

Changes in the Use of Electronic Means of Payment: 1995-2010

An Update Using the Recently Released 2010 Survey of Consumer Finances*

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his article updates the information published in an article by Loretta Mester in the March/April 2000 *Business Review* and last updated in the Third Quarter 2009 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.¹ The Federal Reserve recently released the results from the 2010 survey. Attached are updates of the statistics indicating how the usages of various means of electronic payment have changed between 1995 and 2010.

¹ In 2010, more than 6,000 families were surveyed. For more information on the survey, see Jesse Bricker, et al., “Changes in U.S. Family Finances from 2007 to 2010: Evidence from the Survey of Consumer Finances,” *Federal Reserve Bulletin*, 98 (June 2012), available at <http://www.federalreserve.gov/pubs/bulletin/2012/pdf/scf12.pdf>.



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www.philadelphiafed.org/research-and-data/publications/.

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 94 percent of households in 2010. 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 over 78 percent of all households. Increases were seen in all categories by age, income, and education. In 2010, there was a particularly strong increase in debit card usage by those over 60 years old and those in the low-income group.

Use of direct deposit increased modestly except for those in the low-income group, where there was a slight decline, and for those with a college degree, where there was essentially no change. In contrast to the 2007 survey in which it declined, automatic bill paying grew modestly across all categories in 2010, and the percentage of households now using it is more than double what it was in 1995. Over 80

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

percent of households have an ATM card, with the largest growth in 2010 seen in the low-income group. There was little change in the percentage of households that use some type of computer software to manage their money: The percentage stood about 18 percent in 2010. 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, in 2010, while households that do business with at least one financial institution continued to increase usage of automated methods of conducting this business, 85 percent of households continued to report that one of the main ways they deal with at least one of their financial institutions is in person. In the 2007 survey there had been a sizable increase in the percentage of households that use the telephone as one of the main ways of conducting business with at least one of their financial institutions; this percentage remained at over 60 percent in the 2010 survey. Although not shown in the table, there was little change in either voice or touchtone usage.

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 2007 and 2010. In 2010, nearly 95 percent of households used an electronic method as one of their main ways of conducting business, and differences

by income, education, and age continued to become less pronounced. However, differences in the popularity of ATM/debit card usage across age groups remain: Almost 90 percent of those under 30 years old use ATM/debit cards as one of their main ways of conducting business, while around 60 percent of those over 60 years old use them. Still, this was a 10-percentage-point increase in usage by those over 60 since 2007,

and that share has almost quadrupled since 1995.

As was true in 2007, the largest growth in 2010 was seen in the percentage of households that use a computer, the Internet, or an online service as a main way to do business. In 2010, over 60 percent of households used these as a main method to conduct business, up from around 50 percent in 2007 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 some other methods, its popularity has caught up to that of using the phone and is now exceeding use of the mail, which saw the largest decline in 2010, to about 52 percent.

Exhibit 1, Part 1

Percent of U.S. Households That Use Each Instrument: Survey of Consumer Finances, 1995, 1998, 2001, 2004, 2007, and 2010^a

	ATM ^b						Debit Card						Direct Deposit						
	1995	1998	2001	2004	2007	2010	1995	1998	2001	2004	2007	2010	1995	1998	2001	2004	2007	2010	
All Households	62.5%	67.4%	69.8%	74.4%	79.7%	83.4%	17.6%	33.8%	47.0%	59.3%	67.0%	78.4%	46.7%	60.5%	67.3%	71.2%	74.9%	75.9%	
By Age																			
Under 30 years old	72.3%	75.6%	78.1%	83.0%	84.8%	88.7%	24.4%	45.0%	60.6%	74.4%	78.3%	88.5%	31.0%	45.2%	48.8%	54.0%	61.3%	63.2%	
Between 30 and 60 years old	68.6%	76.1%	76.8%	82.3%	85.9%	88.4%	19.7%	38.6%	53.4%	67.6%	74.9%	84.1%	42.8%	58.0%	64.8%	68.2%	72.6%	73.4%	
Over 60 years old	44.2%	41.9%	48.9%	51.6%	63.5%	70.6%	9.6%	16.0%	24.6%	32.5%	43.9%	62.3%	63.3%	74.8%	83.2%	87.0%	86.4%	86.7%	
By Income^c																			
Low income	38.5%	45.9%	46.8%	53.0%	58.8%	67.5%	7.0%	19.7%	29.2%	41.2%	48.1%	64.5%	32.5%	44.3%	51.9%	54.8%	60.5%	58.7%	
Moderate income	61.5%	64.4%	67.4%	73.4%	78.5%	82.4%	16.0%	31.6%	46.3%	57.4%	68.0%	78.3%	42.9%	58.8%	63.1%	64.0%	68.5%	72.3%	
Middle income	70.9%	72.0%	75.2%	78.3%	87.5%	87.4%	20.5%	36.6%	50.0%	64.3%	75.0%	83.5%	48.3%	66.1%	65.7%	73.2%	76.8%	79.8%	
Upper income	77.2%	82.3%	83.7%	86.5%	91.0%	93.2%	25.1%	43.8%	57.8%	69.3%	75.8%	86.0%	58.3%	70.4%	80.2%	83.6%	86.6%	88.2%	
By Education																			
No college degree	54.7%	60.1%	63.7%	67.4%	74.0%	78.1%	14.3%	29.2%	42.3%	54.9%	63.7%	75.0%	40.3%	54.4%	61.8%	64.3%	68.9%	70.4%	
College degree	80.4%	82.1%	81.6%	86.4%	90.3%	92.3%	25.2%	43.1%	56.2%	67.0%	72.9%	84.2%	61.0%	72.6%	78.0%	83.2%	85.9%	85.2%	

^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 code books at <http://www.federalreserve.gov/conresdata/scf/sfindex.htm>.) This exhibit reports percentages for all households.

^bThe question on ATMs asked whether any member of the household had an ATM card and not whether the member used it. The other questions asked about usage. Note that previous updates of this report included statistics on smart cards. That question 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; \$48,201 in 2006; and \$49,777 in 2009.

