# Consumers and Mobile Financial Services 2014

March 2014

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM


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# Preface

The survey and report were prepared by the Consumer and Community Development Research Section of the Federal Reserve Board's Division of Consumer and Community Affairs (DCCA).

DCCA directs consumer-related functions performed by the Board, including conducting research on financial services policies and practices and their implications for consumer financial stability, community development, and neighborhood stabilization.

DCCA staff members Maximilian D. Schmeiser, Matthew B. Gross, David E. Buchholz, and Alejandra Lopez-Fernandini prepared this report. Federal Reserve System staff members Jason Berkenpas, Alexandra M. Brown, Matthew Chen, Julia Cheney, Douglas Conover, Marianne Crowe, Ellen Merry, Allen Fishbein, Chris Foote, Kevin Foster, Geoffrey R. Gerdes, Linda Healey, Bob Hunt, Chris Olson, Samantha J. Pelosi, Anjana Ravi, Aaron Rosenbaum, Scott Schuh, and Dick Todd provided valuable comments and feedback on the design of the survey and drafting of this report. Comments and feedback were also provided by Federal Deposit Insurance Corporation staff, including Karyen Chu, Keith Ernst, and Yazmin Osaki. Finally, several members of the Mobile Payments Industry Workgroup provided valuable input, including Mehul Desai, Dee O'Malley, and Ginger Schmeltzer.

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# Executive Summary

Mobile phones have increasingly become tools that consumers use for banking, payments, budgeting, and shopping. Given the rapid pace of developments in the area of mobile finance, the Federal Reserve Board began conducting annual surveys of consumers' use of mobile financial services in 2011. The survey examines trends in adoption and use of mobile banking and payments, and how the emergence of mobile financial services affects how consumers interact with financial institutions.

This report presents findings from the 2013 survey, which examined consumers' use of mobile technology to access financial services and make financial decisions. The findings from the current survey are also compared with the findings from the 2011 and 2012 surveys. Topics include consumer access to bank services using mobile phones ("mobile banking"), consumer payment for goods and services using mobile phones ("mobile payments"), and consumer shopping decisions facilitated by use of mobile phones. Key findings of the 2013 survey include:

- **Mobile phones are in widespread use**
  - —87 percent of the U.S. adult population has a mobile phone
  - —61 percent of mobile phones are smartphones (Internet-enabled)
- **The ubiquity of mobile phones is changing the way consumers access financial services**
  - —33 percent of all mobile phone owners have used mobile banking in the past 12 months, up from 28 percent a year earlier
  - —51 percent of smartphone owners have used mobile banking in the past 12 months, up from 48 percent a year earlier
  - —12 percent of those mobile phone users who are not currently using mobile banking think that they will probably use it within the next 12 months
  - —The most common use of mobile banking is to check account balances or recent transactions (93 percent of mobile banking users)
  - —Transferring money between an individual's own accounts is the second-most common use of mobile banking (57 percent of mobile banking users)
  - —38 percent of mobile bankers have deposited a check using their mobile phone in the past 12 months, up from 21 percent in 2012
  - —Of those using mobile banking, the frequency of use has gone down, from a median of six times per month in 2012 to four times per month in 2013
  - —Among those who own mobile phones, there is no clear correlation between mobile banking usage and either income or education level
- **Mobile phones are also changing the way consumers make payments**
  - —17 percent of all mobile phone owners have made a mobile payment in the past 12 months, up from 15 percent in 2012
  - —The share of smartphone users who have made a mobile payment in the past 12 months has effectively remained constant at 24 percent
  - —The most common mobile payment was bill payment through an online system (66 percent of mobile payment users, up from 42 percent in 2012)
  - —17 percent of all smartphone users have made a point-of-sale payment using their mobile phone in the past 12 months, up from 6 percent in 2012
  - —39 percent of people who made point-of-sale mobile payments did so by scanning a barcode or QR code displayed on their phone's screen at the cash register, while 14 percent waved or tapped their mobile phone at the cash register

—Among those who own mobile phones, there is no clear correlation between mobile payment usage and either income or education level

- **Among consumers who do not use mobile financial services, the principal reasons cited for not using the services are perceptions of limited usefulness and benefits, and concerns about security**

  —Of those not using mobile banking, the primary reason people cited was a belief that their banking needs were being met without the use of mobile banking (89 percent of non-users)

  —The primary reason people gave for not using mobile payments was that they believe it is easier to pay with cash or credit/debit cards (76 percent of non-users)

  —Concerns about the security of the technology were a common reason for not using mobile banking or mobile payments (69 percent and 63 percent, respectively, of non-users)

- **Smartphones are changing the way people shop and make financial decisions**

  —44 percent of smartphone users have comparison shopped with their phone while at a retail store, and 31 percent have used their phone to scan a product's barcode to find the best price for the item

  —68 percent of consumers who used their phones to comparison shop in a retail store have changed where they purchased the product as a result of the information they found

  —42 percent of smartphone users have used their phone to browse product reviews or get product information while shopping at a retail store, and 74 percent of them changed the item they purchased based on this information

  —69 percent of mobile banking users have checked their account balance before making a large purchase in the past 12 months, and half of them decided not to purchase an item as a result of their account balance or credit limit

  —24 percent of smartphone users have used their phone to track purchases and expenses

- **Mobile phones are prevalent among unbanked and underbanked consumers**

  —69 percent of the unbanked have access to a mobile phone, approximately half of which are smartphones

  —88 percent of the underbanked have access to a mobile phone, 64 percent of which are smartphones

  —39 percent of underbanked consumers have used mobile banking in the past 12 months

  —The share of consumers who are unbanked is 11 percent, and the share who are underbanked is 17 percent

# Introduction

Since 2011, when the Federal Reserve Board's Division of Consumer and Community Affairs conducted its first Survey of Consumers' Use of Mobile Financial Services, the adoption of mobile financial services has continued to increase, along with the range of services offered. As part of its ongoing efforts to monitor rapid developments in the mobile financial services arena as well as gain insights into consumers' usage of and attitudes toward mobile financial services, the Board has continued to conduct the survey annually.[1] The third survey, conducted in 2013, included a random sample of respondents to the previous survey in 2012, as well as a random sample of new respondents. The subsample of respondents who voluntarily completed both the 2012 and 2013 waves of the survey allows for the observation of changes in behavior over the past year among these individuals.

## Survey Background

The original survey instrument and the two subsequent waves of the survey were designed in consultation with a group made up of key Federal Reserve System staff with relevant consumer research and payments backgrounds. The 2012 and 2013 survey samples were both composed of a mix of a random selection of respondents to the previous year's survey and new survey respondents.

The 2013 survey was again administered by GfK, an online consumer research company, on behalf of the Board. The survey was conducted using a sample of adults ages 18 and over from KnowledgePanel®, a proprietary, probability-based web panel of more than 50,000 individuals from randomly sampled households; the sample was designed to be representative of the U.S. population. After pretesting, the data collection for the survey began on December 6, 2013, and concluded on December 23, 2013. As shown in table 1, e-mails were sent to 1,840 randomly selected respondents to the original survey and 2,239 randomly selected respondents from the remaining members of KnowledgePanel®. The 2,657 respondents completed the survey in approximately 11 minutes (median time). Of the total respondents, 1,409 had responded to the original survey, while 1,248 were new survey respondents. Further details on the survey methodology are included in appendix 1.

**Table 1. Key survey response statistics: Main interview**

| | Number sampled from main survey | Qualified completes | Completion rate |
|---|---|---|---|
| 2012 re-interviews | 1,840 | 1,409 | 78.1% |
| Fresh cases | 2,239 | 1,248 | 55.7% |
| **Total** | **4,070** | **2,657** | **65.3%** |

The responses to all the categorical survey questions are presented in appendix 3 in the order that the questions were asked of respondents. Tables of summary statistics for the respondent demographics by mobile phone usage are also included as tables C.65 to C.68. Beginning at table C.69, cross-tabulations are presented of consumers' use of mobile phones, mobile banking, and mobile payments by age, race, gender, education, and income.

The following sections of this report summarize key findings from the Federal Reserve Board's survey of consumers conducted by GfK, with a focus on how consumers are using mobile phones to conduct their banking, make payments, enhance information gathering while shopping, and manage their finances. The numbers cited in this report are derived from the Board survey unless otherwise noted. All data were weighted to yield estimates for the U.S. adult population, with a sampling error of ±1.9 percentage points

[1] See the "Consumers and Mobile Financial Services" reports series for previous years' survey findings; results of the 2011 survey (published in March 2012) are available at www.federalreserve.gov/econresdata/mobile-devices/files/mobile-device-report-201203.pdf, and results of the 2012 survey (published in March 2013) are at www.federalreserve.gov/econresdata/mobile-devices/files/consumers-and-mobile-financial-services-report-201303.pdf.

at 95 percent confidence. Only questions pertaining to these topics are discussed in the report; however, the complete survey questionnaire and the results of the entire survey are summarized in appendix 2 and appendix 3.

## Overview of the Mobile Phone Market

As of December 2013, 87 percent of the U.S. population ages 18 and above owned or had regular access to a mobile phone. Of the mobile phone owners, 61 percent had a smartphone.[2] While the percent of the adult population with mobile phones has remained constant over the past year, smartphone ownership increased substantially from the 52 percent found in the 2012 survey.[3]

Rates of mobile phone usage remain high and consistent across demographic and socioeconomic groups. The prevalence of mobile phones demonstrates the extent to which they have become engrained in modern culture. Mobile phone usage is approximately 91 percent for persons ages 18 to 44, and declines only slightly to 87 percent for persons ages 45 to 59 and to 81 percent for persons ages 60 and over. However, smartphone adoption is higher among younger generations: 79 percent of those ages 18 to 29 who own a mobile phone have a smartphone, declining to 77 percent of mobile phone owners ages 30 to 44, 58 percent of mobile phone owners ages 45 to 59, and only 33 percent of mobile phone owners ages 60 and over.

Mobile phone ownership is highest among non-Hispanic whites and Hispanics at 88 and 89 percent, respectively, relative to 80 percent for non-Hispanic blacks. However, adoption of smartphones is higher among minorities, as 73 percent of Hispanic mobile phone users and 63 percent of non-Hispanic black mobile phone users own a smartphone, relative to 58 percent of non-Hispanic whites.

Mobile phone and smartphone usage does vary with the level of household income. In households earning less than $25,000 per year, 74 percent of adults have a mobile phone of some type, and 44 percent have a smartphone. Use of both mobile phones and smartphones increases nearly linearly with income category, reaching 96 percent and 75 percent, respectively, for adults in households earning more than $100,000 per year.

The relatively high prevalence of mobile phone and smartphone use among younger generations, minorities, and those with low levels of income—groups that are prone to be unbanked or underbanked—makes mobile phones a potential platform for expanding financial access and inclusion (see box 1 for survey results related to the unbanked and underbanked).

## Trends in the Utilization of Mobile Banking and Payments

Services that allow consumers to obtain financial account information and conduct transactions with their financial institution ("mobile banking") and that allow consumers to make payments, transfer money, or pay for goods and services ("mobile payments") have become increasingly prevalent over the past year. In the 2011 survey, for instance, 21 percent of mobile phone users and 42 percent of smartphone users reported that they had used mobile banking in the past 12 months. By 2012, the prevalence of mobile banking had increased substantially, to 28 percent of mobile phone users and 48 percent of smartphone users. In the 2013 survey, the prevalence of mobile banking has continued to increase, reaching 33 percent of mobile phone users and 51 percent of smartphone users (figure 1).

Use of mobile payments has increased far less rapidly than that of mobile banking. In 2011, 11 percent of mobile phone users and 23 percent of smartphone users reported using mobile payments. In 2012, usage of mobile payments had increased only slightly, to 15 percent of mobile phone users and 24 percent of smartphone users. Mobile payments usage increased among all mobile phone users from 2012 to 2013, reaching 17 percent, but remained at 24 percent of smartphone users. The higher rate among all mobile phone users, but constant rate among smartphone users, suggests that smartphone adoption substantially contributed to the increased use of mobile payments.

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[2] The figures derived from the Board's survey are nearly identical to the 91 percent mobile phone ownership rate and 61 percent smartphone ownership rate reported by the Pew Research Center in its June 2013 *Smartphone Ownership—2013 Update*, www.pewinternet.org/files/old-media/Files/Reports/2013/PIP_Smartphone_adoption_2013_PDF.pdf.

[3] While the majority of banks and mobile financial service providers offer apps for both Android and iOS devices, some apps are only available for one platform. Among the operating systems utilized by smartphone users in the survey, Android is used by 45 percent of respondents, Apple's iOS by 44 percent of respondents, and BlackBerry by 3 percent of respondents.

## Box 1. The Unbanked, Underbanked, and Mobile Financial Services

In comparing results of the Board surveys for 2011, 2012, and 2013, the share of consumers who are unbanked has effectively remained constant over the past few years. In 2011, 10.8 percent of consumers reported that neither they nor their spouse or partner had a checking, savings, or money market account. In 2012, the share of unbanked consumers was 9.5 percent of the adult population, and in 2013, the share of unbanked consumers was 10.5 percent of the adult population.

Of those currently unbanked, 34 percent report that they had a bank account at some point in the past. Using data on those Board survey respondents observed in both 2012 and 2013, 40 percent of those unbanked in 2012 had obtained a checking, savings, or money market account in 2013. Conversely, 4 percent of those who had a bank account in 2012 no longer had an account in 2013.

Among unbanked consumers, the most important reasons for not having a bank account were not having enough money (25 percent); simply not needing or wanting one (24 percent); and being unable to open an account due to ID, credit, or banking history problems (10 percent).

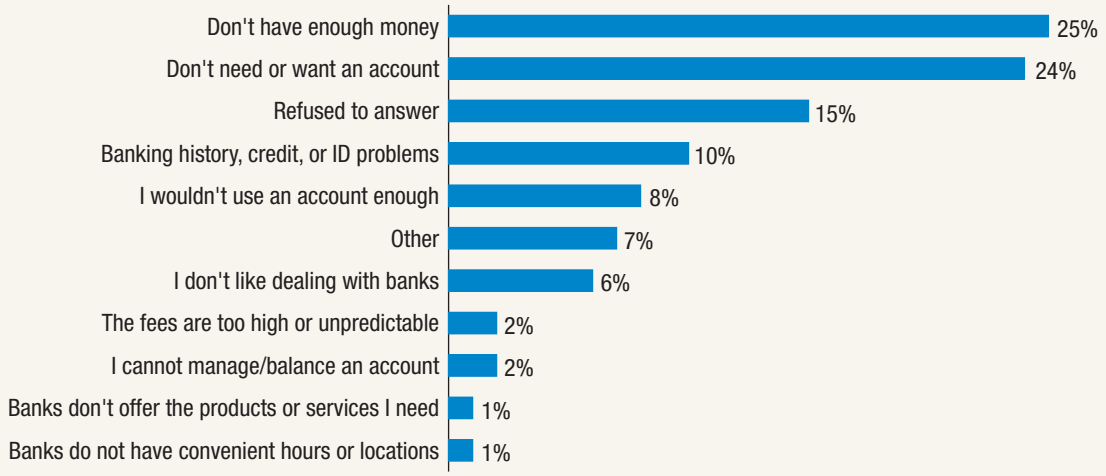
A further 8 percent of unbanked consumers don't believe that they would use an account enough to make it worthwhile, and 6 percent simply don't like dealing with banks (figure A).

The share of consumers who are underbanked—defined as having a bank account but also using an alternative financial service such as a payroll card, payday lender, check casher, pawn shop, or auto title loan—was 16.9 percent in 2013.

Both the unbanked and underbanked make significant use of mobile phones and smartphones. Among individuals who are unbanked, 69 percent have access to a mobile phone and 49 percent of these are smartphones. Among the underbanked, 88 percent have a mobile phone, 64 percent of which are smartphones.

The underbanked population makes substantial use of mobile banking. Almost 39 percent of the underbanked with mobile phones report using mobile banking in the past 12 months, while 22 percent report using mobile payments.

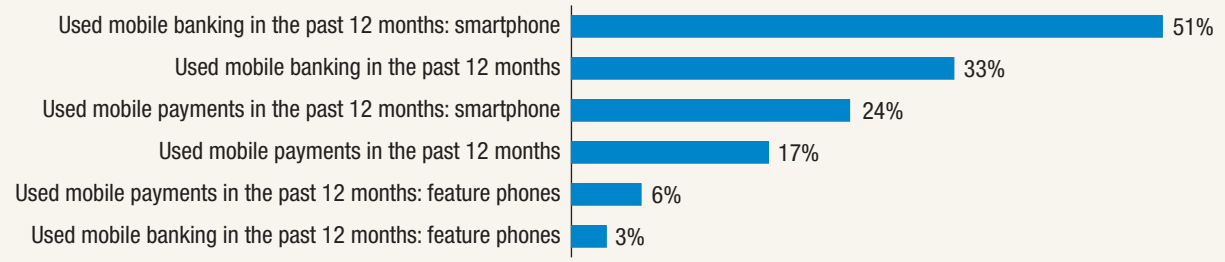
**Figure A. Most important reason for not having a checking, savings, or money market account**




Innovation in, and increased access to, point-of-sale (POS) mobile payments services continued through 2013. As a result, using a mobile phone to pay for a retail purchase is no longer an extremely rare occurrence. Between 2012 and 2013, tremendous growth occurred in the share of people who reported making a POS purchase with their smartphone in the past 12 months, rising from 6 percent of smartphone users in 2012 to 17 percent of smartphone users in 2013. This growth in usage is all the more remarkable considering that only 1 percent of smartphone owners reported making a POS purchase with their phone in 2011.

