

FINAL REPORT OF FINDINGS:

Post-Proposal Testing of Prepaid Card Disclosures

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SUBMITTED TO:

Consumer Financial Protection Bureau

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Chapter I: Background

The EFTA establishes the rights, liabilities, and responsibilities of participants in electronic fund transfer systems, with the primary objective of providing individual consumer rights. The EFTA is implemented in Regulation E (12 CFR part 1005) by the CFPB. Prepaid products are one of the fastest growing payment instruments in the United States, and consumers are increasingly using these products as an alternative to traditional checking or demand-deposit accounts. Consumers may reload funds onto a card using cash or through direct deposit of their paychecks or government benefits, and can use their prepaid cards to withdraw funds at ATMs or to make purchases. However, prepaid products may not carry the same consumer protections given to checking accounts under federal law, because Regulation E has traditionally been interpreted not to apply to many of these accounts.

Given the growth in the market for prepaid card products and the potential risk for harm to consumers due to the lack of coverage under existing Federal regulations, the CFPB is considering how best to apply Regulation E and Regulation Z (which implements the Truth in Lending Act) to prepaid accounts. As part of this process, the CFPB will have to decide how information about the costs and features of these products—most notably fees that are charged for card use and other services—can most effectively be disclosed to consumers, particularly in retail stores. It is important that consumers have access to this information so that they can make informed acquisition decisions.

In September 2013, the CFPB contracted with ICF to assist with the development and testing of new disclosures for prepaid cards intended to inform consumers of the prepaid card's fees and features. In November 2014, ICF submitted to the CFPB a report on the pre-proposal phase of its work: four exploratory focus groups with consumers to learn more about their experiences with and understanding of prepaid cards, and three rounds of cognitive interviews to test model forms developed by the CFPB.¹

In November 2014, the CFPB released for public comment proposed rules that would specify how Regulations E and Z apply to prepaid accounts.² It is ICF's understanding that the Bureau expects to issue final rules in 2016. The CFPB's proposed rules included proposed requirements for disclosures along with several proposed model and sample disclosure forms. After the public comment period closed in March 2015, ICF began the post-proposal phase of its work. ICF assisted the agency with the design of revised versions of the proposed model and sample forms, and then conducted two rounds of cognitive interviews with a total of 20 consumers to test specific aspects of the disclosures' clarity and usefulness. The short forms and long forms tested were generally similar to those included in the CFPB's prepaid accounts proposal as model and sample disclosure forms, with modifications to address certain issues raised by commenters on the proposal or otherwise identified by the CFPB.

This report summarizes the results of that post-proposal testing. It is ICF's understanding that these findings will inform the CFPB's final regulations for prepaid accounts expected to be published in 2016.

¹ This report is available at http://files.consumerfinance.gov/f/201411_cfpb_summary-findings-design-testing-prepaid-card-disclosures.pdf.

² The Bureau's proposal was published in the *Federal Register* in December 2014. 79 FR 77102 (Dec. 23, 2014).



Chapter II: Methodology

Following the CFPB's review of public comments on its proposed rulemaking, ICF assisted the agency with the design of revised model and sample prepaid card disclosure forms. To explore the clarity and usefulness of these revised forms, ICF conducted two rounds of in-depth interviews with consumers. These interviews took place in Arlington, Virginia (July 21-22, 2015) and Milwaukee, Wisconsin (August 17-18, 2015). Because this research represents a continuation of ICF's earlier pre-proposal work, in this report these rounds of interviews will be referred to as Rounds 4 and 5. Each interview was led by an experienced ICF interviewer and lasted approximately 75 minutes. While the CFPB had significant input into research design, ICF was primarily responsible for developing the interview protocol, recruiting participants, conducting the interviews, and analyzing the data.

In each round, participants were asked background questions about their past experience with prepaid cards. They also reviewed several different versions of model prepaid disclosure forms, and were asked questions to assess their understanding of the information included on the forms. They were also asked to complete a variety of shopping simulations, in which they were shown forms for two different hypothetical prepaid products and asked to indicate which they would choose. A more specific description of the interview protocol and forms used for each round is provided in Chapters IV and V.

The qualitative methods used in this study are effective at providing an in-depth understanding of complex phenomena, such as participants' experiences, preferences, and reactions to and understanding of the forms presented. For these reasons, ICF believes that these methodologies are well-suited to informing the design of disclosures like those being developed through this project. However, these methods are not suited to identifying effect sizes at standard levels of statistical significance, as would be required for measuring changes in behavior between different versions of model forms. To do so, one would need to conduct quantitative experimental research with many more participants—an approach that was not included in this study.

Throughout this report, findings are presented as exact numbers (*e.g.*, 9 out of 10 participants) when it is clear exactly how many participants acted in a very specific way or gave a specific answer to a question. However, that level of precision is not always possible given the complex nature of the phenomena being studied and because of the qualitative nature of the testing. Therefore, findings are sometimes reported as a proportion of the participants. For the purposes of this report, the following terms are used to describe different proportions:

- “Nearly all” is used when all of the participants responded in a particular way with very few exceptions.
- “Most” is used when more than half of the participants responded in a particular way, but fewer than nearly all of them.
- “Approximately half” refers to the range from slightly more to slightly less than half of the participants (*e.g.*, 1 participant more or less than half in a single round).
- “A few” is used when it is clear that only a few participants responded in a particular way (*e.g.*, 2 participants in a single round).



Design of Model Forms

Throughout the project, the team that participated in design decisions included CFPB regulations attorneys, economists, and designers and user experience experts from the CFPB's design team, as well as ICF staff and design experts. The forms developed disclosed a variety of different fees and features of hypothetical prepaid cards and included superscript symbols (asterisks and daggers) linked to other text. The fee structures and features that were displayed were not intended to mirror those of any particular product on the market.

Almost all of the forms designed and tested were "short forms," which displayed only a subset of key fees that could be charged and features offered. These short forms included both "static" and "incidence-based" fees. By design, the static portion of each model short form disclosed the same types of fees across all products, while the incidence-based portion disclosed fees that would be based on certain criteria such as frequency or revenue garnered for the specific prepaid product, such that they could vary across prepaid products. Testing generally conformed to these principles; whenever participants were asked to compare two forms, the static portions listed the same fees (although the amounts of the fees might vary), while the incidence-based portions contained some similar fees and some dissimilar fees. The fee values and fee types (the type of service) included in the static and incidence-based portions of the short form were varied between different versions of the forms and across rounds of testing.

In Round 5, participants were also shown a comprehensive "long form" disclosure at one point in the interview. Unlike the short forms, the long form included a longer list of all possible fees and features, rather than only a subset of fees and features.

The short forms and long forms tested were generally similar to those included in the CFPB's prepaid accounts proposal as model and sample disclosure forms, with modifications to address certain issues raised by commenters on the proposal or otherwise identified by the CFPB.

Recruitment of Research Participants

Interview participants were recruited by telephone using a structured screening instrument developed by ICF and the CFPB (Appendix A). Participation was limited to consumers who had not worked for a financial institution or a non-profit consumer advocacy group related to the banking or financial industries. A total of 20 consumers participated in the two rounds of interviews. All participants self-identified as having used a prepaid card in the previous 12 months.³ Several participants had payroll cards or government benefit cards in addition to general purpose reloadable prepaid cards. As shown in Table 1, participants in each round varied in terms of gender, age, race/ethnicity, and education level. Participants received a \$75 stipend for their participation.

³ While all participants self-identified as having used a reloadable prepaid card, based on their descriptions of their cards, two Round 4 participants might have in fact been using gift cards. The CFPB's proposal would not apply to gift cards.



Table 1. Characteristics of Interview Participants

| | <u>Round 4</u> Arlington, VA (n=9) | <u>Round 5</u> Milwaukee, WI (n=11) | All Participants Combined (n=20) |
|------------------------|--|---|---|
| Gender | | | |
| Male | 5 (56%) | 4 (36%) | 9 (45%) |
| Female | 4 (44%) | 7 (64%) | 11 (55%) |
| Age | | | |
| 18-35 | 4 (44%) | 4 (36%) | 8 (40%) |
| 36-50 | 5 (56%) | 5 (45%) | 10 (50%) |
| 51+ | 0 (0%) | 2 (18%) | 2 (10%) |
| Race/Ethnicity | | | |
| African American | 2 (22%) | 7 (64%) | 9 (45%) |
| Asian | 1 (11%) | 0 (0%) | 1 (5%) |
| Caucasian | 2 (22%) | 3 (27%) | 5 (25%) |
| Hispanic | 2 (22%) | 0 (0%) | 2 (10%) |
| Mixed | 2 (22%) | 1 (9%) | 3 (15%) |
| Education Level | | | |
| High School or Less | 3 (33%) | 2 (18%) | 5 (25%) |
| Some College | 4 (44%) | 7 (64%) | 11 (55%) |
| College Graduate | 2 (22%) | 2 (18%) | 4 (20%) |

Note: Not all columns add to 100% due to rounding.

Chapter III: Overview of Research Findings

This chapter provides an overview of the results from both rounds of post-proposal research combined. Chapters IV and V then provide a more detailed description of findings from each round individually.