Source: 1995, 1998, 2001, 2004, 2007, 2010 Survey of Consumer Finances data as of July 3, 2012, Federal Reserve System, and author's calculations.

Exhibit 1, Part 2 Percent of U.S. Households That Use Each Instrument: Survey of Consumer Finances, 1995, 1998, 2001, 2004, 2007, and 2010^a

	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	2010	2001	2004	2007	2010	1995	1998	2001	2004	2007	2010		
All Households	21.8%	36.0%	40.3%	47.4%	45.5%	48.3%	18.0%	19.3%	19.1%	18.5%	77.7%	85.5%	88.9%	90.7%	91.8%	93.7%		
By Age																		
Under 30 years old	17.7%	30.5%	32.1%	36.5%	35.7%	42.9%	17.0%	20.4%	21.4%	22.3%	76.3%	80.2%	83.8%	87.6%	88.6%	92.2%		
Between 30 and 60 years old	24.4%	38.6%	44.1%	50.3%	48.8%	49.8%	22.0%	21.9%	21.6%	20.3%	78.7%	87.5%	89.9%	90.9%	92.4%	93.9%		
Over 60 years old	18.2%	33.0%	35.9%	46.5%	42.9%	47.5%	9.0%	12.8%	12.3%	13.0%	76.1%	83.7%	89.4%	92.0%	92.1%	94.0%		
By Income^c																		
Low income	9.7%	17.1%	18.2%	24.6%	23.8%	29.4%	6.1%	6.8%	7.7%	9.0%	56.7%	69.3%	74.3%	78.0%	79.7%	84.6%		
Moderate income	17.5%	30.5%	35.1%	40.5%	37.8%	42.3%	10.7%	11.1%	10.7%	11.2%	78.4%	87.2%	88.6%	88.7%	91.1%	93.4%		
Middle income	23.4%	42.8%	45.1%	52.8%	50.2%	52.9%	16.3%	17.8%	18.8%	17.0%	85.1%	89.4%	92.5%	95.5%	96.4%	96.7%		
Upper income	32.1%	49.3%	55.2%	62.4%	61.6%	62.5%	29.9%	31.4%	30.5%	29.4%	89.6%	94.9%	97.1%	97.5%	98.4%	98.9%		
By Education																		
No college degree	18.1%	30.2%	33.7%	39.5%	38.0%	40.8%	10.9%	12.4%	11.9%	11.2%	71.4%	80.7%	85.1%	86.6%	88.4%	90.9%		
College degree	30.1%	47.7%	53.2%	61.1%	59.3%	61.0%	31.8%	31.3%	32.2%	30.7%	91.8%	95.1%	96.4%	98.0%	98.2%	98.4%		

^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 <http://www.federalreserve.gov/econresdata/scf/scfindex.htm>.) 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; \$48,201 in 2006; and \$49,777 in 2009.

Source: 1995, 1998, 2001, 2004, 2007, 2010 Survey of Consumer Finances data as of July 3, 2012, 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	2010	1995	1998	2001	2004	2007	2010	1995	1998	2001	2004	2007	2010	
All Households	85.5%	79.5%	77.2%	77.4%	84.9%	84.9%	56.5%	54.1%	50.4%	50.5%	58.9%	52.1%	33.8%	52.6%	56.7%	64.4%	73.6%	77.5%	
By Age																			
Under 30 years old	77.0%	73.7%	71.5%	72.9%	79.3%	80.1%	58.2%	51.9%	50.5%	44.5%	52.4%	45.4%	53.0%	68.8%	72.6%	79.3%	86.2%	89.8%	
Between 30 and 60 years old	86.8%	81.8%	78.6%	77.3%	84.8%	84.6%	62.1%	60.4%	56.6%	56.8%	62.7%	54.0%	37.7%	61.5%	65.0%	72.0%	82.2%	83.3%	
Over 60 years old	86.7%	77.2%	76.8%	79.6%	87.7%	87.6%	44.0%	39.9%	36.0%	39.2%	53.5%	51.0%	16.2%	22.3%	29.8%	39.9%	49.3%	60.4%	
By Income^c																			
Low income	81.2%	70.3%	68.2%	71.2%	80.9%	81.1%	32.8%	33.4%	24.7%	28.9%	40.4%	39.5%	19.6%	34.7%	35.6%	46.6%	53.9%	63.7%	
Moderate income	85.9%	80.4%	76.9%	75.0%	83.0%	83.6%	48.5%	46.9%	42.0%	42.8%	52.5%	47.8%	29.6%	47.8%	50.5%	62.3%	71.4%	74.9%	
Middle income	85.7%	81.4%	78.6%	77.8%	86.4%	87.0%	56.9%	56.4%	58.4%	56.4%	63.0%	56.7%	37.7%	54.1%	60.7%	65.9%	80.5%	80.6%	
Upper income	87.7%	84.1%	81.8%	81.5%	87.4%	87.1%	74.3%	69.1%	64.9%	63.0%	70.9%	60.1%	42.3%	65.2%	69.6%	74.4%	83.3%	86.0%	
By Education																			
No college degree	85.8%	79.2%	75.1%	76.9%	84.0%	84.3%	49.4%	48.2%	43.5%	44.3%	53.8%	47.8%	27.4%	45.1%	50.1%	59.2%	69.0%	74.2%	
College degree	84.8%	80.2%	81.1%	78.0%	86.5%	85.9%	71.2%	65.2%	63.0%	60.6%	67.7%	59.2%	46.7%	66.7%	72.9%	81.7%	81.7%	82.8%	

^aThe percentages reported are based on the population-weighted figures using the revised Kennickel-Woodburn consistent weights for each year. (For further discussion see the Survey of Consumer Finances codebooks at <http://www.federalreserve.gov/econresdata/scf/scfindex.htm>.) 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.

^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; \$48,201 in 2006; and \$49,777 in 2009.