The most common mobile payment at the POS, at 39 percent of users, involves scanning a barcode or a

**Figure 1. Usage of mobile banking and mobile payments by mobile phone type**




Quick Response (QR) code at the cash register.[4] This is being partially driven by the popularity of a single retailer's mobile payment app (Starbucks), which was used by 14 percent of all people who make mobile payments and have smartphones.

The greatest impediment to adoption of either mobile banking or mobile payments appears to be consumers' limited demand for them: many consumers say their needs are already being met without mobile banking or payments, that they are comfortable with non-mobile options, and that they do not see a clear benefit from using either service.

Concerns about the security of mobile banking and mobile payment technologies are also frequently cited as reasons why consumers chose not to adopt these technologies. Consumers again reported less confidence in the security of mobile banking and payments technology in the 2013 survey than they did in either the 2011 or 2012 surveys. Consumers appear to be more cognizant of the need to protect the extensive personal information stored on their phones, as they are increasingly using passwords to protect their smartphones. The share of smartphone owners who password protect their phone increased to 61 percent in 2013 from 54 percent in 2012.

[4] A Quick Response (QR) code is a type of barcode that has become popular as a means of quickly transferring information to a device when scanned. Some mobile payment applications use QR codes displayed on the user's smartphone screen to communicate the payment credentials to merchants when scanned at the POS. Other QR codes have become popular in advertising because they can be scanned by mobile phones to direct users to a website where they can obtain additional information on a product, service, or company.

# Accessing Financial Services

Survey respondents were given a set of screening questions that asked if they had access to a bank account, the Internet, and a mobile phone or smartphone. They were further asked about the various ways in which they access their financial accounts. Of the 89 percent of consumers who have a checking, savings, or money market account, the majority use some form of technology to interact with their financial institution. (The Board survey also included questions about attitudes toward alternative financial services; see box 2 for more information.)

As shown in figure 2, the most common way of interacting with a financial institution remains in-person at a branch, with 82 percent of consumers who have a bank account reporting that they had visited a branch and spoken with a teller in the past 12 months. The second most common means of access in the past 12 months was using an ATM at 75 percent, followed by online banking at 72 percent. Approximately one-third of all consumers with bank accounts used telephone banking, while 30 percent used mobile banking.

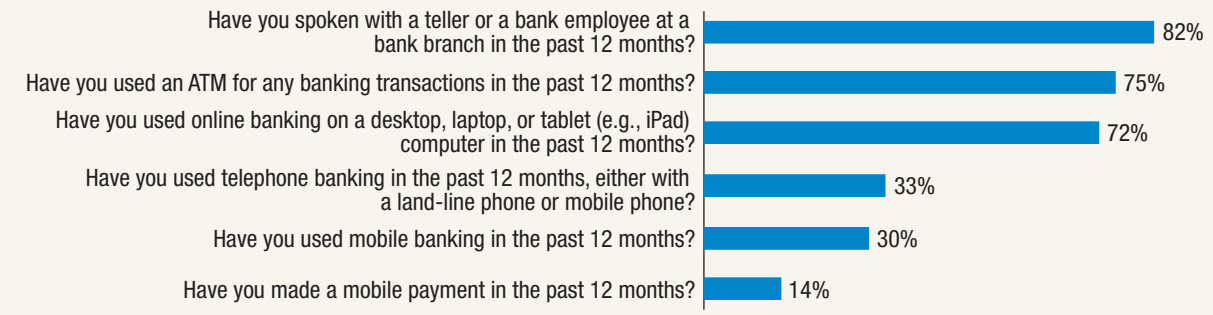
## Mobile Banking

The Federal Reserve survey defines mobile banking as "using a mobile phone to access your bank or credit union account. This can be done either by accessing your bank or credit union's web page through the web browser on your mobile phone, via text messaging, or by using an app downloaded to your mobile phone."

The adoption of mobile banking has continued to increase in the past year. Just over 33 percent of mobile phone users in the survey report that they used mobile banking in the past 12 months. This is an increase from the nearly 28 percent of mobile phone users who indicated that they used mobile banking in the 2012 survey, and 21 percent in the 2011 survey. Use of mobile banking is substantially higher for smartphone users at 51 percent, up from 48 percent in the 2012 survey, and 42 percent in the 2011 survey. The higher incidence of mobile banking adoption among smartphone users suggests that as smartphone adoption continues to increase, so too will use of mobile banking.

Among those consumers with mobile phones who do not currently use mobile banking, 12 percent report that they will "definitely" or "probably" use mobile banking in the next 12 months. An additional 18 percent of those who report that they are unlikely to use mobile banking in the next 12 months report that they will "probably" adopt mobile banking at some point.

**Figure 2. Usage of different means of accessing banking services**




Note: The denominator is all respondents with a checking, savings, or money market account for each question, regardless of mobile phone ownership.

## Box 2. Alternatives to Traditional Banking and Financial Services

As in its previous surveys, the Board's 2013 survey included questions regarding consumers' usage and attitudes toward alternative financial services, such as payday loans and prepaid cards.

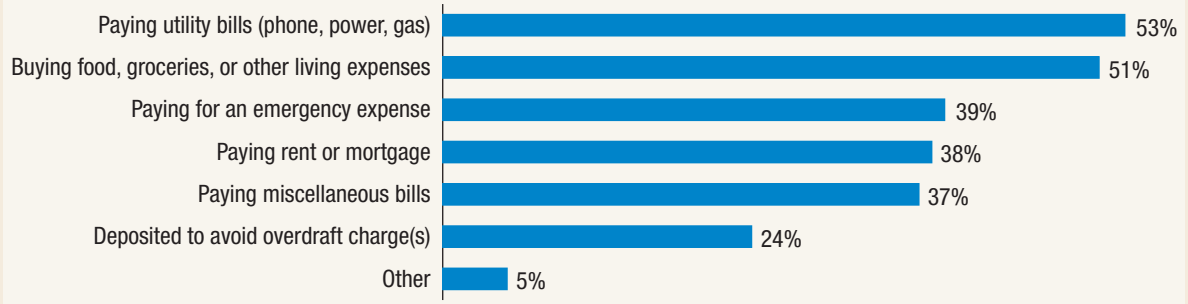
Products such as payday loans and reloadable prepaid cards are becoming increasingly used, as people look outside mainstream financial products to meet their financial needs. However, these alternatives to traditional banking may have relatively high interest rates and service charges or fees, which can vary widely depending on the specific product used. This can make alternative financial services a costly way of managing household finances if not used carefully. Moreover, consumers may have fewer regulatory protections on some non-traditional financial services when problems arise.

### Prepaid Cards

Prepaid cards have remained the most-used alternative financial service over the past several years. The share of respondents who report using a general purpose card was 15 percent in 2013, while 8 percent use a government-provided card, and 3 percent use a payroll card. Just over one-fifth (22 percent) of all consumers surveyed use some type of prepaid card.

Some general purpose prepaid cards can be reloaded with money and used as an alternative to a checking account. Among respondents with general purpose prepaid cards, 38 percent report that it is reloadable, and of those with reloadable cards, 50 percent added money to their cards in the previous month.

**Figure A. Uses of money from most recent payday loan**




*(continued on next page)*

Although previous surveys suggest that the reported adoption intentions of the respondents do not perfectly reflect subsequent behavior, there is a strong correlation between the planned use of mobile banking and subsequent adoption. Using the panel of respondents to both the 2012 and 2013 Board surveys, it is possible to compare the reported mobile banking adoption intention over the next 12 months from the 2012 survey to the reported use of mobile banking in the 2013 survey. Of those consumers who reported in 2012 that they will "definitely" or "probably" adopt mobile banking in the next 12 months, 37 percent had adopted mobile banking one year later. Conversely, for those who indicated that they "probably will not" and "definitely will not" adopt mobile banking, 19 percent and 5 percent, respectively, had adopted mobile banking in 2013. In total, 14 percent of those who reported that they were not mobile banking users in 2012 (7 percent of all mobile phone users) reported being mobile banking users in 2013. However, 19 percent of those who were mobile banking users in 2012 (3 percent of all mobile phone users) reported that they had not used mobile banking in 2013. Among panel respondents, mobile banking usage increased from 27 percent in 2012 to 33 percent in 2013.

The 2012 survey included a group of respondents who indicated that they would "definitely" or "probably" adopt mobile banking in the coming year. For that group of respondents who believed they were "likely" to adopt mobile banking, the most significant difference between those who actually did adopt mobile banking by the 2013 survey and those who did not was that the adopters were more likely to own a smartphone. Of this likely-to-adopt group, 40 percent with smartphones used mobile banking, while none of the people with feature phones (phones

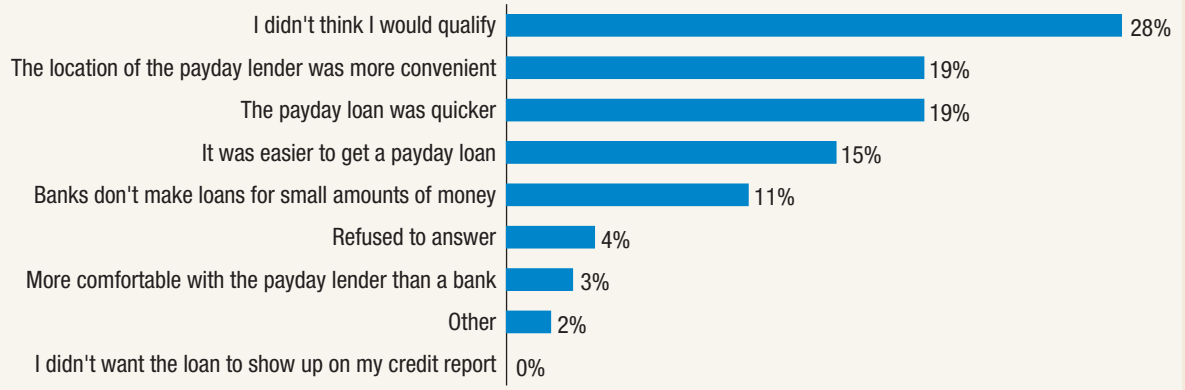
## Box 2. Alternatives to Traditional Banking and Financial Services—*continued*

### Payday Loans

Only 6 percent of respondents report having used a payday loan, paycheck advance, or deposit advance service in the past 12 months. As shown in figure A, respondents report that these payday loans or paycheck advances were used primarily for daily essentials such as utility bills (53 percent); for food, groceries, and other living expenses (51 percent); for emergency expenses (39 percent); for rent or mortgage payments (38 percent); or for miscellaneous bills (37 percent). Almost one in four respondents deposited the money from the payday loan into their bank account in order to avoid overdraft charges. The median payday loan borrower took out two loans in the past 12 months, while the average number of payday loans among borrowers was four.

According to respondents, the main reasons for using payday loans or advances instead of other, more traditional financial services are perceptions that the borrower didn't think they would qualify for a bank loan or credit card (28 percent), that the location of the payday lender was more convenient (19 percent), that the payday loan was quicker to get than a bank loan or credit card advance (19 percent), and it would be easier to get a payday loan than to qualify for a bank loan or credit card (15 percent). One in ten borrowers used a payday loan because they didn't think that banks made loans for small amounts of money, and only 3 percent felt more comfortable going through a payday lender than using a bank, as shown in figure B.

**Figure B. Main reason for using a payday loan or advance service over a bank loan or credit card**




that don't have Internet access) used mobile banking. In both the panel and cross-sectional data, smartphone users are more likely to adopt mobile banking than non-smartphone users.

Use of mobile banking continues to be highly correlated with age (table 2). In the 2013 survey, individuals between ages 18 and 29 account for approximately 39 percent of mobile banking users, relative to 21 percent of mobile phone users overall. The next age group (30 to 44) accounts for 34 percent of mobile banking users, relative to 26 percent of mobile phone users overall. Those ages 45 to 59 account for 21 percent of mobile bankers, relative to 28 percent of mobile phone users. Finally, individuals ages 60 and over account for only 7 percent of all mobile banking users, but represent 25 percent of all mobile phone users. In 2012, those ages 18 to 29

**Table 2. Use of mobile banking in the past 12 months by age**

Percent, except as noted

| Age categories | No | Yes | Total |
|---|---|---|---|
| 18–29 | 11.4 | 39.1 | 20.6 |
| 30–44 | 22.3 | 33.7 | 26.1 |
| 45–59 | 31.7 | 20.7 | 28.1 |
| 60+ | 34.5 | 6.6 | 25.2 |
| Number of respondents | 1,540 | 640 | 2,180 |

**Table 3. Use of mobile banking in the past 12 months by race**
Percent, except as noted

| Race/ethnicity | No | Yes | Total |
|---|---|---|---|
| White, non-Hispanic | 73.8 | 62.5 | 70 |
| Black, non-Hispanic | 7.4 | 11.1 | 8.6 |
| Other, non-Hispanic | 5.6 | 5.9 | 5.7 |
| Hispanic | 11.8 | 19.2 | 14.3 |
| 2+ races, non-Hispanic | 1.4 | 1.3 | 1.3 |
| **Number of respondents** | **1,540** | **640** | **2,180** |

accounted for 39 percent of mobile bankers, while those ages 45 to 59 accounted for 19 percent, and those ages 60 and over accounted for only 8 percent.

Reinforcing the data from previous surveys, minorities continue to be more likely to adopt mobile banking than non-Hispanic whites. In particular, Hispanic mobile phone users show a disproportionately high rate of adoption of mobile banking (table 3), comprising 19 percent of all mobile banking users relative to 14 percent of mobile phone users overall. Conditional on owning a mobile phone, use of mobile banking remains unrelated to household income or education level, with each group making up a similar share of mobile banking users as they do mobile phone users.

In 2013, the most common mobile banking activity continued to be checking financial account balances or transaction inquiries, with 93 percent of mobile banking users having performed this function in the past 12 months (figure 3). This was followed by transferring money between their own accounts, performed by 57 percent of users. In addition, 53 percent of mobile banking users received e-mail alerts from their financial institution, and 43 percent received text message alerts. Making online bill payments from a bank account using a mobile phone was the next most common activity (done by 44 percent of mobile banking users), followed by locating an in-network ATM (done by 41 percent). Further, using mobile banking to deposit a check by phone, known as "remote deposit capture," is becoming highly prevalent, with 38 percent of mobile banking users having performed this activity in the past 12 months. Mobile banking users appear to be using mobile applications to conduct their banking transactions, as 72 percent have installed such applications on their phones.

Among mobile banking users, the frequency of mobile banking use has decreased somewhat over the past year. The median reported usage declined from six times per month in 2012 to four times per month in 2013.

A significant fraction of mobile banking users have only recently adopted the technology. Although the majority of mobile banking users report that they started using it more than one year prior, 9 percent report that they adopted mobile banking in the last six months, and 20 percent report that they adopted mobile banking between six and twelve months prior.

In the past year, the convenience of mobile banking has overtaken smartphone adoption as the driving force behind mobile banking adoption. Indeed, 37 percent of consumers indicate that the convenience was the main reason they started using mobile banking, compared to 32 percent of consumers who said getting a smartphone was the main reason. A further 16 percent of consumers indicated that the

**Figure 3. Using your mobile phone, have you done each of these in the past 12 months? (Among mobile banking users)**

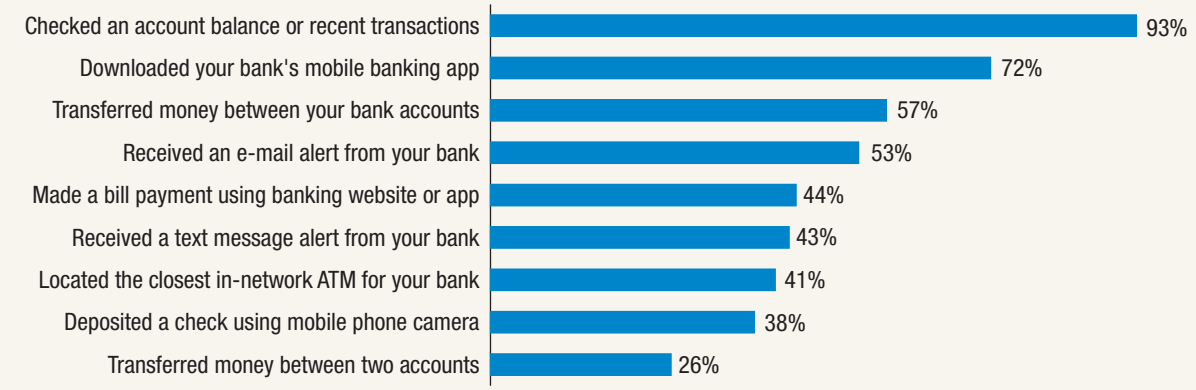
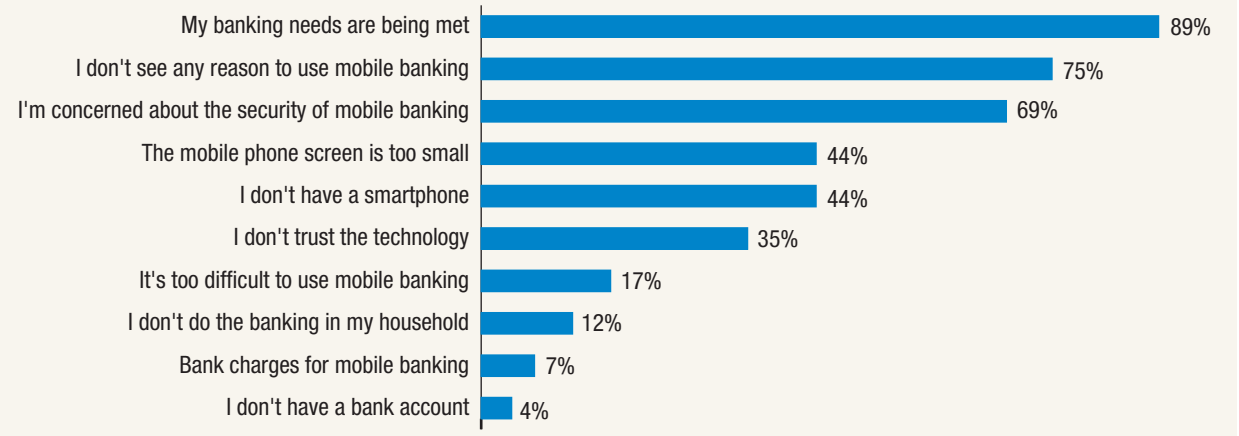


**Figure 4. What are the main reasons you have decided not to use mobile banking? (Among those who do not use mobile banking)**




timing of their adoption of mobile banking was driven by their bank starting to offer the service.