- Nearly all participants were able to successfully identify all fees on the “short form” disclosures when asked (*e.g.*, when asked whether there was a monthly fee, they could find the fee on the form). Although there were some misconceptions as to the details of some of the fees, the overall format of the forms proved easy for participants to navigate.
- Fees on the forms that could vary due to usage were followed by superscript asterisks (*). In Round 4, this asterisk was linked to text stating that “fees can be lower depending on how and where this card is used.” Approximately half of participants in that round noticed the asterisks and understood that fees with asterisks could vary. However, some participants also incorrectly applied this statement to fees without asterisks, and mistakenly concluded that these fees could vary as well. To alleviate this confusion by more purposefully directing participants’ attention to the appropriate fee, the text in Round 5 was reworded to say “*this fee* can be lower depending on how and where this card is used” and the font size for the asterisk was increased. Participants’ comprehension was higher in the final round of testing; almost all participants correctly applied the text to fees with an asterisk, and fewer misapplied the text to fees without an asterisk.
- Some of the forms tested in these two rounds included a second type of symbol—a superscript “dagger” (†) which appeared next to the monthly fee and was linked to a statement about situations in which the monthly fee would be waived or discounted. Across both rounds, most participants saw this dagger and were able to link it to the appropriate language.
- When comparing two forms representing two different prepaid cards, most participants were able to compare fees between forms and reach a decision as to which card would be best for their circumstances. This was true even when one of the forms described a card with a more complex, multiple fee plan structure.
- In addition to providing information about a subset of key fees and features, the forms also disclosed the number of other fees beyond those listed that could also be charged. All but one participant was able to identify information on the form about where to get information about the additional fees that were not shown.
- The forms tested included statements that the prepaid provider also charged other fees not listed on the form. Some participants mistakenly interpreted this to indicate fees could vary, even if the fee did not have an asterisk next to it. For example, when asked whether the cash reload fee might ever be larger than what was shown on the form, 2 participants noted that it could be larger because “other fees” might apply. Similarly, another participant reached that conclusion regarding the ATM fee.
- The forms used in Round 5 included a statement below the static fees to help explain the non-static, or incidence-based fees. This statement was two lines long, and indicated that along with the fees listed at the top of the form (*i.e.*, the static fees), the prepaid provider also charges “[x]



additional fees,” and that the fees shown below that line were the “most common” of those additional fees. In between these two statements was an additional sentence about how to get additional information about the card’s fees. This statement was intended to clarify why some fees were disclosed on the form and others were not. However, participants largely ignored this statement when answering questions about the form, and almost all had difficulty explaining what it meant. Even after reading the statement, only one of the participants could explain the difference between the fees that appeared above and below that text.

- Approximately half of participants understood that the “cash reload fee” on the form would not apply if a cardholder loaded funds in forms other than cash (*i.e.*, through direct deposit or online using a debit card).
- When reviewing forms that showed a single fee for “customer service,” some Round 4 participants thought this fee would apply whether they spoke to a live customer service agent or used the provider’s automated system to get information about their accounts. In order to clarify when this fee would apply, some Round 5 forms referred instead to “live customer service.” This change seemed to be effective; all but one participant in Round 5 understood that this fee would apply only if they spoke to a customer service agent. One form that was tested disclosed two different customer service fees, one for live service and one for automated service. All participants who saw this form understood the distinction between these two fees, and could identify which would apply in a given situation.
- Forms included an “inactivity fee” that would be charged each month after cardholders did not use the card for three months. All participants understood after reviewing the forms that they would be charged a fee if they did not use their prepaid account for an extended period of time. However, some participants did not understand exactly when or how often this fee would be charged.
- Several of the forms used in testing disclosed a single fee for ATM withdrawals, representing a situation in which the fee a company charged did not depend on the ATM that was used (*i.e.*, there was no distinction between “in-network” and “out-of-network” ATMs). All participants seemed to understand that this fee would not depend on whether the cardholder used an in-network or out-of-network ATM.
- Some of the forms that participants reviewed indicated that the card had a credit feature that could be offered after 30 days, and that fees would apply. Upon reviewing these forms, all participants understood that they might be charged fees if they used this credit feature. Almost all participants understood that they would not necessarily be offered the opportunity to participate in the program, and that the program would not be available until 30 days after they purchased the card.
- Each form described credit features in one of three ways: as “credit,” “overdraft,” or “credit/overdraft.” Although participants generally understood the concept of “overdraft,” their opinions varied on how overdraft fee structures and fee amounts would manifest. Similarly, participants generally understand “credit” to be a loan of some amount of money. However, participants had diverse ideas about how that loan might be structured and what fees might be charged. In particular, participants did not generally link “credit” to overdraft protection.

- When forms stated whether a card offered FDIC insurance, participants generally saw and understood this information. When shown a form that did not explicitly state whether the card offered FDIC insurance, most participants assumed it did not. When asked to explain the purpose of FDIC insurance, most participants understood it to be a positive feature. However, less than half of participants were able to accurately explain what FDIC insurance would protect against; for example, many incorrectly thought that FDIC insurance would protect their money if their card was stolen, or in the case of fraud.
- In both rounds, one of the model forms shown to participants provided information for a card that offered multiple service plans. When reviewing these forms, all participants understood that the card disclosed fees for multiple distinct fee plans.
- The forms included a reference to a CFPB website that would provide information about prepaid cards. Most participants understood this reference, although a few did not.
- Participants were also shown forms meant to represent payroll or government benefit cards. Each of these forms included a statement at the top explaining that other methods were also available for potential card recipients to receive their wages or benefits. Participants directed to read this statement in Round 4 clearly understood that they did not have to accept their wages on the card. However, when asked to review the form as a whole without being directed to this language, approximately half of the participants in Round 5 did not appear to notice this statement at the top until it was pointed out to them. The wording of these statements did not appear to affect whether or not participants said they would be interested in receiving wages or benefits via the card; rather, participants appeared to base this decision primarily on whether they had another method (*e.g.*, direct deposit) that they would prefer to use.
- Forms for payroll or government benefit cards included text below and outside of the confines of the short form disclosure about situations in which cardholders could receive certain services or information for free. Most participants located and understood this text; a few did not.
- Round 5 participants were shown a “long form” which provided comprehensive fee and feature information for the government benefit card, including full fee amounts and descriptions of the circumstances under which the fees would be imposed. When asked about a fee that did not appear on or with the short form, almost all participants referred to the long form and were able to successfully find the information they were looking for.
- Almost all participants understood that if a fee was listed as “N/A,” it meant that the card did not offer the service associated with that fee. For example, when shown a form that listed a cash reload fee of “N/A,” participants generally understood that this meant they could not load cash onto the card.
- Participants in Round 5 were also shown forms meant to represent the terms of non-reloadable prepaid cards—that is, cards purchased at retail onto which money can only be loaded once. Two different forms were tested—one that used a tabular structure similar to that of the other forms, and one that disclosed basic information about the card in narrative form. Regardless of which of the two forms they were reviewing, participants clearly understood that the card being described could not be reloaded. None of the participants expressed confusion about how the card being described would work, or about its terms or fees.

Chapter IV: Findings from the Fourth Round of Consumer Interviews

ICF conducted 9 in-depth interviews with consumers in Arlington, Virginia on July 21 and 22, 2015. The purpose of the interviews was to assess how well participants could understand and use the content presented in the revised model forms developed by the CFPB team. This chapter describes the forms, the interview protocol, and findings from Round 4 of testing.

Description of Forms Tested

All forms designed for this round were short forms that showed only a subset of the key fees and features that would apply to a particular product, rather than all fees that could possibly be charged and all features that could be offered. Each form listed the names of several fees and the amount of each fee, presented in a tabular format. The fees included a set of static fees that appeared on all the forms (*i.e.*, monthly, per purchase, ATM withdrawal, cash reload, ATM balance inquiry, customer service, and inactivity fees) as well as incidence-based fees (some of which varied between forms). Below the table of fees were several pieces of explanatory text related to the fees and other features, including a note as to whether (and under what general circumstances) overdraft or credit would be offered, text recommending to consumers that they register their cards to protect their money, and instructions for accessing general information about prepaid cards through the CFPB website. Some of the forms included text indicating whether or not the card offered FDIC insurance. The model forms tested also included a sentence informing consumers that “We charge [x] other fees not listed here,” as well as text stating, “Find details on all fees and services inside the package or call 800-234-5678 or visit bit.ly/XYZprepaids.”

The forms that were shown to Round 4 participants are provided in Appendix B, and differed as follows:

- **Forms SF1A, SF1B, and SF2** all presented the fees and features in a similar layout. These forms displayed the four most important fees—monthly, per purchase, ATM withdrawal, and cash reload fees—in larger, bold print across the top of the form.⁴ Other fees, which included static and incidence-based fees, were shown in a list below that top line. The fee amounts and types of incidence-based fees that were listed were almost identical between Forms SF1A and SF1B, but differed from those of Form SF2. Other important differences between these forms were:
 - All three forms included a superscript asterisk next to one or more fees, linked to text stating, “Fees can be lower depending on how and where this card is used.” Forms SF1A and SF2 also included a small superscript dagger next to the monthly fee, linked to different text describing situations in which there would be no monthly fee (*e.g.*, “No monthly fee with direct deposit.”)
 - Form SF1A stated that “We may offer credit after 30 days,” while Form SF1B had similar text stating that “We may offer overdraft after 30 days.” Form SF2 stated, “No overdraft or credit-related features offered.”

⁴ Throughout the rest of this report, these four fees will be referred to as the “top-line” fees.



- Forms SF1A and SF1B included text in a shaded area at the bottom stating “We also offer a pay-as-you-go plan.” Form SF2 did not include that text.
- The language about card protections varied among the three forms. Form SF1A stated, “Register your card for FDIC insurance and other protections.” Form SF1B did not mention FDIC insurance, but instead stated simply, “Register your card to protect your money.” Form SF2 stated, “No FDIC insurance. Register your card for other protections.”
- **Forms MSP1 and MSP2** each described multiple service plans available for the same product. MSP2 presented three plans, labeled “pay-as-you-go,” “monthly plan,” and “yearly” plan.” MSP1 showed the pay-as-you-go and monthly plans, but not the yearly plan. On both forms, the list of fees for each of the plans was shown in a separate column. The order in which the fees were disclosed was approximately the same as on the SF forms, although the most important fees were presented in bold in the first few rows of the list, rather than as a larger “top line.” Again, the MSP forms provided additional information about card features below the list; this content was similar to that in the SF forms.
- **Forms PG1 and PG2** represented short form fee disclosures associated with a payroll card account. The format and content of the forms was very similar to that of the SF forms, with three main exceptions. First, because payroll card accounts typically do not allow cash reloads by consumers and do not charge inactivity fees, these fees were shown as “N/A” (PG1) or “Not offered”/ “None” (PG2). Second, both forms included additional information below and outside the confines of the short form disclosure describing situations in which cardholders could access certain services for free (*e.g.*, “First 3 ATM withdrawals per pay period are free”). Third, both of the PG forms included a statement in a shaded area at the top of the form informing consumers that they had other options for receiving their wages. The wording of this statement varied between PG1 and PG2.

