

Financial Inclusion and Consumer Payment Choice

Allison Cole and Claire Greene

Abstract:

This report examines similarities and differences among three groups of consumers: those without a checking or savings account (unbanked), bank account adopters who have used alternative financial services (AFS) in the past 12 months (underbanked), and bank account adopters who did not use AFS in the past 12 months (fully banked).

Consumers in the three groups have different demographic characteristics, income, and payment behaviors:

- The payment behavior of the underbanked is similar to that of the fully banked.
- Unbanked consumers make fewer payments per month than the fully banked and the underbanked.
- Fewer than half of the unbanked know their credit scores, while about 85 percent of the underbanked and the fully banked know theirs.
- Both unbanked and underbanked consumers are significantly more likely than fully banked consumers to own a general purpose reloadable (GPR) prepaid card.

We find no evidence that consumers are prevented from opening a bank account; many cite personal preferences and cost as reasons for choosing to be unbanked. These preferences are likely related to income constraints.

Keywords: Unbanked, underbanked, financial inclusion, consumer payment choice, consumer behavior, consumer preferences, Survey of Consumer Payment Choice

JEL codes: D12, G21

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Introduction

Many U.S. policymakers believe that access to safe and affordable financial services is important for dealing with unexpected expenses, avoiding unnecessary fees, establishing the ability to borrow, and saving for the future, and that lack of such access is a sign of financial and civic marginalization that public policy should address. In 2005, Congress mandated that the FDIC conduct surveys of banks' efforts to bring individuals and households into the formal banking system.¹ The FDIC notes that "public confidence in the banking system is strengthened when banks effectively serve the broadest possible set of consumers."² Moreover, the Council of Economic Advisers reports that lack of financial inclusion, in particular access to credit, has broad consequences for the macroeconomy.³

One aspect of financial inclusion is access to the mainstream payments system, which enables one to conveniently receive funds, make purchases, and pay bills. This research data report identifies consumers according to their banking status in order to see how they receive funds and make payments. We examine the demographic characteristics of three groups of U.S. consumers, classified according to their degree of attachment to the mainstream financial system,⁴ as well as their assessment of payment instrument characteristics, adoption of nonbank payment accounts, and adoption and use of payment instruments. Understanding payment choices made by consumers—especially those with weak attachment to the banking system—is potentially useful for researchers and policymakers studying financial inclusion, for innovators designing new financial products, and for financial educators seeking to understand consumer decision making.

Data on the banking status of U.S. consumers are from the 2014 Survey of Consumer Payment Choice (SCPC), the seventh in a series of annual studies (2008–2016) conducted by the

¹ [Federal Deposit Insurance Reform Conforming Amendments Act of 2005](#), Section 7.

² Burhouse et al. (2014).

³ White House Council of Economic Advisers (2016).

⁴ The classifications used in this report, which are defined and discussed in the next section, are those of the FDIC, and are used in the Survey of Consumer Payment Choice, which is the source of our findings and is discussed in the next paragraph.

Federal Reserve Bank of Boston (Schuh and Stavins 2015a, Greene et al. 2016). This survey collects detailed information about the accounts consumers use to manage income and payments, including checking and savings accounts at traditional financial institutions as well as newer methods such as PayPal, general purpose reloadable (GRP) prepaid cards, and payroll cards. It measures the adoption and use by consumers of nine common payment instruments, including the four payment instruments associated with a checking account (checks, debit cards, online banking bill payments [OBBP], and bank account number payments [BANP]) as well as cash. It asks consumers to assess various characteristics, such as convenience and cost, of the nine payment instruments.⁵

Definitions of Banking Status

Consumers can be classified into two groups: banked and unbanked. A banked consumer is an individual who has at least one checking account or one savings account at a bank, credit union, brokerage, or investment firm. An unbanked consumer has neither checking nor savings account and, therefore, limited access to the mainstream payments system because he or she cannot use payment instruments linked to a bank account.⁶ An unbanked consumer could be unbanked by choice or because he or she has been denied a bank account for various reasons (insufficient ID, prior account closed with negative balance, for example).

In the SCPC, individual consumers report how many checking and/or savings accounts they have at banks, credit unions, brokerages, or investment firms.⁷ Consumers report all accounts held individually and also those held jointly with a spouse or partner. Accounts held individually by a spouse or partner or for business purposes are not included. (Table 1 shows the SCPC definitions of these accounts.) An unbanked consumer does not hold either of these

⁵ The results reported here include the 1,809 respondents from the RAND American Life Panel. See Greene et al. (2016) for detail.

⁶ In this report, we use the term “bank account” loosely to include a savings or checking account (including a money market checking account, to which some may refer simply as a “money market account”) at a credit union, brokerage, or investment firm, as well as at a bank.

⁷ The SCPC includes individual consumers in the noninstitutional population age 18 and above, rather than all consumers. It surveys individuals, not households.

types of accounts. The SCPC asks unbanked consumers whether or not they have owned a bank account at any time in the past.

Checking account	An account that allows a customer to make payments or withdrawals as often as necessary, using checks, debit or ATM cards, or online or pre-authorized withdrawal payments. Some checking accounts pay interest on deposits and may be called money market checking accounts.
Savings account	Savings accounts allow only a limited number of payments, withdrawals, or transfers. Savings accounts pay interest on deposits that is usually higher than the interest on interest-bearing checking accounts. Examples include traditional savings accounts, money market savings accounts, Christmas Club accounts, and Coverdell or 529 education accounts.

Source: Federal Reserve Bank of Boston.

Table 1: SCPC definitions of bank accounts

Banked consumers can be further divided into two groups: fully banked and underbanked. Unlike the definition of the unbanked, which is more straightforward, the definition of the underbanked is nuanced. Conceptually, the underbanked are a subset of the banked population who, for whatever reasons, are not fully served by mainstream institutions that offer depository services. These consumers go elsewhere for financial products and services of this type, despite having a bank account. Consumers who go outside the banking system for deposit and transaction-related financial services “may not receive the same level of safety and security provided by deposit insurance and various federal consumer protections that are guaranteed by law, ensured by supervision, and enforced through a system of ongoing examination,” according to the FDIC.⁸ It may be, however, that underbanked consumers receive other benefits from their choices.

To get at this concept of being underserved, the FDIC defines underbanked consumers as consumers with a bank account who have purchased any of five AFS—money order, cashier’s checks, check cashing, remittances, and payday loans—from a nonbank (that is, not a federally insured bank or thrift) and/or who have used personal property to secure a loan at a pawn shop, used rent-to-own services, or taken out a tax refund anticipation loan within the preceding 12 months. Both banked and underbanked consumers have access to all the bank-

⁸ Federal Deposit Insurance Corporation (2014).

account-linked payment instruments (paper checks, debit cards, bank account number payment [BANP], and online banking bill pay [OBBP]. Fully banked consumers do not use the AFS listed above.

In 2014, the SCPC added two questions to identify consumers who are “underbanked,” aligning with the FDIC definition:⁹

1. In the past 12 months, did you use any services provided by a nonbank (such as the Post Office): money order or cashier’s check, check cashing, remittance, payday loan?
2. In the past 12 months, did you use any other financial services: selling an item at a pawn shop, rent-to-own services, tax refund anticipation loan?

Future versions of the SCPC (2015 and later) disaggregate these two questions into eight yes/no questions so it is possible to identify consumers according to the particular AFS they used. This could assist in identifying consumers for whom use of AFS reflects lack of access or poor financial health versus consumers for whom use of AFS is a choice driven by temporary circumstances. For example, compare a consumer who takes out a payday loan with a consumer who purchases a money order. The need to take out a payday loan could be seen as an inability to deal with unforeseen expenses. It might signal of lack of a savings cushion for a financial emergency and/or inability to access less-expensive sources of credit, for example, credit card debt. In contrast, a consumer might buy a money order because a payee requires that form of payment, for example, for a deposit on the purchase of a used car. In this case, the choice to use the money order would be externally driven and not related to the consumer’s financial situation, knowledge of financial products and services, or ability to access lower-cost payment instruments. These various motivations for using AFS make it difficult to understand whether or not underbanked consumers are truly underserved. A further refinement to the SCPC questionnaire would be to ask consumers how frequently they use the various AFS within a 12-month period. A consumer who rolls over payday loans from paycheck to paycheck, for

⁹ The 2014 SCPC questionnaire omitted one financial product included in the FDIC definition: auto-title loans. According to the 2013 FDIC survey, auto-title loans contributed 0.3 percent to the results.

example, is in a different financial situation from a consumer who takes out one payday loan over the course of a year in order to avoid overdrawing for an emergency medical payment.

These considerations show the difficulties of defining the state of being underbanked. Other researchers take a broader view of financial access. The Center for Financial Services Innovation CSFI defines “financial health” as encompassing effective day-to-day financial management, ability to deal with unforeseen expenses, and ability to take advantage of opportunities leading to financial security and mobility (Gutman et al. 2015). Access to high-quality financial products and services is one aspect of the CSFI definition of financial health but quality is not necessarily associated with whether those services are provided by a bank, thrift, credit union, or by a nonbank, for example, Western Union or the U.S. Postal Service.