Among those consumers with mobile phones who do not currently use mobile banking, several reasons for not using the service predominate—namely, they believe that their banking needs are being met without mobile banking (89 percent), they don't see any reason to use mobile banking (75 percent), and they are concerned about security (69 percent) (figure 4). The small size of the mobile phone screen and lack of a smartphone are each cited by 44 percent of consumers as reasons they do not use mobile banking. Less commonly cited reasons include a lack of trust in the technology to process transactions properly (35 percent) and the difficulty associated with using mobile banking (17 percent).

Consumers who expressed concerns about the security of mobile banking were asked to specify what aspect was of greatest concern. Some reported fears of data interception (25 percent), phone "hacking" (12 percent), and lost or stolen phones (8 percent). Other consumers' areas of greatest concern were someone using their phone without permission to access their account (5 percent), companies misusing personal information (3 percent), and malware or viruses being installed on their phone (2 percent). However, the most common response was that they were concerned with all of those security risks occurring (45 percent).

When consumers who don't use mobile banking were asked what mobile banking activities they would be interested in performing if their concerns were addressed, their responses largely mirrored those of current users. Checking financial account balances or recent transactions was the most commonly cited (39 percent), followed by receiving text message alerts from their bank (29 percent), transferring money between accounts (27 percent), depositing checks electronically (26 percent), and making bill payments (25 percent). However, 51 percent of those who do not use mobile banking indicated that they had absolutely no interest in performing any mobile banking activities.

## Mobile Payments

The Federal Reserve survey defined mobile payments as "purchases, bill payments, charitable donations, payments to another person, or any other payments made using a mobile phone. You can do this either by accessing a web page through the web browser on your mobile device, by sending a text message (SMS), or by using a downloadable app on your mobile device. The amount of the payment may be applied to your phone bill (for example, Red Cross text message donation), charged to your credit card, deducted from a prepaid account, or withdrawn directly from your bank account."

The use of mobile payments continues to be less common than the use of mobile banking. Based on the responses to the broad definition of mobile payments listed above, only 17 percent of mobile phone users report that they made a mobile payment in the past 12 months, up slightly from 15 percent in 2012, and 12 percent in 2011. However, rates of mobile

## Box 3. Mobile Wallets and Consumers

In 2013, mobile point-of-sale (POS) purchases tripled in usage from the previous year, with 9 percent of all adults in the U.S. and 17 percent of all smartphone users having made such a payment in the past 12 months, according to the Board's survey. Many of these mobile POS purchases were executed using a "mobile wallet" that stores payment card information.

### What Is a Mobile Wallet?

Although no consensus definition of what constitutes a mobile wallet yet exists, it can be thought of in many regards as similar to a physical wallet. Payment cards from the mobile wallet can be used to complete a purchase at a store. However, rather than presenting a physical card to the retailer, a mobile wallet presents the payment card information electronically through a mobile phone. Mobile wallets also commonly store loyalty cards, rewards programs, discounts, and coupons, and automatically present them when using the phone to make payment.

Using a mobile wallet may appeal to some consumers because it can replace the need to physically carry different payment or membership cards. Accessing discounts and coupons that are exclusively offered to mobile wallet users may be another attraction, as is the potential to streamline the checkout process.

### Considerations for Using Mobile Wallets

As mobile wallets and mobile POS payments are relatively new technologies, consumers appear to have questions and concerns about the security of these services, as reflected in the Board's survey. Consumers should apply the same cautions to the use of mobile wallets as they do to any financial activities they perform on their smartphones or computers. Basic security steps people can take to protect themselves include password-protecting their phone, using security (antivirus, anti-spyware) software, avoiding opening e-mails or texts from unknown senders, and being mindful of the encryption and authenticity of any wireless networks they use.

Payments made using a mobile device that seem quite similar to consumers may, in fact, carry with them fairly different consumer protections depending on how they are funded. When the payment is funded using a credit card, for instance, the consumer's liability under federal law for unauthorized transactions is limited to $50. If a mobile wallet payment is made using a debit card, on the other hand, the consumer's liability for unauthorized transactions under federal law can vary depending on when the consumer notifies the financial institution and whether the unauthorized transaction involves the loss or theft of an access device. In contrast to debit or credit card payments, if the mobile wallet payment is charged to a pre-funded account, gift-card, or general purpose reloadable card, the protections are different still. Federal law provides no limit on consumer liability, except for payroll cards and electronic benefit cards containing certain government benefits. (While not required by law, some companies who issue debit cards or pre-paid cards offer consumers additional protection in their usage contracts.) Because of this variation, the protections against fraudulent or unauthorized transactions that cover consumers when using mobile devices to make payments differ depending on the method of payment ultimately used to fund the particular transaction.

payments usage are much higher when asked about each of these activities individually.

Among all smartphone owners, 30 percent made an online purchase using their phone in the past 12 months, 24 percent paid bills online, 17 percent paid for a product or service at a store, 15 percent transferred money directly to another person's financial account, and 12 percent received money from another person. Far less common was making a payment by text message (5 percent) or paying for parking, a taxi, or public transit (4 percent).

Focusing only on those who reported that they had made a mobile payment in the past 12 months, the most common mobile payment activity is paying bills (66 percent), followed by making online purchases (59 percent). The next most-common activities reported by mobile payment users—at 39 percent each—are paying for a product or service at a store and transferring money directly to another person. Almost 30 percent received money from another person using a mobile phone, while 13 percent made a payment by text message, and 9 percent paid for parking, a taxi, or public transit using their mobile phone.

Mobile payments are most commonly funded using debit cards (54 percent), credit cards (42 percent), directly from a bank account (40 percent), or from an account at a non-financial institution such as PayPal (9 percent). Only 5 percent of mobile payment users report that they used a general purpose prepaid card, and 4 percent had the charge directly applied to their

phone bill. The type of payment used to fund the mobile purchase has implications for the consumer protections the payer is afforded on the transaction, as different payment sources are covered by different consumer regulations and regulatory agencies.[5] (See box 3 for a discussion of mobile wallets and consumer protections.)

Overall, using mobile phones to make retail purchases has become much more commonplace. In 2013, 17 percent of all smartphone users made POS purchases with their mobile phone in the past 12 months. This represents a near tripling in the incidence of POS mobile payments among smartphone users from the 6 percent rate found in the 2012 survey. However, among those who have made a POS mobile payment in the past 12 months, only 43 percent had done so in the preceding month, and less than a quarter had made more than two such payments.

Scanning a QR code displayed on a mobile phone is the most common method that consumers use to make mobile payments at the point-of-sale, and it is used by 39 percent of those who made mobile POS payments. This is followed by 18 percent who made a payment using a mobile app that doesn't require scanning a barcode or tapping their device, and 14 percent of mobile payment users that made a payment by waving or tapping their mobile phone at the POS terminal. Thus, despite the increasing availability of phones equipped with near field communication (NFC) chips, it appears that non-NFC-based mobile payment services currently dominate the market.[6] This prevalence of non-NFC payment services is highlighted by the reported usage of several different services by those making mobile POS payments, with 14 percent having used Starbucks mobile payments in the past 12 months, 11 percent having used PayPal In-Store Payment, 7 percent having used Google Wallet, 5 percent having used Square Wallet, and 1 percent or less having used Isis, Tabbedout, or Dwolla.[7]

**Table 4. Use of mobile payments in the past 12 months by age**

Percent, except as noted

| Age categories | No | Yes | Total |
|---|---|---|---|
| 18–29 | 18.9 | 35.7 | 21.8 |
| 30–44 | 25.3 | 32.6 | 26.6 |
| 45–59 | 28.6 | 21.4 | 27.4 |
| 60+ | 27.2 | 10.4 | 24.3 |
| Number of respondents | 1,956 | 372 | 2,328 |

There continues to be only modest interest in the use of mobile phones to pay for purchases in a store among the broader mobile phone user population. Less than a quarter of all mobile phone users say that they already make POS mobile payments (2 percent), or are "likely" (15 percent) or "very likely" (6 percent) to use mobile POS payments if offered the opportunity. Almost half of mobile phone users (44 percent) say that they are "very unlikely" to use mobile POS payments.

Mobile payments broadly defined are disproportionately used by younger consumers (table 4). Individuals ages 18 to 29 account for 36 percent of mobile payment users, relative to 22 percent of all mobile phone users, while individuals ages 30 to 44 account for a further 33 percent of mobile payment users, relative to 27 percent of all mobile phone users. Those ages 45 to 59 account for 27 percent of all mobile phone users, but only 21 percent of mobile payment users. Those ages 60 and above make up another 24 percent of mobile phone users, but account for only 10 percent of mobile payment users.

Conditional on owning a mobile phone, minorities are disproportionally likely to adopt mobile payments. Non-Hispanic whites account for 49 percent of mobile payment users but make up 68 percent of mobile phone users (table 5). Hispanics account for 22 percent of all mobile payment users relative to 14 percent of all mobile phone users, and 21 percent of mobile payment users are non-Hispanic black compared to their 11 percent share of the mobile phone user population.

[5] For further details on how existing consumer regulations relate to the various methods for making mobile payments, see Stephanie Martin (2012), "Statement before the Committee on Financial Services Subcommittee on Financial Institutions and Consumer Credit U.S. House of Representatives" (Washington: Federal Reserve Board, June), www.federalreserve.gov/newsevents/testimony/martin20120629a.pdf.

[6] NFC (near field communication) is wireless communication technology that allows data to be exchanged between devices that are a few centimeters apart. NFC-enabled mobile phones incorporate a smart chip (called a secure element) that allows the phone to store the payment application and consumer account information securely and use the information as a virtual payment card.

[7] Isis was only available in Austin, Texas, and Salt Lake City, Utah, until launching nationally in November 2013.

**Table 5. Use of mobile payments in the past 12 months by race**
Percent, except as noted

| Race/ethnicity | No | Yes | Total |
|---|---|---|---|
| White, non-Hispanic | 72.1 | 49 | 68.1 |
| Black, non-Hispanic | 8.2 | 21.2 | 10.5 |
| Other, non-Hispanic | 5.8 | 5.3 | 5.7 |
| Hispanic | 12.8 | 22.1 | 14.4 |
| 2+ races, non-Hispanic | 1.1 | 2.4 | 1.3 |
| **Number of respondents** | **1,956** | **372** | **2,328** |

As with mobile banking, there is no clear correlation between mobile payments usage and income or education level among those who own a mobile phone.

Of current mobile payment users, 18 percent started using mobile payments in the prior six months, while 20 percent began using mobile payments six to twelve months prior to the survey. A further 18 percent report that they started using mobile payments in the prior one to two years, and 15 percent report that they began using mobile payments more than two years prior to the survey. A significant number of users are unable to recall when they began using mobile payments (25 percent).

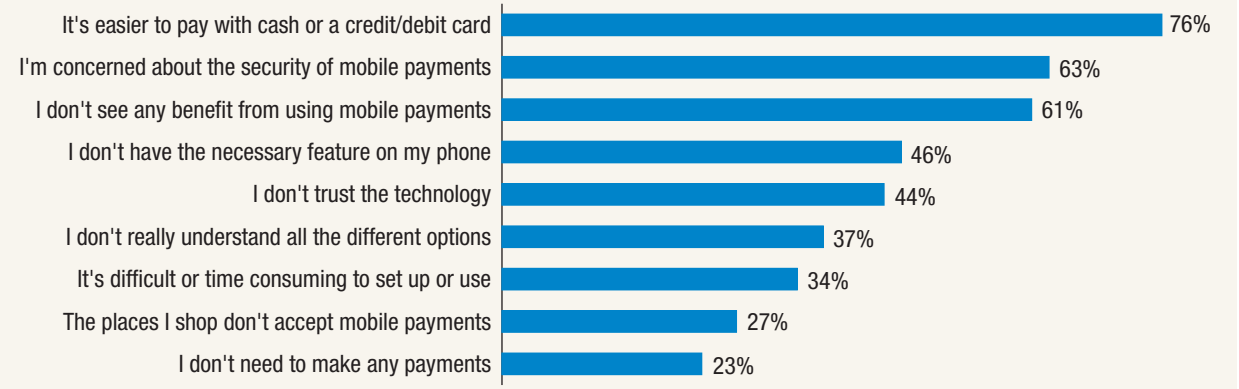
Similar to the findings for mobile banking usage, convenience is the main reason most people started using mobile payments (37 percent). Getting a smartphone is also a major driver of mobile payment adoption (26 percent). The ability to make mobile payments becoming available to them was cited by 14 percent of users, while 7 percent indicated that they began using mobile payments because they became comfortable with the security.

Among those who do not use mobile payments, the main reason they have not adopted the technology is that they see little value or benefit from using mobile payments: 76 percent report that it is easier to pay with other methods, and 61 percent report that they do not see any benefit from using mobile payments. Concerns about the security of mobile payments are also a significant reason why people do not use them (63 percent), as is a lack of trust in the technology (44 percent). Not having the necessary feature on their phone was cited by 46 percent of consumers, while 37 percent said that they don't understand mobile payments, and 27 percent said the places they shop don't accept mobile payments (figure 5).

For those worried about the security of mobile payments, the aspects of concern largely mirror those reported by those concerned about the security of mobile banking. The main fears associated with mobile payments include the interception of payment information (22 percent), phone "hacking" (10 percent), lost or stolen phones (9 percent), misuse of personal information (4 percent), and malware or viruses installed on their phone (2 percent). As with mobile banking, the most common response was that they were concerned with all of those security risks occurring (52 percent).

When consumers who do not use mobile payments were asked to indicate all the mobile payment activities they would have an interest in using if their concerns about the technology were addressed, 62 percent indicated that they simply had no interest in using mobile payments even if their concerns were addressed. Of the potential activities of interest by others, receiving/using coupons on their phone was the most commonly cited (22 percent), followed by

**Figure 5. What are the main reasons you have decided not to use mobile payments?**



paying bills online using their phone (21 percent), receiving specials and discount offers (20 percent), and making online purchases (17 percent). Using a mobile phone at a cash register to make POS purchases was of interest to 16 percent, while 13 percent were interested in using their phone as a virtual wallet. Consumers also expressed some interest in accepting payments from another person (12 percent) as well as using mobile payments to transfer money to another person in the United States (11 percent) and to friends or relatives in other countries (4 percent).

All mobile phone users were asked about the likelihood that they would use their mobile phone as a means of payment at the POS if the service were available to them. Among mobile phone users, 6 percent would be "very likely" to use this type of mobile payment and 16 percent are "likely" to use it. However, the vast majority of consumers indicated that they would be "unlikely" (30 percent) or "very unlikely" (44 percent) to use their mobile phone to make purchases in a store.

Consumers appear more inclined to believe that mobile contactless payments will become a major form of payment than that they themselves would adopt such technology. When consumers were asked whether they thought that mobile contactless payments will become a major form of payment in the next five years, more than half of consumers reported that it is "very likely" (17 percent) or "likely" (40 percent). This is an increase from the 15 percent who responded "very likely" and 35 percent who responded "likely" in November 2012.

When those with a smartphone were asked if they plan to use their mobile phone to make a payment in a store in the next 12 months, 2 percent said they "definitely will" and 15 percent said they "probably will." The majority of smartphone users say that they "probably will not" (44 percent) or "definitely will not" (38 percent) use their phone to make an in-store payment.

## Mobile Security

One of the main reservations consumers express about adopting mobile banking and mobile payments is concern about the security of the technology. Despite the increased prevalence of mobile banking and mobile payments, a significant share of consumers believe the technology to be unsafe or don't know how safe it is for protecting their personal financial information. Among all mobile phone users, 25 percent believe that people's personal information is "somewhat unsafe" when using mobile banking and 18 percent believe that it is "very unsafe." A further 17 percent of mobile phone users simply don't know how safe it is to use mobile banking. Only 6 percent said it was "very safe" to use mobile banking (table 6).

**Table 6. How safe do you believe people's personal information is when they use mobile banking? (2012 and 2013 surveys)**
Percent, except as noted

| | 2012 | 2013 |
|---|---|---|
| Very safe | 9.2 | 6 |
| Somewhat safe | 24.9 | 32.1 |
| Somewhat unsafe | 14.5 | 25.5 |
| Very unsafe | 11.5 | 18 |
| Don't know | 38.5 | 17.2 |
| Refused to answer | 1.4 | 1.3 |
| **Number of respondents** | **2,291** | **2,341** |

Note: The wording of the questions differed slightly from the 2012 to 2013 survey. The previous wording of the question was "How would you currently rate the overall security of mobile banking for protecting your personal information?"