Source: 1995, 1998, 2001, 2004, 2007, 2010 Survey of Consumer Finances data as of July 3, 2012, 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	2010	1995	1998	2001	2004	2007	2010	1995	1998	2001	2004	2007	2010
All Households	25.7%	49.7%	48.9%	49.0%	61.8%	61.4%	3.7%	6.2%	19.6%	33.7%	51.5%	60.5%	56.2%	81.7%	87.0%	89.2%	93.3%	94.8%
By Age:																		
Under 30 years old	20.8%	45.4%	45.9%	43.2%	52.9%	58.6%	5.2%	8.3%	22.9%	42.2%	61.7%	73.9%	66.7%	81.0%	85.2%	89.2%	94.6%	96.9%
Between 30 and 60 years old	28.1%	54.3%	52.4%	51.5%	64.8%	62.2%	4.5%	7.6%	24.2%	39.9%	60.5%	67.9%	59.9%	85.1%	89.4%	90.9%	95.1%	96.1%
Over 60 years old	23.0%	40.6%	42.4%	46.0%	59.3%	60.7%	1.2%	1.6%	7.3%	15.4%	27.4%	40.0%	43.4%	73.9%	82.4%	85.4%	88.7%	91.2%
By Income^c																		
Low income	13.5%	28.8%	29.2%	30.0%	46.8%	50.0%	1.3%	1.5%	4.8%	14.0%	23.9%	33.1%	35.3%	65.4%	73.8%	78.7%	83.7%	87.4%
Moderate income	18.6%	42.5%	42.8%	44.8%	59.6%	59.6%	1.8%	2.7%	11.2%	22.5%	38.1%	48.5%	48.5%	80.1%	84.2%	84.8%	92.1%	94.2%
Middle income	22.6%	51.7%	51.7%	50.7%	62.8%	64.4%	4.0%	4.3%	17.8%	32.5%	53.0%	64.1%	59.2%	85.2%	89.7%	92.1%	96.6%	97.0%
Upper income	37.9%	64.9%	61.4%	60.4%	71.2%	68.1%	5.9%	11.5%	32.5%	49.5%	72.9%	82.1%	70.8%	91.0%	94.5%	95.6%	98.1%	98.7%
By Education																		
No college degree	19.7%	41.9%	41.7%	43.4%	58.1%	57.1%	2.8%	2.7%	11.3%	24.0%	39.8%	48.8%	47.8%	76.5%	83.2%	85.7%	90.3%	92.8%
College degree	38.1%	64.3%	61.9%	58.0%	68.2%	68.3%	5.6%	12.8%	34.8%	49.4%	71.8%	79.4%	73.5%	91.4%	94.0%	94.9%	98.4%	98.0%

^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 <http://www.federalreserve.gov/econresdata/scf/scfindex.htm>.) 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.

^bIn 1995, electronic refers to ATM, phone, payroll deduction and direct deposit, electronic transfer, or computer. In 1998, 2001, 2004, 2007, and 2010, electronic refers to ATM, phone (via voice or touch-tone), direct deposit, direct withdrawal/payment, other electronic transfer, computer/Internet/online service, or fax machine.

^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; \$48,201 in 2006; and \$49,777 in 2009.

Source: 1995, 1998, 2001, 2004, 2007, 2010 Survey of Consumer Finances data as of July 3, 2012, Federal Reserve System, and author's calculations.

Figures 1.1-1.6 illustrate the data in Exhibit 1 on the percent of U.S. households that use each instrument