Description of Interview Protocol

The interviews followed a semi-structured protocol developed by ICF and the CFPB. Each interview began with a brief introductory discussion of the participant’s prior experience with prepaid cards. Participants were then asked to imagine that they were starting a new job, and that their new employer provided them with information about a payroll card through which they could receive their wages. They were given either PG1 or PG2, and first asked to read the statement in the shaded area at the top. After being asked questions about that statement, the participants reviewed the entire form. They were then asked a series of questions to test their understanding of the information on that form.⁵

⁵ On the first day of interviews, participants were asked to review the PG forms at the end of the interview, rather than the beginning. ICF and CFPB made the decision to move this section to the beginning for Day 2 interviews, because they were concerned that after seeing so many other similar forms participants were not reading PG1 and PG2 closely enough for ICF and CFPB to accurately assess their understanding.

In the next section of the interview, participants were shown either SF1A or SF1B and asked to review it while “thinking aloud”⁶, after which they were asked a series of questions to assess their understanding of the content on that form. They were then shown either MSP1 or MSP2, asked to think aloud while reviewing that form, and then asked another series of comprehension questions about that form. They were then asked to compare the two forms they had seen (*i.e.*, either SF1A/B and either MSP1/2), and imagine they were in a store choosing between those two cards. They were asked to think aloud as they made examined their options, and then to indicate of the two which they would choose to purchase, and to explain their reasoning for doing so.

Participants were then asked to compare either SF1A or SF1B (whichever they had already been shown) and SF2. Again, they were asked to think aloud as they compared their options, and then to indicate which of the two they would choose to purchase, as well as the reasoning behind that decision. They were then asked a series of questions to test their comprehension of the content on SF2, and how it compared to SF1A/B. In the final portion of the interview, participants were asked several more questions about their prior experience with prepaid cards.⁷

Summary of Findings

Short Forms (Forms SF1A, SF1B, and SF2)

Identification of Basic Fee Amounts

- When shown Forms SF1A or SF1B, all participants were able to correctly identify the ATM withdrawal fee, monthly fee, cash reload fee, inactivity fee, customer service fee, and inactivity disclosed on the form. Participants’ understanding of how these fees might potentially be different in some situations varied, as described below.

Awareness and Understanding of Fee Asterisks

- Forms SF1A and SF1B each showed a cash reload fee with a superscript asterisk linked to text stating: “Fees can be lower depending on how and where this card is used.” When asked if the cash reload fee might vary, 6 of the 9 participants said that it could and correctly referenced the language associated with the asterisk when explaining their answer. Two of the other 3 participants said that the fee could be higher than what was shown but not lower, and cited as an explanation the “6 other fees” mentioned on the form rather than the asterisk. The remaining participant said that the fee could be higher or lower than what was shown; he⁸ noticed the asterisk, but did not appear to link it to the associated text.
- Certain other fees on the forms for this round did not include an asterisk, implying that these fees could *not* vary. While most participants understood that the absence of an asterisk meant

⁶ This type of “think aloud” technique is typical in cognitive interviews to test the usability of forms or other documents. Participants are asked to “think aloud” as they review a document—that is, to describe what they are looking at and their reaction to it, including whether any of the information surprises or confuses them.

⁷ These questions were asked at the end of the interview so that they would not influence or bias participants’ reactions to the forms they were shown.

⁸ To protect participants’ anonymity, in this report we have used male pronouns when referring to any participant regardless of his or her actual gender.



that these fees would be constant, there were a few that mistakenly thought that the fees still could change.

- The cash reload fee on Form SF2 did not include an asterisk. When asked whether he thought this fee could ever be different from what was shown, one participant mistakenly applied the text associated with the asterisk (“Fees can be lower...”) to the cash reload fee, and therefore incorrectly thought the fee could vary. The remaining participants did not mistakenly connect the asterisk with the cash reload fee.
- On Forms SF1A and SF1B, the ATM cash withdrawal fee did not have an asterisk. When asked whether this fee might ever vary, 4 of 9 participants said that it could and based their answer on text they saw on the form.⁹ Of these 4 participants, 3 mistakenly applied the text linked to the asterisk to the ATM withdrawal fee. The fourth participant said that the ATM withdrawal fee might be higher because of the “6 other fees” not listed on the form.

Variations in Monthly Fees

- Forms SF1A and SF1B disclosed potential variations in monthly fees in two different ways. SF1A showed a monthly fee with a superscript dagger linked to text indicating that there would be “no monthly fee with direct deposit.” On SF1B, on the other hand, the monthly fee had an asterisk linked to more generic language indicating that “fees could be lower depending on how and where this card is used.” SF1A also included this more general language, but the monthly fee did not have an asterisk.
 - Three out of 5 participants that saw SF1A correctly linked the dagger to the associated text and understood that the monthly fee could be \$0 if they loaded the card via direct deposit. The remaining 2 participants incorrectly stated that the monthly fee could not vary. None of the participants mistakenly referenced the text connected to the asterisk when discussing the monthly fee.
 - Three out of 4 participants that saw SF1B correctly linked the asterisk to the associated text and understood that the monthly fee could be lower in some situations. The remaining participant also thought the monthly fee could vary, but incorrectly thought it could be smaller or larger depending on the amount loaded, indicating that they did not see the asterisk and linked text.

Additional Fees Not Shown on Form

- All of the forms tested in this round included a bolded statement that read “We charge [x] other fees not listed here” located in the bottom section of the form below the asterisk and dagger language.¹⁰ This disclosure caused some participants to want to know more about the fees not listed.

⁹ A fifth participant indicated that the ATM withdrawal fee might “vary” in that users might be charged an additional fee by the operator of the ATM.

¹⁰ The CFPB included this statement indicating exactly how many additional fees could apply in its proposed model short form disclosures to encourage consumers to seek out more information about a prepaid account before acquisition. See 79 FR 77102, 77164.



- In some cases, this statement appeared to affect participants' interpretation of whether fees listed on the form could vary—information intended to be imparted by the asterisk or dagger language. For example, when asked whether the cash reload fee might ever be larger than what was shown on the form, 2 participants noted that it could be larger because “other fees” might apply. Similarly, another participant thought that the ATM fee might sometimes be larger than what was shown on the form because “other fees” might apply.

Availability of Additional Information

- When participants were asked how they could learn more about “other fees” not shown on the form, all participants correctly cited at least one of the sources of information in the shaded row at the bottom of the form. All 9 participants mentioned that they could go online to get information about other fees, and 7 of the 9 said that they could call the company's customer service line. None of the participants mentioned that they could look inside the package to get more information.
- When asked about the *cfpb.gov/prepays* website, all but one participant immediately understood that the website was administered by the government, and understood that it would contain general information about prepaid cards rather than specific terms and fees for this card. Participants thought that the general information on the site might include frequently asked questions about prepaid cards, a description of relevant laws or regulations, or recommendations as to which prepaid cards were best for consumers. The remaining participant was initially confused, but eventually realized that the website was administered by the government. He also thought this website would provide more detailed information about this specific prepaid card, rather than general information about prepaid card products as a whole.

Applicability of Cash Reload Fee to Other Methods for Loading Funds

- Participants were asked if they thought they would be charged the cash reload fee if they reloaded their prepaid card by direct deposit. Of the 9 participants, 5 correctly thought the cash reload fee would not apply in this situation. Two participants thought that the cash reload fee would apply, while the 2 other participants were not sure.
- Of the 5 participants that thought the reload fee would not apply, 2 correctly explained that it would not apply because the fee only applied to reloading of “cash” onto the card. Two based their answer not on anything they saw on the form, but on an assumption that companies generally do not charge fees for direct deposit. The fifth participant incorrectly referenced the dagger text relating to direct deposit regarding the monthly fee when explaining his answer (*i.e.*, the text noting “no monthly fee with direct deposit,” which was not intended to apply to the cash reload fee).
- One participant commented that while the cash reload fee would “probably not” apply if he reloaded his card through direct deposit, he might be charged one of the “6 other fees” mentioned on the form.

Customer Service Fee

- The “customer service fee” shown on Forms SF1A and SF1B had an asterisk, indicating that the fee could sometimes be lower than the amount shown. Participants were asked whether they thought this fee depended on whether they spoke to a live person or used an automated



system. Five out of the 9 participants incorrectly assumed the fee would remain the same whether the service was live or automated. One participant said there was not enough information on the form to know whether or not the same fee would be charged for both types of customer service. The other 3 assumed that the fee for automated service would be lower than the amount shown on the form (or potentially that there would be no fee). However, at least 2 of these participants based this assumption on past personal experience, rather than on the asterisk that appeared with the fee.

- Form SF2 included parenthetical text next to the customer service fee that read: “automated or live agent” and listed two different fees. All participants understood the distinction between these two fees, and could identify which would apply in a given situation.