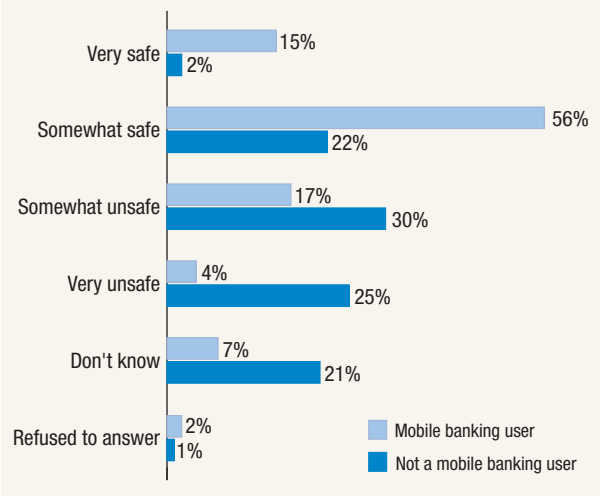
When mobile phone users were asked how safe they believe people's personal financial information is when they use a mobile phone to pay for a purchase at a store, 27 percent said it was "somewhat unsafe" and 19 percent said it was "very unsafe." As with mobile banking, there exists significant uncertainty about the security of POS mobile payments, with 18 percent saying they "don't know" whether people's personal financial information is safe when making such a payment. The share of consumers saying that POS mobile payments are "very safe" was only 4 percent, while 30 percent say that it is "somewhat safe" (table 7).

**Table 7. How safe do you believe people's personal information is when they use a mobile phone to pay for a purchase at a store?**
Percent, except as noted

| | |
|---|---|
| Very safe | 4.3 |
| Somewhat safe | 29.9 |
| Somewhat unsafe | 26.5 |
| Very unsafe | 19.3 |
| Don't know | 18.3 |
| Refused to answer | 1.7 |
| **Number of respondents** | **2,341** |

There is a dichotomy in the perception of the security of people's personal financial information when using mobile banking. Among mobile phone owners who do not use mobile banking, only 2 percent rate mobile banking as "very safe," while 22 percent rate it "somewhat safe." One-fifth of non-users indicate that they "don't know" how safe it is to use mobile banking. Mobile banking users, however, rate mobile banking as "very safe" (15 percent) or "somewhat safe" (56 percent) in terms of protecting their personal information. Only 7 percent of mobile banking users indicate that they "don't know" how safe mobile banking is at protecting their personal information (figure 6).

**Figure 6. How safe do you believe people's personal information is when they use mobile banking? (By use of mobile banking)**



# How Mobile Phones Affect Shopping Behavior

## Interest in Mobile Services

Mobile phone users expressed significant interest in expanding the range of functions they could perform with their phones. Consumers were asked to select the types of activities they would be interested in performing with their mobile phones, assuming the function were made available to them (figure 7). Consumers appear to be open to greater use of their phones as a tool to get the best prices in their shopping activities: 34 percent express an interest in using their phones to compare prices while shopping; 25 percent indicate that they would like to receive and manage discount offers and coupons; and 19 percent would like to receive location-based offers. They also expressed an interest in using their phones to store gift cards or track loyalty/reward points (15 percent) and to track their personal finances (28 percent).

Although consumers might be willing to use their phones to improve shopping experiences, many are resistant to sharing their current location and personal information with merchants. Consumers were asked about their level of agreement with the statement "I am willing to allow my mobile phone to provide my location to companies so that they can offer me discounts, promotions, or services based on where I am." There appears to be significant discomfort with providing one's location to companies, as only 5 percent indicated that they "strongly agree," while 31 percent indicated that they "agree." In contrast, 33 percent indicated that they "disagree" and 29 percent "strongly disagree."

Consumers report being even less willing to allow their phones to be used to provide companies with their personal information in order to receive targeted discounts, promotions, and offers. When asked about their level of agreement with the statement "I am willing to allow my mobile phone to provide personal information such as my sex, age, friends, and shopping history to companies so that they can offer me discounts, promotions, or services based on this information," 41 percent strongly disagreed and 38 percent disagreed.

## In-Store Product Research and Price Comparison

Consumers are increasingly using their mobile phones to comparison shop and obtain product information while in retail stores. The prevalence of smartphones with barcode scanning software and Internet access has altered consumer behavior in the retail environment. With this technology, consumers can compare prices across retailers while in a store or

**Figure 7. Would you or do you already like to use your mobile phone for any of the following purposes, assuming they were made available to you?**

online, or locate an item that is out of stock. Retailers have coined the term "showrooming" to describe the practice of consumers going to retail stores to examine products and then purchasing them online.

Among smartphone owners, 44 percent say that they have used their mobile phone to comparison shop on the Internet while at a retail store, and 31 percent have used a barcode scanning application for price comparisons. Consumers are also using their smartphones to obtain product information: 33 percent have scanned a QR code in a newspaper, magazine, or billboard advertisement to obtain information about a product, and 42 percent have used their phone to get product reviews or product information while shopping at a retail store.

Many consumers who use their smartphone to comparison-shop report that they altered their decisions as a result: 68 percent who have comparison-shopped in a store report that they changed where they made a purchase after comparing prices, and 74 percent report that they changed what they purchased as a result of reading product reviews on their smartphone while at a retail store.

# Use of Mobile Phones in Financial Decisionmaking

As the use of mobile banking increases, mobile phones are increasingly becoming tools for managing personal finances and tracking spending. For example, 69 percent of mobile banking users report using their mobile phone to check account balances or available credit before making a large purchase in the past 12 months. Of those who checked their balance or available credit, 50 percent report that they decided not to buy an item because of the amount of money in their bank account or the amount of available credit.

Some smartphone users actively manage their finances on their mobile phones: 24 percent report using their phone to track purchases and expenses. Among those tracking their finances on their mobile phones, 43 percent use a service provided by their bank, 34 percent use the web browser to access a website, 31 percent use a mobile application for expense tracking, 15 percent take notes in a notepad or word processor, and 7 percent use a spreadsheet.

Because many consumers have near-constant access to their mobile phones, these devices have the potential to provide "just-in-time information" that can influence consumer financial behavior and help them to make different, and perhaps smarter, financial decisions. The actions consumers take in response to the receipt of text message or e-mail notices from their financial institutions demonstrate some of the

**Figure 8. What kind of text alerts do you receive?**

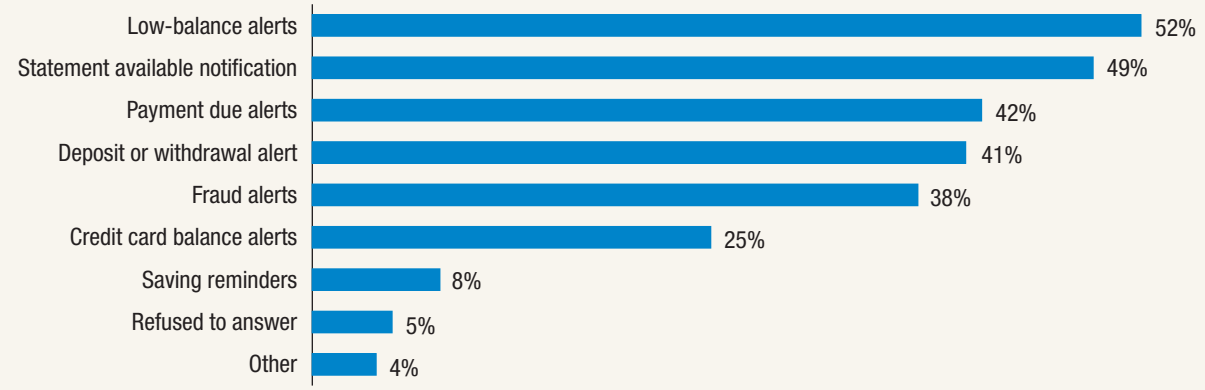
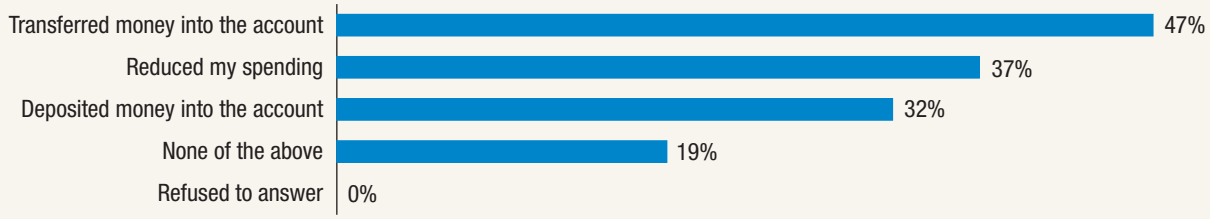



**Figure 9. Thinking of the most recent low-balance alert you received, which of the following actions did you take after receiving the alert?**



potential effects of this technology for encouraging consumers to engage in different financial behaviors that may prove to have beneficial outcomes.

More than half (53 percent) of people who use mobile banking receive e-mail alerts from their bank and 43 percent receive text message alerts. Among those receiving alerts, 52 percent receive "low-balance alerts," 49 percent receive "statement available notifications," 42 percent receive "payment due alerts," 41 percent receive "deposit or withdrawal alerts," 38 percent receive "fraud alerts," and 25 percent receive "credit card balance alerts" (figure 8). Consumers who received a low-balance alert from their bank nearly all report taking some action in response: transferring money into the account with the low-balance (47 percent), reducing their spending (37 percent), or depositing additional money into the account (32 percent) (figure 9). Only 19 percent report taking no action in response to receiving a low-balance alert.

# Conclusion

As smartphones become more common and more versatile, they can play an increasing role in the interactions between consumers and financial service providers, retailers, and other businesses. The constant presence of mobile phones in consumers' lives also makes them a potentially useful tool for the delivery of just-in-time financial information or as an aid in decisionmaking. Given the prevalence of mobile phones—particularly smartphones—among minorities, low-income individuals, and younger generations, mobile technology has the potential to empower consumers and expand access to financial services for underserved populations. However, consumers will need to understand and weigh the benefits and potential risks to their security and privacy presented by the use of this new technology.

The use of mobile banking has increased substantially in the past year and appears likely to continue to increase as more consumers use smartphones or recognize the convenience of this service, and as more financial institutions offer mobile banking. And while the use of mobile payments, broadly defined, increased only slightly from 2012 to 2013, the use of mobile phones to make payments at the POS has increased substantially in each of the past two years. Indeed, nearly one in five smartphone owners report making a POS payment with their mobile phone in the past 12 months, and a similar number indicate that they are likely to do so in the coming 12 months. In addition, more than a quarter of mobile phone users express some interest in using their phones to make payments at the POS. Thus, mobile payments appear likely to have substantial growth potential as more retailers and businesses are able to accept them at the POS.

The main factors limiting consumer adoption of mobile banking and payments are security concerns and the belief by some that these services fail to offer any real benefits to the user over existing methods for banking or making payments. In terms of the value proposition to consumers, the significant number of mobile users who reported an interest in using their phones to receive discounts, coupons, and promotions or to track rewards and loyalty points suggests that tying these services to a mobile payment service would increase the attractiveness of mobile phones as a means of payment.

# Appendix 1: Technical Appendix on Survey Methodology

In order to create a nationally representative probability-based sample, GfK's KnowledgePanel® has selected respondents based on both random digit dialing and address-based sampling (ABS). Since 2009, new respondents have been recruited using ABS. To recruit respondents, GfK (formerly Knowledge Networks) sends out mailings to a random selection of residential postal addresses. Out of 100 mailings, approximately 14 households contact GfK and express an interest in joining the panel. Of those who contact GfK, three-quarters complete the process and become members of the panel.[8] If the person contacted is interested in participating but does not have a computer or Internet access, GfK provides him or her with a laptop and Internet. Panel respondents are continuously lost to attrition and added to replenish the panel, so the recruitment rate and enrollment rate may vary over time.

For this survey, the number of KnowledgePanel® members who were invited to complete the survey, and the invitation response rates, are presented in table 1 (see main text). A total of 4,030 e-mail solicitations to participate in the survey were sent out to a random selection of KnowledgePanel respondents, and data collection was terminated when the quota of 2,600 individuals completed the survey fully (a "completion rate" yield of 65 percent). To enhance the completion rate, GfK sent e-mail reminders to non-responders on days three and six of the field period.

As with any survey method, probability-based Internet panel surveys are subject to potential survey error, such as non-coverage and non-response due to the panel recruitment methods and to panel attrition. In order to address these potential sources of error, a post-stratification adjustment is applied based on demographic distributions from the most recent (November 2011 for re-interview cases and October 2012 for the fresh sample) data from the Current Population Survey (CPS). The variables used include gender, age, race/ethnicity, education, census region, residence in a metropolitan area, and access to the Internet. The Panel Demographic Post-Stratification weight is applied prior to a probability proportional to size (PPS) selection of a study sample from KnowledgePanel. This weight is designed for sample selection purposes.

Once the sample has been selected and fielded, and all the study data are collected and made final, a post-stratification process is used to adjust for any survey non-response as well as any non-coverage or under- and over-sampling resulting from the study-specific sample design. Demographic and geographic distributions for the non-institutionalized, civilian population ages 18 and over from the most recent CPS are used as benchmarks in this adjustment.

Comparable distributions are calculated by using all completed cases from the field data. Using the base weight as the starting weight, this procedure adjusts the sample data back to the selected benchmark proportions. Through an iterative convergence process, the weighted sample data are optimally fitted to the marginal distributions.

After this final post-stratification adjustment, the distribution of the calculated weights are examined to identify and, if necessary, trim outliers at the extreme upper and lower tails of the weight distribution. The post-stratified and trimmed weights are then scaled to the sum of the total sample size of all eligible respondents.

There are several reasons that a probability-based Internet panel was selected as the method for this survey rather than an alternative survey method. The first reason is that these types of Internet surveys

[8] For further details on the KnowledgePanel sampling methodology and comparisons between KnowledgePanel and telephone surveys, see www.knowledgenetworks.com/accuracy/spring2010/disogra-spring10.html.

have been found to be representative of the population.[9] The second reason is that the ABS Internet panel allows the same respondents to be re-interviewed in subsequent surveys with relative ease, as they remain in the panel for several years. The third reason is that Internet panel surveys have numerous existing data points on respondents from previously administered surveys, including detailed demographic and economic information. This allows for the inclusion of additional information on respondents without increasing respondent burden. Lastly, collecting data through an ABS Internet panel survey is cost effective, and can be done relatively quickly.

[9] David S. Yeager, Jon A. Krosnick, LinChiat Chang, Harold S. Javitz, Matthew S. Levendusky, Alberto Simpser, and Rui Wang (2011) "Comparing the Accuracy of RDD Telephone Surveys and Internet Surveys Conducted with Probability and Non-Probability Samples," *Public Opinion Quarterly,* vol. 75(4), pp. 709–47.

# Appendix 2: Survey of Consumers' Financial Decisionmaking Using New Technologies—Questionnaire

Below is a reproduction of the survey instrument in its entirety. The bracketed text are programming instructions that (1) indicate whether or not a question is single choice [SP] or multiple choice [MP] and (2) represent any skip pattern used to reach that question and which questions should be grouped together on a page. The respondents only saw the questions and response options; they did not see the program code.

**[DISPLAY]**

The Federal Reserve Board is interested in learning more about how people manage their finances, shop, and make payments. We are also interested in how people interact with financial institutions, and how mobile phones and other technology facilitate these interactions. The information collected in this survey will be used for research, analysis, and policymaking. A dataset containing anonymized responses may also be released publicly on the Federal Reserve Board's website. We appreciate your participation in this survey.

To begin, we are going to ask a few questions about the types of financial products and services that you use.

## Banking Section

[SP]

1. Do you or does your spouse/partner currently have some type of bank or credit union account such as a checking, savings, or money market account?
    a. Yes
    b. No

[SP]

**[IF Q1 = B]**

2. Have you or your spouse/partner ever had some type of bank or credit union account such as a checking, savings, or money market account?
    a. Yes
    b. No

[SP]

**[IF Q1 = B;** shown on the same screen as Q2**]**

3. Please choose the **most important reason** why you don't have a checking, savings, or money market account from the following list:
   a. I wouldn't use an account enough to make it worthwhile
   b. I can't open an account due to ID, credit, or banking history problems
   c. I don't like dealing with or don't trust banks
   d. The account fees and service charges are too high or unpredictable
   e. Banks do not have convenient hours or locations
   f. Banks don't offer the products or services I need
   g. I cannot manage or balance an account
   h. I don't have enough money to keep in an account or meet a minimum balance
   i. I don't need or want an account
   j. Other (Please specify):**[txt]**_____

[SP]

4. A payday loan (also called a paycheck advance or deposit advance) is a small, short-term loan that is intended to cover your expenses until your next payday. Firms that offer these loans generally charge fees (for example, $15 or more) for every $100 borrowed. Have you used a payday loan, paycheck advance, or deposit advance service in the past 12 months?
   a. Yes
   b. No

**[NUMBER BOX, RANGE: 0-999, IF Q4= A]**

5. How many times in the last 12 months did you use payday loan, paycheck advance, or deposit advance services? In answering this question, please count it as a separate loan when you use a new loan to pay off an old loan.

   _____ time(s) in the past 12 months

**[IF Q4= A]**

**[GRID; SP ACROSS]**

**[SHOW THIS TEXT INSTEAD OF DEFAULT INSTRUCTIONS:** Please answer yes or no to each option**]**

PROGRAMMING NOTE: CODE "Yes" AS 1, "No" AS 0, AND REFUSED AS -1.