FIGURE 1.1

Figure 1.1a Exhibit 1 ATM: By Age

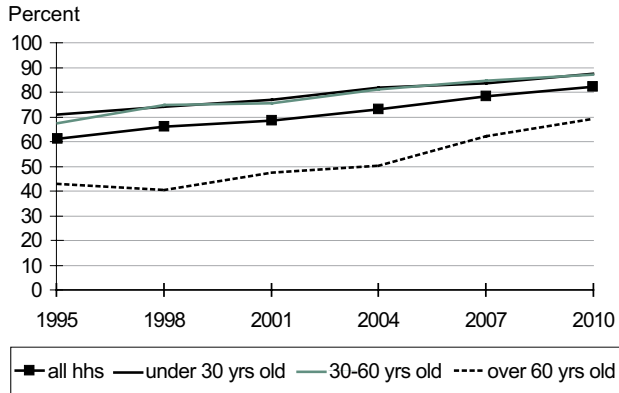


Figure 1.1b Exhibit 1 ATM: By Income

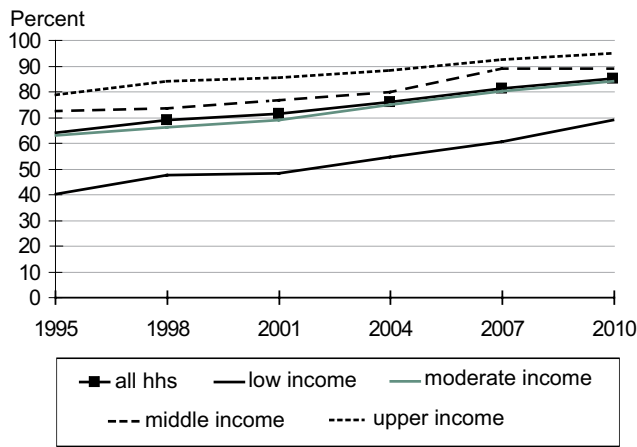


Figure 1.1c Exhibit 1 ATM: By Education

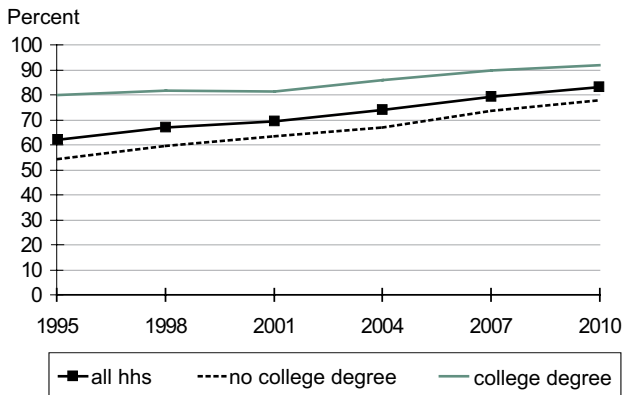


FIGURE 1.2

Figure 1.2a Exhibit 1 Debit Card: By Age

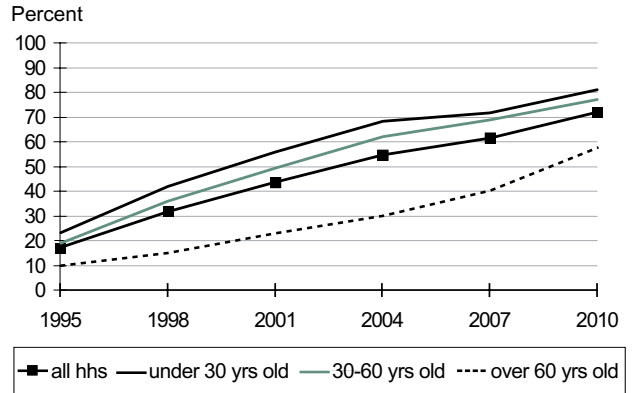


Figure 1.2b Exhibit 1 Debit Card: By Income

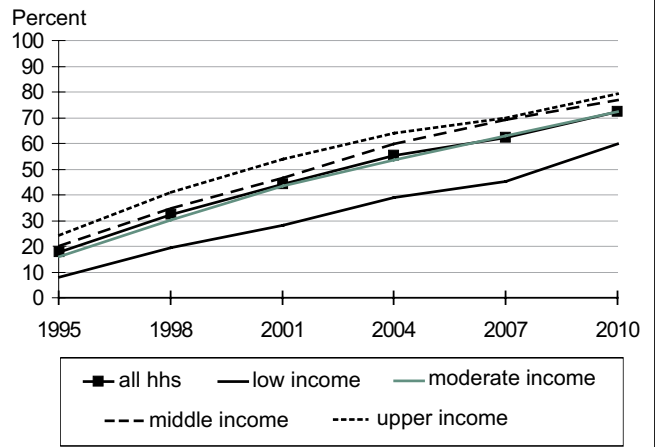


Figure 1.2c Exhibit 1 Debit Card: By Education

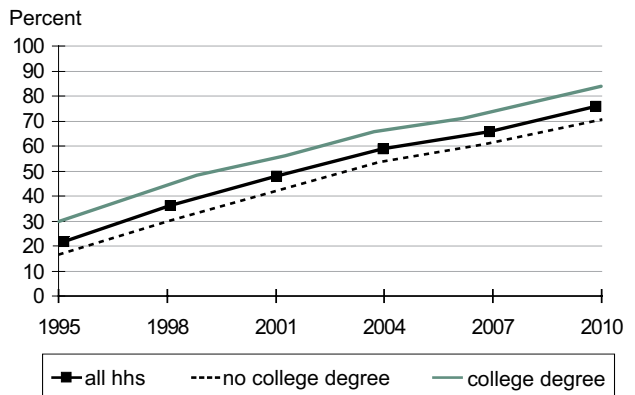


FIGURE 1.3

Figure 1.3a Exhibit 1 Direct Deposit: By Age

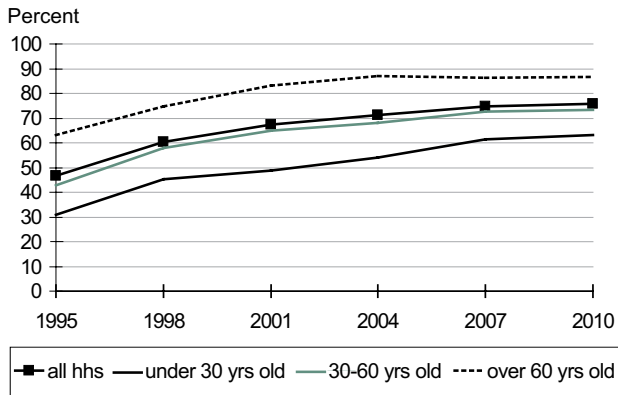


FIGURE 1.4

Figure 1.4a Exhibit 1 Automatic Bill Paying: By Age

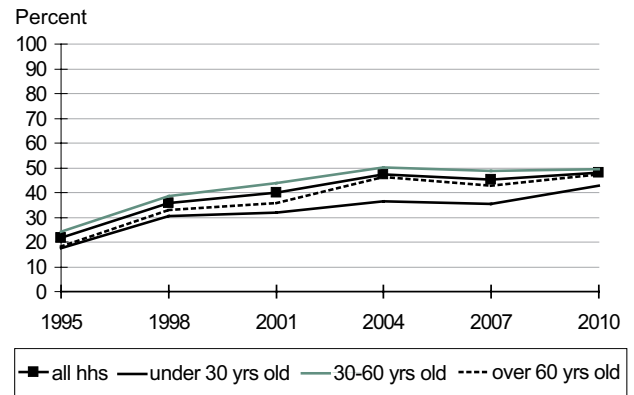


Figure 1.3b Exhibit 1 Direct Deposit: By Income

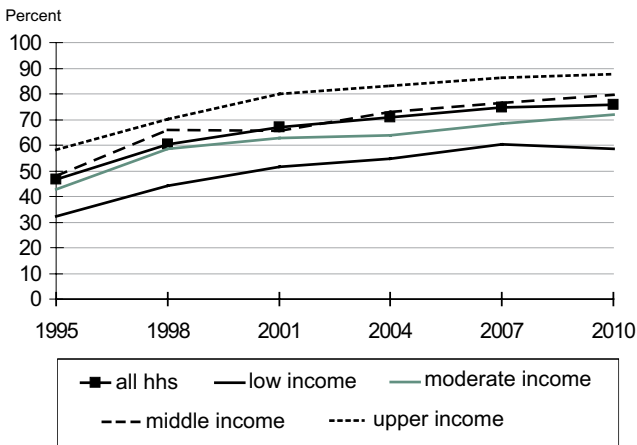