Reference to Alternative Fee Plan

- Forms SF1A and SF1B included a shaded area at the bottom that included the following statement: “We also offer a pay-as-you-go plan.” While some of the participants noticed this statement during their initial review of the form, none mentioned the pay-as-you-go plan when asked subsequent questions about whether the fee amounts they paid might be different than those shown on the form.
- When asked what this statement meant, approximately half understood that the “pay-as-you-go plan” was a different fee scheme than one described on the card, although most commented that they were unsure exactly what the phrase meant. The other half of participants did not seem to understand that the “pay-as-you-go plan” was a different fee scheme, although it was not clear whether this was because they were unfamiliar with the concept of multiple fee plans or because they simply didn’t understand the phrase “pay-as-you-go.”
- When asked how they could find more information about the pay-as-you-go plan, all participants correctly identified the various options listed on the form (*i.e.*, look inside the package, call the 800 number, or visit bit.ly/XYZprepaids).

Inactivity Fee

- The inactivity fee on Round 4 forms included parenthetical text that stated: “no transactions for 3 months.” After reviewing the forms, all participants understood that they could be charged a fee if they did not use their card for some period of time. When asked how many times they would be charged this fee if they did not use the card for a year, 6 of the 9 participants correctly indicated that they would be charged the fee 9 times (*i.e.*, every month after the first three). One participant incorrectly said he would be charged the fee in each of the 12 months, and one participant thought he would be charged the fee four times (*i.e.*, every three months). The remaining participant indicated that based on the wording, he was unsure whether the inactivity fee would be charged for 9 months or for 12 months (*i.e.*, if the fee could be charged retroactively after the first 3 months).

In-Network vs. Out-of-Network ATM Withdrawal Fees

- Both Forms SF1A and SF1B showed a single ATM withdrawal fee to represent a situation in which a prepaid company might charge the same fee for withdrawing cash from in-network and out-of-network ATMs. While some participants incorrectly thought this fee might vary in some situations (see above), all seemed to understand that the company providing the card would not charge different fees depending on what network the cardholder used.



- Form SF2 listed two different fees for ATM withdrawals, one for in-network ATMs and one for out-of-network ATMs. All participants saw both fees, and understood the distinction between them.
- After being shown SF2, participants were then shown SF1A or SF1B again and asked whether they thought the ATM withdrawal fee for that card might vary based on whether they used an in-network or out-of-network ATM. All participants correctly indicated that for the cards described in SF1A and SF1B, there was no fee distinction based on which type of ATM was used.

Comparison of SF1A/B vs. SF2

- Participants were asked to review either SF1A or SF1B and SF2, to choose which of the two cards they would purchase for their own use, and to explain the reasons for their choice.¹¹ Most participants were generally able to accurately compare fees between the two cards and make a selection based on how they would use the card. However, a few participants did not seem to take the text linked to the asterisk into account when comparing fees between forms. For example, a few participants stated that SF2 had a lower cash reload fee than SF1A/B, but did not mention that the fee on SF1A/B could actually be lower depending on how and where the card is used.

Overdraft and Credit Programs

- Form SF1A included a statement that read: “We may offer credit after 30 days. Fees would apply.” Form SF1B included a statement that was identical except that it referred to “overdraft” instead of “credit.” When asked about the programs described in Forms SF1A and SF1B, all but 2 participants understood that they would not necessarily be offered credit or overdraft by the prepaid provider (based on the fact that the form says the company “*may offer*” the program). All participants understood that they might be charged fees if they participated in the program. All but 2 participants also understood that the program would not be available immediately, but only “after 30 days.” The remaining 2 participants did not see this phrase, and said they did not know whether the program would be available immediately.
- Form SF2 included a statement that read: “No overdraft or credit-related features offered.” When asked what would happen if the consumer tried to make a purchase for more money than the amount loaded on the card described in SF2, all participants correctly responded that the transaction would not go through, and referred to this statement on the form when explaining their answers.
- When asked what would happen if they tried to make a purchase with this card for more money than they had loaded onto the card, 5 participants (3 of 5 who saw SF1A and 2 of 4 who saw SF1B) noted that in some cases the transaction might be allowed because of the statement on the form about credit or overdraft. The other 4 participants did not reference the statement about credit or overdraft when answering, and said that the transaction would be declined.

¹¹ For this and all other shopping comparison exercises in Rounds 4 and 5, researchers did not attempt to determine whether each participant made the “correct” selection between the two prototypes, because this would have required more detailed information about each participant’s prepaid card usage patterns.



- When the 5 participants that saw SF1A were asked what they thought the reference to “credit” meant, their responses varied. Two participants thought the reference to credit meant that the prepaid card might also function as a credit card. Two other participants said that the “credit” offered might be similar to overdraft protection; one used the word “overdraft” in his explanation, while the other did not use that word but described a scenario very similar to an overdraft. The final participant said that the prepaid provider might provide “some amount of credit” to cardholders, but did not offer any additional explanation.
- When participants that saw SF1B were asked what they thought the phrase “we may offer overdraft” meant, all 4 participants were able to explain that this meant they would be allowed to spend more money than they had on the card in exchange for a fee.

FDIC Insurance

- Form SF1A included a statement that read: “Register your card for FDIC insurance and other protections.” When asked whether this card offered FDIC insurance, 4 out of 5 participants who were shown this form referenced this statement and correctly said that the card did offer FDIC insurance. The remaining participant did not appear to notice the statement, and said that the card “might” offer FDIC insurance.
- Form SF1B did not reference FDIC insurance explicitly, but instead included the statement: “Register your card to protect your money” (which was intended, pursuant to the CFPB’s proposed model forms, to indicate that FDIC insurance was available). When asked if they thought that this card offered FDIC insurance, 3 out of the 4 participants who were shown this form assumed that it did not. The remaining participant, who had not heard of FDIC insurance before the interview, thought that cardholders could perhaps purchase this insurance for an additional fee.
- Form SF2 included a statement that read: “No FDIC insurance. Register your card for other protections.” All participants saw this text and understood that the card described in Form SF2 did not offer FDIC insurance.
- After being shown SF2, the 4 participants that had originally been shown SF1B earlier in the interview were given that form again and asked whether they now believed those cards offered FDIC insurance. Despite the fact that SF2 explicitly stated that the card did not offer FDIC insurance and SF1B did not reference FDIC insurance explicitly, none of the participants indicated that their beliefs about SF1B had changed after seeing Form SF2; –all 3 participants that had initially thought SF1B did not offer FDIC insurance still believed that it did not.
- In order to assess participants’ background understanding of FDIC insurance, they were asked to explain in their own words what this insurance protected against. Two participants understood that FDIC insurance was designed to protect their money in case of a bank failure. Four participants said that FDIC insurance would protect their money if their card was stolen or in the case of fraud, indicating that they did not understand the purpose of FDIC insurance. The remaining three participants said they had never heard of FDIC insurance.

Other Fees Charged by Third Parties

- At the end of the interview, participants were asked whether anyone might charge them a fee when they reloaded their card other than the company issuing the card. Almost all participants



identified organizations that might do so, including the retailer or the county or state (through taxes). However, it is important to note that none of the participants brought up the possibility that they might be charged fees by third parties when reloading their card until that specific question was posed by the interviewer.

- When asked whether fees charged by third parties for cash reloads would be included in the fee amount shown on the forms, 4 out of 9 participants assumed that these fees would be included. The other 5 participants thought that the fees would be in addition to the fee amount shown on the card.

Multiple Service Plan Forms (Forms MSP1 and MSP2)

- When shown one of the MSP forms, all but one participant quickly understood that the columns in the table represented different potential fee plans. For example, when asked what fee they would be charged for making a purchase, all participants indicated that they would be charged a fee under the pay-as-you-go plan but not under the monthly or yearly plans. The remaining participant initially seemed to be confused, but eventually understood that each column represented a distinct fee plan.
- Participants were then given either MSP1 or MSP2 along with either SF1A or SF1B, and asked to compare the two forms and indicate which card they would purchase for their own use. Nearly all participants were generally able to compare fees across the two forms. For example, one participant said that his selection would depend on how long he planned on using the card. He explained that if he planned to use it for a longer time, he would select the yearly plan because after paying the one-time yearly fee, the other fees are generally lower compared to the fees in other plans.
- A few participants initially seemed to react negatively to the amount of information on the MSP form. For example, one participant that selected SF1 said he chose that card in part because he liked the fact that there were fewer fees shown on the form. Another originally selected SF1, indicating that it was “less scary,” but eventually decided that he would purchase the card represented by the MSP form.

Payroll Card (Forms PG1 and PG2)

Statement about Options for Receiving Wages

- When participants were shown Form PG1 or PG2, they were instructed to first read the text in the shaded area at the top of the form. After reviewing this text, all participants understood that they would not be required to have their wages directly deposited onto the payroll card, and that they would have other options for receiving their wages.
- Unlike Form PG1, Form PG2 explicitly listed several options for receiving wages (*i.e.*, “by direct deposit to your bank account or prepaid card”). All participants that reviewed Form PG2 were able to identify these other ways that they could get their wages.
- Of the 5 participants that reviewed Form PG1 (which did not explicitly list other options for receiving wages), all 5 said that they thought they would be able to also receive their wages through a paper check. Four of the 5 said they could also receive their wages through direct deposit to a bank account.



- While the language used to indicate that consumers have options for receiving their wages differed between PG1 and PG2, neither version appeared to affect whether or not participants said they would be interested in receiving wages via the card. Participants appeared to base this decision primarily on whether they had another method (*e.g.*, direct deposit) that they would prefer to use.