The Bank for International Settlements (BIS) uses the term “financial inclusion” to encompass the availability and use of financial services. This report does not address availability (geographic proximity, for example); it focuses on use and its prerequisite, ownership or setup of the relevant financial tool. The BIS also looks at financial literacy and the availability of financing for small and medium-sized enterprises, two topics outside the scope of this report.

Ownership of Checking and Savings Accounts

Consumer adoption of traditional financial institution accounts for checking and savings has been steady for decades. In 2014, the percentage of consumers who are banked was 91.7 percent, unchanged from 2013.¹⁰ Consumer ownership of checking accounts was 90.7 percent; consumer ownership of savings accounts was 74.7 percent. Ownership of checking accounts has been steady since the SCPC began in 2008. Adoption of saving accounts declined in the years following the recession and has partially recovered since 2010.

It is difficult to ascertain the size of the unbanked population because these statistics are self-reported and unbanked consumers may be more difficult to reach than other consumers. In

¹⁰ Unless otherwise noted, all data are weighted as described in Angrisani, Foster, and Hitczenko (2016).

2014, the World Bank estimated that 6 percent of U.S. adults were unbanked (Demirgüç-Kunt (2015). In 2013 and 2015, the FDIC estimated that 7.7 percent and 7.0 percent, respectively, of U.S. households were unbanked (Burhouse et al. 2014 and Burhouse et al. 2016). In 2014, the SCPC found that 8.3 percent of U.S. consumers were unbanked (calculated as 100 percent minus the percentage of consumers who owned a checking or savings account at a bank, credit union, brokerage, or investment firm in October 2014). From 2013 to 2014, the SCPC found no statistically significant change in the percentage of consumers identified as unbanked. There also was no statistically significant change in the percentage of consumers identified as unbanked from 2008 to 2014.

In 2014, about one-quarter of consumers with a bank account, or 22.3 percent of U.S. consumers, were underbanked, according to the SCPC.¹¹ Of these underbanked consumers 91 percent had purchased any of the five services¹² from a nonbank; 26 percent had used personal property to secure a loan at a pawn shop, used rent-to-own services, or taken out a tax refund anticipation loan.¹³ In 2014, 69.4 percent of U.S. consumers were fully banked.¹⁴

The underbanked consumers had shallower banking relationships. While, by definition, underbanked consumers have at least one bank account, they were less likely than fully banked consumers to have had either a checking account or a savings account (Table 2) and also less likely to have both. Of underbanked consumers, 71 percent had both checking and savings accounts compared with 83 percent of fully banked consumers, a statistically significant difference at the 5 percent level.

¹¹ In 2013, the FDIC found that 19.7 percent of households were underbanked; in 2015, the FDIC found that 19.9 percent of households were underbanked. This difference is not statistically significantly different from the SCPC estimate, which measures consumers. The standard error of the SCPC estimate is 1.4 percent, for a 95 percent confidence interval from 19.5 percent to 25.1 percent.

¹² Money orders, cashier's checks, check cashing, remittances, and payday loans.

¹³ The percentage of all consumers who use these groups of services is not available due to questionnaire design. Auto title liens, an element of the FDIC definition, were omitted from the questionnaire but represent less than 1 percent of AFS products used, according to Burhouse et al. (2014). Future versions of the SCPC will ask both unbanked and banked consumers about their use of these services.

¹⁴ Computed as all consumers minus banked consumers who used AFS and minus unbanked consumers.

	Fully Banked	Underbanked
Have bank account (percentage)	100	100
Have checking account	99.7	95.4*
Have savings account	83.0	75.6*
Have both checking and savings	82.7	71.0*

Source: 2014 SCPC, Federal Reserve Bank of Boston (see Greene, Schuh, and Stavins 2016). Note: * indicates a significant difference from the fully banked group at the 5 percent level.

Table 2: Bank account ownership by banking status

Demographic Characteristics by Banking Status

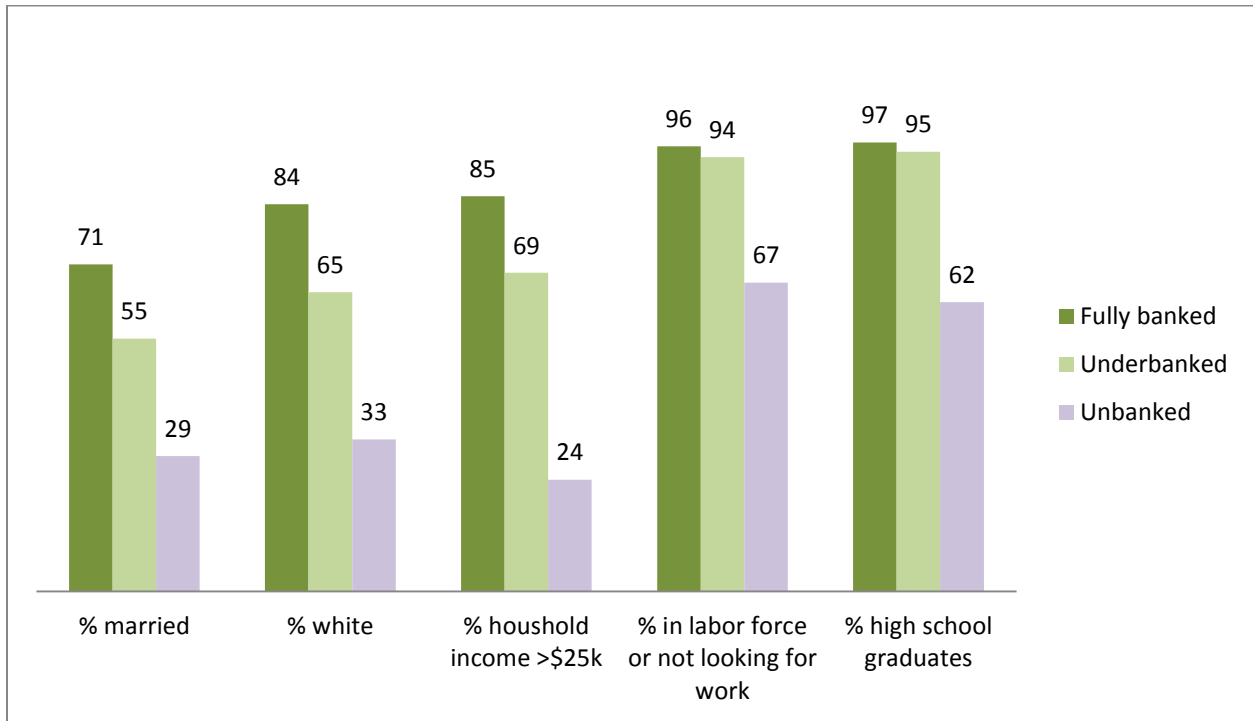
The three groups—fully banked, underbanked, and unbanked—have different demographic characteristics (Appendix A, Table A.1). The two types of banked consumers (fully banked and underbanked) have somewhat similar characteristics (Figure 1). The underbanked are not very different from the fully banked, especially when compared with the unbanked, who are markedly different from the two banked groups.

Fully banked consumers tended to be older (average age 49.6), and more likely to be married (71 percent). More than 80 percent were white, and fewer than 1 in 7 had household income less than \$25,000 (Figure 1).

Compared with the fully banked, underbanked consumers were younger (average age 45.3) and just over half were married. Two-thirds were white and about 1 in 3 had household income less than \$25,000 (Appendix A, Table A.1). We estimated the effect of each demographic characteristic on banking status, while holding all other characteristics constant. Compared with fully banked consumers, African-Americans and Asian-Americans were more likely to be underbanked, as were consumers with income less than \$25,000 and high school graduates (Appendix B, Table B.1). High-income consumers (income greater than \$100,000) and homeowners were less likely to be underbanked.

