institution?" Respondents could list multiple methods, with the main method listed first. This exhibit reports for all households with at least one financial institution all of the methods a respondent listed for each of the household's financial institutions. Note, the percentages do not add up to 100 percent across columns, since households could list more than one method and more than one financial institution. Previous versions of this chart prior to 2006 reported for 1998 and 2001 on the main ways respondents did business with their depository financial institutions (i.e., commercial banks, trust companies, thrifts, and credit unions) rather than with any of their financial institutions.

^bIn 1995, the question did not include debit cards

^cLow income is defined as less than 50 percent of the median household income; moderate income is 50 to 80 percent of the median; middle income is 80 to 120 percent of the median; and upper income is greater than 120 percent of the median. Each survey refers to income in the previous year. Median income in current dollars was \$32,264 in 1994; \$37,005 in 1997; \$41,990 in 2000; \$43,318 in 2003; and \$48,201 in 2006.

Source: 1995, 1998, 2001, 2004, 2007 Survey of Consumer Finances data as of March 3, 2009, Federal Reserve System, and author's calculations.

EXHIBIT 2, PART 2

Percent of U.S. Households with at Least One Financial Institution Using Each Method Among the Main Ways of Conducting Business with at Least One of Their Financial Institutions^a

	Phone			Computer			Electronic ^b								
	1995	1998	2001	2004	2007	1995	1998	2001	2004	2007					
All Households	25.7%	49.7%	48.9%	49.0%	61.8%	3.7%	6.2%	19.6%	33.7%	51.5%	56.2%	81.7%	87.0%	89.2%	93.3%
By Age:															
Under 30 years old	20.8%	45.4%	45.9%	43.2%	52.9%	5.2%	8.3%	22.9%	42.2%	61.7%	66.7%	81.0%	85.2%	89.2%	94.6%
Between 30 and 60 years old	28.1%	54.3%	52.4%	51.5%	64.8%	4.5%	7.6%	24.2%	39.9%	60.5%	59.9%	85.1%	89.4%	90.9%	95.1%
Over 60 years old	23.0%	40.6%	42.4%	46.0%	59.3%	1.2%	1.6%	7.3%	15.4%	27.4%	43.4%	73.9%	82.4%	85.4%	88.7%
By Income:															
Low income	13.5%	28.8%	29.2%	30.0%	46.8%	1.3%	1.5%	4.8%	14.0%	23.9%	35.3%	65.4%	73.8%	78.7%	83.7%
Moderate income	18.6%	42.5%	42.8%	44.8%	59.6%	1.8%	2.7%	11.2%	22.5%	38.1%	48.5%	80.1%	84.2%	84.8%	92.1%
Middle income	22.6%	51.7%	51.7%	50.7%	62.8%	4.0%	4.3%	17.8%	32.5%	53.0%	59.2%	85.2%	89.7%	92.1%	96.6%
Upper income	37.9%	64.9%	61.4%	60.4%	71.2%	5.9%	11.5%	32.5%	49.5%	72.9%	70.8%	91.0%	94.5%	95.6%	98.1%
By Education															
No college degree	19.7%	41.9%	41.7%	43.4%	58.1%	2.8%	2.7%	11.3%	24.0%	39.8%	47.8%	76.5%	83.2%	85.7%	90.3%
College degree	38.1%	64.3%	61.9%	58.0%	68.2%	5.6%	12.8%	34.8%	49.4%	71.8%	73.5%	91.4%	94.0%	94.9%	98.4%

^a The percentages reported are based on the population-weighted figures using the revised Kennickell-Woodburn consistent weights for each year. (For further discussion see the Survey of Consumer Finances codebooks at www.federalreserve.gov/pubs/oss/oss2/scfindex.html). Referring to each financial institution with which the household does business, the survey asked: "How do you mainly do business with this institution?" Respondents could list multiple methods, with the main method listed first. This exhibit reports for all households with at least one financial institution all the methods a respondent listed for each of the household's financial institutions. Note, the percentages do not add up to 100 percent across columns, since households could list more than one method and more than one financial institution. Previous versions of this chart prior to 2006 reported for 1998 and 2001 on the main ways respondents did business with their depository financial institutions (i.e., commercial banks, trust companies, thrifts, and credit unions) rather than with any of their financial institutions.