Understanding of Fee Information

- All participants were able to correctly identify the bank teller cash withdrawal fee shown on the PG form they reviewed, as well as the in-network and out-of-network ATM fees.
- PG1 listed the cash reload fee as “N/A” and PG2 listed the cash reload fee as “Not Offered.” All but one participant correctly understood that “N/A” or “Not Offered” meant that they could not load funds onto this card themselves. The remaining participant, who reviewed PG1, incorrectly thought he would be able to reload cash onto the card, and that “N/A” meant he would not be charged a fee for doing so.
- Both PG1 and PG2 showed a \$2.50 fee for bank teller cash withdrawals. However, this fee included an asterisk connected to text that stated: “Fees can be lower depending on how and where this card is used. See below for free ways to access your funds and balance information.” Below and outside the confines of the short form, there was text explaining circumstances when fees would be discounted or waived, including one free bank teller cash withdrawal per pay period. As stated above, all participants correctly identified the standard fee they would pay for bank teller cash withdrawals. When asked if the fee might be different than that amount, 4 out of the 9 participants correctly said they would not be charged a fee for their first withdrawal, and cited the information below the short form disclosure. The other 5 participants followed the asterisk and noted that this fee could vary depending on how and where the card is used. However, they did not follow the reference in this text to the language below the table.
- Both PG1 and PG2 showed a \$1.95 fee for out-of-network ATM withdrawals, with an asterisk connected to the text (described above) indicating that fees can be lower depending on card usage. Below and outside the confines of the short form disclosure, there was text stating that the first 3 ATM withdrawals per pay period are free. When asked if they could withdraw cash from an ATM without being charged a fee, 6 out of 9 participants correctly stated that they would not be charged a fee for their first three withdrawals, and cited this text below the short form disclosure. The other 3 participants followed the asterisk and noted that this fee could vary depending on how and where the card is used. However, they did not appear to see the text below the short form disclosure, and could not identify any situations in which they would not be charged a fee for withdrawing cash from an out-of-network ATM.

Revisions to Designs of Round 5 Forms

At the end of Round 4, ICF and the CFPB considered how the findings from the fourth round of testing could be used to inform the development of forms for testing in Round 5. Based on these findings, ICF and CFPB made several changes to the forms:

- Most participants in Round 4 commented on the statement on the forms that “we charge [x] other fees,” and some expressed an interest in learning more about those “other fees” not listed. However, this statement also appeared to make some participants less certain about the



potential for variation in the fees that were disclosed. In order to clarify to consumers why some fees appeared on the form and others did not, all of the forms used in Round 5 included a row in the middle stating that “We charge [x] additional fees...these are our most common.” Static fees appeared above this row, while incidence-based fees appeared below it.

- Because some participants in Round 4 incorrectly thought that the “other fees” mentioned might affect the fees disclosed on the form, Round 5 forms instead referred to “additional fees.”
- When looking at a form that showed separate fees for live and automated customer service, all participants were able to distinguish the two fees and understood when they would apply. However, when looking at a form that showed only a single fee for customer service, some of the participants were unsure whether or not this fee would also apply if they used the company’s automated information system. In order to determine whether participants would find language clearer when a more specific single fee was disclosed, some of the forms tested in Round 5 referred to a fee for “live customer service.”
- The forms tested in this round included an asterisk linked to text stating that “fees can be lower depending on how and where this card is used.” In some cases, however, participants mistakenly applied that text to fees that did not include an asterisk. In order to clarify that this text only applies to fees with an asterisk, it was reworded for Round 5 as “*this fee* can be lower depending on how and where this card is used.”
- Because some participants in Round 4 seemed unsure as to which fee(s) the superscript asterisk and dagger applied, the font size of these symbols in top-line fees was increased in the forms used in Round 5 to improve visibility.
- Because some participants in Round 4 misunderstood when and how often the inactivity fee would be charged, the parenthetical description next to the label for that fee was changed from “no transactions for 3 months” to “after 3 months with no transactions.”
- Although Forms 1A and 1B included text indicating that the card also offered a “pay-as-you-go plan,” no participants ever referenced this text without being prompted. In addition, most participants indicated that they were unsure what the phrase “pay-as-you-go” meant. For these reasons, references to the “pay-as-you-go plan” were removed from these two short forms for the next round of testing.

The CFPB then developed revised forms based on these findings and other considerations that were tested in a final round of interviews. The forms were then tested through a fifth and final round of interviews. The results of these interviews are described in the next chapter of this report.



Chapter V: Findings from the Fifth Round of Consumer Interviews

Round 5 consisted of 11 in-depth interviews with consumers in Milwaukee, Wisconsin on August 17 and 18, 2015. Again, the goal of these interviews was to assess the clarity and usability of the revised forms.

Description of Forms Tested

Except where otherwise specified, the forms used in Round 5, like those in Round 4, were short forms displaying a subset of fees and features. These fees included both static fees that appeared on each form and incidence-based fees (some of which varied between forms). The forms for Round 5, which are provided in Appendix C, were similar to these used in Round 4 except as noted below.

- **Forms SF3A, SF3B, and SF4** were very similar in structure and content to Forms SF1A, SF1B, and SF2, respectively, from Round 4. The important differences between the SF forms used in Rounds 4 and 5 were:
 - Forms SF1A and SF1B in Round 4 included a statement that “We offer a pay-as-you-go plan”; Forms SF3A and SF3B did not include this statement. This statement was removed from the forms used in Round 5 because in Round 4, it did not appear effective in helping participants understand the availability of fee plans in addition to the one disclosed on the short form.
 - SF1A and SF3A used different approaches to indicate that there would be no monthly fee if the customer used direct deposit to load funds onto his or her card. In Round 4, SF1A showed a monthly fee of \$4.95, along with a superscript dagger linked to text stating “No monthly fee with direct deposit.” In Round 5, SF3A expressed the monthly fee as a two-tier fee in the top line—\$4.95, and “\$0 w/direct deposit.” The \$0 monthly fee amount on SF3A also included a superscript dagger linked to text stating “Also no monthly fee with \$500 total deposits per month.” This approach was tested in Round 5 to see if it improved the extent to which participants noticed and understood the waiver/discount language associated with the periodic fee.
 - On SF3A and SF3B, the fee that customers would be charged for calling for assistance was specifically described as a fee for “live customer service.” Including the word “live” in the description was tested as an alternative to two other approaches: (a) the use of the general term “customer service” with an asterisk to indicate that the fee could vary based on the type of service that the customer used; and (b) a two-tier listing of fees for live and automated customer service.
 - Between the static and incidence-based fees in the list, a row was added in the forms for this round that included the statement, “We charge [x] additional fees. Details on fees inside the package, at 800-234-5678 or at bit.ly/XYZprepaids. These are our most common:...”¹² This row was added to clarify for participants that the incidence-based

¹² In Round 4, the forms listed the number of other fees not listed on the form. This number did not include the fees listed on the form as incidence-based fees. In Round 5, because this statement was moved above the incidence-based fees, the number of additional fees *did* include incidence-based fees.



fees listed were the most common of the “additional” fees and that an unlisted fee did not mean the feature was not offered.

- Forms in Round 4 included an asterisk next to some fees, linked to language that “Fees can be lower depending on how and where this card is used.” To clarify that this language only applied to fees with an asterisk, the asterisk language for Round 5 forms was reworded as “*This fee* can be lower depending on how and where this card is used.”
- The font size of the superscript asterisk and dagger in the top line was increased in Round 5 to help clarify to which fees the symbol applied.
- **Forms MSP3 and MSP4** were very similar in structure and content to Forms MSP1 and MSP2 from the previous round, except for relatively minor revisions to the fees and fee amounts shown on the forms. The most significant difference was that MSP3 and MSP4 included the same new row as the SF forms between the static and incidence-based fees.
- **Forms PG3 and PG4** were very similar in structure and content to Forms PG1 and PG2 from the previous round. These forms included the same row between the static and incidence-based fees as the SF and MSP forms for this round. There also small differences in wording in the text of these forms compared to PG1 and PG2 to reflect the fact that these were meant to represent cards onto which government benefits would be loaded, rather than payroll cards. Forms PG3 and PG4 were identical to each other except for the wording of the statement at the top informing consumers that they had other options for receiving their benefits.
- **Form LF1**, unlike all other forms used in Rounds 4 and 5, displayed information about all fees associated with the account and the conditions under which those fees would be charged. This information was shown in a single full-page table. The account represented in Form LF1 was the same government benefit account described by Forms PG3 and PG4—that is, PG3 and PG4 disclosed a subset of the information provided in LF1.
- **Forms NR1 and NR2** represented fee disclosures associated with a non-reloadable prepaid card—that is, a card onto which money can only be loaded once and is then spent down. NR1 used a similar format to the SF forms, although due to the nature of a non-reloadable card almost all of the fees listed on the form were shown as \$0 or N/A. NR2 did not use the same tabular format as other forms, but instead provided basic information about the card in narrative form, highlighting the fact that the card was not reloadable and should be treated like cash. While their structures were very different, NR1 and NR2 were intended to describe the same prepaid card.

Description of Interview Protocol

As in Round 4, interviews in Round 5 followed a semi-structured protocol developed by ICF and the CFPB. Again, each interview began with a brief introductory discussion of the participant’s prior experience with prepaid cards. Participants were then asked to imagine that they were applying for unemployment benefits, and that the state benefits office provided them with information about a card they could use to receive those benefits. They were given either PG3 or PG4 along with LF1, and asked to review the forms as they might in this kind of situation. They were then asked a series of questions to test their understanding of the information on the forms.



In the next section of the interview, participants were shown SF3A or SF3B and asked to review it just as they normally would, after which they were asked a series of questions to assess their understanding of the content on that form. They were then given SF4 and either MSP3 or MSP4, and asked to imagine they were in a store choosing between those two cards. They were asked to indicate which they would purchase, and to explain their reasoning for doing so.

Participants were then asked to compare either SF3A or SF3B (whichever they had already been shown), and SF4. Again, they were asked to indicate which of the two they would choose to purchase, as well as the reasoning behind that decision. They were then asked a series of questions to test their comprehension of the content of SF4, and how it compared to SF3A/B. In the final portion of the interview, participants were shown NR1 and NR2 (one at a time) and asked questions to assess their understanding of the information.