6. Was the money you received from your most recent payday loan or payday advance used for any of the following reasons?

| | 1<br>Yes | 0<br>No |
|---|---|---|
| a. Paying utility bills (phone, power, gas) | | |
| b. Paying rent or mortgage | | |
| c. Paying for an emergency expense, such as repairs to your home or car, or a medical bill | | |
| d. Deposited into a bank account to avoid overdraft charge(s) | | |
| e. Paying miscellaneous bills | | |
| f. Buying food, groceries, or other living expenses | | |
| g. Other (Please specify):[txt]_____ | | |

[SP, **IF Q4 = A; shown on the same screen as Q5**]

7. Thinking of the most recent time you took out a payday loan, what was the **main** reason for using a payday loan or payday advance service rather than a bank loan or credit car?
   a. The location of the payday lender was more convenient
   b. The payday loan was much quicker to get than a bank loan or credit card advance
   c. I thought it would be easier to get a payday loan than to qualify for a bank loan or credit card
   d. I didn't think banks made loans for small amounts of money
   e. It felt more comfortable to work with the payday lender than to use a bank
   f. I didn't want the loan to show up on my credit report
   g. I didn't think I would qualify for a bank loan or credit card
   h. Other (Please specify):**[txt]**_____

**[DISPLAY]**

A prepaid card is a card where funds are loaded or added to a card and then you access those funds with the card number or by swiping the card. It works like a debit card except that it is not connected to a traditional bank account. A prepaid card is NOT a credit card.

There are three kinds of prepaid cards you may have seen before:

1) General purpose prepaid cards are loaded with money and can be used to make payments in stores and online, much like a debit card. These cards usually have a Visa, MasterCard, or American Express logo on them. Examples include the Green Dot card, NetSpend card, or American Express Bluebird card.

**[SP]**

8a. Have you used a general purpose prepaid card in the past 12 months?
   a. Yes

b. No

**[DISPLAY; shown on the same screen as Q8a]**

2) Payroll cards are cards used by employers instead of a paycheck or direct deposit. These cards can be used to make purchases at many stores, and to make online payments and ATM withdrawals. They usually have a Visa, MasterCard, or American Express logo on them.

**[SP; shown on the same screen as Q8a]**

8b. Have you used a payroll card in the past 12 months?

a. Yes

b. No

**[DISPLAY; shown on the same screen as Q8a]**

3) Government issued prepaid cards are used by some people to receive their government benefits. Examples of the types of benefits that may be delivered this way are unemployment, food assistance (EBT), and Social Security (Direct Express). These cards can be used to make purchases or payments, but may have restrictions on what you can buy and where you can use them.

**[SP; shown on the same screen as Q8a]**

8c. Have you used agovernment issued prepaid card in the past 12 months?

a. Yes

b. No

**[PROGRAM INSTRUCTION]**

**DEFINITIONS. MAKE ALL INSTANCES FOR general purpose prepaid card, payroll card, and government card IN THE SURVEY CLICKABLE. DISPLAY A CORRESPONDING DEFINITION. Let the "clickable" text as a simple popup window that pops up in a smaller separate window every time R click on the phrase.**

General purpose prepaid card. General purpose prepaid cards are loaded with money and can be used to make payments in stores and online, much like a debit card. These cards usually have a Visa, MasterCard, or American Express logo on them. Examples include the Green Dot card, NetSpend card, or American Express Bluebird card.

Payroll card. Payroll cards are cards used by employers instead of a paycheck or direct deposit. These cards can be used to make purchases at many stores, and to make online payments and ATM withdrawals. They usually have a Visa, MasterCard, or American Express logo on them.

Government card. Government issued prepaid cards are used by some people to receive their government benefits. Examples of the types of benefits that may be delivered this way are unemployment, food assistance (EBT), and Social Security (Direct Express). These cards can be used to make purchases

or payments, but may have restrictions on what you can buy and where you can use them.

[SP, **IF Q8a=A OR Q8b=A**]

9. Some general purpose prepaid cards and payroll cards can be reloaded with extra money. Are any of the general purpose prepaid cards or payroll cards you have used reloadable?
   a. Yes
   b. No
   c. Don't know

[SP, **IF Q9 = A**]

10. In the past month, did you or anybody else load money to your prepaid card(s)?
   a. Yes
   b. No

[GRID; SP ACROSS]

**[SHOW THIS TEXT INSTEAD OF DEFAULT INSTRUCTIONS:** Please answer yes or no to each option**]**

11. Have you used each of the following financial products or services in the past 12 months?

| | 1<br>Yes | 0<br>No |
|---|---|---|
| a. Debit card or check card | | |
| b. Paper check | | |
| c. Major credit card (VISA, MasterCard, American Express, Discover) | | |
| d. Store-branded credit card good only at the store that issued the card | | |
| e. Auto title loan | | |
| f. Check cashing services | | |
| g. Money order | | |
| h. Pawn shop loan (do not include permanent sales to a pawnshop) | | |

**[IF Q1 = A; DISPLAY]**

In this section we would like to ask you about how you interact with banks or credit unions.

[SP, **IF Q1 = A**]

12. Have you spoken with **a teller or a bank employee** at a bank branch in the past 12 months?
   a. Yes
   b. No

[SP, **IF Q1 = A; shown on the same screen as Q12**]

13. Have you used an ATM for any banking transactions in the past 12 months?
    a. Yes
    b. No

[SP, **IF Q1 = A; shown on the same screen as Q12**]

14. **Telephone banking** is when you access your account by calling a phone number that your bank has provided. You interact with the system using either voice commands, your phone's numeric keypad, or speaking with a live customer service representative. It does not include accessing your bank using the Internet or apps on your mobile phone

    Have you used telephone banking in the past 12 months, either with a landline phone or your mobile phone?
    a. Yes
    b. No

[IF Q1 = A; **NUMBER BOXES; RANGE: 1-3; Unique values**]

15. What are the three main ways you (or your spouse/partner) interact with your bank or credit union when you use your accounts? Use number 1 for most often, 2 for 2nd most often, 3 for 3rd most often used. (You can stop numbering below if all the ways you interact with your bank or credit union are covered in less than three responses).
    a. ATM/Cash machine
    b. A teller in person at a branch
    c. Mail
    d. Phone – talking
    e. Phone – using touchtone service or voice recognition
    f. Over the Internet using a computer/tablet
    g. Mobile phone app, mobile web browser, or SMS/text message
    h. Family member, friend, or neighbor does the banking for me
    i. Other (please specify):**[TXT]**_____

**[DISPLAY]**

In this section we'll ask a few questions about your use of the Internet. Right now we are just interested in your use of the Internet on a computer (desktop, laptop, or tablet). Later on we will ask about use of the Internet on mobile phones.

[SP]

16. Do you currently have regular access to the Internet, either at home or outside your home (i.e., school, work, public library, etc.) that is not provided by GfK, formerly Knowledge Networks?
    a. Yes
    b. No

[SP, **IF Q16 = A**]

17. **Online banking** involves checking your account balance and recent transactions, transferring money, paying bills, or conducting other related transactions with your bank or credit union using the Internet.

    Have you used online banking on a desktop, laptop, or tablet (e.g., iPad) computer in the past 12 months?

    a. Yes
    b. No

## Screener Question on Mobile Phone Usage

**[DISPLAY; SHOW ON SAME SCREEN AS Q18]**

In this section we would like to ask you about your use of mobile phones (cell phones).

**[SP, PROMPT, TERMINATE IF SKIPPED]**

18. Do you own or have regular access to a mobile phone (cell phone)?

    a. Yes ◗ **[MOBILE = "YES"]**
    b. No ◗ **[MOBILE = "NO"]**

DOV: MOBILE

1: "YES"

2: "NO"

[SP]

**[MOBILE = "YES"]**

19. A **smartphone** is a mobile phone with features that may enable it to access the web, send e-mails, download apps, and interact with computers. Smartphones include the iPhone, BlackBerry, as well as Android and Windows Mobile-powered devices.

    Is your mobile phone a smartphone?

    a. Yes
    b. No

[SP]

**[IF Q19 = A; shown on the same screen as Q21]**

20. Which type of smartphone do you have?

    a. Android
    b. BlackBberry

c. iPhone
d. Windows Mobile
e. Other
f. Don't know

[SP]

**[IF Q19 = A; shown on the same screen as Q20]**

[SP]

21. Do you password protect your smartphone? Please include using a PIN, drawing a pattern, facial recognition, and other methods of securing your phone as password protection.
    a. Yes
    b. No

## Mobile Banking Users

**[MOBILE = "YES" AND Q1 =A]**

**[DISPLAY; SHOW ON THE SAME SCREEN AS Q22 and Q23]**

**Mobile banking** uses a mobile phone to access your bank or credit union account. This can be done either by accessing your bank or credit union's web page through the web browser on your mobile phone, via text messaging, or by using an app downloaded to your mobile phone.

[SP, **MOBILE = "YES" AND Q1 =A; shown on same screen as Q22**]

22. Does your bank or credit union offer mobile banking?
    a. Yes
    b. No
    c. Don't know

[SP, **MOBILE = "YES" AND Q1 =A; shown on same screen as Q22**]

23. Have you used mobile banking in the past 12 months?
    a. Yes ◗ **[MOBILEBANK = "YES"]**
    b. No ◗ **[MOBILEBANK = "NO"]**

**DOV: MOBILEBANK**

**1: "YES"**

**2: "NO"**

[SP]

**[IF MOBILE = "NO"]**

24. Do you plan to use mobile banking in the next 12 months?
    a. Definitely will use
    b. Probably will use
    c. Probably will not use
    d. Definitely will not use

[SP]

**[IF Q24 = C OR Q24 = D]**

25. Do you think you will ever use mobile banking?
    a. Definitely will use
    b. Probably will use
    c. Probably will not use
    d. Definitely will not use

**[IF MOBILEBANK = "Yes"]**

[GRID; SP ACROSS]

**[SHOW THIS TEXT INSTEAD OF DEFAULT INSTRUCTIONS:** Please answer yes or no to each option**]**

26. Using your mobile phone, have you done any of the following in the past 12 months?

| | 1<br>Yes | 0<br>No |
|---|---|---|
| a. Downloaded your bank's mobile banking app on your mobile phone | | |
| b. Checked an account balance or checked recent transactions | | |
| c. Made a bill payment using your bank's online banking website or banking app | | |
| d. Received a text message alert from your bank | | |
| e. Transferred money between your bank accounts | | |
| f. Transferred money from your bank account to another person | | |
| g. Deposited a check to your account electronically using your mobile phone camera | | |
| h. Located the closest in-network ATM for your bank | | |
| i. Received an e-mail alert from your bank | | |

**IF MOBILEBANK= "Yes"; NUMBER BOX; RANGE: 0-999]**

27. In the past **month**, how many times have you personally used mobile banking? If none, enter "0." _____ times in the last month.

[SP]

**[IF MOBILEBANK= "Yes"; shown on the same screen as Q27]**

28. When did you start using mobile banking?

a. In the last 6 months
b. 6 to 12 months ago
c. 1 to 2 years ago
d. More than 2 years ago
e. I don't remember

[SP]

**[IF MOBILEBANK= "Yes"]**

29. What was the **main** reason why you started using mobile banking when you did?
    a. I got a smartphone
    b. My bank started offering the service
    c. There is no bank branch or ATM near my home or work
    d. I became comfortable with the security of mobile banking
    e. I liked the convenience of mobile banking
    f. To receive fraud alerts or check my account for fraudulent transactions
    g. Other (please specify):**[TXT]**_____

## Mobile Payments Users

**[MOBILE = "YES"]**

**[DISPLAY; SHOW ON SAME SCREEN AS Q30]**

**Mobile payments** are purchases, bill payments, charitable donations, payments to another person, or any other payments made using a mobile phone. You can do this either by accessing a web page through the web browser on your mobile device, by sending a text message (SMS), or by using a downloadable app on your mobile device. The amount of the payment may be applied to your phone bill (for example Red Cross text message donation), charged to your credit card, deducted from a prepaid account, or withdrawn directly from your bank account.

[SP, **MOBILE = "YES"**]

30. Have you made a mobile payment in the past 12 months?
    a. Yes ⏵ **[MOBILEPAY = "YES"]**
    b. No ⏵ **[MOBILEPAY = "NO"]**

**DOV: MOBILEPAY**

**1: "YES"**

**2: "NO"**

[MP]

**[IF Q19 = A]**

[GRID; SP ACROSS]

**[SHOW THIS TEXT INSTEAD OF DEFAULT INSTRUCTIONS:** Please answer yes or no to each option**]**

PROGRAMMING NOTE: CODE "Yes" AS 1, "No" AS 0, AND REFUSED AS -1.

31. Using your **mobile phone**, have you done each of the following in the past 12 months? (Please answer yes or no to each option).

| | 1<br>Yes | 0<br>No |
|---|---|---|
| a. Transferred money directly to another person's bank or other financial account (e.g., Paypal account) | | |
| b. Received money from another person's bank or other financial account (e.g., Paypal account) | | |
| c. Paid for a product or service at a store (including at gas pumps and for restaurant meals) | | |
| d. Paid for parking, a taxi, or public transit using an app | | |
| e. Paid bills online through a mobile web browser or app | | |
| f. Made a payment using a text message (including charitable donation by text message) | | |
| g. Used an app to receive loyalty or reward points | | |
| h. Made an online purchase (e.g., from amazon.com or bestbuy.com) | | |

[IF Q31C= "Yes"]

[GRID; SP ACROSS]

**[SHOW THIS TEXT INSTEAD OF DEFAULT INSTRUCTIONS:** Please answer yes or no to each option**]**

PROGRAMMING NOTE: CODE "Yes" AS 1, "No" AS 0, AND REFUSED AS -1.

32a. When you have used your mobile phone to pay for something **at a store**, have you used your phone in each of these different ways?

| | 1<br>Yes | 0<br>No |
|---|---|---|
| a. Waved or tapped my mobile phone at a cash register (e.g., Google Wallet) | | |
| b. Scanned a barcode or QR code using your mobile phone to make a mobile payment (e.g., Starbucks app) | | |
| c. Used a mobile app that doesn't require tapping the phone at a cash register or scanning a barcode to pay for a purchase (e.g., Square Wallet) | | |
| d. Other (Please specify): **[txt]**_____ | | |

[MP]

[IF MOBILEPAY = **"YES"**]

32b. When making mobile payments, which of the following payment methods do you use?

a. Credit card
b. Debit card
c. General purpose prepaid card
d. Bank account
e. Charge to your phone bill
f. Account at a non-financial institution (e.g., PayPal)
g. Other (please specify):**[TXT]**_____

[IF MOBILEPAY = **"yes"**; NUMBER BOX; RANGE: 0-99; shown on the same screen as Q32b]

33a. In the past **month**, how many times have you used your mobile phone to make any type of mobile payment? If none, please enter "0." _____times in the last month.

**[IF Q31c = "Yes"; NUMBER BOX; RANGE: 0-99]**

33b. In the past **month**, how many times have you used your mobile phone to pay for a product or service at a store? If none, please enter "0." _____times in the last month.

[SP]

**[IF MOBILEPAY= "Yes" and Q19= A]**

[GRID; SP ACROSS]

**[SHOW THIS TEXT INSTEAD OF DEFAULT INSTRUCTIONS:** Please answer yes or no to each option**]**

PROGRAMMING NOTE: CODE "Yes" AS 1, "No" AS 0, AND REFUSED AS -1.

34. Have you used each of the following mobile payment services in the past 12 months?

| | 1<br>Yes | 0<br>No |
|---|---|---|
| a. Starbucks mobile payments | | |
| b. Google Wallet | | |
| c. Square Wallet | | |
| d. PayPal In-Store Payment | | |
| e. LevelUp | | |
| f. Dwolla | | |
| g. Isis | | |
| h. Tabbedout | | |

[SP]

**[IF MOBILEPAY= "Yes"]**

35. When did you start using mobile payments?

a. In the last 6 months
b. 6 to 12 months ago
c. 1 to 2 years ago
d. More than 2 years ago
e. I don't remember

[SP]

**[IF MOBILEPAY= "Yes"; shown on the same screen as Q35]**

36. What was the **main** reason why you started using mobile payments when you did?

a. I got a smartphone
b. The ability to make mobile payments became available
c. I became comfortable with the security of mobile payments
d. I liked the convenience of mobile payments
e. A store I visit started offering the service
f. To take advantage of loyalty or rewards points and discounts
g. Other (please specify):**[TXT]**_____

## Non-Mobile Banking Users

**[IF MOBILEBANK="NO" and Q22 = A]**

[GRID; SP ACROSS]

**[SHOW THIS TEXT INSTEAD OF DEFAULT INSTRUCTIONS:** Please answer yes or no to each option**]**

PROGRAMMING NOTE: CODE "Yes" AS 1, "No" AS 0, AND REFUSED AS -1.