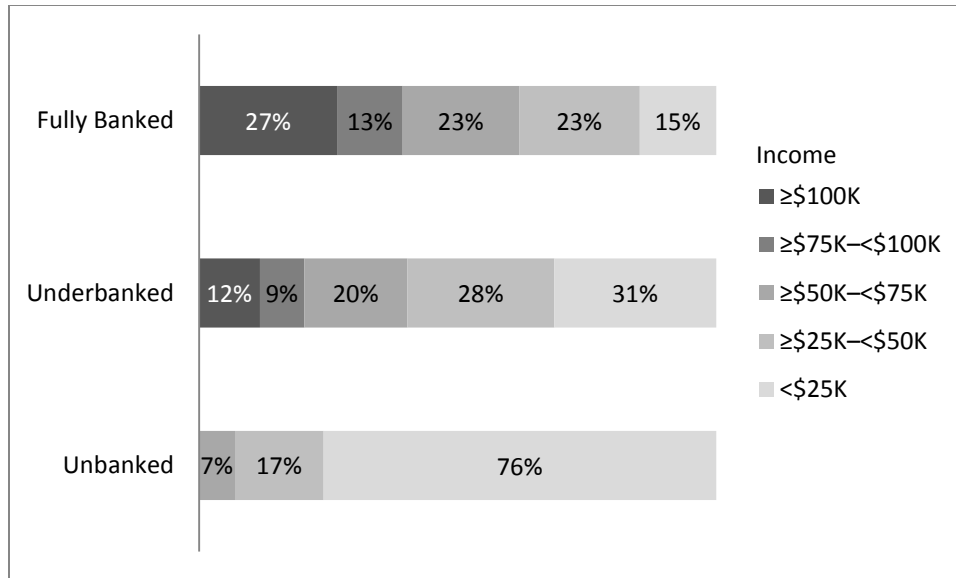
Unbanked consumers differ substantially from the two banked groups. Compared with fully banked consumers, unbanked consumers were still younger (average age 36.5), and fewer than one-third were married. Two-thirds were nonwhite and three in four had household income below \$25,000. Unbanked consumers were far less likely to have graduated high school

(62 percent are high school graduates) and to be unemployed and looking for work (67 percent were in the labor force or looking for work) (Appendix A, Table A.1). In regression analysis, unemployed people, those with income below \$25,000 or between \$25,000 and \$50,000, and African-Americans were more likely to be unbanked (Appendix B, Table B.1). Homeowners were less likely to be unbanked.



Source: 2014 SCPC, Federal Reserve Bank of Boston. Note: For the unbanked, all demographic differences from the fully banked depicted here are statistically significant at the 5 percent level. For the underbanked, differences in marital status, race, and household income are also statistically significant at the 5 percent level compared with the fully banked.

Figure 1: Banking status of U.S. consumers, by selected characteristics (percentage of consumers)



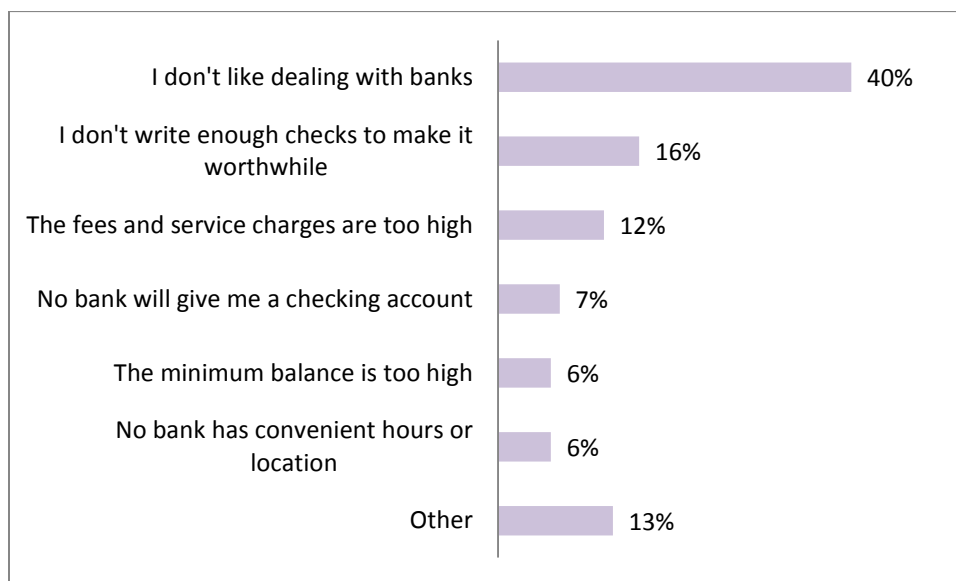
Source: 2014 SCPC, Federal Reserve Bank of Boston.

Figure 2: U.S. consumers' income by banking status

Income and banking status are related, a finding that is corroborated by regression results. Consumers with low income are more likely to be unbanked or underbanked. As Figure 2 shows, more than three-quarters of the unbanked had income below \$25,000, compared with 31 percent of those who were underbanked, and 15 percent of those who are fully banked. In regression analysis holding other factors equal, income below \$50,000 was significantly correlated with both unbanked and underbanked status, and income below \$25,000 was strongly correlated with unbanked status. (See Appendix B for detailed regression results of all the demographic characteristics studied)

Income constraints are a factor in reasons consumers cite for being unbanked. Asked the primary reason they do not have a checking account, one-third of unbanked consumers cited reasons related to cost: that they did not write enough checks to make it worthwhile, that fees and service charges were too high, or that minimum balances were too high (Figure 3). These objections make sense, given that consumers with lower income would be more likely to face higher cost when obtaining banking services (for example, due to lower balances held in their accounts). Two in five unbanked consumers answered more generally, saying that they “don’t like dealing with banks.” This answer could encompass a whole range of interactions, including

some related to income constraints. A small percentage reported that no bank would permit them to open a checking account. Consumers chose the primary reason for being unbanked, so it is possible that supply-side restrictions apply to other consumers as well. That is, the percentage of consumers who have no choice but to be unbanked may be understated.

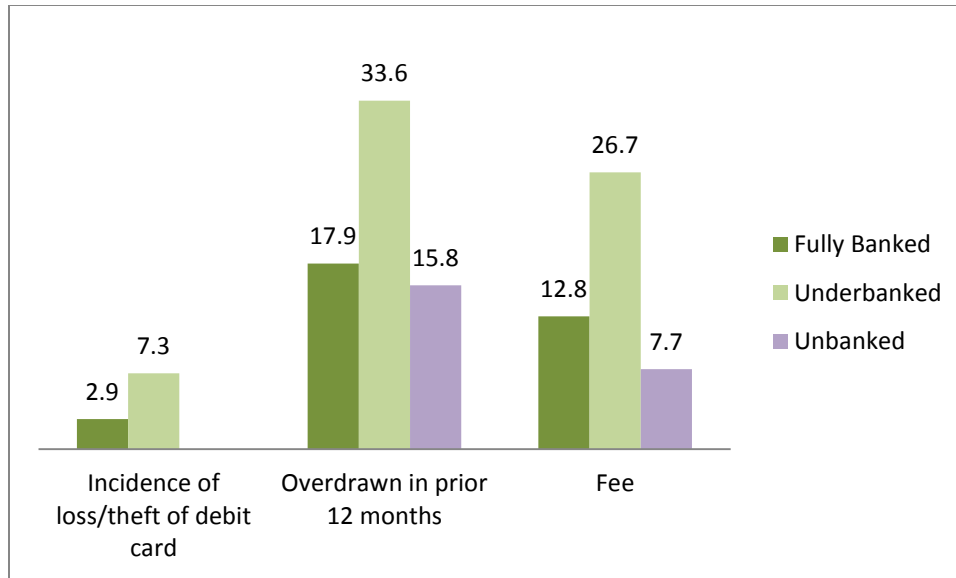


Source: 2014 SCPC, Federal Reserve Bank of Boston.¹⁵

Figure 3: Reasons given for not having a checking account

Income was also significantly related to underbanked status. As noted above, the concept of being “underbanked” is not clear-cut. Compared with fully banked consumers, underbanked consumers were significantly more likely to have had income below \$50,000. Note that 31 percent of underbanked consumers had income below \$25,000, compared with 15 percent of fully banked consumers (Figure 2). Underbanked consumers also were more likely to have overdrawn an account in the 12 months ended in October 2014 (an event related to income constraints) and also to have paid a fee for overdrawing (Figure 4). In addition, underbanked consumers were more likely to have experienced loss, theft, or fraud related to a debit card (7.3 percent compared with 2.9 percent) than were banked consumers. In the regression model (Appendix B), loss or theft of a debit card and having overdrawn an account in the past 12 months also were significantly associated with having underbanked status.

¹⁵ Data in Figure 3 are unweighted.