^b In 1995, electronic refers to ATM, phone, payroll deduction and direct deposit, electronic transfer, or computer. In 1998, 2001, 2004, and 2007, electronic refers to ATM, phone (via voice or touchtone), direct deposit, direct withdrawal/payment, other electronic transfer, computer/Internet/online service, or fax machine.

^c Low income is defined as less than 50 percent of the median household income; moderate income is 50 to 80 percent of the median; middle income is 80 to 120 percent of the median; and upper income is greater than 120 percent of the median. Each survey refers to income in the previous year. Median income in current dollars was \$32,264 in 1994; \$37,005 in 1997; \$41,990 in 2000; \$43,318 in 2003; and \$48,201 in 2006.

Source: 1995, 1998, 2001, 2004, 2007 Survey of Consumer Finances data as of March 3, 2009, Federal Reserve System, and author's calculations.

FIGURES

Figure 1.1 Exhibit 1 ATM

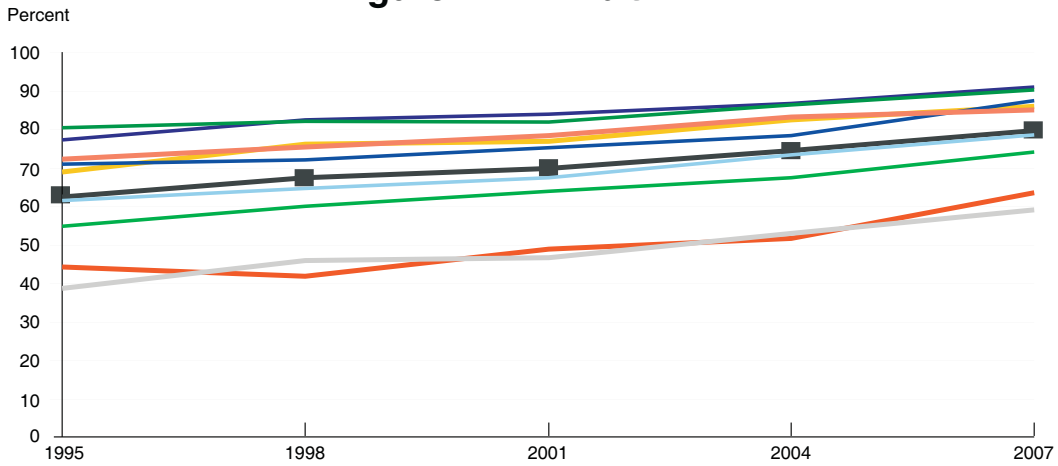


Figure 1.2 Exhibit 1 Debit Card

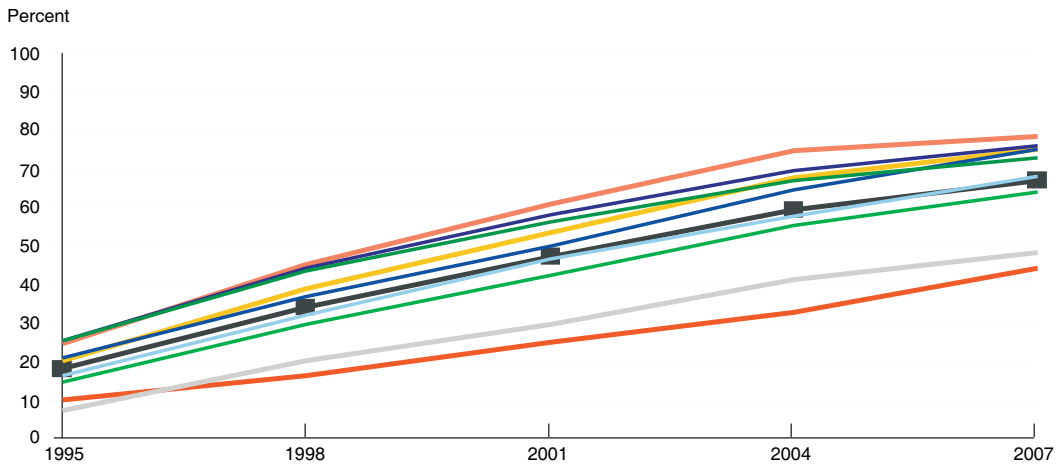
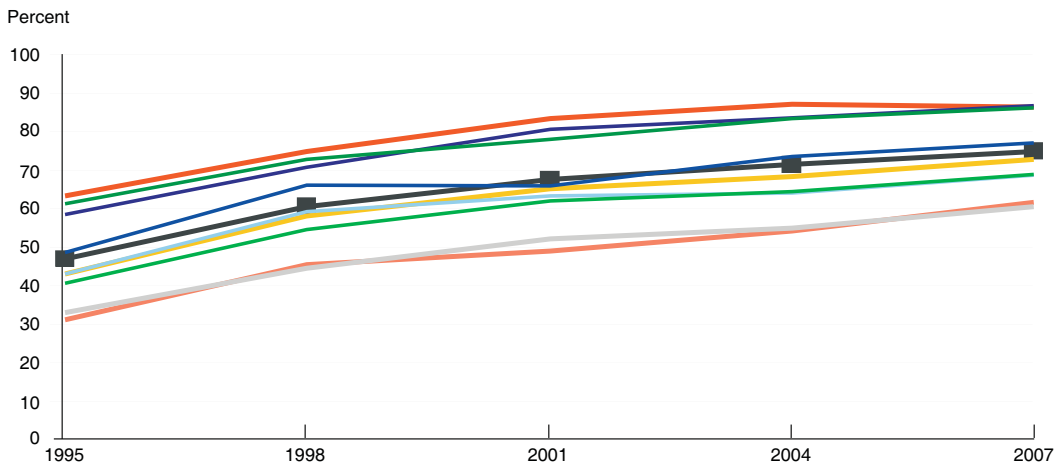