37. Please tell us if each of the reasons below are why you do not use mobile banking.

| | 1<br>Yes | 0<br>No |
|---|---|---|
| a. I'm concerned about the security of mobile banking | | |
| b. My banking needs are being met without mobile banking | | |
| c. I don't see any reason to use mobile banking | | |
| d. The mobile phone screen is too small | | |
| e. I don't have a smartphone | | |
| f. My bank charges a fee for using mobile banking | | |
| g. I don't do the banking in my household | | |
| h. I don't trust the technology | | |
| i. I don't have a bank account | | |
| j. It's too difficult to use mobile banking | | |

[SP]

**[IF Q37a = "Yes"]**

38. You mentioned that security was one of your top concerns with mobile banking; which one of the following security aspects are you **most** concerned with?
    a. My phone getting hacked
    b. Someone using my phone without permission to access my account
    c. Someone intercepting my data
    d. Losing my phone or having my phone stolen
    e. Malware or viruses being installed on my phone
    f. Companies misusing my personal information
    g. All of the above
    h. Other (please specify):**[TXT]**_____

[MP]

**[IF MOBILEBANK= "NO" and Q22=A]**

39. Assuming that the concerns that you have about using mobile banking were addressed, would you be interested in doing any of the following activities with your mobile phone?
    a. Download your bank's mobile banking app
    b. Check an account balance or check recent transactions
    c. Make bill payments
    d. Receive text message or e-mail alerts from your bank
    e. Deposit a check electronically using your mobile phone camera
    f. Transfer money between accounts
    g. None, I don't want to use mobile banking **[Exclusive]**

[MP]

**[IF Q22=B OR Q22=C]**

40. If your bank or credit union were to offer mobile banking, would you be interested in doing any of the following activities with your mobile phone?
    a. Download your bank's mobile banking app
    b. Check an account balance or check recent transactions
    c. Make bill payments
    d. Receive text message or e-mail alerts from your bank
    e. Deposit a check electronically using your mobile phone camera
    f. Transfer money between accounts
    g. None, I don't want to use mobile banking **[Exclusive]**

## Non-Mobile Payments Users

**[IF MOBILEPAY = "NO"]**

[**DISPLAY**; shown on the same page as Q41]

We would like to ask you about some of your reasons for not using mobile payments

**[IF MOBILEPAY = "NO" AND MOBILE = "YES"]**

[GRID; SP ACROSS]

**[SHOW THIS TEXT INSTEAD OF DEFAULT INSTRUCTIONS:** Please answer yes or no to each option**]**

PROGRAMMING NOTE: CODE "Yes" AS 1, "No" AS 0, AND REFUSED AS -1.

41. Please tell us if any of the reasons below are why you do not use mobile payments.

| | 1<br>Yes | 0<br>No |
|---|---|---|
| a. I'm concerned about the security of mobile payments | | |
| b. It's easier to pay with cash or a credit/debit card | | |
| c. I don't see any benefit from using mobile payments | | |
| d. The places I shop don't accept mobile payments | | |
| e. I don't have the necessary feature on my phone | | |
| f. I don't trust the technology | | |
| g. It's difficult or time consuming to set up or use mobile payments | | |
| h. I don't need to make any payments or someone else pays the bills | | |

[SP]

**[IF Q41a = "Yes"]**

42. You mentioned that security was one of your top concerns with mobile payments; which **one** of these security aspects are you most concerned with?

    a. My phone getting hacked
    b. Someone intercepting my payment information or other data
    c. Losing my phone or having my phone stolen
    d. Malware or viruses being installed on my phone
    e. Companies misusing my personal information
    f. All of the above
    g. Other (Please specify):**[txt]**_____

[MP]

**[IF MOBILEPAY = "NO"]**

43. Assuming that the reason(s) why you do not currently use mobile payments was addressed, would you be interested in doing any of the following activities with your mobile phone?

    a. Making payments to another person (e.g., friend, relative, babysitter)
    b. Using my mobile phone to pay for purchases at a store
    c. Paying bills online
    d. Transferring money to someone in another country
    e. Using your mobile phone as a "virtual wallet" to replace some cards in your wallet
    f. Buying goods or services online
    g. Accepting payments from another person
    h. Receiving/using coupons on your phone
    i. Receiving specials and discount offers
    j. None, I don't want to use mobile payments **[Exclusive]**

## Mobile Financial Services Security Questions

**[MOBILE = "YES" FOR QUESTIONS 44 THROUGH 45]**

[DISPLAY, SHOW IT ON THE SAME SCREEN WITH Q44 TO Q45]

Please rate your perception of the level of security for each of the following mobile financial services from Very Safe to Very Unsafe.

[SP; **shown on the same screen as Q45**]

44. How safe do you believe people's personal information is when they use mobile banking?

    a. Very safe
    b. Somewhat safe
    c. Somewhat unsafe
    d. Very unsafe
    e. Don't know

[SP; **shown on the same screen as Q44**]

45. How safe do you believe people's personal information is when they use a mobile phone to pay for a purchase at a store?

    a. Very safe
    b. Somewhat safe
    c. Somewhat unsafe
    d. Very unsafe
    e. Don't know

**[IF MOBILE = "YES"]**

**[MP]**

46. Would you or do you already like to use your mobile phone for any of the following purposes, assuming they were made available to you?
    a. Track your finances
    b. Organize, track, and store gift cards, memberships, loyalty, and reward points
    c. Compare prices when shopping
    d. To receive and manage discount offers and coupons
    e. To receive offers and promotions based on your location
    f. None of the above **[Exclusive]**

**[IF Q19=A]**

**[DISPLAY; shown on the same screen as Q47 and Q48]**

For the following two questions please rate how much you agree or disagree with the statement on a scale from strongly agree to strongly disagree.

**[IF Q19=A]**

**[SP; shown on the same screen as Q48**]

47. I am willing to allow my mobile phone to provide my location to companies I shop with regularly so that they can offer me discounts, promotions, or services based on where I am.
    a. Strongly agree
    b. Agree
    c. Disagree
    d. Strongly disagree

**[IF Q19=A]**

[SP**; shown on the same screen as Q47**]

48. I am willing to allow my mobile phone to provide personal information such as my sex, age, friends, and shopping history to companies I shop with regularly so that they can offer me targeted discounts, promotions, or services.
    a. Strongly agree
    b. Agree
    c. Disagree
    d. Strongly disagree

## Shopping Behavior Questions

[if mobile = "yes" and q19=a]

[DISPLAY; SHOW ON SANE SCREEN AS Q49]

In this section we would like to ask you about your shopping habits.

[SP]

**[IF MOBILE = "YES" AND Q19= A]**

49. Have you ever used your mobile phone to comparison shop over the Internet while at a retail store?
    a. Yes
    b. No

[SP]

**[IF MOBILE = "YES" AND Q19 = A; shown on the same screen as Q49]**

50. Have you ever used a barcode scanning app on your mobile phone while shopping at a retail store to find the best price for an item?
    a. Yes
    b. No

[SP]

**[IF MOBILE = "YES" AND Q19 = A; shown on the same screen as Q49]**

51. Have you ever scanned a QR code (similar to a barcode) in a retail store, newspaper, magazine, or billboard advertisement to obtain information about a product on your mobile phone?
    a. Yes
    b. No

[SP]

**[IF Q49 = A OR Q50 = A]**

52. Has using your mobile phone to compare prices while you were shopping at a retail store ever changed where you made your purchase?
    a. Yes
    b. No

[SP]

**[IF MOBILE = "YES" AND Q19 = A]**

53. Have you ever used your mobile phone to browse product reviews or get product information while shopping at a retail store? This could be done by, for example, googling the product on your mobile browser or scanning a QR code.

    a. Yes

    b. No

[SP]

**[IF Q53 = A]**

54. Has reading product reviews on your mobile phone while shopping at a retail store ever changed which item you ended up purchasing?

    a. Yes

    b. No

[SP]

**[IF MOBILEBANK = "YES" AND Q19 = A]**

55. In the past 12 months, have you used your mobile phone to check your account balance or available credit before making a large purchase?

    a. Yes

    b. No

[SP]

**[IF Q55 = A]**

56. Thinking of the most recent time that you checked your account balance or available credit before making a large purchase, did you decide not to buy that particular item because of the amount of money left in your account or the amount of your available credit?

    a. Yes

    b. No

### Payments Choice

**[DISPLAY]**

In this section we would like to ask about your thoughts on some of the new mobile financial service technologies.

[SP]

**[MOBILE = "YES"]**

57. **Mobile payments services** that let you use your phone to pay for purchases in stores instead of with a credit card, debit card, or cash are becoming available more and more. Usually these payments are made by "tapping" or waving

your mobile phone at the checkout instead of swiping a card, or by using a special app—sometimes involving scanning a barcode—on your mobile phone to make the payment.

If you were offered the option of using your mobile phone to pay for purchases in store, how likely would you be to use it?

a. I already use it
b. Very likely
c. Likely
d. Unlikely
e. Very unlikely

[SP]

**[MOBILE = "YES"; shown on the same screen as Q57]**

58. How likely do you think it is that mobile payments will become a major way people make payments in stores in the next five years?

a. Very likely
b. Likely
c. Unlikely
d. Very unlikely
e. Don't know

[SP]

**[IF Q31c="NO"]**

59. Do you plan to use your mobile phone to make a payment in a store in the next 12 months?

a. Definitely will use
b. Probably will use
c. Probably will not use
d. Definitely will not use

## Financial Management (Saving, Budgeting) Questions

**[SP, IF Q19=A]**

60. Do you use your mobile phone to track purchases and expenses?

a. Yes
b. No

[MP, **IF Q60= A]**

61. Do you use any of the following method(s) to track purchases and expenses on your mobile phone?

    a. A mobile app for expense tracking
    b. A service provided by my bank
    c. A spreadsheet
    d. Online (using the web browser to access a website)
    e. Take notes in a notepad or word processor

**[MP, IF Q26= D OR I]**

62. You previously mentioned that you receive either text message or e-mail alerts from your financial institution. Do you receive each of the following kinds of alerts?

    a. Low-balance alerts
    b. Payment due alerts
    c. Saving reminders
    d. Fraud alerts
    e. Credit card balance alerts
    f. Deposit or withdrawal alert
    g. Statement available notification
    h. Other (Please specify):**[txt]**_____

**[MP, IF Q62= A]**

63. Thinking of the most recent low-balance alert you received, which of the following actions did you take after receiving the alert?

    a. Transferred money into the account with the low balance from another account
    b. Deposited money into the account with the low balance
    c. Reduced my spending
    d. None of the above **[Exclusive]**

## Risk-Aversion Questions

**[ASKED OF EVERYONE]**

[SP]

64. Which **one** of the following statements comes closest to describing the amount of financial risk that you are willing to take when you save or make investments?

    a. Take substantial financial risks expecting to earn substantial returns
    b. Take above average financial risks expecting to earn above average returns

c. Take average financial risks expecting to earn average returns
d. Not willing to take any financial risks

# Appendix 3: Consumer Responses to Survey Questionnaire

**Table C.1. Do you or does your spouse/partner currently have some type of bank or credit union account such as a checking, savings, or money market account?**
**Percent, except as noted**

| Q1 | |
|---|---|
| Refused | 0.7 |
| Yes | 88.8 |
| No | 10.5 |
| **Number of respondents** | **2,657** |

**Table C.2. Have you or your spouse/partner ever had some type of bank or credit union account such as a checking, savings, or money market account?**
**Percent, except as noted**

| Q2 | |
|---|---|
| Refused | 3 |
| Yes | 34.2 |
| No | 62.8 |
| **Number of respondents** | **195** |

**Table C.3. Please choose the most important reason why you don't have a checking, savings, or money market account.**

| Q3 | |
|---|---|
| Refused | 15 |
| I wouldn't use an account enough to make it worthwhile | 7.6 |
| I can't open an account due to ID, credit, or banking history problems | 10.4 |
| I don't like dealing with or don't trust banks | 5.8 |
| The account fees and service charges are too high or unpredictable | 2.4 |
| Banks do not have convenient hours or locations | 0.8 |
| Banks don't offer the products or services I need | 0.9 |
| I cannot manage or balance an account | 1.5 |
| I don't have enough money to keep in an account or meet a minimum balance | 24.5 |
| I don't need or want an account | 24.2 |
| Other (Please specify): | 6.7 |
| **Number of respondents** | **195** |

**Table C.4. Have you used a payday loan, paycheck advance, or deposit advance service in the past 12 months?**
**Percent, except as noted**

| Q4 | |
|---|---|
| Refused | 0.7 |
| Yes | 6.1 |
| No | 93.2 |
| **Number of respondents** | **2,657** |

**Table C.5. How many times in the last 12 months did you use payday loan, paycheck advance, or deposit advance services?**
**Percent, except as noted**

| Q5 | |
|---|---|
| Mean value | 4.5 |
| Median value | 2 |
| **Number of respondents** | **110** |

**Table C.6. Was the money you received from your most recent payday loan used for any of the following:**
**Percent, except as noted**

| Q6 | |
|---|---|
| Paying utility bills (phone, power, gas) | 52.7 |
| Paying rent or mortgage | 37.9 |
| Paying for an emergency expense | 39.3 |
| Deposited into a bank account to avoid overdraft charge(s) | 24.1 |
| Paying miscellaneous bills | 36.5 |
| Buying food, groceries, or other living expenses | 51.1 |
| Other (Please specify): | 4.7 |
| **Number of respondents** | **117** |

### Table C.7. Thinking of the most recent time you took out a payday loan, what was the main reason for using a payday loan or payday advance service rather than a bank loan or credit card?

**Percent, except as noted**

| Q7 | |
|---|---|
| Refused | 3.9 |
| The location of the payday lender was more convenient | 19 |
| The payday loan was much quicker to get than a bank loan or credit card advance | 18.5 |
| I thought it would be easier to get a payday loan than to qualify for a bank loan or credit card | 14.8 |
| I didn't think banks made loans for small amounts of money | 10.5 |
| It felt more comfortable to work with the payday lender than to use a bank | 3.2 |
| I didn't want the loan to show up on my credit report | 0.1 |
| I didn't think I would qualify for a bank loan or credit card | 27.6 |
| Other (Please specify): | 2.4 |
| **Number of respondents** | **117** |

### Table C.8a. Have you used a general purpose prepaid card in the past 12 months?

**Percent, except as noted**

| Q8a | |
|---|---|
| Refused | 1.1 |
| Yes | 15.3 |
| No | 83.6 |
| **Number of respondents** | **2,657** |

### Table C.8b. Have you used a payroll card in the past 12 months?

**Percent, except as noted**

| Q8b | |
|---|---|
| Refused | 1.1 |
| Yes | 3 |
| No | 95.8 |
| **Number of respondents** | **2,657** |

### Table C.8c. Have you used a government issued prepaid card in the past 12 months?

**Percent, except as noted**

| Q8c | |
|---|---|
| Refused | 0.7 |
| Yes | 8.3 |
| No | 90.9 |
| **Number of respondents** | **2,657** |

### Table C.9. Are any of the general purpose cards or payroll cards you have used reloadable?

**Percent, except as noted**

| Q9 | |
|---|---|
| Refused | 0.9 |
| Yes | 38 |
| No | 42.3 |
| Don't know | 18.9 |
| **Number of respondents** | **420** |

### Table C.10. In the past month, did you or anybody else load money to your prepaid card(s)?

**Percent, except as noted**

| Q10 | |
|---|---|
| Refused | 0.2 |
| Yes | 49.7 |
| No | 50.1 |
| **Number of respondents** | **158** |

### Table C.11. Have you used each of the following financial products in the past 12 months?

**Percent, except as noted**

| Q11 | |
|---|---|
| Debit card or check card | 73.9 |
| Paper check | 76 |
| Major credit card | 69.3 |
| Store-branded credit card good only at the store that issued the card | 35.6 |
| Auto title loan | 6.9 |
| Check cashing services | 7.4 |
| Money order | 15.3 |
| Pawn shop loan | 2.5 |
| **Number of respondents** | **2,657** |

### Table C.12. Have you spoken with a teller or a bank employee at a bank branch in the past 12 months?

**Percent, except as noted**

| Q12 | |
|---|---|
| Refused | 0.6 |
| Yes | 82.3 |
| No | 17.2 |
| **Number of respondents** | **2,441** |

**Table C.13. Have you used an ATM for any banking transactions in the past 12 months?**
**Percent, except as noted**

| Q13 | |
|---|---|
| Refused | 0.5 |
| Yes | 75.4 |
| No | 24.2 |
| **Number of respondents** | **2,441** |

**Table C.14. Have you used telephone banking in the past 12 months, either with a land-line phone or your mobile phone?**
**Percent, except as noted**

| Q14 | |
|---|---|
| Refused | 0.5 |
| Yes | 33 |
| No | 66.6 |
| **Number of respondents** | **2,441** |

TABLE C.15 OMITTED

**Table C.16. Do you currently have regular access to the Internet, either at your home or outside your home that is not provided by Gfk?**
**Percent, except as noted**

| Q16 | |
|---|---|
| Refused | 1 |
| Yes | 89.2 |
| No | 9.9 |
| **Number of respondents** | **2,657** |

**Table C.17. Have you used online banking on a desktop, laptop, or tablet (e.g., iPad) computer in the past 12 months?**
**Percent, except as noted**

| Q17 | |
|---|---|
| Refused | 0.1 |
| Yes | 78 |
| No | 21.9 |
| **Number of respondents** | **2,268** |

**Table C.18. Do you own or have regular access to a mobile phone (cell phone)?**
**Percent, except as noted**

| Q18 | |
|---|---|
| Yes | 87.2 |
| No | 12.8 |
| **Number of respondents** | **2,657** |

**Table C.19. Is your mobile phone a smartphone?**
**Percent, except as noted**

| Q19 | |
|---|---|
| Refused | 0.7 |
| Yes | 61.2 |
| No | 38.1 |
| **Number of respondents** | **2,341** |

**Table C.20. Which type of smartphone do you have?**
**Percent, except as noted**

| Q20 | |
|---|---|
| Refused | 0.1 |
| Android | 45.4 |
| BlackBerry | 3.1 |
| iPhone | 43.7 |
| Windows Mobile | 1.8 |
| Other (Please specify): | 3.3 |
| Don't know | 2.6 |
| **Number of respondents** | **1,365** |

**Table C.21. Do you password protect your smartphone?**
**Percent, except as noted**

| Q21 | |
|---|---|
| Refused | 1.3 |
| Yes | 60.7 |
| No | 38 |
| **Number of respondents** | **1,365** |