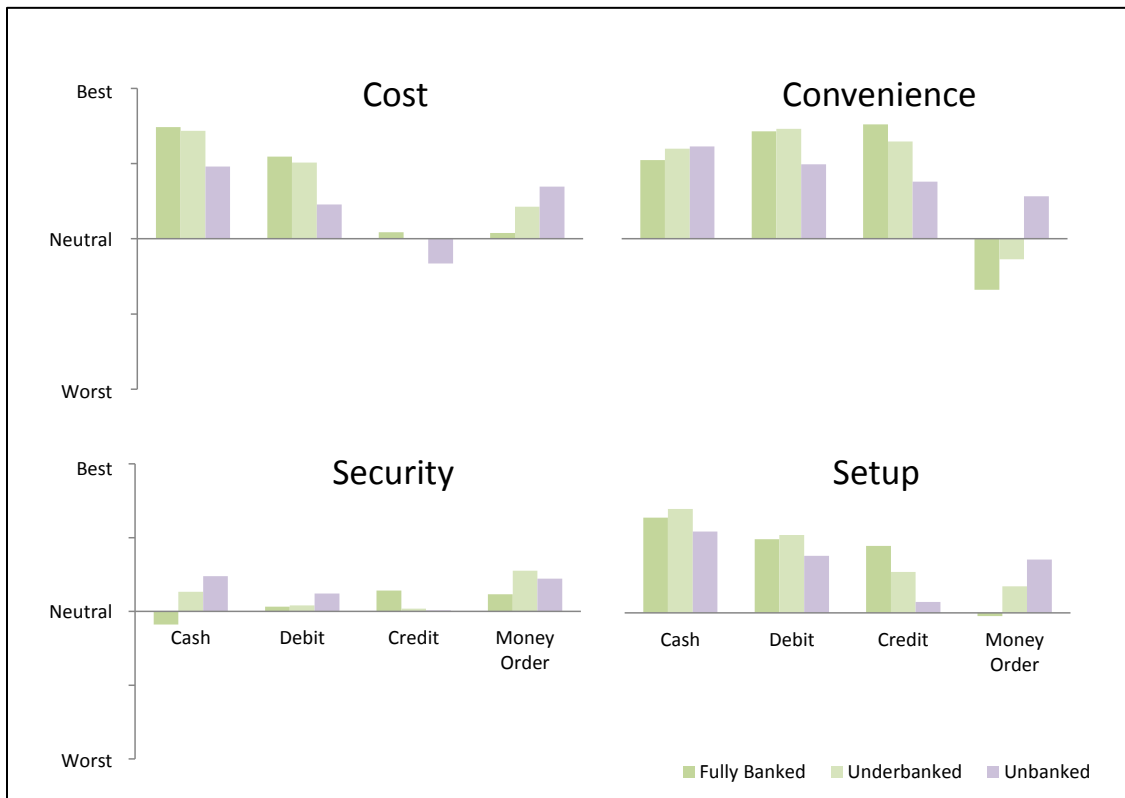
Source: 2014 SCPC, Federal Reserve Bank of Boston.

Figure 4: Percentage experiencing adverse events, by banking status

Payment Instrument Assessments

Unbanked consumers' nonspecific dislike of banks could flow through to assessments of payment instruments. Assessments of payment instrument characteristics have been found to affect payment behavior, with a follow-on effect on payment instrument adoption and use (Koulayev et al. 2016, Schuh and Stavins 2015b, Schuh and Stavins 2013). We examined four characteristics that could affect payment instrument adoption or use: cost, convenience, security, and ease of setup. With "5" being the most positive assessment on a 1-to-5 scale (5 is shown as "best" and 1 is shown as "worst"), Figure 5 shows ratings for four instruments (paper checks and prepaid cards are omitted from the figure for clarity). Compared with fully banked consumers, underbanked and unbanked consumers offered generally less positive assessments of four mainstream payments instruments for cost and setup: cash, debit card, credit card, and (not shown) paper check. They see cash as being more convenient and more secure than do fully banked consumers. Compared with fully banked consumers, underbanked and unbanked consumers offered generally more positive assessments of money orders on all four characteristics. Prepaid ratings on all characteristics are generally similar for the three groups.

Unbanked consumers consistently rate the cost of mainstream payment instruments—including cash—more poorly than fully banked and underbanked consumers do (Figure 5). For cash, paper checks, debit cards, and credit cards, the differences in ratings by unbanked consumers compared to fully banked consumers for all four payment instruments are statistically significant. Both unbanked and underbanked consumers rate money orders as less costly than fully banked consumers do; these differences also are statistically significant.



Source: 2014 SCPC, Federal Reserve Bank of Boston. Notes: In survey questionnaire “best” is the most positive assessment on a five-point scale. **Cost:** Differences in cost ratings by unbanked versus fully banked consumers are significant for all instruments depicted here. Differences between cost ratings of money order by underbanked consumers and those by the fully banked are statistically significant. **Convenience:** Differences in convenience ratings by unbanked and underbanked consumers compared with those of fully banked consumers are significant for debit, credit, and money order. Differences in convenience ratings for credit and money order are statistically significant by underbanked consumers compared with those by fully banked consumers. **Security:** Differences in security ratings by unbanked and underbanked consumers versus those by fully banked consumers are significant for cash. Underbanked consumers rate credit cards, prepaid cards, and money orders as significantly more secure than fully banked consumers do. **Setup:** Differences in ratings by both underbanked and banked consumers for credit card (more difficult to set up) and money order (less difficult to set up) are significant compared with those by fully banked consumers.

Figure 5: Average ratings of payment instruments, by banking status

Being less banked is correlated with seeing cash and money order as more convenient, and credit and debit as less convenient. Both underbanked and unbanked consumers rate credit as significantly less convenient and money order as significantly more convenient, compared with ratings by fully banked consumers. Unbanked consumers also rate debit cards significantly less convenient than fully banked consumers do. The three groups did not rate the convenience of checks, cash, or prepaid cards differently.

Unbanked and underbanked consumers both rated credit cards more poorly than banked consumers did for setup, defined as “the task of getting or setting up each payment method before you can use it” on a five-point scale from “very hard” to “very easy.” Both groups rated money orders more favorably for setup, compared with fully banked consumers. Presumably, lack of familiarity with obtaining a credit card and familiarity with using money orders were factors in these ratings. The differences in these ratings are statistically significant.

Consumers frequently report that security is a very important or the most important attribute in evaluating a payment instrument. In each annual SCPC between 2008 and 2012, consumers ranked security as the most important characteristic of payments.¹⁶ Several studies found security and identity theft important for payments adoption and use (see Stavins 2013 and Kahn and Liñares-Zegarra 2015). Both underbanked and unbanked consumers viewed cash as significantly more secure, than fully banked consumers did.

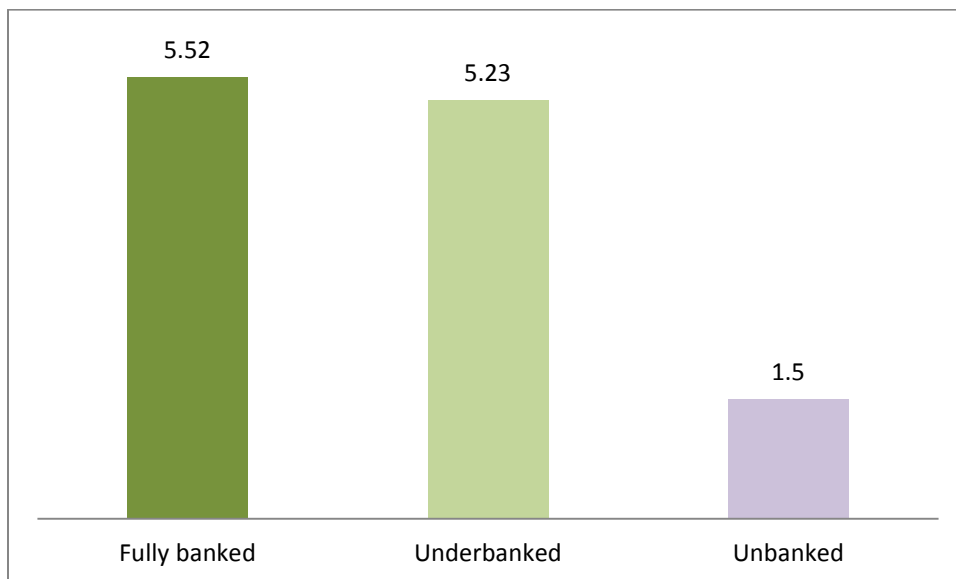
Underbanked consumers also said prepaid cards and money orders were significantly more secure, compared with banked consumers. (Security is the only characteristic for which a difference in assessment of prepaid cards was significant.) Fully banked consumers rated both cash and prepaid cards negatively for security.

¹⁶ Most respondents considered convenience to be most important in 2013. This question was omitted from the 2014 SCPC.

Payment Instrument Adoption

Number of payment instruments adopted

By definition, unbanked consumers have a restricted choice of payment instruments. Their options are very limited. They do not have access to the four payment instruments linked to a bank account (paper checks, debit card, BANP, and OBBP). Therefore, it is not surprising that, of eight payment instruments (excluding money orders because money orders are part of the definition of being underbanked), the average unbanked consumer held just 1.5 payment instruments (Figure 6). Underbanked consumers may use quite a few payment instruments as they put together a mosaic of bank-linked products and nonbank products (for example, money order purchased from the U.S. Postal Service); there was only a small difference in the number of payment instruments adopted by these underbanked and fully banked consumers (5.52 for fully banked compared with 5.23 for underbanked). When money orders are included, the numbers of instruments adopted are 5.57 for fully banked, 5.77 for underbanked, and 1.87 for unbanked.



Source: 2014 SCPC, Federal Reserve Bank of Boston. Note: Money orders are excluded from this calculation. See text for explanation.