Figure 1.4b Exhibit 1 Automatic Bill Paying: By Income

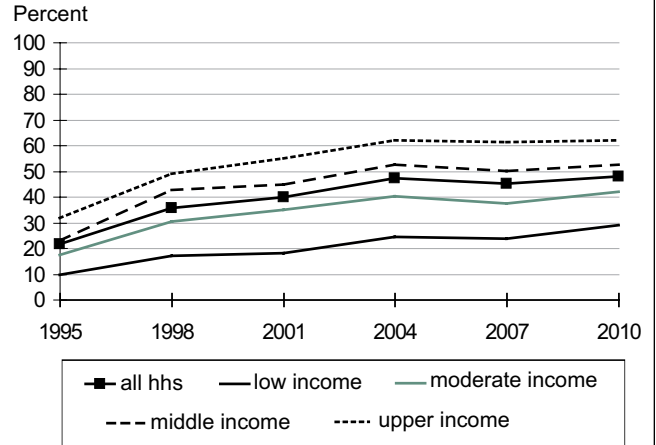


Figure 1.3c Exhibit 1 Direct Deposit: By Education

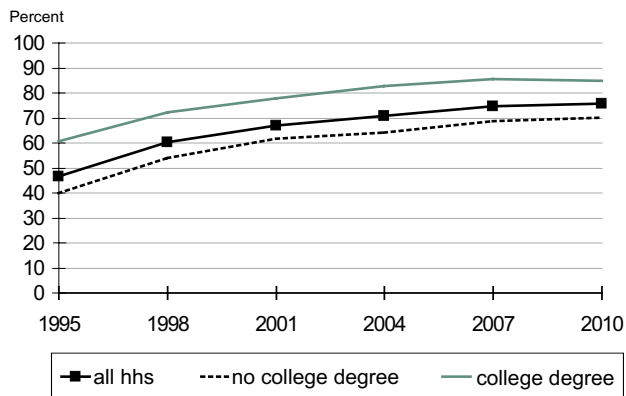


Figure 1.4c Exhibit 1 Automatic Bill Paying: By Education

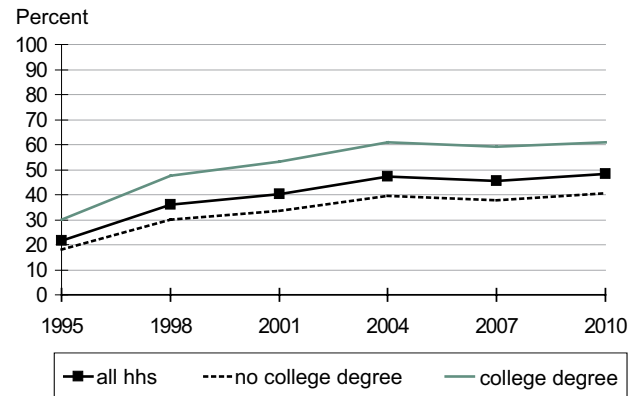


FIGURE 1.5

Figure 1.5a Exhibit 1 Software: By Age

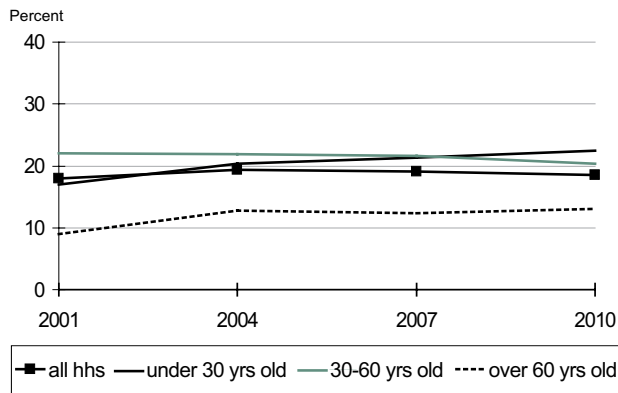


Figure 1.5b Exhibit 1 Software: By Income

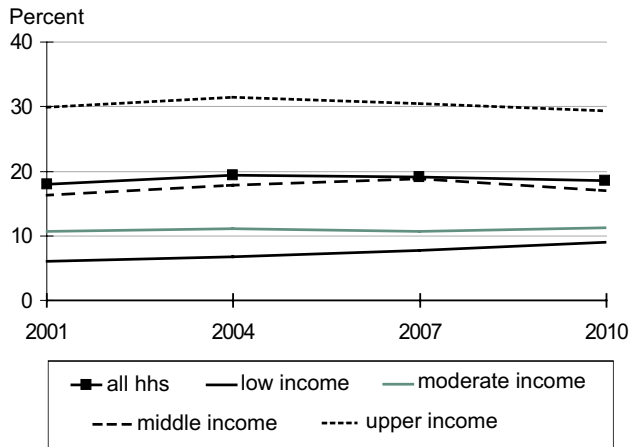


Figure 1.5c Exhibit 1 Software: By Education

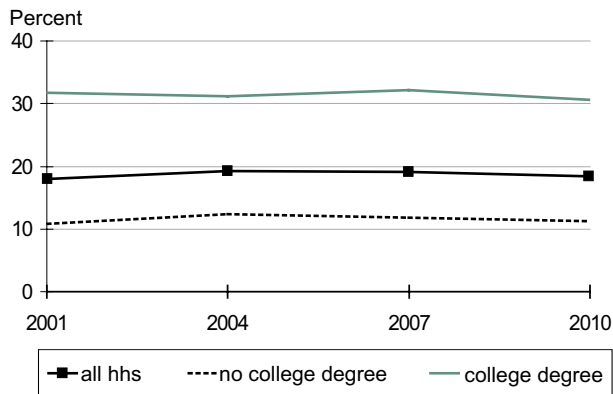


FIGURE 1.6

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

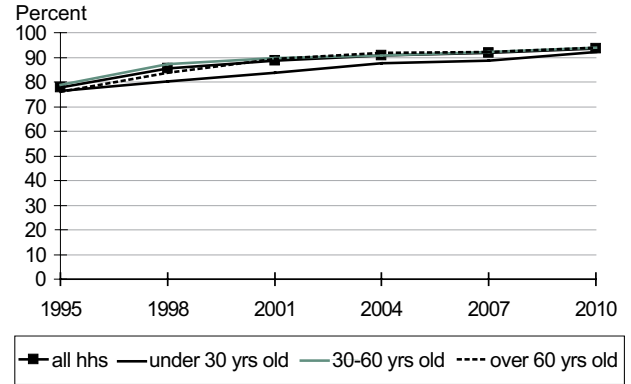


Figure 1.6b Exhibit 1 Any of the Methods: By Income
ATM, Debit Card, Smart Card, Direct Deposit, Automatic Bill Paying, or Software