Figure 1.3 Exhibit 1 Direct Deposit



FIGURES

Figure 1.4 Exhibit 1 Automatic Bill Paying

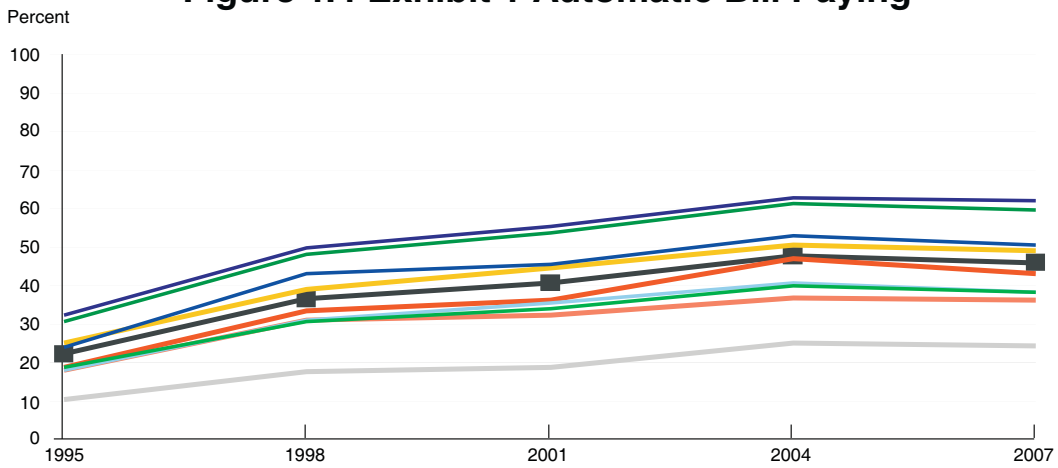


Figure 1.5 Exhibit 1 Software

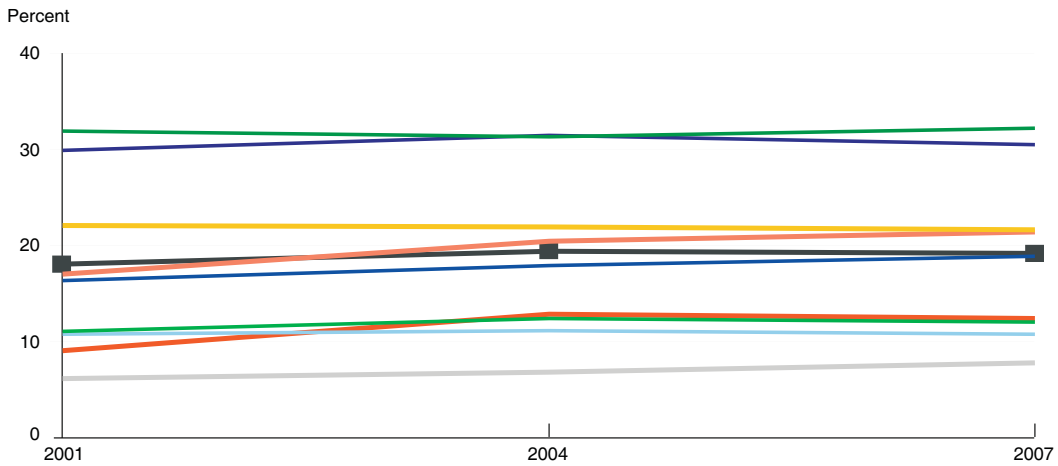
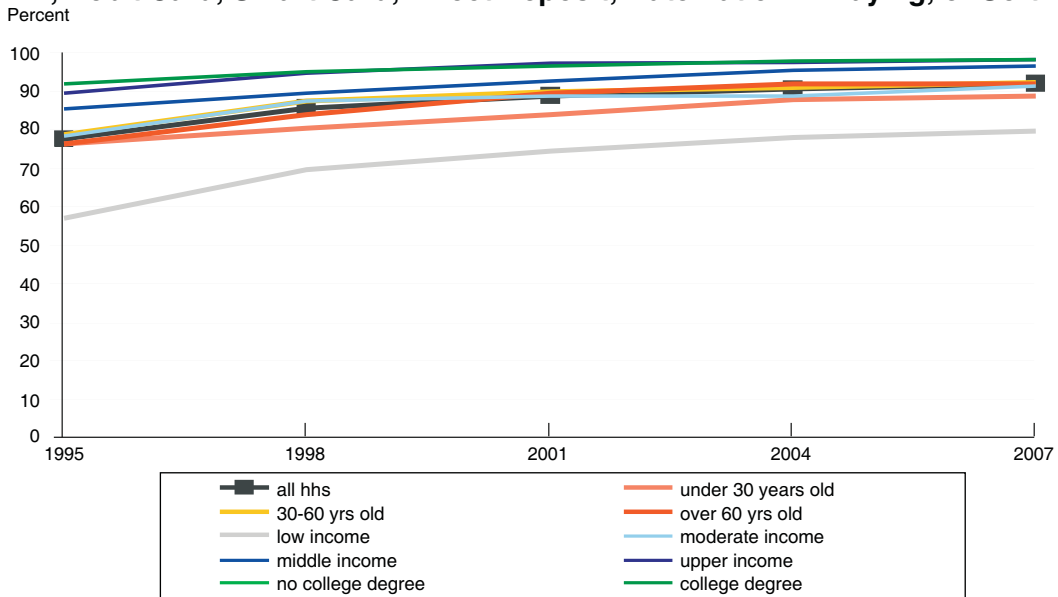


Figure 1.6 Exhibit 1 Any of the Methods ATM, Debit Card, Smart Card, Direct Deposit, Automatic Bill Paying, or Software