Figure 6: Average number of payment instrument types adopted by consumers (of eight available), by banking status

Adoption rates of individual payment instruments

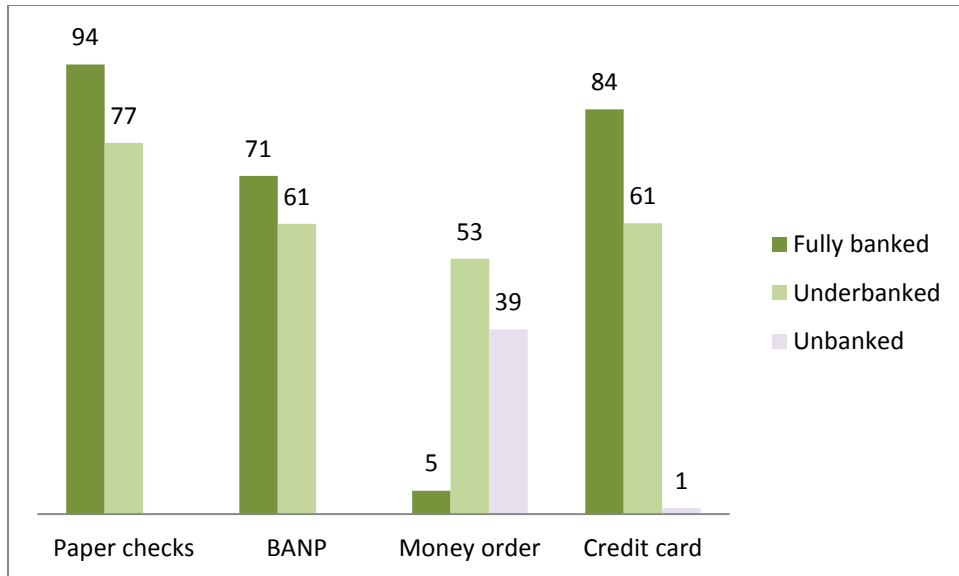
As noted above, unbanked consumers have limited choice in the adoption of payment instruments. In addition, compared with fully banked consumers, unbanked consumers are more likely to have adopted money orders (39 percent compared with 5 percent) and less likely to have adopted credit cards (1 percent compared with 84 percent). Adoption rates of prepaid cards (all types, including general purpose reloadable (GPR) prepaid cards and gift cards among other types) are about the same as rates of banked consumers.

Compared with fully banked consumers, underbanked consumers are less likely to have adopted two instruments linked to a checking account: paper checks¹⁷ (77 percent compared with 94 percent for fully banked) and BANP (61 percent compared with 71 percent for fully banked, Figure 7). In addition, as expected, they are more likely to have adopted money orders, since purchasing a money order from a nonbank is among the criteria for being classified as underbanked.¹⁸ Of note, underbanked consumers have less access to credit for day-to-day spending than the fully banked do; 61 percent have one or more credit cards compared with 84 percent for the fully banked (Table 3).¹⁹

¹⁷ Defined as currently having blank, unused checks or having written a paper check in the 12 months ending in October 2014.

¹⁸ Consumers also may purchase money orders from banks.

¹⁹ The statistical hypotheses of no difference in the adoption rates of checks, BANP, and credit cards between fully banked and underbanked consumers can each be rejected at the 95 percent significance level.



Source: 2014 SCPC, Federal Reserve Bank of Boston. Note: Differences from adoption rates by the fully banked are statistically significant at the 5 percent level. For other instruments not shown (cash, debit card, prepaid card, and OBBP), there is no statistically significant difference in adoption rates of underbanked consumers compared with adoption rates of fully banked consumers. For prepaid cards, there is no statistically significant difference in adoption rates of unbanked consumers compared with adoption rates of fully banked consumers. One hundred percent of consumers in all three categories have adopted cash.

Figure 7: Percentage of consumers adopting payment instrument by banking status

% adopting	Fully Banked	Underbanked	Unbanked
Credit or charge	84.4	60.6*	1.3*
Credit	84.2	60.2*	1.3*
Charge	6.8	4.8	1.3*
Median # of credit and/or charge cards	3 (3.58)	2 (2.37*)	0 (.16*)
Of adopters, percent revolving	55	66	NA

Source: 2014 Survey of Consumer Payment Choice. Note: * indicates significantly different from the “fully banked” group at the 5 percent level.

Table 3: Credit card adoption, by banking status

Portfolios of payment instruments adopted

The mix of payment instruments adopted by consumers varies quite a bit; for the 1,809 Rand ALP respondents to the 2014 SCPC, there were 117 unique portfolios of payment instruments.²⁰ Fully banked consumers exhibited the most variety in their choices, followed by

²⁰ A “unique portfolio” is a particular combination of payment instruments. For example, one unique portfolio is “cash.” Another is “check, debit card, BANP, OBBP, cash, prepaid card, money order, credit card.”

the underbanked and then the unbanked. The shares of consumers adopting each of the three most popular portfolios by banking status reflect, in part, the fewer choices available to unbanked consumers (Table 4). It is important to note, however, that more consumers fall into the fully banked category; this larger number of consumers could be another factor affecting the large number of portfolio mixes chosen by the fully banked.

		Fully Banked			Underbanked			Unbanked		
Percentage holding 1 of 3 most popular portfolios, by banking status		42			66			80		
Percentage holding portfolio, by banking status		19.3	15.3	7.7	24.5	23.7	17.3	29	27.8	22.7
Number of payment instruments held		7	6	6	6	7	8	1	2	3
<i>Payment instruments linked to bank account</i>	Check	✓	✓	✓	✓	✓	✓			
	Debit Card	✓	✓	✓	✓	✓	✓			
	BANP	✓	✓	✓	✓	✓	✓			
	OBPP	✓	✓		✓	✓	✓			
Cash		✓	✓	✓	✓	✓	✓	✓	✓	✓
Prepaid Card		✓		✓		✓	✓		✓	✓
Money Order							✓			✓
Credit Card		✓	✓	✓	✓	✓	✓			

Source: 2014 SCPC, Federal Reserve Bank of Boston.

Table 4: Three most popular payment instrument portfolios, by banking status

Alternatives to Bank Accounts for Holding Assets

As alternatives to a bank account, consumers may choose to hold funds as cash, in nonbank payments accounts, or on prepaid cards.²¹

Nearly all consumers have adopted cash, defined as using cash at least once in the prior 12 months or having some cash on person or property. While underbanked and unbanked consumers have significantly less cash on hand than fully banked consumers, this is likely

²¹ Money orders are omitted from this discussion because owning a money order from a nonbank is one activity that satisfies the criteria for being underbanked.

related to their lower income, as discussed above. Taking income into account, underbanked consumers hold 70 percent of their weekly income in cash, compared with about 26 percent for fully banked and underbanked consumers (Table 5).²²

In nominal terms, underbanked and unbanked consumers withdraw more cash per month than banked consumers. Unbanked consumers withdraw \$652, underbanked, \$721, and fully banked, \$486. Despite withdrawing more, these consumers have less cash on hand, as noted above, perhaps related to their heavy use of cash for payments (discussed below). For getting cash, unbanked consumers have fewer options than other consumers. For both fully banked and underbanked consumers, the most popular locations for getting cash are ATM machines and bank tellers. Unbanked consumers report a family member or friend and being paid in cash as their two most likely ways of getting cash. Unbanked consumers make greater use of check cashing stores than others: 7.3 percent report that checking cashing stores are their primary source of cash, compared with 2.1 percent of underbanked consumers and 0.5 percent of banked consumers.²³

²² Percentage of weekly income computed using the midpoint of the following annual income ranges: <\$5,000, \$5,000–\$7,499, \$7,500–\$9,999, \$10,000–\$12,499, \$12,500–\$14,999, \$15,000–\$19,999, \$20,000–\$24,999, \$25,000–\$29,999, \$30,000–\$34,999, \$35,000–\$39,999, \$40,000–\$49,999, \$50,000–\$59,999, \$60,000–\$74,999, \$75,000–\$99,999, \$100,000–\$124,999, \$125,000–\$199,999, ≥\$200,000. Data are weighted.

²³ Differences are statistically significant at the 5 percent level.

	Fully Banked	Underbanked	Unbanked
Cash holdings (\$)	230.89	166.18*	117.68*
Cash on person	60.11	58.41	40.63
Cash stored elsewhere	176.20	112.08*	78.96*
Cash holdings (as percentage of weekly income)	25.8	26.3	70.4
Number of withdrawals per month	5.1	7.9*	4.8
% check cashing store is primary	0.5	2.1	7.3*

Source: 2014 Survey of Consumer Payment Choice. Note: * indicates significantly different from the “fully banked” group at the 5 percent level. Percentage of weekly income computed using the midpoint of the following annual income ranges: [<\$5,000, \$5,000-\$7,499, \$7,500-\$9,999, \$10,000-\$12,499, \$12,500-\$14,999, \$15,000-\$19,999, \$20,000-\$24,999, \$25,000-\$29,999, \$30,000-\$34,999, \$35,000-\$39,999, \$40,000-\$49,999, \$50,000-\$59,999, \$60,000-\$74,999, \$75,000-\$99,999, \$100,000-\$124,999, \$125,000-\$199,999, ≥\$200,000]. Data are weighted.