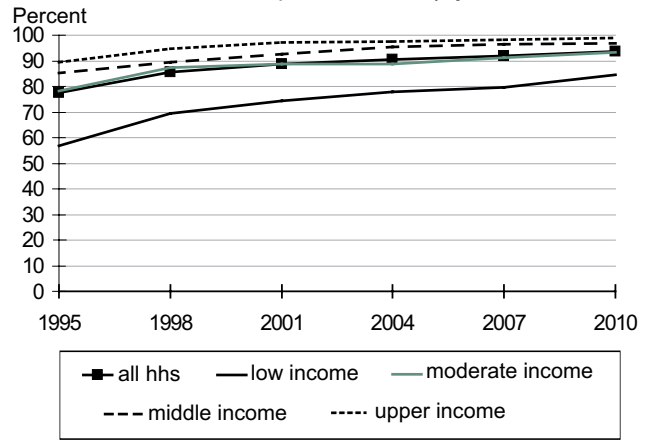
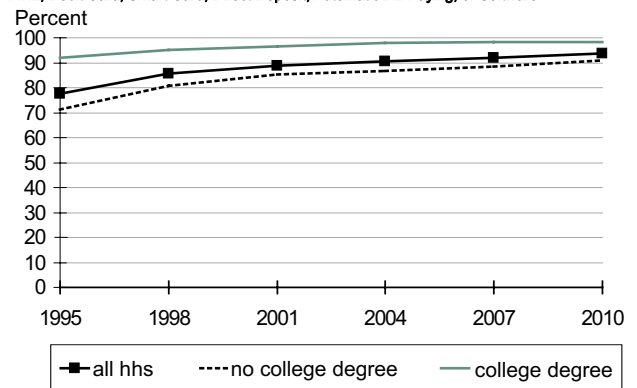


Figure 1.6c Exhibit 1 Any of the Methods: By Education
ATM, Debit Card, Smart Card, Direct Deposit, Automatic Bill Paying, or Software



Figures 2.1-2.6 illustrate the data in Exhibit 2 on the percent of U.S. households with a financial institution that use each instrument among the main ways of conducting business with at least one of their financial institutions