Summary of Findings

Short Forms (Forms SF3A, SF3B, and SF4)

Identification of Basic Fee Amounts

- When shown Forms SF3A or SF3B, nearly all of the participants were able to correctly identify the ATM withdrawal fee, monthly fee, cash reload fee, customer service fees, and inactivity fee disclosed on the form. As in Round 4, their understanding of how these fees might potentially be different in some situations varied, as described below.

Awareness and Understanding of Fee Asterisks

- The cash reload fee on all SF forms included an asterisk linked to text stating: “This fee can be lower depending on how and where this card is used.” When asked if the cash reload fee might vary, 9 of 10 participants correctly cited the asterisk and said the fee could be lower. The other participant incorrectly said that the fee would never vary.¹³ Understanding of this asterisk was higher than it was in Round 4, when approximately half of participants noticed and correctly interpreted that information.
- The single ATM withdrawal fee shown on the SF forms did not include an asterisk, implying that fee could *not* vary. When asked whether this fee could be different from what was shown, 9 of the 11 participants understood that the fee would not vary. The remaining 2 participants stated that the ATM withdrawal fee could potentially be higher because of the reference to “additional fees” on the form. Unlike Round 4, none of the participants in this round mistakenly applied the asterisk text to the ATM withdrawal fee.

Variations in Monthly Fees

- Forms SF3A and SF3B disclosed potential variations in monthly fees in two different ways. SF3B showed a monthly fee of \$4.95, with a superscript dagger symbol linked to text indicating that there would be “no monthly fee with direct deposit.” SF3A, on the other hand, listed two different monthly fees in the top line: \$4.95, and “\$0 w/direct deposit.” SF3A also included a superscript dagger symbol next to the \$0 monthly fee amount, linked to text indicating that

¹³ One participant was not asked this series of questions because he incorrectly said that the card did not charge a cash reload fee.



there would also be no monthly fee with \$500 total deposits per month. Regardless of which version they were shown, all participants understood that the monthly fee could be \$0 in some situations, and were all able to correctly identify those situations.

- While all participants were able to successfully follow the dagger to the appropriate text, almost half of participants also incorrectly linked this fee to the text associated with the asterisk language (“This fee can be lower depending on how and when this card is used”). While this statement was not necessarily untrue, it was not intended to apply to the monthly fee.

Additional Fees Not Shown on Form

- When participants were asked whether they could be charged any fees other than those listed on the form, all understood that they could. When asked to explain their answer, most of these participants specifically referenced the text on the form stating that “we charge [x] additional fees.” A few, however, did not cite that text when explaining their answer and instead seemed to believe based on experience that they could be charged “hidden fees” that did not appear on the form.
- As in Round 4, there were a few instances where some participants mistakenly interpreted this statement to indicate fees could vary, even if the fee did not have an asterisk next to it. For example, as noted above, 2 participants thought the ATM withdrawal fee might potentially be higher than the amount shown on the form, because “additional fees” might apply. Participants in Round 5 mentioned this statement less frequently than in Round 4, perhaps because the placement of the statement on the form (i.e., in the middle of the fee table, rather than below) made the information less prominent.

Availability of Additional Information

- When asked how they could find information about additional fees not disclosed on the form, all but one participant correctly cited at least one of the sources of information mentioned on the form. Of these participants, 8 said that they could go to the company website to get this information, and 8 also said they could call the company using the phone number on the form. One participant mentioned that this information was also available inside the package. The remaining participant thought that more information about specific fees for this product would be available at the CFPB website cited on the form (*cf.gov/prepaid*).
- When asked about the *cf.gov/prepaid* website, most participants understood that this website was administered by the government. However, 3 participants did not realize that this site would be run by the government; one thought the site would be run by the company offering this specific card, while two were not sure.
- Most participants thought that the *cf.gov/prepaid* website would contain general information about prepaid cards, such as information about how to choose a prepaid card or potential risks of prepaid cards. However, a few participants also thought that this website would contain more detailed information about the terms and fees associated with this specific card (e.g., the “additional fees” not shown on the form).

Understanding of Incidence-Based Fees

- Participants were instructed to read a heading statement in the middle of the forms stating: “We charge [x] additional fees. Details on fees inside the package, at 800-234-5678 or at



bit.ly/XYZprepaids. These are our most common.”. They were then asked to explain why some fees appeared above this statement, while others appeared below. Only one participant was able to explain that the fees shown below this statement were the most common of the “additional fees” referenced on the form. Other participants had a variety of misunderstandings about why some fees were shown and others were not. For example, a few participants suggested that the fees shown on the form were probably the lowest fees, and those that were not shown were the higher fees that the company was trying to hide.

- A few participants were confused by the heading statement that the incidence-based fees shown were the “most common.” These participants incorrectly thought this text was saying that these fees were the most common *overall*, rather than the most common of those fees not shown at the top of the form. This confused them because they assumed that other fees shown in the top line of the form (*e.g.*, ATM withdrawal or per purchase fees) would actually be the most common, and this text appeared to contradict this assumption.
- The heading as tested did not seem to effectively clarify the relationship of “additional” fees to incidence-based fees. It is possible that removing the contact information from the heading line could improve comprehension. This would mean relocating the information of how to get information to the bottom portion of the Short Form.

Applicability of Cash Reload Fee to Other Methods for Loading Funds

- Participants were asked if they thought they would be charged the cash reload fee if they loaded funds online using a debit card. Of the 11 participants, 7 thought the cash reload fee would apply in this situation. Two participants did not think the cash reload fee would apply, while the remaining participant was not sure.¹⁴ Both participants that thought the cash reload fee would not apply assumed that they would be charged a different type of fee for this transaction; one specifically mentioned correctly that this might be one of the “9 additional fees” referenced on the form.
- While the cash reload fee is intended to disclose the fee for reload of cash only, most participants incorrectly assumed it included other reload methods but correctly understood that they could be charged for reloading their prepaid card using methods other than cash reload.

Customer Service Fee

- Forms SF3A and SF3B included a fee for “live customer service”. All participants understood that this fee would apply if they spoke to a live customer service agent, and most participants understood that the fee would not be charged if they used the company’s automated system to get information about their account. These participants assumed there would be no charge whatsoever for automated customer service.

Inactivity Fee

- The inactivity fee listed on both forms included parenthetical text indicating that the fee would be charged “after 3 months with no transactions.” All participants understood that they would be charged a periodic fee if they stopped using their prepaid cards. The language was adjusted

¹⁴ One participant was not asked this series of questions because he incorrectly stated that the card did not charge a cash reload fee.



between Rounds 4 and 5, with the intent of making it clearer to consumers when this fee would be charged. However, just as in the previous round, some participants misunderstood when and how often this fee would be charged. When asked how many times they would be charged this fee if they did not use their card for a year, 6 participants correctly indicated that they would be charged the fee 9 times (*i.e.*, every month after the first three). Four said that they would be charged the fee four times, possibly because they incorrectly thought the fee would be charged every three months. The remaining participant said he would be charged 12 times (possibly because he did not realize that the fee would not be charged until after the first three months).

Comparison of SF3A/B vs. SF4

- Participants were asked to review either SF3A or SF3B and SF4, and to choose which of the two cards they would purchase for their own use. Participants were generally able to accurately compare fees between the two cards and make a selection based on how they would use the card.
- Participants were given two scenarios and asked to compare the monthly fees that would be charged by both cards under each scenario.
 - In the first scenario, the participant was asked to imagine that every month they loaded \$200 to the card and made 40 purchases. When making their decision, all 11 participants noticed the dagger on at least one of the forms and referred to the associated language about when the monthly fee might be reduced or waived. Eight of the 11 participants correctly indicated that the monthly fee for SF4 would be lower and, citing the dagger language, that there would be no monthly fee with 30 transactions in a month. The other 3 participants did not understand that in this scenario, the monthly fee for SF4 would be waived.
 - In the second scenario, the participant was asked to imagine that they had their paycheck directly deposited into the prepaid card account, but only used the card a few times a month. In this case, 7 of the 11 participants correctly indicated that the monthly fee for SF3A/B would be \$0 if they used direct deposit. Three participants (all of whom were shown SF3A) incorrectly thought that the monthly fee would only be waived if they directly deposited at least \$500.¹⁵ The remaining participant incorrectly applied the text connected to the asterisk to the monthly fee on SF3A, rather than text connected to the dagger.
- One of the differences between the forms used in this comparison was that Forms SF3A and SF3B listed three IB fees, while Form SF4 listed only two IB fees. When comparing the forms, none of the participants commented on the fact that the forms listed different numbers of fees, or mentioned this difference when explaining their choice of card.

Overdraft and Credit Programs

- Form SF3A included a statement that read: “We may offer credit after 30 days. Fees would apply.” Form SF3B included a statement that was identical except that it referred to

¹⁵ In fact, SF3A indicated that the monthly fee would be \$0 if the cardholder had direct deposit *or* had \$500 total deposits in a given month.



“overdraft/credit” instead of “credit.” When asked about the programs described in Forms SF3A and SF3B, all participants understood that they would not necessarily be offered the opportunity to participate in the programs, and all understood that they might be charged fees. Almost all understood that the programs would not be available until 30 days after they purchased the card, although one participant incorrectly thought the program would be available immediately.