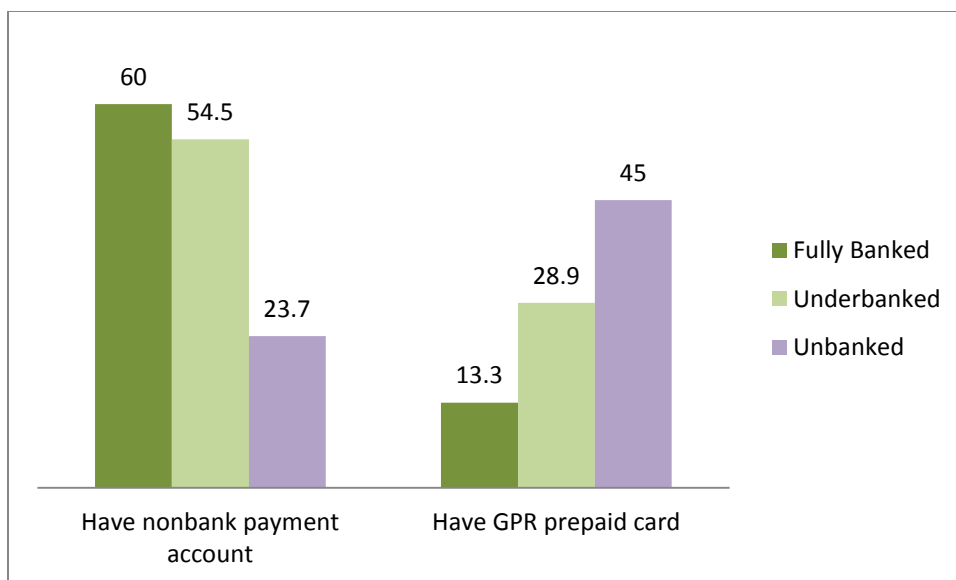
Table 5: Cash management, by banking status

Underbanked and unbanked consumers are significantly more likely to experience the loss or theft of cash, perhaps because they carry proportionately more cash or perhaps because they use it more often. Of fully banked consumers, 4.9 percent experienced the loss or theft of cash, compared with 12.6 percent of underbanked consumers and 14.4 percent of unbanked consumers.²⁴

Consumers can also keep funds in nonbank accounts such as PayPal or store money on a prepaid card. Ownership of nonbank payment accounts (PayPal, etc.)²⁵ and GPR prepaid cards differs for the three groups (Figure 8). People who are unbanked are significantly less likely to have a nonbank payment account than are the fully banked or underbanked. Typically, these nonbank accounts are linked to traditional checking or savings accounts for depositing and withdrawing funds.

²⁴ Differences are statistically significant at the 5 percent level.

²⁵ The SCPC asks: “A nonbank online payment account is a payment service provided by a company that is not a bank. These services allow a consumer to send and receive money online, and pay for purchases or bills. Do you have an account at any of the following non-bank online payment services?”



Source: 2014 SCPC, Federal Reserve Bank of Boston.

Figure 8: Percentage of consumers adopting nonbank accounts, by banking status

Compared with fully banked consumers, people who are unbanked are significantly more likely to have a GPR prepaid card (45 percent compared with 13 percent for fully banked consumers) as are people who are underbanked (29 percent) (Figure 8).²⁶ Adoption of GPR prepaid cards is defined as adoption of any of the following: (1) General-purpose prepaid card (has a logo from Visa, MasterCard, Discover, or American Express), (2) government benefit card including Direct Express; EBT, WIC, SNAP, or TANF; or other federal state, or local government benefit card, (3) payroll card (Table 6).

Looking in detail at individual types of cards, both unbanked and underbanked consumers are more likely to have prepaid cards for the receipt of government benefits and less likely to have gift cards, compared with fully banked consumers (Table 6).

²⁶ For additional discussion of GPR prepaid card holders who do not have checking accounts, see Greene and Shy (2015).

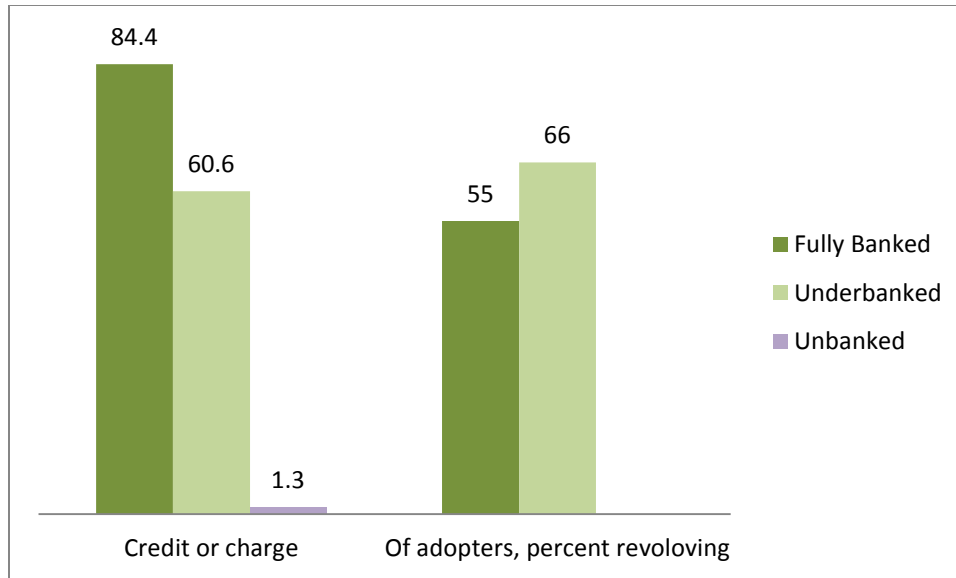
Adoption rates	Fully Banked	Underbanked	Unbanked
<i>Included in the definition of GPR prepaid cards</i>			
Other general-purpose prepaid card (cards not reported in specific categories below)	11.6	18.9*	20.4
Direct Express	0.00	2.5*	10.3*
EBT, WIC, SNAP, or TANF	6.0	13.7*	29.9*
Other federal, state, or local government benefit card	0.1	4.5*	8.0*
Payroll card (for wages or salary)	0.4	2.3	3.0
At least one of any GPR type	13.3	28.9	45.0
<i>Not included in the definition of GPR prepaid cards</i>			
Gift card from a store, merchant, or website (examples: Home Depot, Target, Starbucks, iTunes)	32.0	22.1*	5.1*

Source: 2014 Survey of Consumer Payment Choice. Note: * indicates significantly different from the “fully banked” group at the 5 percent level.

Table 6: GPR prepaid card adoption, by banking status

Access to Credit

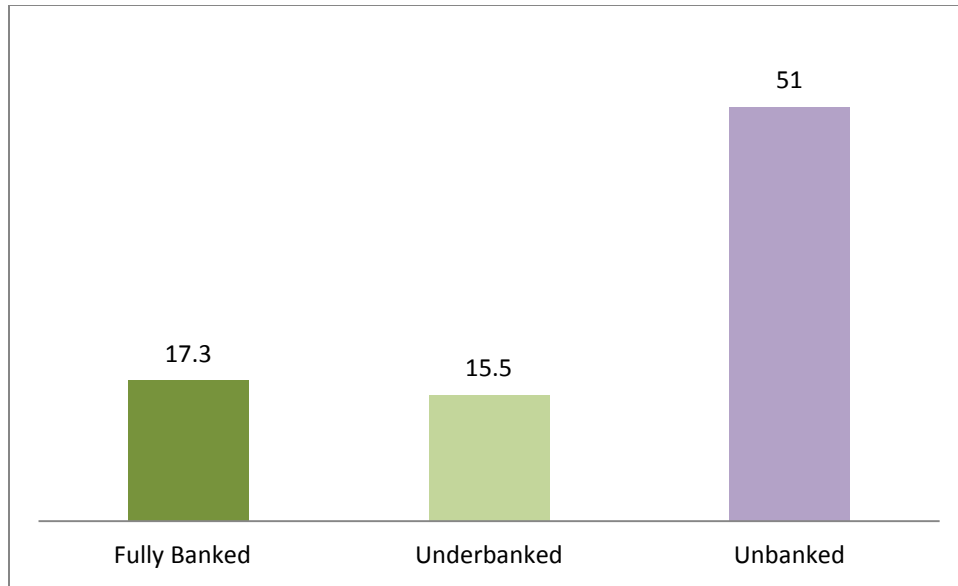
Both underbanked and unbanked consumers are less likely than fully banked consumers to have a credit or charge card. Almost no unbanked consumers have a credit card, just 1.3 percent. Majorities of fully banked and underbanked consumers have cards: 84.4 percent of the fully banked compared with 60.6 percent of the underbanked. Fully banked consumers own, on average, 3.6 credit cards—50 percent more than underbanked consumers, who own 2.4. Among credit card adopters, the underbanked are significantly more likely than the fully banked to revolve on their cards: 66 percent of the underbanked credit card adopters revolve, compared with 55 percent of fully banked credit card adopters (Figure 9).