FIGURES

Figure 2.1 Exhibit 2 In Person

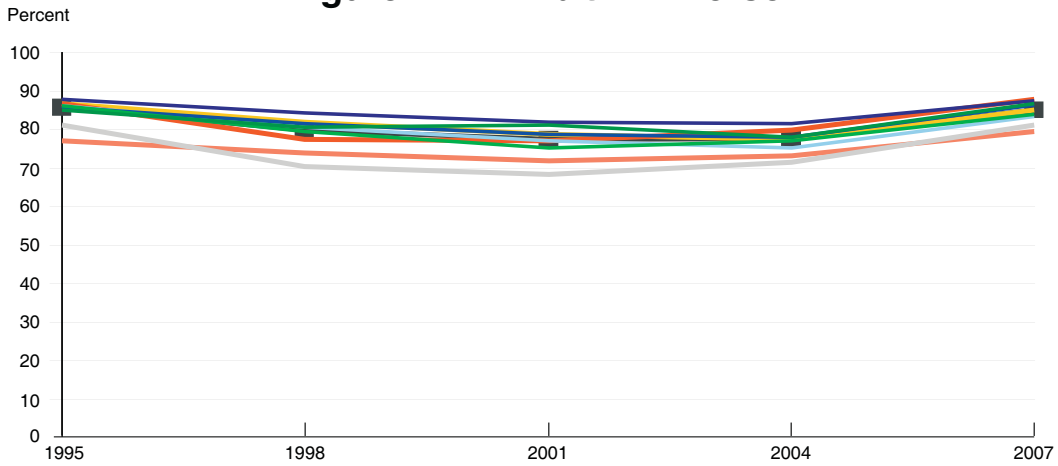


Figure 2.2 Exhibit 2 Mail

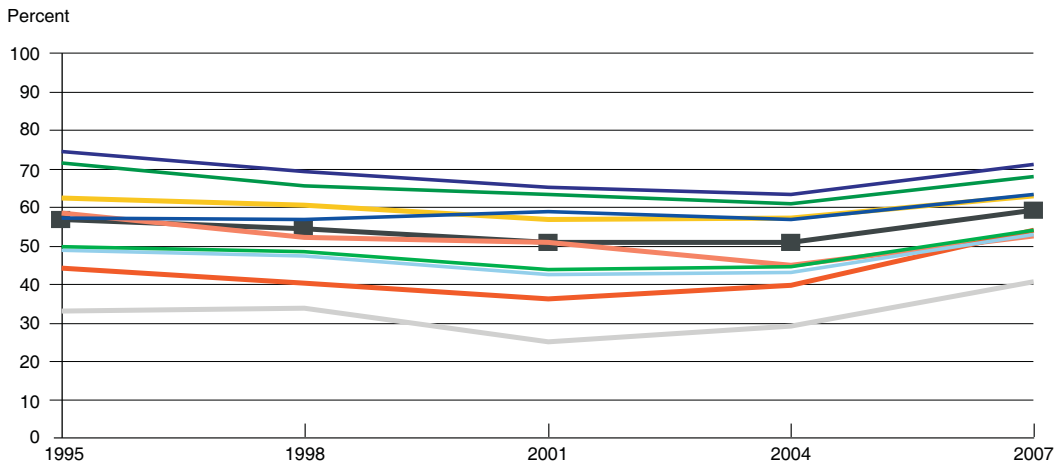
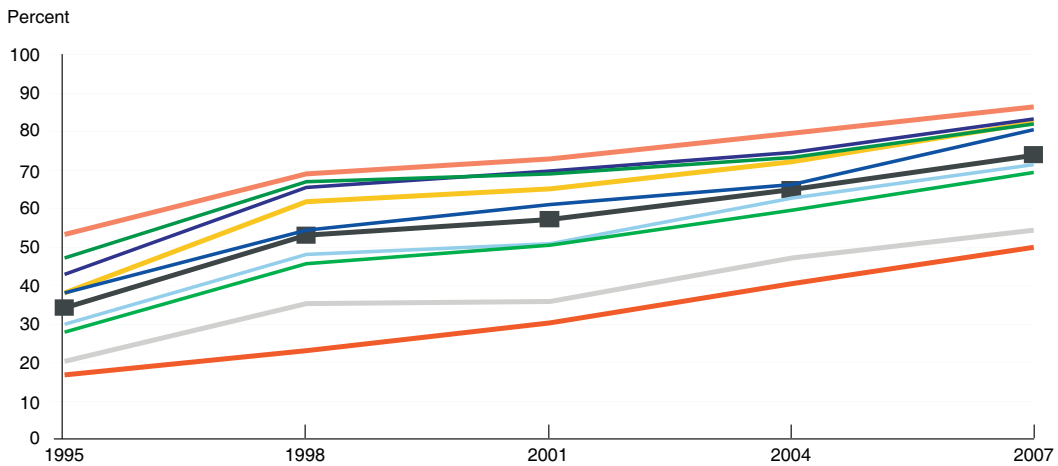