### Table C.22. Does your bank or credit union offer mobile banking?

**Percent, except as noted**

| Q22 | |
|---|---|
| Refused | 0.4 |
| Yes | 66.6 |
| No | 5.5 |
| Don't know | 27.5 |
| **Number of respondents** | **2,187** |

### Table C.23. Have you used mobile banking in the past 12 months?

**Percent, except as noted**

| Q23 | |
|---|---|
| Refused | 0.4 |
| Yes | 33.3 |
| No | 66.3 |
| **Number of respondents** | **2,187** |

### Table C.24. Do you plan to use mobile banking in the next 12 months?

**Percent, except as noted**

| Q24 | |
|---|---|
| Refused | 0.1 |
| Definitely will use | 0.8 |
| Probably will use | 10.8 |
| Probably will not use | 42.6 |
| Definitely will not use | 45.8 |
| **Number of respondents** | **1,540** |

### Table C.25. Do you think you will ever use mobile banking?

**Percent, except as noted**

| Q25 | |
|---|---|
| Refused | 0.6 |
| Definitely will use | 0.6 |
| Probably will use | 18.2 |
| Probably will not use | 47.7 |
| Definitely will not use | 33 |
| **Number of respondents** | **1,377** |

### Table C.26. Using your mobile phone, have you done each of these in the past 12 months?

**Percent, except as noted**

| Q26 | |
|---|---|
| Downloaded your bank's mobile banking app on your mobile phone | 72 |
| Checked an account balance or checked recent transactions | 92.7 |
| Made a bill payment using your bank's online banking website or banking app | 44.3 |
| Received a text message alert from your bank | 42.9 |
| Transferred money between your bank accounts | 57.1 |
| Transferred money from your bank account to another person | 26.1 |
| Deposited a check to your account electronically using your mobile phone camera | 38.4 |
| Located the closest in-network ATM for your bank | 40.6 |
| Received an e-mail alert from your bank | 53.4 |
| **Number of respondents** | **640** |

### Table C.27. In the past month, how many times have you personally used mobile banking?

**Percent, except as noted**

| Q27 | |
|---|---|
| Mean value | 8.5 |
| Median value | 4 |
| **Number of respondents** | **633** |

### Table C.28. When did you start using mobile banking?

**Percent, except as noted**

| Q28 | |
|---|---|
| Refused | 1.8 |
| In the last 6 months | 8.7 |
| 6 to 12 months ago | 20.1 |
| 1 to 2 years ago | 31.2 |
| More than 2 years ago | 30.6 |
| I don't remember | 7.5 |
| **Number of respondents** | **640** |

## Table C.29. What was the main reason why you started using mobile banking when you did?

**Percent, except as noted**

| Q29 | |
|---|---|
| Refused | 0.8 |
| I got a smartphone | 32.2 |
| My bank started offering the service | 16.2 |
| There is no bank branch or ATM near my home or work | 4.4 |
| I became comfortable with the security of mobile banking | 5.8 |
| I liked the convenience of mobile banking | 37.4 |
| To receive fraud alerts or check my account for fraudulent transactions | 1.2 |
| Other (Please specify): | 2 |
| **Number of respondents** | **640** |

## Table C.30. Have you made a mobile payment in the past 12 months?

**Percent, except as noted**

| Q30 | |
|---|---|
| Refused | 0.9 |
| Yes | 17.1 |
| No | 82 |
| **Number of respondents** | **2,341** |

## Table C.31. Using your mobile phone, have you done each of these in the past 12 months?

**Percent, except as noted**

| Q31 | |
|---|---|
| Transferred money directly to another person's bank or other financial account | 14.5 |
| Received money from another person's bank or other financial account | 11.7 |
| Paid for a product or service at a store | 16.9 |
| Paid for parking, a taxi, or public transit using an app | 4.2 |
| Paid bills online through a mobile web browser or app | 23.8 |
| Made a payment using a text message | 5 |
| Used an app to receive loyalty or reward points | 13.2 |
| Made an online purchase | 30 |
| **Number of respondents** | **1,365** |

## Table C.32a. When you used a mobile phone to pay for something at a store, have you used your phone in each of these different ways?

**Percent, except as noted**

| Q32a | |
|---|---|
| Waved or tapped my mobile phone at a cash register | 13.5 |
| Scanned a barcode or QR code using your mobile phone to make a mobile payment | 38.7 |
| Used a mobile app that doesn't require tapping the phone at a cash register or scanning a barcode to pay for a purchase | 18 |
| Other (Please specify): | 2.6 |
| **Number of respondents** | **206** |

## Table C.32b. When making mobile payments, which of the following payment methods do you use?

**Percent, except as noted**

| Q32b | |
|---|---|
| Refused | 3 |
| Credit card | 41.6 |
| Debit card | 53.5 |
| General purpose prepaid card | 5.4 |
| Bank account | 40.4 |
| Charges to your phone bill | 4.4 |
| Account at a non-financial institution | 8.6 |
| Other (Please specify): | 5.1 |
| **Number of respondents** | **372** |

## Table C.33.a. In the past month, how many times have you used your mobile phone to make any type of mobile payment?

**Percent, except as noted**

| Q33a | |
|---|---|
| Mean value | 3.1 |
| Median value | 2 |
| **Number of respondents** | **336** |

### Table C.33.b. In the past month, how many times have you used your mobile phone pay for a product or service at a store?

**Percent, except as noted**

| Q33b | |
|---|---|
| Mean value | 1.8 |
| Median value | 0 |
| **Number of respondents** | **203** |

### Table C.34. Have your used each of the following mobile payment services in the past 12 months?

**Percent, except as noted**

| Q34 | |
|---|---|
| Starbucks mobile payments | 13.6 |
| Google Wallet | 6.6 |
| Square Wallet | 4.8 |
| PayPal In-Store Payment | 10.9 |
| LevelUp | 0.1 |
| Dwolla | 0.9 |
| Isis | 1 |
| Tabbedout | 1 |
| **Number of respondents** | **331** |

### Table C.35. When did you start using mobile payments?

**Percent, except as noted**

| Q35 | |
|---|---|
| Refused | 3.4 |
| In the last 6 months | 18.3 |
| 6 to 12 months ago | 19.7 |
| 1 to 2 years ago | 18.3 |
| More than 2 years ago | 14.9 |
| I don't remember | 25.4 |
| **Number of respondents** | **372** |

### Table C.36. What was the main reason why you started using mobile payments when you did?

**Percent, except as noted**

| Q36 | |
|---|---|
| Refused | 4.3 |
| I got a smartphone | 25.8 |
| The ability to make mobile payments became available | 13.7 |
| I became comfortable with the security of mobile payments | 6.7 |
| I liked the convenience of mobile payments | 37.1 |
| A store I visit started offering the service | 1.8 |
| To take advantage of loyalty or rewards points and discounts | 4 |
| Other (Please specify): | 6.7 |
| **Number of respondents** | **372** |

### Table C.37. Please tell us if each of the reasons below are why you do not use mobile banking:

**Percent, except as noted**

| Q37 | |
|---|---|
| I'm concerned about the security of mobile banking | 69 |
| My banking needs are being met without mobile banking | 88.7 |
| I don't see any reason to use mobile banking | 75.3 |
| The mobile phone screen is too small | 44.2 |
| I don't have a smartphone | 43.6 |
| My bank charges a fee for using mobile banking | 6.6 |
| I don't do the banking in my household | 12.4 |
| I don't trust the technology | 34.6 |
| I don't have a bank account | 4 |
| It's too difficult to use mobile banking | 16.7 |
| **Number of respondents** | **782** |

### Table C.38. You mentioned that security was one of your top concerns with mobile banking; which one of the following are you most concerned with?

**Percent, except as noted**

| Q38 | |
|---|---|
| My phone getting hacked | 12 |
| Someone using my phone without permission to access my account | 4.8 |
| Someone intercepting my data | 24.7 |
| Losing my phone or having my phone stolen | 8.4 |
| Malware or viruses being installed on my phone | 2.2 |
| Companies misusing my personal information | 2.6 |
| All of the above | 44.6 |
| Other (Please specify): | 0.6 |
| **Number of respondents** | **538** |

### Table C.39. Assuming that the concerns that you have about using mobile banking were addressed, would you be interested in doing any of the following activities with your mobile phone?

**Percent, except as noted**

| Q39 | |
|---|---|
| Refused | 0.4 |
| Download your bank's mobile banking app | 26.1 |
| Check an account balance or check recent transactions | 38.8 |
| Make bill payments | 24.7 |
| Receive text message or e-mail alerts from your bank | 28.9 |
| Deposit a check electronically using your mobile phone camera | 26 |
| Transfer money between accounts | 26.5 |
| None, I don't want to use mobile banking | 50.6 |
| **Number of respondents** | **782** |

### Table C.40. If your bank or credit union were to offer mobile banking, would you be interested in doing any of the following with your mobile phone?

**Percent, except as noted**

| Q40 | |
|---|---|
| Refused | 0.8 |
| Download your bank's mobile banking app | 10.7 |
| Check an account balance or check recent transactions | 18.3 |
| Make bill payments | 8.7 |
| Receive text message or e-mail alerts from your bank | 11.2 |
| Deposit a check electronically using your mobile phone camera | 6.9 |
| Transfer money between accounts | 7.6 |
| None, I don't want to use mobile banking | 75.8 |
| **Number of respondents** | **769** |

### Table C.41. Please tell us if each of the reasons below are why you do not use mobile payments:

**Percent, except as noted**

| Q41 | |
|---|---|
| I'm concerned about the security of mobile payments | 63.4 |
| It's easier to pay with cash or a credit/debit card | 76.4 |
| I don't see any benefit from using mobile payments | 60.6 |
| The places I shop don't accept mobile payments | 27.1 |
| I don't have the necessary feature on my phone | 45.5 |
| I don't trust the technology | 44 |
| It's difficult or time consuming to set up or use mobile payments | 33.5 |
| I don't need to make any payments or someone else pays the bills | 22.9 |
| I don't really understand all the different mobile payment options | 37.3 |
| **Number of respondents** | **1,956** |

### Table C.42. You mentioned that security was one of your top concerns with mobile payments; which one of the following are you most concerned with?

**Percent, except as noted**

| Q42 | |
|---|---|
| Refused | 0.4 |
| My phone getting hacked | 9.8 |
| Someone intercepting my payment information or other data | 22 |
| Losing my phone or having my phone stolen | 9 |
| Malware or viruses being installed on my phone | 2 |
| Companies misusing my personal information | 3.8 |
| All of the above | 51.9 |
| Other (Please specify): | 1.1 |
| **Number of respondents** | **1,258** |

**Table C.43. Assuming that the reason(s) why you do not currently use mobile payments was addressed, would you be interested in doing any of the following activities with your mobile phone?**
**Percent, except as noted**

| Q43 | |
|---|---|
| Refused | 1.4 |
| Making payments to another person | 11.1 |
| Using my mobile phone to pay for purchases at a store | 16.2 |
| Paying bills online | 20.8 |
| Transferring money to someone in another country | 3.8 |
| Using your mobile phone as a "virtual wallet" to replace some cards in your wallet | 12.8 |
| Buying goods or services online | 17.3 |
| Accepting payments from another person | 11.6 |
| Receiving/using coupons on your phone | 22.2 |
| Receiving specials and discount offers | 20.1 |
| None, I don't want to use mobile payments | 62.1 |
| **Number of respondents** | **1,956** |

**Table C.44. How safe do you believe people's personal information is when they use mobile banking?**
**Percent, except as noted**

| Q44 | |
|---|---|
| Refused | 1.3 |
| Very safe | 6 |
| Somewhat safe | 32.1 |
| Somewhat unsafe | 25.5 |
| Very unsafe | 18 |
| Don't know | 17.2 |
| **Number of respondents** | **2,341** |

**Table C.45. How safe do you believe people's personal information is when they use a mobile phone to pay for a purchase at a store?**
**Percent, except as noted**

| Q45 | |
|---|---|
| Refused | 1.7 |
| Very safe | 4.3 |
| Somewhat safe | 29.9 |
| Somewhat unsafe | 26.5 |
| Very unsafe | 19.3 |
| Don't know | 18.3 |
| **Number of respondents** | **2,341** |

**Table C.46. Would you or do you already like to use your mobile phone for any of the following purposes, assuming they were made available to you?**
**Percent, except as noted**

| Q46 | |
|---|---|
| Refused | 1.3 |
| Track your finances | 27.7 |
| Organize, track, and store gift cards, memberships, loyalty, and reward points | 14.9 |
| Compare prices when shopping | 33.6 |
| To receive and manage discount offers and coupons | 24.8 |
| To receive offers and promotions based on your location | 18.5 |
| None of the above | 50.4 |
| **Number of respondents** | **2,341** |

**Table C.47. I am willing to allow my mobile phone to provide my location to companies I shop with regularly so that they can offer me discounts, promotions, or services based on where I am.**
**Percent, except as noted**

| Q47 | |
|---|---|
| Refused | 2 |
| Strongly agree | 4.9 |
| Agree | 31.4 |
| Disagree | 33 |
| Strongly disagree | 28.6 |
| **Number of respondents** | **1,365** |

**Table C.48. I am willing to allow my mobile phone to provide personal information such as my sex, age, friends, and shopping history to companies I shop with regularly so that they can offer me targeted discounts, promotions, or services.**
**Percent, except as noted**

| Q48 | |
|---|---|
| Refused | 2.5 |
| Strongly agree | 2.9 |
| Agree | 16.4 |
| Disagree | 37.6 |
| Strongly disagree | 40.6 |
| **Number of respondents** | **1,365** |

**Table C.49. Have you ever used your mobile phone to comparison shop over the Internet while at a retail store?**
**Percent, except as noted**

| Q49 | |
|---|---|
| Refused | 2.4 |
| Yes | 43.5 |
| No | 54 |
| **Number of respondents** | **1,365** |

**Table C.50. Have you ever used a barcode scanning app on your mobile phone while shopping at a retail store to find the best price for an item?**
**Percent, except as noted**

| Q50 | |
|---|---|
| Refused | 2.3 |
| Yes | 30.7 |
| No | 67 |
| **Number of respondents** | **1,365** |

**Table C.51. Have you ever scanned a QR code (similar to a barcode) in a retail store, newspaper, magazine, or billboard advertisement to obtain information about a product on your mobile phone?**
**Percent, except as noted**

| Q51 | |
|---|---|
| Refused | 2.3 |
| Yes | 33 |
| No | 64.8 |
| **Number of respondents** | **1,365** |

**Table C.52. Has using your mobile phone to compare prices while you were shopping at a retail store ever changed where you made your purchase?**
**Percent, except as noted**

| Q52 | |
|---|---|
| Refused | 0.3 |
| Yes | 68.5 |
| No | 31.3 |
| **Number of respondents** | **687** |

**Table C.53. Have you ever used your mobile phone to browse product reviews or get product information while shopping at a retail store?**
**Percent, except as noted**

| Q53 | |
|---|---|
| Refused | 2 |
| Yes | 41.6 |
| No | 56.4 |
| **Number of respondents** | **1,365** |

**Table C.54. Has reading product reviews on your mobile phone while shopping at a retail store ever changed which item you ended up purchasing?**
**Percent, except as noted**

| Q54 | |
|---|---|
| Refused | 0.8 |
| Yes | 73.7 |
| No | 25.5 |
| **Number of respondents** | **586** |

**Table C.55. In the past 12 months, have you used your mobile phone to check your account balance or available credit before making a large purchase?**
**Percent, except as noted**

| Q55 | |
|---|---|
| Refused | 2.1 |
| Yes | 68.9 |
| No | 29 |
| **Number of respondents** | **610** |

**Table C.56. Did you decide not to buy that particular item because of the amount of money left in your account or the amount of your available credit?**
**Percent, except as noted**

| Q56 | |
|---|---|
| Refused | 2 |
| Yes | 49.6 |
| No | 48.4 |
| **Number of respondents** | **393** |

### Table C.57. If your were offered the option of using your mobile phone to pay for purchases in store, how likely would you be to use it?

**Percent, except as noted**

| Q57 | |
|---|---|
| Refused | 1.6 |
| I already use it | 2.4 |
| Very likely | 6.3 |
| Likely | 15.2 |
| Unlikely | 30.1 |
| Very unlikely | 44.5 |
| **Number of respondents** | **2,341** |

### Table C.58. How likely do you think it is that mobile payments will become a major way people make payments in stores in the next 5 years?