Source: 2014 SCPC, Federal Reserve Bank of Boston.

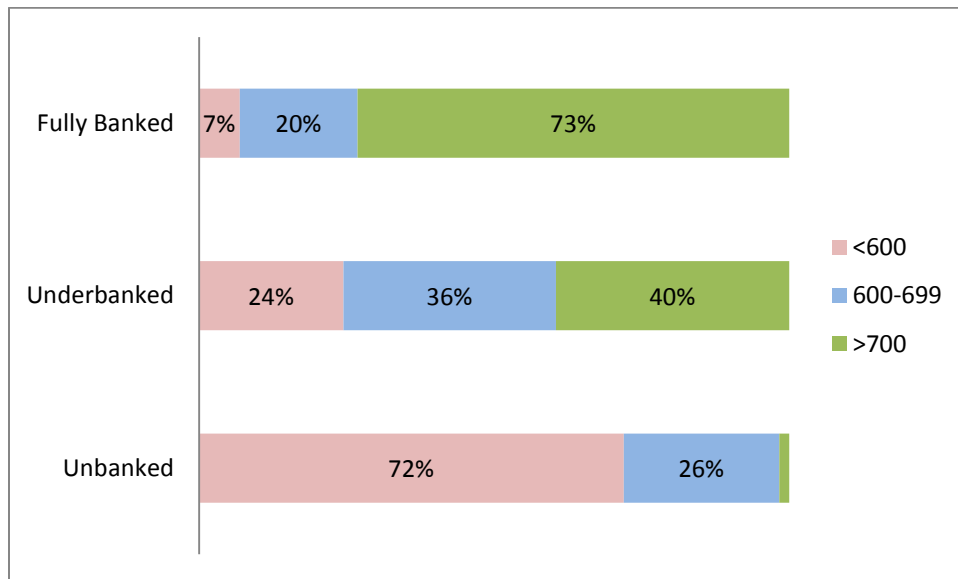
Figure 9: Credit card adoption and revolving, by banking status

More than half of unbanked consumers do not know their credit scores, compared with 16 or 17 percent of underbanked and fully banked consumers (Figure 10). Of consumers who know their scores, three-quarters of unbanked consumers have poor scores (less than 600). About 1 percent of unbanked consumers report good or excellent scores (700 or more) compared with 40 percent of underbanked consumers and 73 percent of fully banked consumers (Figure 11). As noted above, fewer than 2 percent of unbanked consumers have a credit card, so it would be almost impossible for an unbanked consumer to develop a credit history that would lead to a high credit score.



Source: 2014 Survey of Consumer Payment Choice.

Figure 10: percentage of consumers who do not know their credit score, by banking status



Source: 2014 Survey of Consumer Payment Choice. Note: Consumers who answered "I don't know" are omitted.

Figure 11: Self-reported credit scores, percentage of consumers by banking status

Payment Instrument Use

Compared with fully banked and underbanked consumers, unbanked consumers make few payments per month, 28 payments versus about 70 for the other two groups.

Between 30 percent and 40 percent of the payments of all U.S. consumers are for retail goods and around 20 percent of their payments are for retail services. For bill payments, behavior diverges, with fully and underbanked consumers making two-thirds of their bill payments automatically or online, while unbanked consumers make essentially all their bill payments by mail, phone, or in person. Fees paid for alternative financial services are often cited as one cost of being unbanked; another is the time required to pay bills or arrange for financial services in person. Unbanked consumers also make a smaller share of retail online purchases than others do (Table 7).

Transaction type	Shares of Use		
	Fully Banked	Underbanked	Unbanked
Retail in person	35.2	31.7*	41.9
Services in person	22.0	20.8	19.1
Bill pay in person/by mail or phone	11.3	13.2*	27.2*
Bill pay online	10.6	10.5	0.0*
Bill pay automatic	11.3	11.3	.2*
Retail online	5.7	5.0	2.6*
Person to person	3.9	7.5*	8.9*

Source: 2014 Survey of Consumer Payment Choice. Note: *Shares are significantly different from shares of transaction type by fully banked consumers.

Table 7: Shares of transaction types, by banking status (percentage)

The relatively large shares of person-to-person payments made by both unbanked and underbanked consumers reflect their position outside the financial mainstream. This finding is similar to qualitative research by the Center for Financial Services Innovation, which has found that “casual lending and borrowing money from friends and family is common.”²⁷ In the 2014 SCPC, 8.9 percent of payments by unbanked consumers were made to another person,

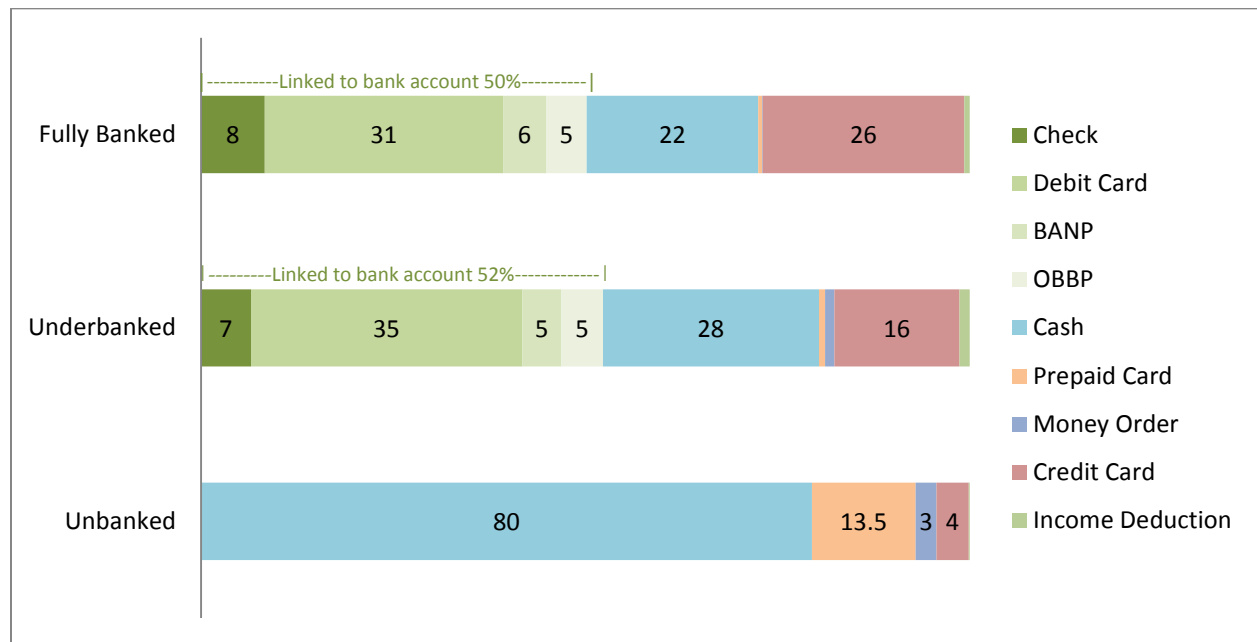
²⁷ Tescher et al. (2007).

compared with 7.5 percent of underbanked consumers' payments and 3.9 percent of fully banked consumers' payments.

Unbanked consumers use cash for four out of five of their payments and prepaid cards for most other payments (Figure 12). As noted above, they are unlikely to have a credit card in addition to lacking the four payment instruments linked to a bank account.

In contrast, cash payments of fully banked consumers represent a much smaller share of their payments (22 percent), prepaid cards an even smaller share (0.5 percent), and money orders also a share equal to less than 1 percent of their payments. The fully banked use credit cards for more than one-quarter of their payments.

Underbanked consumers rely more on cash than fully banked consumers do; the underbanked use cash for almost 30 percent of payments. They also rely more on debit cards and money orders. Compared with the fully banked, they use credit less and are less likely to write a check. Like the fully banked, they rarely use prepaid cards.



Source: 2014 Survey of Consumer Payment Choice.

Figure 12: Shares of payment instrument use, by banking status (percentage)

Summary

Looking at U.S. consumers by banking status (fully banked, underbanked, and unbanked), we find differences in income distribution, demographic characteristics, and payment behavior. Lower income is correlated with being un- or underbanked, with consumers with the lowest income most likely to be unbanked. The strong association with income indicates that consumers' stated preferences and reasons for being underbanked may be constrained by their income levels. Race and education also are associated with banking status.

Underbanked and fully banked consumers are fairly similar in their payment behavior. Each group makes about half of all payments (by number) using payment instruments linked to a bank account. Unbanked consumers rely heavily on cash; 80 percent of their payments are in cash. Reliance on cash means that unbanked consumers pay almost all bills in person or by mail or phone; consumers with a bank account (fully and underbanked) pay two-thirds of bills online or automatically.

Unbanked status is explicitly defined; being underbanked is a fuzzier concept. Further research and survey modifications would be needed to understand underbanked consumers' motivations and constraints more clearly as well as to define their status more precisely.