FIGURE 2.1

Figure 2.1a Exhibit 2 In Person: By Age

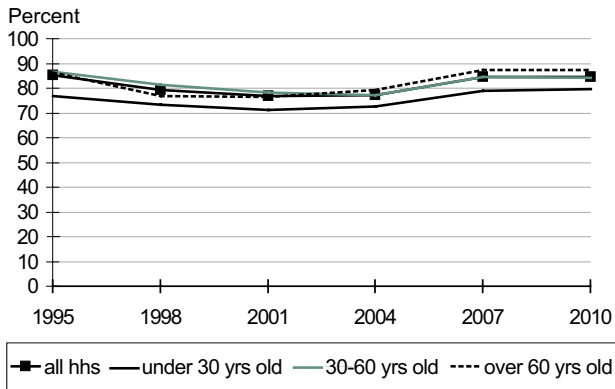


Figure 2.1b Exhibit 2 In Person: By Income

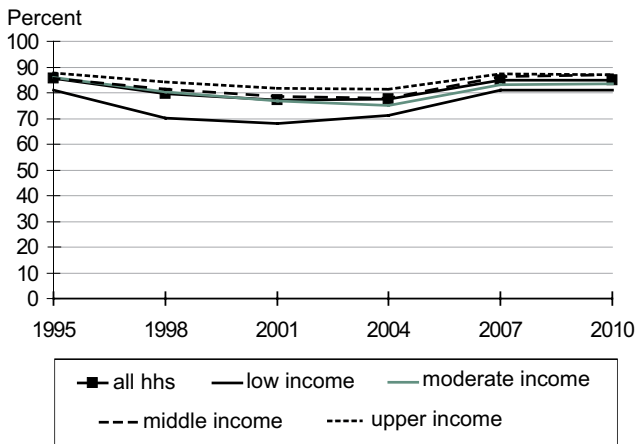


Figure 2.1c Exhibit 2 In Person: By Education

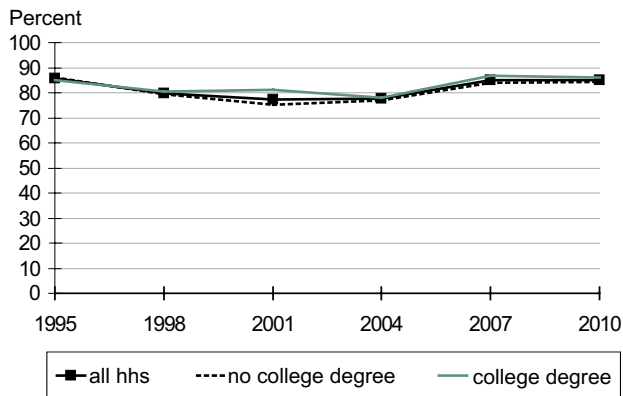


FIGURE 2.2

Figure 2.2a Exhibit 2 Mail: By Age

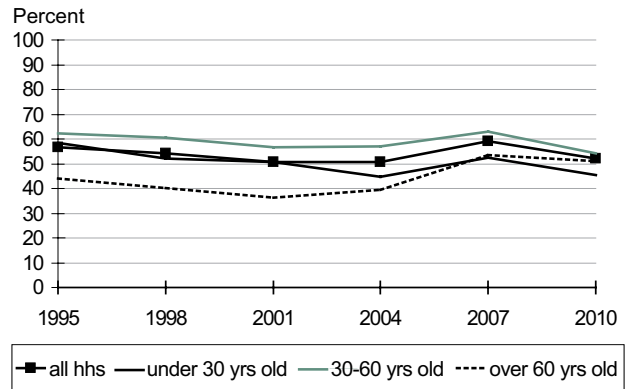


Figure 2.2b Exhibit 2 Mail: By Income

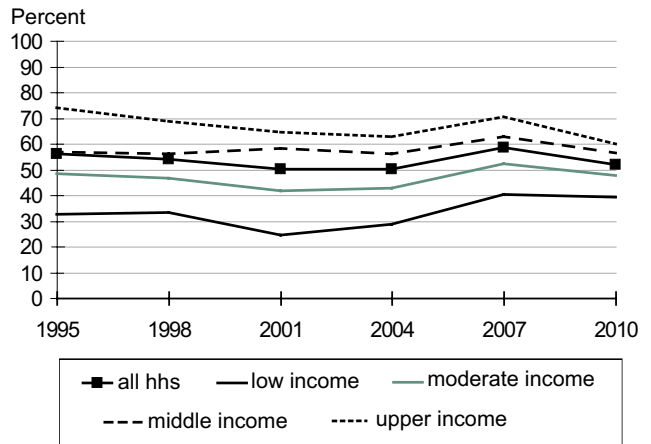


Figure 2.2c Exhibit 2 Mail: By Education

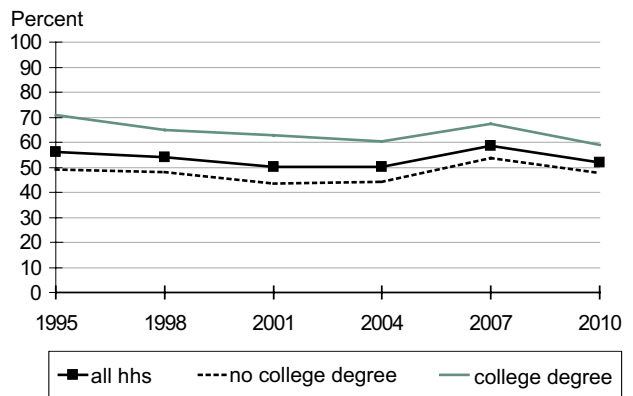


FIGURE 2.3

Figure 2.3a Exhibit 2 ATM/Debit: By Age

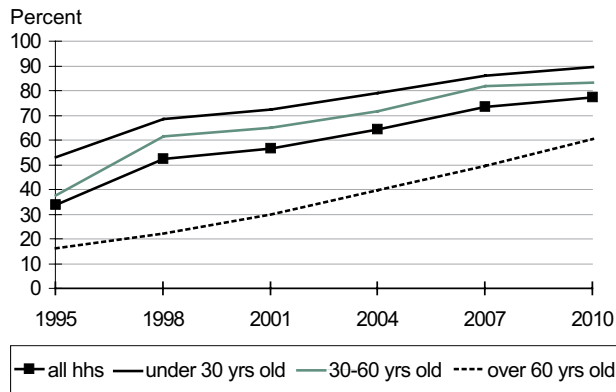


FIGURE 2.4

Figure 2.4a Exhibit 2 Phone: By Age

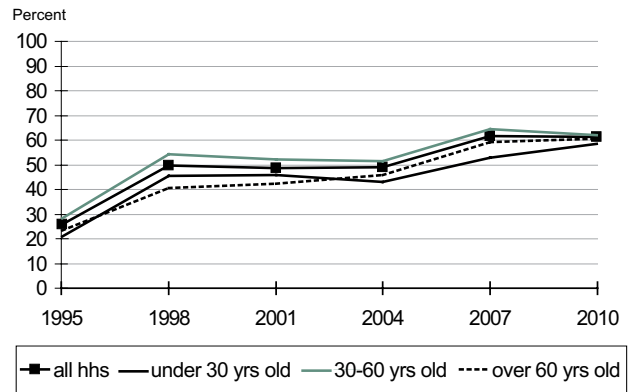


Figure 2.3b Exhibit 2 ATM/Debit: By Income