- Form SF4 included a statement that read: “No overdraft or credit-related features offered.” When asked whether the card described in SF4 offered an overdraft program, all participants saw this statement and understood that no such program was offered.
- When asked whether they thought the card described in these forms offered an overdraft program, 4 of the 5 participants who saw SF3B understood that it did. In comparison, only 1 of 6 participants who were looking at SF3A thought that the card offered an overdraft program.
- When asked what they thought the reference to “credit” in Form SF3A/3B might be describing, participants’ responses varied.
 - Of the 6 participants that were shown SF3A, two thought the reference to credit meant that the prepaid card might also function as a credit card. One thought the statement meant that some fees might be waived (*i.e.*, that the cardholder might get a “credit” for those fees). Two said that the reference meant that the company might provide a small amount of credit to cardholders (without any additional explanation), and the sixth participant said he did not know what the reference to credit meant. None of the participants that saw SF3A mentioned the word “overdraft” in their explanation.
 - Of the five participants that were shown SF3B (which referred to “overdraft/credit” rather than just “credit”), two said that in this context “credit” was a synonym for “overdraft.” One thought the reference to the word “credit” meant that the card might function as a credit card, while the remaining two said they did not know what it meant.
- Participants were asked if the fact that the card offered an overdraft or credit program would change the way they felt about the product. Approximately half said the presence of such a program would make them feel more positively toward the card, because they thought the program might be useful in some situations. Others said that the presence of an overdraft or credit program would make them feel more negatively toward a card, because they would be concerned about potential overdraft fees. One participant said the presence of such a program would not affect how he felt toward the product.

FDIC Insurance

- Form SF3A included a statement that read: “Register your card for FDIC insurance and other protections.” When asked whether this card offered FDIC insurance, all 6 participants who were shown this form saw this statement and understood that the card did offer FDIC insurance.
- Form SF3B did not reference FDIC insurance explicitly, but instead included the statement: “Register your card to protect your money.” Of the 5 participants that were initially shown SF3B, 4 did not think that the card offered FDIC insurance. The fifth participant thought the card



“probably” offered this insurance, since it was recommending to cardholders that they register their cards.

- Form SF4 included a statement that read: “No FDIC insurance. Register your card for other protections.” All participants saw this text, and understood that the card described in SF4 did not offer FDIC insurance.
- After seeing Form SF4, participants were again shown Form SF3B and asked if they thought that card offered FDIC insurance. Just as in Round 4, seeing SF4 had no impact on participants’ answers; 4 of the 5 participants who had initially been shown SF3B still thought that the card did not offer insurance, while the participant who initially thought it did continued to hold this belief.
- As in Round 4, participants were asked to explain in their own words what FDIC insurance protected against, in order to assess their background understanding. Approximately half of participants understood that FDIC insurance was designed to protect their money in the case of a bank failure. The other half misunderstood what FDIC insurance would protect against; for example, they indicated that FDIC insurance would protect their money if their card was stolen or in the case of fraud.

Multiple Service Plan Forms (Forms MSP3 and MSP4)

- When shown one of the MSP forms, approximately half of participants immediately understood that the columns represented different fee plan options. The other half of participants appeared to take several minutes to understand that each column represented a distinct fee plan, but as in Round 4, all participants eventually understood the structure of the form. For example, just as in the previous round, when asked what fee they would be charged for making a purchase, all participants indicated that they would be charged a fee under the pay-as-you-go plan but not under the monthly or annual plans.
- One of the columns in both MSP3 and MSP4 was labeled “Pay-As-You-Go.” Although all participants eventually understood that this column described one of the fee plans for this card, a few commented that they initially found this phrase confusing.
- Participants were given either MSP3 or MSP4 along with SF4, and asked to compare the two forms and indicate which card they would purchase for their own use. While some participants took some time to understand the structure of the MSP forms, all were generally able to compare fees between the two forms. When asked to explain their decision, most of these participants cited specific fee amounts. However, a few said they preferred SF4 over the MSP card because they found the form simpler and easier to understand. One participant that selected the MSP form did so because he liked the fact that he would be able to choose between multiple fee plans.
- The MSP forms listed a \$20 replacement card fee, with an asterisk linking to the statement: “This fee can be lower depending on how and where his card is used.” On the SF4 form, two replacement card fees were listed—a \$5 fee for “regular delivery” and a \$20 fee for “expedited delivery.” When asked which card had a lower replacement card fee, all participants initially indicated SF4, despite the asterisk language on the MSP forms indicating that the replacement card fee could be lower than the amount shown. When asked if there was any situation in which



the fee on SF4 might not be higher, approximately half pointed out that if the cardholder opted for expedited delivery, then both cards would charge the same \$20 fee. Two participants pointed out that the presence of the asterisk meant that the replacement card fee for the MSP form could be lower than \$20.

Government Benefits Card (Forms PG3, PG4, and LF1)

Statement about Options for Receiving Benefits

- After reviewing either Form PG3 or PG4, all but 2 of the participants understood that they would not be required to have their benefits directly deposited onto the card, and that they would have other options. Of the 9 participants that did understand that they had other options, 4 referenced the statement in the shaded box at the top of form when answering this question. The other 5 participants thought that they had other options based on personal experience or prior assumptions, rather than anything they saw on the form.
- Unlike Form PG3, Form PG4 explicitly listed several other options for receiving benefits (*i.e.*, “direct deposit to your bank account” and “direct deposit to your own prepaid card”). After being directed to read this statement, all 5 participants that reviewed PG4 were able to identify these other ways to receive their benefits.
- Of the 6 participants that reviewed Form PG3 (which did not explicitly list other options for receiving wages), 4 said they thought they would be able to receive their benefits via a paper check, and 2 of these 4 said that they could also receive benefits through direct deposit to a bank account. Two of the participants who reviewed Form PG3 said they did not know what other options they might have for receiving their benefits.
- The language used to indicate that consumers have options for receiving their benefits differed between PG3 and PG4. As in Round 4, neither version appeared to affect whether or not participants said they would be interested in receiving payments via the card; instead, this decision seemed to be based on whether they had another payment method (*e.g.*, direct deposit) that they would prefer to use.

Understanding of Fee Information

- Participants were given Form LF1 at the same time as PG3 or PG4, and asked to review the forms as they normally would. All participants looked at both forms during their initial scan of the information.
- All but one participant was able to correctly identify the per purchase fee shown on the forms they reviewed, and all participants correctly identified the in-network and out-of-network ATM fees.
- All participants understood that the fact that the cash reload fee was listed as “N/A” meant that cardholders could not load cash onto the card themselves.
- Both PG3 and PG4 showed a \$1.95 fee for out-of-network ATM withdrawals. However, this fee included an asterisk connected to text reading: “This fee can be lower depending on how and where this card is used. See below for free ways to access your funds and balance information.” Below and outside of the confines of the short form disclosure, there was text stating that the



first 3 out-of-network ATM withdrawals per month are free. LF1 also noted this information in the row providing additional details about out-of-network ATM fees. When asked if it was possible to withdraw money from an out-of-network ATM without being charged a fee, all 11 participants correctly stated that the first three withdrawals per month were free. Nine of the 11 participants got this information from the bottom of the PG form; the other 2 saw this information on Form LF1.

- The bill payment fee shown on PG3 and PG4 was \$1.00, and included the same asterisk as the out-of-network ATM withdrawal. While PG3 and PG4 did not include any more specific information about when this fee might be lower, Form LF1 clarified that \$1.00 was the fee for an expedited bill payment, but that regular bill payments were free. When asked whether the fee might ever be lower than the amount shown on the PG forms, 9 of the 11 participants referred to the long form. Of those 9 participants, 7 were able to correctly state that there would be no fee for non-expedited bill payments, while 2 could not find this information on the long form. Two of the participants never looked at the long form until being prompted by the interviewer, and were therefore unable to answer this question on their own.
- Participants were also asked whether they would be charged a fee to use their card in Canada. Information about foreign transaction fees did not appear on the PG forms, but did appear on Form LF1. When answering this question, all 11 participants referred to the long form, and 10 of the 11 were able to correctly identify fees that they would be charged for using the card outside of the United States.

Non-Reloadable Prepaid Cards (Forms NR1 and NR2)

- Whether reviewing NR1 or NR2, all participants understood that the card being described could not be reloaded.
- Whether reviewing NR1 or NR2, no participants expressed confusion about how the card being described would work or its terms or fees.
- When asked if they had seen a card like this before, almost all said that they thought they had, although some were unsure. Only one participant indicated that he had never seen this type of card before.



Chapter VI: Conclusion

For consumers who use prepaid accounts—especially those who use them as an alternative to traditional banking products—it is important to have an accurate understanding of the fees and other costs associated with using these products. Without a clear sense of the costs involved, consumers will have difficulty making informed decisions related to the purchase and use of prepaid accounts. This is the rationale behind this CFPB initiative to evaluate how fee information can most effectively be provided to prepaid users, and to evaluate the clarity and usability of model and sample fee disclosures developed by the CFPB team.

This report summarizes findings from two rounds of cognitive interviews conducted by ICF on behalf of the CFPB in July and August 2015. As described in this report, in many respects the research showed that participants understood and could effectively make use of the information in the model form iterations tested. For example, participants were generally able to identify relevant fee amounts on the forms that were tested, such as monthly fees and fees for ATM withdrawals and purchases. They were also able to use information on the forms to choose between two different cards, even when the forms were complex and disclosed information for multiple service plans. Moreover, even though the model “short forms” displayed only a subset of information about key fees and features for a given product, participants understood that they could be charged other fees that were not shown, and also were able to find references on the form about where to get information about those additional fees.

The interviews also identified some continued sources of confusion. For example, some participants misunderstood the details of when certain fees would apply, or in what situations they might be waived. However, these participants’ misconceptions were usually isolated to specific fee details, and did not affect their broader comprehension of the overall fee structures.