**Percent, except as noted**

| Q58 | |
|---|---|
| Refused | 1.4 |
| Very likely | 16.8 |
| Likely | 40.8 |
| Unlikely | 12.9 |
| Very unlikely | 9.9 |
| Don't know | 18.2 |
| **Number of respondents** | **2,341** |

### Table C.59. Do you plan to use your mobile phone to make a payment in a store in the next 12 months? (Asked of those with a smartphone)

**Percent, except as noted**

| Q59 | |
|---|---|
| Refused | 0.4 |
| Definitely will use | 2.3 |
| Probably will use | 15.1 |
| Probably will not use | 44 |
| Definitely will not use | 38.1 |
| **Number of respondents** | **1,145** |

### Table C.60. Do you use your mobile phone to track purchases and expenses?

**Percent, except as noted**

| Q60 | |
|---|---|
| Refused | 1.4 |
| Yes | 24.2 |
| No | 74.4 |
| **Number of respondents** | **1,365** |

### Table C.61. Do you use any of the following method to track purchases on your mobile phone?

**Percent, except as noted**

| Q61 | |
|---|---|
| Refused | 6.3 |
| A mobile app for expense tracking | 31.2 |
| A service provided by my bank | 42.8 |
| A spreadsheet | 7.5 |
| Online | 33.6 |
| Take notes in a notepad or word processor | 15.1 |
| **Number of respondents** | **297** |

### Table C.62. Do you receive each of the following kinds of alerts?

**Percent, except as noted**

| Q62 | |
|---|---|
| Refused | 5.1 |
| Low-balance alerts | 52 |
| Payment due alerts | 42.2 |
| Saving reminders | 7.9 |
| Fraud alerts | 38.1 |
| Credit card balance alerts | 25 |
| Deposit or withdrawal alert | 41.4 |
| Statement available notification | 48.5 |
| Other (Please specify) | 3.5 |
| **Number of respondents** | **400** |

**Table C.63.Thinking of the most recent low-balance alert you received, which of the following actions did you take after receiving the alert?**

**Percent, except as noted**

| Q63 | |
|---|---|
| Refused | 0.2 |
| Transferred money into the account with the low balance from another account | 46.6 |
| Deposited money into the account with the low balance | 32.4 |
| Reduced my spending | 37.2 |
| None of the above | 18.9 |
| **Number of respondents** | **201** |

**Table C.64. Which one of the following statements comes closest to describing the amount of financial risk that you are willing to take when you save or make investments?**

**Percent, except as noted**

| Q64 | |
|---|---|
| Refused | 1.7 |
| Take substantial financial risks expecting to earn substantial returns | 4 |
| Take above average financial risks expecting to earn above average returns | 14.5 |
| Take average financial risks expecting to earn average returns | 34.9 |
| Not willing to take any financial risks | 44.9 |
| **Number of respondents** | **2,657** |

## Summary Statistics for Demographics

**Table C.65. Summary statistics for demographics: Full sample**

| | Mean | Standard deviation |
|---|---|---|
| Age | 46.8379 | 16.8847 |
| Male | 0.4810 | 0.4997 |
| Female | 0.5190 | 0.4997 |
| 18–29 | 0.2076 | 0.4057 |
| 30–44 | 0.2566 | 0.4368 |
| 45–60 | 0.2747 | 0.4465 |
| Ages over 60 | 0.2610 | 0.4393 |
| Less than high school | 0.1215 | 0.3268 |
| High school degree | 0.2954 | 0.4563 |
| Some college | 0.2906 | 0.4541 |
| Bachelor's degree or higher | 0.2925 | 0.4550 |
| White, non-Hispanic | 0.6690 | 0.4707 |
| Black, non-Hispanic | 0.1154 | 0.3196 |
| Other, non-Hispanic | 0.0605 | 0.2385 |
| Hispanic | 0.1421 | 0.3492 |
| 2 or more races, non-Hispanic | 0.0130 | 0.1132 |
| Less than $25,000 | 0.2015 | 0.4012 |
| $25,000–$39,999 | 0.1764 | 0.3812 |
| $40,000–$74,999 | 0.2530 | 0.4348 |
| $75,000–$99,999 | 0.1403 | 0.3474 |
| Greater than $100,000 | 0.2289 | 0.4202 |
| Married | 0.5117 | 0.5000 |
| Not married | 0.4883 | 0.5000 |
| Northeast | 0.1810 | 0.3851 |
| Midwest | 0.2163 | 0.4118 |
| South | 0.3699 | 0.4829 |
| West | 0.2327 | 0.4227 |
| Employed | 0.5583 | 0.4967 |
| Unemployed, in labor force | 0.0822 | 0.2747 |
| Not in labor force | 0.3595 | 0.4800 |
| Observations | 2,657 | |

**Table C.66. Summary statistics for demographics: Smartphone users**

| | Mean | Standard deviation |
|---|---|---|
| Age | 41.2823 | 14.6837 |
| Male | 0.4846 | 0.4999 |
| Female | 0.5154 | 0.4999 |
| 18–29 | 0.2811 | 0.4497 |
| 30–44 | 0.3309 | 0.4707 |
| 45–60 | 0.2576 | 0.4375 |
| Ages over 60 | 0.1303 | 0.3368 |
| Less than high school | 0.0803 | 0.2719 |
| High school degree | 0.2524 | 0.4345 |
| Some college | 0.3048 | 0.4605 |
| Bachelor's degree or higher | 0.3625 | 0.4809 |
| White, non-Hispanic | 0.6352 | 0.4815 |
| Black, non-Hispanic | 0.1083 | 0.3109 |
| Other, non-Hispanic | 0.0722 | 0.2589 |
| Hispanic | 0.1704 | 0.3761 |
| 2 or more races, non-Hispanic | 0.0139 | 0.1171 |
| Less than $25,000 | 0.1227 | 0.3282 |
| $25,000–$39,999 | 0.1374 | 0.3444 |
| $40,000–$74,999 | 0.2668 | 0.4424 |
| $75,000–$99,999 | 0.1724 | 0.3779 |
| Greater than $100,000 | 0.3006 | 0.4587 |
| Married | 0.5455 | 0.4981 |
| Not married | 0.4545 | 0.4981 |
| Northeast | 0.1655 | 0.3717 |
| Midwest | 0.1951 | 0.3965 |
| South | 0.3855 | 0.4869 |
| West | 0.2539 | 0.4354 |
| Employed | 0.6871 | 0.4638 |
| Unemployed, in labor force | 0.0895 | 0.2855 |
| Not in labor force | 0.2234 | 0.4167 |
| Observations | 1,365 | |

**Table C.67. Summary statistics for demographics: Feature phone users**

| | Mean | Standard deviation |
|---|---|---|
| Age | 53.8976 | 16.8598 |
| Male | 0.4669 | 0.4992 |
| Female | 0.5331 | 0.4992 |
| 18–29 | 0.1185 | 0.3234 |
| 30–44 | 0.1596 | 0.3664 |
| 45–60 | 0.2968 | 0.4571 |
| Ages over 60 | 0.4251 | 0.4946 |
| Less than high school | 0.1332 | 0.3400 |
| High school degree | 0.3388 | 0.4735 |
| Some college | 0.2862 | 0.4522 |
| Bachelor's degree or higher | 0.2418 | 0.4284 |
| White, non-Hispanic | 0.7488 | 0.4339 |
| Black, non-Hispanic | 0.1039 | 0.3053 |
| Other, non-Hispanic | 0.0333 | 0.1794 |
| Hispanic | 0.1017 | 0.3024 |
| 2 or more races, non-Hispanic | 0.0123 | 0.1102 |
| Less than $25,000 | 0.2480 | 0.4321 |
| $25,000–$39,999 | 0.2236 | 0.4169 |
| $40,000–$74,999 | 0.2485 | 0.4324 |
| $75,000–$99,999 | 0.1167 | 0.3212 |
| Greater than $100,000 | 0.1632 | 0.3697 |
| Married | 0.5220 | 0.4998 |
| Not married | 0.4780 | 0.4998 |
| Northeast | 0.1920 | 0.3941 |
| Midwest | 0.2377 | 0.4259 |
| South | 0.3630 | 0.4811 |
| West | 0.2073 | 0.4056 |
| Employed | 0.4468 | 0.4974 |
| Unemployed, in labor force | 0.0596 | 0.2369 |
| Not in labor force | 0.4936 | 0.5002 |
| Observations | 962 | |

**Table C.68. Summary statistics for demographics: All mobile phone users (feature and smartphone)**

| | Mean | Standard deviation |
|---|---|---|
| Age | 46.0458 | 16.7241 |
| Male | 0.4780 | 0.4996 |
| Female | 0.5220 | 0.4996 |
| 18–29 | 0.2192 | 0.4138 |
| 30–44 | 0.2663 | 0.4421 |
| 45–60 | 0.2727 | 0.4454 |
| Ages over 60 | 0.2418 | 0.4283 |
| Less than high school | 0.1003 | 0.3005 |
| High school degree | 0.2846 | 0.4513 |
| Some college | 0.2998 | 0.4582 |
| Bachelor's degree or higher | 0.3154 | 0.4648 |
| White, non-Hispanic | 0.6787 | 0.4671 |
| Black, non-Hispanic | 0.1059 | 0.3078 |
| Other, non-Hispanic | 0.0579 | 0.2336 |
| Hispanic | 0.1444 | 0.3516 |
| 2 or more races, non-Hispanic | 0.0132 | 0.1141 |
| Less than $25,000 | 0.1700 | 0.3757 |
| $25,000—$39,999 | 0.1693 | 0.3751 |
| $40,000–$74,999 | 0.2593 | 0.4384 |
| $75,000–$99,999 | 0.1504 | 0.3575 |
| Greater than $100,000 | 0.2510 | 0.4337 |
| Married | 0.5360 | 0.4988 |
| Not married | 0.4640 | 0.4988 |
| Northeast | 0.1746 | 0.3797 |
| Midwest | 0.2118 | 0.4086 |
| South | 0.3762 | 0.4845 |
| West | 0.2374 | 0.4256 |
| Employed | 0.5953 | 0.4909 |
| Unemployed, in labor force | 0.0778 | 0.2680 |
| Not in labor force | 0.3268 | 0.4692 |
| Observations | 2,341 | |

# Cross-Tabulations for Consumers' Use of Mobile Phones

### Table C.69. Do you own or have regular access to a mobile phone?
**Percent, except as noted**

| Age categories | No | Yes | Number of respondents |
|---|---|---|---|
| 18–29 | 7.9 | 92.1 | 360 |
| 30–44 | 9.5 | 90.5 | 587 |
| 45–59 | 13.4 | 86.6 | 803 |
| 60+ | 19.2 | 80.8 | 907 |
| **Total** | | | **2,657** |

### Table C.70. Is your mobile phone a smartphone?
**Percent, except as noted**

| Age categories | No | Yes | Number of respondents |
|---|---|---|---|
| 18–29 | 20.8 | 79.2 | 330 |
| 30–44 | 23.1 | 76.9 | 529 |
| 45–59 | 41.8 | 58.2 | 712 |
| 60+ | 67 | 33 | 756 |
| **Total** | | | **2,327** |

### Table C.71. Do you own or have regular access to a mobile phone?
**Percent, except as noted**

| Education | No | Yes | Number of respondents |
|---|---|---|---|
| Less than high school | 28 | 72 | 191 |
| High school | 16 | 84 | 767 |
| Some college | 10 | 90 | 746 |
| Bachelor's degree or higher | 6 | 94 | 953 |
| **Total** | | | **2,657** |

### Table C.72. Is your mobile phone a smartphone?
**Percent, except as noted**

| Education | No | Yes | Number of respondents |
|---|---|---|---|
| Less than high school | 50.8 | 49.2 | 137 |
| High school | 45.5 | 54.5 | 643 |
| Some college | 36.9 | 63.1 | 661 |
| Bachelor's degree or higher | 29.3 | 70.7 | 886 |
| **Total** | | | **2,327** |

### Table C.73. Do you own or have regular access to a mobile phone?
**Percent, except as noted**

| Race/ethnicity | No | Yes | Number of respondents |
|---|---|---|---|
| White, non-Hispanic | 11.5 | 88.5 | 2,035 |
| Black, non-Hispanic | 20 | 80 | 225 |
| Other, non-Hispanic | 16.6 | 83.4 | 84 |
| Hispanic | 11.4 | 88.6 | 218 |
| 2+ races, non-Hispanic | 11.5 | 88.5 | 95 |
| **Total** | | | **2,657** |

### Table C.74. Is your mobile phone a smartphone?
**Percent, except as noted**

| Race/ethnicity | No | Yes | Number of respondents |
|---|---|---|---|
| White, non-Hispanic | 42.3 | 57.7 | 1,799 |
| Black, non-Hispanic | 37.4 | 62.6 | 183 |
| Other, non-Hispanic | 22.3 | 77.7 | 72 |
| Hispanic | 27.1 | 72.9 | 188 |
| 2+ races, non-Hispanic | 35.5 | 64.5 | 85 |
| **Total** | | | **2,327** |

### Table C.75. Do you own or have regular access to a mobile phone?
**Percent, except as noted**

| Income group | No | Yes | Number of respondents |
|---|---|---|---|
| Less than $25,000 | 26.4 | 73.6 | 407 |
| $25,000–$39,999 | 16.3 | 83.7 | 418 |
| $40,000–$74,999 | 10.6 | 89.4 | 687 |
| $75,000–$99,999 | 6.5 | 93.5 | 394 |
| Greater than $100,000 | 4.3 | 95.7 | 751 |
| **Total** | | | **2,657** |

### Table C.76. Is your mobile phone a smartphone?
**Percent, except as noted**

| Income group | No | Yes | Number of respondents |
|---|---|---|---|
| Less than $25,000 | 55.7 | 44.3 | 302 |
| $25,000–$39,999 | 50.3 | 49.7 | 345 |
| $40,000–$74,999 | 36.7 | 63.3 | 615 |
| $75,000–$99,999 | 29.6 | 70.4 | 365 |
| Greater than $100,000 | 25.2 | 74.8 | 700 |
| **Total** | | | **2,275** |

# Cross-Tabulations for Consumers' Use of Mobile Banking and Mobile Payments

## C.77.a. Cross-tabulations for consumers' use of mobile banking by age, race, gender, education, and income: Smartphone Users

**Percent, except as noted**

Mobile banking

**Use of mobile banking in the past 12 months by age**

| Age categories | No | Yes | Total |
|---|---|---|---|
| 18–29 | 15.7 | 38.8 | 27.4 |
| 30–44 | 30.8 | 34.4 | 32.6 |
| 45–59 | 32.1 | 20.7 | 26.3 |
| 60+ | 21.4 | 6.2 | 13.7 |
| Number of respondents | 673 | 610 | 1,283 |

**Use of mobile banking in the past 12 months by race**

| Race/ethnicity | No | Yes | Total |
|---|---|---|---|
| White, non-Hispanic | 67.2 | 61.8 | 64.4 |
| Black, non-Hispanic | 6.9 | 11.5 | 9.3 |
| Other, non-Hispanic | 9.3 | 6.1 | 7.7 |
| Hispanic | 15.2 | 19.2 | 17.2 |
| 2+ races, non-Hispanic | 1.5 | 1.4 | 1.4 |
| Number of respondents | 673 | 610 | 1,283 |

**Use of mobile banking in the past 12 months by gender**

| Gender | No | Yes | Total |
|---|---|---|---|
| Male | 45.9 | 50.4 | 48.2 |
| Female | 54.1 | 49.6 | 51.8 |
| Number of respondents | 673 | 610 | 1,283 |

**Use of mobile banking in the past 12 months by education**

| Education | No | Yes | Total |
|---|---|---|---|
| Less than high school | 8.8 | 5.4 | 7.1 |
| High school | 26.9 | 22.9 | 24.9 |
| Some college | 26.3 | 33.7 | 30.1 |
| Bachelor's degree or higher | 38 | 38 | 38 |
| Number of respondents | 673 | 610 | 1,283 |

**Use of mobile banking in the past 12 months by income group**

| Income group | No | Yes | Total |
|---|---|---|---|
| Less than $25,000 | 11.2 | 10.2 | 10.7 |
| $25,000–$39,999 | 10.6 | 16.4 | 13.6 |
| $40,000–$74,999 | 27.7 | 27.2 | 27.4 |
| $75,000–$99,999 | 17.7 | 17.3 | 17.5 |
| Greater than $100,000 | 32.7 | 28.9 | 30.8 |
| Number of respondents | 673 | 610 | 1,283 |

## C.77.b. Cross-tabulations for consumers' use of mobile payments by age, race, gender, education, and income: Smartphone users

**Percent, except as noted**

Mobile payments

**Use of mobile payments in the past 12 months by age**

| Age categories | No | Yes | Total |
|---|---|---|---|
| 18–29 | 25.4 | 35.6 | 27.9 |
| 30–44 | 32.4 | 35.8 | 33.2 |
| 45–59 | 27.2 | 21.5 | 25.8 |
| 60+ | 15 | 7.2 | 13.1 |
| Number of respondents | 1,028 | 331 | 1,359 |

**Use of mobile payments in the past 12 months by race**

| Race/ethnicity | No | Yes | Total |
|---|---|---|---|
| White, non-Hispanic | 67.7 | 50.9 | 63.6 |
| Black, non-Hispanic | 7.9 | 19.1 | 10.7 |
| Other, non-Hispanic | 7.7 | 5.6 | 7.2 |
| Hispanic | 15.6 | 22 | 17.2 |
| 2+ races, non-Hispanic | 1.1 | 2.4 | 1.4 |
| Number of respondents | 1,028 | 331 | 1,359 |

**Use of mobile payments in the past 12 months by gender**

| Gender | No | Yes | Total |
|---|---|---|---|
| Male | 49.1 | 46.5 | 48.5 |
| Female | 50.9 | 53.5 | 51.5 |
| Number of respondents | 1,028 | 331 | 1,359 |

**Use of mobile payments in the past 12 months by education**

| Education | No | Yes | Total |
|---|---|---|---|
| Less than high school | 7.1 | 10.6 | 8 |
| High school | 27.4 | 19.3 | 25.4 |
| Some college | 28.4 | 36.5 | 30.4 |
| Bachelor's degree or higher | 37.1 | 33.5 | 36.2 |
| Number of respondents | 1,028 | 331 | 1,359 |

**Use of mobile payments in the past 12 months by income group**

| Income group | No | Yes | Total |
|---|---|---|---|
| Less than $25,000 | 12.3 | 12.6 | 12.4 |
| $25,000–$39,999 | 12.4 | 17.5 | 13.7 |
| $40,000–$74,999 | 25.9 | 29.3 | 26.8 |
| $75,000–$99,999 | 17.8 | 16 | 17.3 |
| Greater than $100,000 | 31.6 | 24.5 | 29.9 |
| Number of respondents | 1,028 | 331 | 1,359 |

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