Appendix A: Descriptive Statistics

	Fully Banked	Underbanked	Unbanked
Number	1362	334	85
Gender			
Male	47.0	52.1	49.7
Average Age (years)	49.6	45.3*	36.5*
Race			
White	83.5	64.5*	32.8*
Education			
No high school diploma	3.2	5.2	37.6*
Labor force status			
Unemployed and looking for work	4.0	6.4	33.4*
Marital Status			
Married	70.5	54.5*	29.2*
Household income			
Less than \$25,000	14.8	31.3*	75.9*
Number of household members	1.2	1.5*	2.1*

Source: 2014 SCPC, Federal Reserve Bank of Boston. Note: * indicates significantly different from the “fully banked” group at the 5 percent level. Results are weighted.

**Table A.1: Demographic comparison, by banking status
(percentage unless otherwise indicated)**

Appendix B

We examine the effects of demographics and income on underbanked or unbanked status (as opposed to “fully banked”) using probit regressions. The first column reports the results of a probit regression including observations for the fully banked and the unbanked, with the dependent variable being a 0/1 indicator for being unbanked. This regression excludes the underbanked for the sake of obtaining a strict comparison between the unbanked and the fully banked. Control variables include respondent demographics, adverse experience, and financial responsibility within the household. For the unbanked regression, the top three income categories (\$50,000–\$74,999, \$75,000–\$99,999, >\$100,000) are collapsed into one, due to lack of observations. Responses associated with experience with bankruptcy, debit card theft, and credit card account closure were also excluded from the unbanked regression due to lack of observations.

The second column reports the results of a probit regression including observations for the fully banked and the underbanked, with the dependent variable a 0/1 indicator for being underbanked. This regression excludes the unbanked for the sake of obtaining a strict comparison between the fully banked and the underbanked. Control variables include respondent demographics, adverse experience, and financial responsibility within the household.

Reference groups for each demographic category are as follows: age 35–44, male, white, non-Latino, college graduate, never married, born in the United States, income \$50,000–\$74,999 (underbanked), income >\$50,000 (unbanked), employed, resident of the Northeast, equally shared bill pay responsibilities.

Table B.1: Probit regressions, effects of demographics and income on underbanked or underbanked status

Independent Variables		Underbanked	Unbanked
Age	<25	0.01	-0.56
	25 – 34	-0.08	-0.27
	45 – 54	-0.14	-0.13
	55 – 64	-0.10	-0.42
	≥ 65	-0.23	-0.63
Gender	Female	-0.05	-0.42*
Race	Black	0.72***	1.03***
	Asian	0.71***	0.25
	Other	0.23	0.20
Ethnicity	Latino	0.15	0.46
Education	Less than High School	0.40	2.03***
	High School	0.34***	1.39***
	Some College	0.04	1.02**
	Post-Graduate	0.14	1.15**
Marital Status	Married	-0.19	-0.10
	Divorced	-0.09	-0.09
	Separated	-0.30	-0.30
	Widowed	-0.68	-0.68
Nationality	Immigrant	-0.27	-0.31
Income	<\$25,000	0.31**	1.37***
	\$25,000 – \$49,999	0.65**	0.65**
	\$75,000 – \$99,999	-0.13	NA
	≥\$100,000	-0.30**	NA
Employment Status	Retired	-0.07	-0.37
	Disabled	0.18	0.16
	Unemployed	-0.17	0.59*
	Homemaker	-0.27	-0.03
	Other	0.16	0.75
Geographic Region	Mid-Atlantic	0.14	-0.60

	East North Central	-0.16	-0.16
	West North Central	0.18	0.18
	South Atlantic	0.26	0.26
	East South Central	0.00	0.00
	West South Central	-0.68	-0.68
	Mountain	0.19	0.19
	Pacific	0.05	0.05
Bill Pay Financial Responsibility	None or Almost None	-0.09	0.30
	Some	0.08	-0.61
	Most	0.32*	-0.11
	All or Almost All	0.10	-0.19
Household Size	Household Size	0.04	0.05
Home Ownership	Owns Home	-0.27***	-1.00***
Financial Adversity	Bankruptcy within the last year	0.36	NA
	Bankruptcy within the last 7 years	0.32*	-0.32
	Foreclosure within the last year	-0.66	0.70
	Foreclosure within the last 7 years	-0.14	-0.53
	Job loss within the last year	0.17	-0.54
	Overdraft within the last year	0.30***	-0.33
	Stolen Debit Card in the last year	0.36**	NA
	Credit card account closed in the last year	-0.00	NA
	N	1663	1332
	Pseudo R-squared	0.14	0.52

Source: 2014 Survey of Consumer Payment Choice.

Note: * indicates significance at the 10 percent level, ** indicates significance at the 5 percent level, *** indicates significance at the 1 percent level.

Note: The variables representing income of \$75,000–\$99,999, income greater than \$100,000, and bankruptcy within the last year were excluded from the unbanked regression due to lack of observations.

References

- Angrisani, Marco, Kevin Foster, and Marcin Hitczenko. 2016. "The 2014 Survey of Consumer Payment Choice: Technical Appendix." Federal Reserve Bank of Boston Research Data Report 16-04.
- Burhouse, Susan, Karyen Chu, Ryan Goodstein, Joyce Northwood, Yazmin Osaki, Dhruv Sharma. 2014. *2013 FDIC National Survey of Unbanked and Underbanked Households*, <https://www.fdic.gov/householdsurvey/> Federal Deposit Insurance Corporation.
- Burhouse, Susan, Karyen Chu, Keith Ernst, Ryan Goodstein, Alicia Lloro, Gregory Lyons, Joyce Northwood, Yazmin Osaki, Sherrie Rhine, Dhruv Sharma, and Jeffrey Weinstein. 2016. *2015 FDIC National Survey of Unbanked and Underbanked Households*, https://www.economicinclusion.gov/surveys/2015household/documents/2015_FDIC_Unbanked_HH_Survey_Report.pdf Federal Deposit Insurance Corporation.
- Demirgüç-Kunt, Asli, Leora Klapper, Dorothe Singer, and Peter Van Oudheusden. 2015. *Measuring. The Global Findex Database 2014: Measuring Financial Inclusion around the World*. World Bank Policy Research Working Paper 7255.
- Federal Deposit Insurance Corporation. 2014. "Assessing the Economic Inclusion Potential of Mobil Financial Services" (June 30).
- Greene, Claire, Scott Schuh, and Joanna Stavins (2016). "The 2014 Survey of Consumer Payment Choice: Summary Results." Federal Reserve Bank of Boston Research Data Report 16-3.
- Greene, Claire, and Oz Shy (2015). "How Are U.S. Consumers Using General Purpose Reloadable Prepaid Cards? Are They Being Used as Substitutes for Checking Accounts?" Federal Reserve Bank of Boston Research Data Report 15-3.
- Gutman, Aliza, Thea Garon, Jeanne Hogarth, and Rachel Schneider. 2015. "Understanding and Improving Consumer Financial Health in America." Center for Financial Services Innovation.
- Hogarth, Jeanne M., Christoslav E. Anguelov, and Jinhook Lee. 2005. "Who Has a Bank Account? Exploring Changes Over Time, 1989–2001." *Journal of Family and Economic* 26(1). 2005 DOI: 10.1007/s10834-004-1410-6.
- Kahn, Charles M., and José Manuel Liñares-Zegarra. 2015. "Identity Theft and Consumer Payment Choice: Does Security Really Matter?" *Journal of Financial Services Research* 1–39.
- Koulayev, Sergei, Marc Rysman, Scott Schuh, and Joanna Stavins. 2016. "Explaining Adoption and Use of Payment Instruments by U.S. Consumers." *RAND Journal of Economics* 47(2): 293–325 (Summer).

- Schuh, Scott, and Joanna Stavins. 2010. "Why Are (Some) Consumers (Still) Writing Paper Checks?" *Journal of Banking and Finance* 34(8): 1745–1758.
- Schuh, Scott and Joanna Stavins. 2013. "How Consumers Pay: Adoption and Use of Payments." *Accounting and Finance Research* 2 (2): 1-21.
- Schuh, Scott and Joanna Stavins. 2015a. "The 2013 Survey of Consumer Payment Choice." Federal Reserve Bank of Boston Research Data Report 15-4.
- Schuh, Scott, and Stavins, Joanna. 2015b. "How Do Speed and Security Influence Consumers' Payment Behavior?" *Contemporary Economic Policy* doi: 10.1111/coep.12163.
- Stavins, Joanna. 2013. "Security of Retail Payments: The New Strategic Objective." Federal Reserve Bank of Boston Public Policy Discussion Paper 13-9.
- Tescher, Jennifer, Edna Sawady, and Stephen Kutner. 2007. "The Power of Experience in Understanding the Underbanked Market." Center for Financial Services Innovation.
- White House Council of Economic Advisers. 2016. "Financial Inclusion in the United States." (June).