Figure 2.3 Exhibit 2 ATM/Debit



FIGURES

Figure 2.4 Exhibit 2 Phone

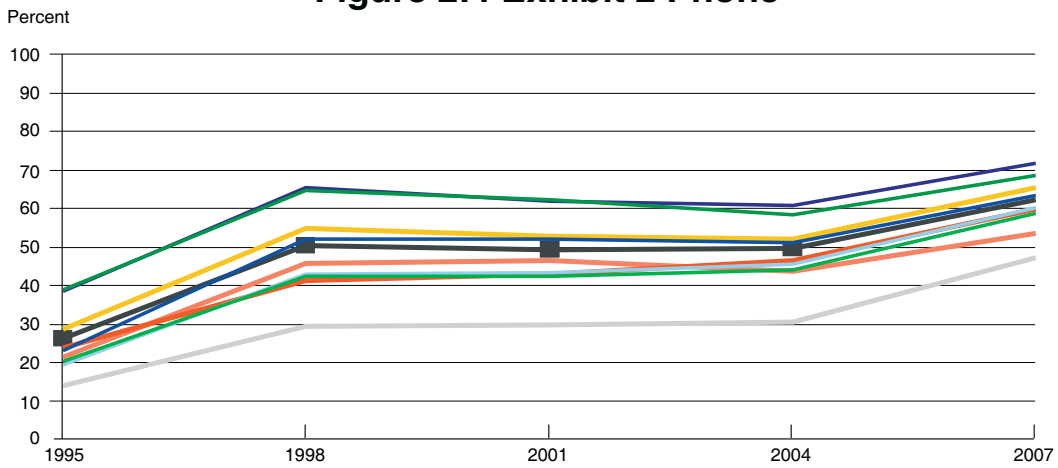


Figure 2.5 Exhibit 2 Computer

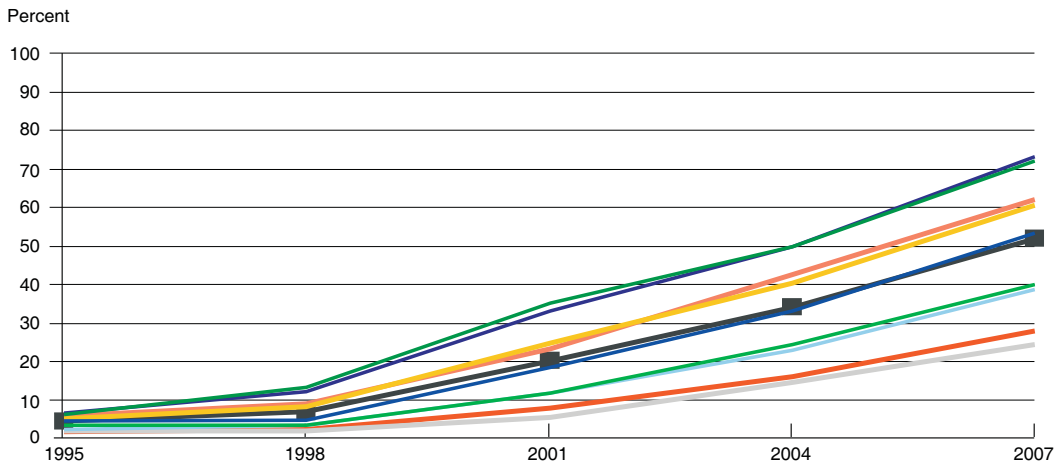


Figure 2.6 Exhibit 2 Electronic