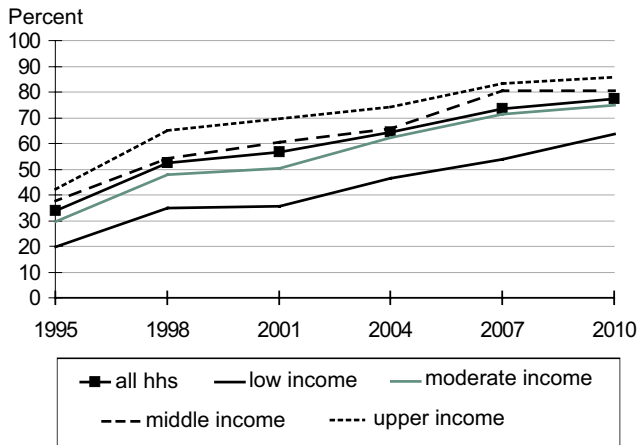


Figure 2.4b Exhibit 2 Phone: By Income

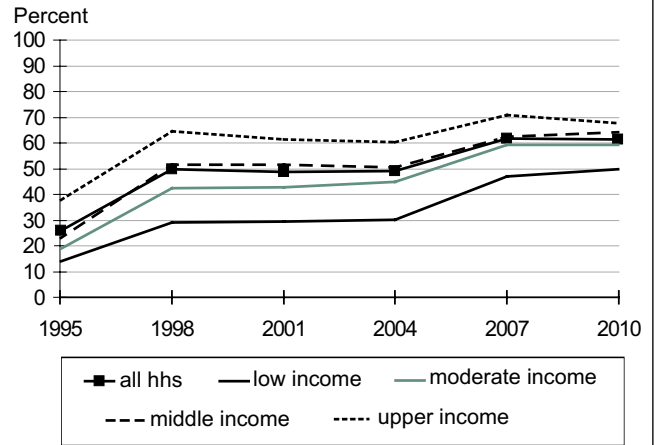


Figure 2.3c Exhibit 2 ATM/Debit: By Education

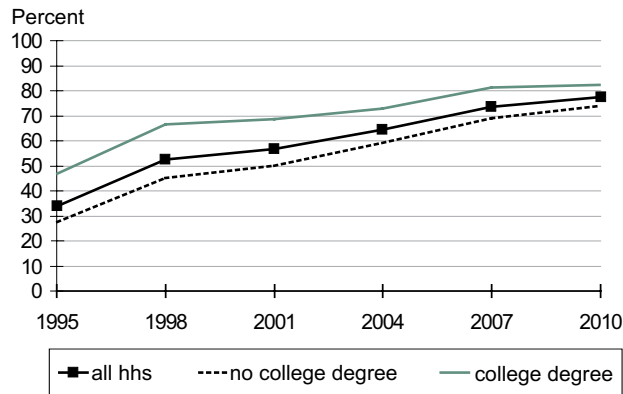


Figure 2.4c Exhibit 2 Phone: By Education

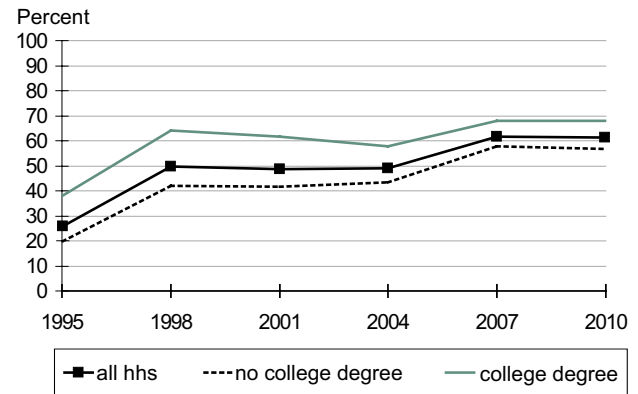


FIGURE 2.5

Figure 2.5a Exhibit 2 Computer: By Age

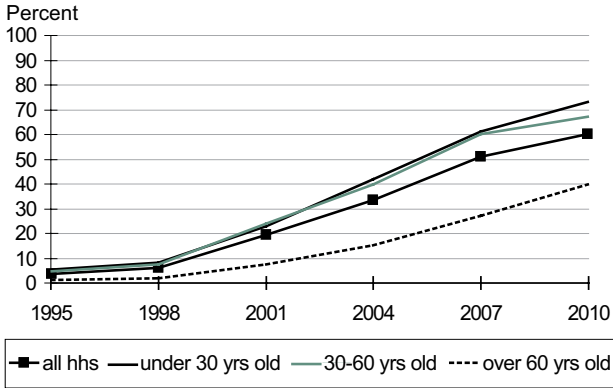


Figure 2.5b Exhibit 2 Computer: By Income

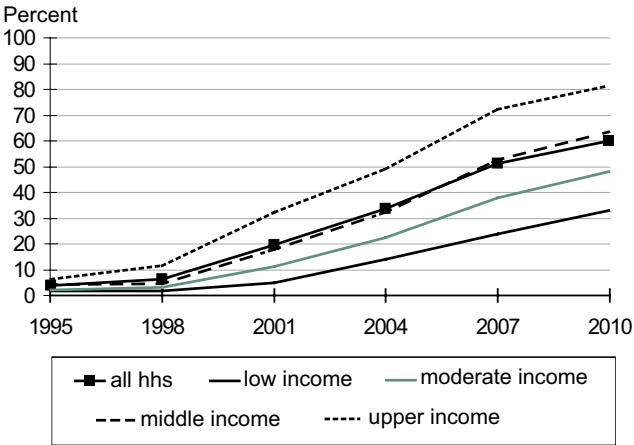


Figure 2.5c Exhibit 2 Computer: By Education

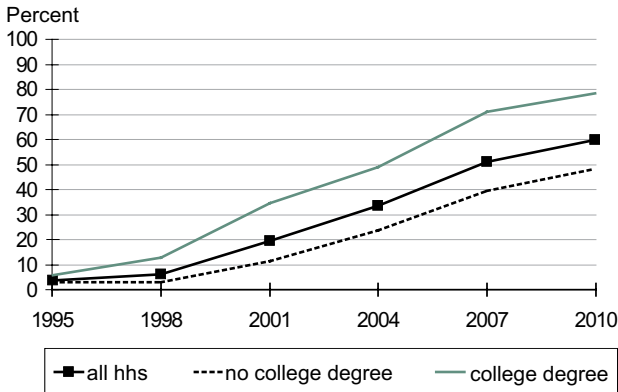


FIGURE 2.6

Figure 2.6a Exhibit 2 Electronic: By Age

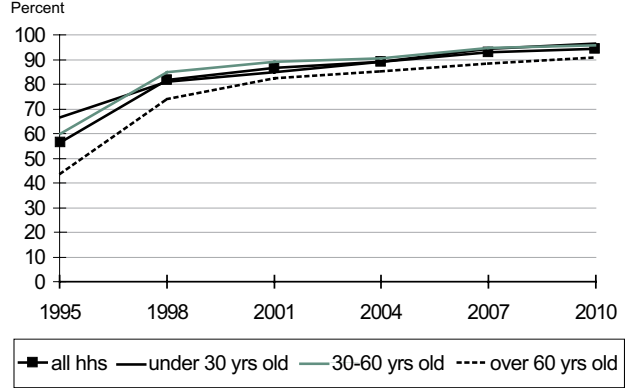


Figure 2.6b Exhibit 2 Electronic: By Income

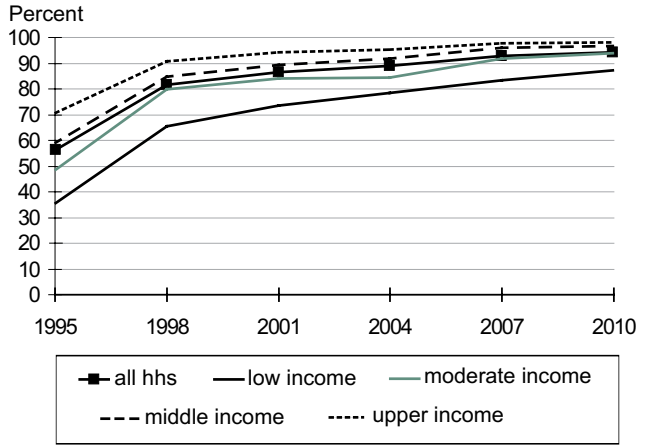


Figure 2.6c Exhibit 2 Electronic: By Education