The findings from ICF’s research were used by the CFPB to inform its proposed rulemaking applying Regulation E to prepaid accounts, and the model short forms and sample long forms that were developed and refined through this project were included in the proposed rule to demonstrate how prepaid account fees and features should be disclosed to consumers. It is ICF’s understanding that its final two rounds of cognitive interviews will similarly be used by the CFPB to inform its final rule on prepaid accounts. Through this rulemaking, the CFPB hopes to ensure that Americans have access to the information they need to become informed users of prepaid accounts.



**APPENDIX A:
RECRUITMENT SCREENER**

Participant Screener for Prepaid Card User Testing

General Information and Recruiting Specifications

- Ten in-depth interviews
 - Five interviews will be held on two different dates, at 9:30am, 11am, 1pm, 2:30pm, 4pm
 - Length of each interview: 90 minutes

 - RECRUITERS: Ask all interview participants to bring their reading glasses, if necessary, because they may be asked to review one or more documents as part of the interview.
-

Recruiting Script

Hello, my name is **[first and last name]**. May I speak to **[candidate]**?

If someone other than Respondent asks why you are calling, say: I'm calling regarding an important US government study about prepaid cards.

Say to Respondent: I am calling from **[marketing company's name]** for ICF International. ICF International is working with a US government agency, the Consumer Financial Protection Bureau. The Bureau is an agency in the Federal government whose goal is to ensure that consumers get the information they need to make financial decisions. For this specific project, the Bureau is studying how people use prepaid cards and how they make decisions about those cards. In accordance with the Paperwork Reduction Act of 1995, this research study has been approved by the US Government Office of Management and Budget under OMB Control number 3170-0022.

We are seeking people to voluntarily participate in interviews being held on . The interview will last 90 minutes, and we will give participants an incentive of \$__. If you are selected and agree to participate in one of these interviews, we will ask you some questions about your use of prepaid cards and how you choose between different products. You will not have to provide any information that you feel uncomfortable discussing.

It is important that you know that we will be audio- and videotaping your interview so that we can be sure to collect what you say accurately. However, your name will not appear in any reports. Also, just so you are not surprised, staff from the Bureau and ICF International will observe your interview from another room.

Do you have a few minutes to answer some pre-qualifying questions? (*If not, When would be a convenient time to call back?*)

If necessary: We are not selling anything, we are only looking to find people to participate in a study that the Consumer Financial Protection Bureau is conducting. Everything you say will be kept private except where required by law. Further, your personal information will not be given to the Consumer Financial Protection Bureau.

Before asking any questions, read the brief Privacy Act Statement tailored for telephone interviews:

The information you provide through your responses to ICF will assist the study sponsor, the Consumer Financial Protection Bureau (CFPB), in determining your eligibility to participate in one-on-one interviews on topics related to prepaid accounts.

A federal law called the Privacy Act directs how the CFPB collects, keeps, and shares your personal, private information – including the personal information contained in your answers to these questions. Your participation is completely voluntary, and is subject to the CFPB privacy policy that can be found on our website, consumerfinance.gov.

Q1: In the past 12 months, have you purchased (either in a store or online) a reloadable prepaid card that you can load funds onto yourself? You can buy these cards in a store or online and can reload them by cash or direct deposit if you wish. Examples would include prepaid cards such as GreenDot, NetSpend, RushCard, or Bluebird cards. **These cards do not include gift cards or health care flexible spending account cards.**

- Yes → Continue to Q1a
- No or doesn't know → *Respondent does not qualify; thank them politely and end call.*

Q1a: Are you only able to use this card at a single business or retailer, or can you use it at a variety of different businesses or retailers on the Visa, Discover, American Express, or MasterCard networks?

- Single kind → *Thank respondent politely and end call.*
- Variety → Continue to Q1b

Q1b: Are you only able to use this card to purchase any goods you want or is its use limited to particular categories of merchandise (e.g., health care related goods)?

- Limited use → *Thank respondent politely and end call.*
- Unlimited → Continue to Q1c

Q1c: Have you loaded funds onto this prepaid card more than once in the past year, either through a cash reload or through an electronic transfer of funds (like a direct deposit)?

- Yes → Continue to Q1d
- No or doesn't know → *Thank respondent politely and end call*

Q1d: What is the brand name of the prepaid card you have used most frequently (if you remember)?

- Record open-ended response. If respondent says "Visa" or "MasterCard," ask if there is another brand identified on the card.*

Q2: Do you work or have you ever worked for a bank or other financial institution?

- Yes → *Thank respondent politely and end call.*
- No → Continue

Q3: Do you work or have you ever worked for a consumer rights non-profit related to the banking or financial industries?

- Yes → *Thank respondent politely and end call.*
- No → *Ask respondent what his/her occupation is, record respondent's answer, and continue to Q4.*

Q4: Have you participated in any other interviews or focus groups in the past 6 months?

- Yes → *Thank respondent politely and end call.*
- No → Continue

- Q5: ARTICULATION QUESTION: In a few sentences please tell us why you use prepaid cards. Tell us some things you like about this product. If you could change one thing about your prepaid card account, what would it be? (*Record respondent's answer.*)
- If respondent gives a thoughtful, articulate answer → **Respondent qualifies**
 - If respondent does not give a thoughtful, articulate answer → *Thank respondent politely and end call.*

| Screening Criteria | Recruiting Quotas |
|--|--|
| <p>Q6: In the past <u>two years</u>, have you ever used a card that your employer provided and loaded money onto, also called a payroll card?</p> <ul style="list-style-type: none"> • <i>Do not include gift cards or any prepaid cards that you purchase yourself.</i> <input type="checkbox"/> Yes → Continue to Q6a <input type="checkbox"/> No → Skip to Q7a <p>Q6a: Were you only able to use this card at a single business or retailer, or could you use it at a variety of different businesses or retailers on the Visa, Discover, American Express, or MasterCard networks?</p> <ul style="list-style-type: none"> a) Single kind → Skip to Q7a b) Variety → Continue to Q6b <p>Q6b: Please describe this card. Who placed the funds on this card? Why were the funds placed on the card? <i>Record open-ended response</i></p> | <ul style="list-style-type: none"> • At least 3 recruits should answer (b) to Q6a. |
| <p>Q7a: In the past <u>12 months</u>, have you yourself opened a prepaid account <u>online</u> or purchased a prepaid card online? Please answer based on whether you have <i>opened</i> an account or <i>purchased</i> a card online, not whether you have <i>loaded</i> funds online.</p> <ul style="list-style-type: none"> a) Yes b) No <p>Q7b: In the past <u>12 months</u>, have you yourself purchased a prepaid card <u>in a store</u>? Please answer based on whether you have <i>purchased</i> prepaid cards in a store, not whether you have <i>loaded</i> funds onto them in a store.</p> <ul style="list-style-type: none"> a) Yes b) No | <ul style="list-style-type: none"> • At least 3 recruits should answer Yes to Q7a • At least 6 recruits should answer Yes to Q7b |

| Screening Criteria | Recruiting Quotas |
|--|---|
| <p>Q8: Do you currently have a checking or savings account with a bank or credit union?</p> <p>a) Yes b) No</p> | <ul style="list-style-type: none"> • At least 3 recruits should answer No |
| <p>Q9: What is your age?</p> <p>a) 18 to 35 b) 36 to 50 c) 51 or above</p> | <ul style="list-style-type: none"> • At least 3 recruits should answer (a) • At least 3 recruits should answer (b) • At least 2 recruits should answer (c) |
| <p>Q10: Are you of Hispanic or Latino origin (ethnicity)?</p> <p>a) Yes → Continue to Q10a b) No → Skip to Q11</p> | <ul style="list-style-type: none"> • At least 1 recruits should answer Yes to Q10 |
| <p>Q11: What is your race? You can select more than one, if applicable.</p> <p>a) White b) Black or African-American c) Asian d) Native Hawaiian or other Pacific Islander e) American Indian or Alaska Native</p> | <ul style="list-style-type: none"> • At least 3 recruits should answer (a) • At least 3 recruits should answer (b), (c), (d), or (e) |
| <p>Q12: What is the highest level that you reached in school?</p> <p>a) High school degree or less b) Some college work c) College graduate</p> | <ul style="list-style-type: none"> • At least 3 recruits should answer (a) • At least 3 recruits should answer (b) • At least 2 recruits should answer (c) |
| <p>Q13: <i>Gender</i></p> | <ul style="list-style-type: none"> • At least 4 recruits of each gender |

If participant qualifies: Based on your responses, we would like to invite you to participate in an interview, which will be held at **[facility name and address]**. The interview will last about 90 minutes. We may be showing you some documents to look at during the interview, so if you use reading glasses please be sure that you bring them. We will provide you with a \$75 incentive for participating in the interview.

If participant is willing to participate, record their name and contact information, confirm the time and date, and indicate that they will receive a confirmation call the day before the interview. Regardless of whether or not they are willing to participate, thank them before ending the call.

**APPENDIX B:
FORMS SHOWN IN
ROUND 4 INTERVIEWS**

SF1A

| Monthly fee | Per purchase | ATM withdrawal | Cash reload |
|---|--------------|------------------|---------------------------|
| \$4.95[†] | \$0 | \$2.00 | \$3.95[*] |
| ATM balance inquiry | | \$1.00 | |
| Customer service | | \$1.50* per call | |
| Inactivity (no transactions for 3 months) | | \$2.50 per month | |
| Bank teller cash withdrawal | | \$2.50 | |
| Bill payment | | \$2.00* | |
| Transfer to another XYZ prepaid card | | \$2.00 | |
| We may offer credit after 30 days. Fees would apply. | | | |
| [†] No monthly fee with direct deposit. * Fees can be lower depending on how and where this card is used. We charge 6 other fees not listed here. Register your card for FDIC insurance and other protections. For information about prepaid cards in general, visit cfpb.gov/prepays . | | | |
| We also offer a pay-as-you-go plan. Find details on all fees and services inside the package or call 800-234-5678 or visit bit.ly/XYZprepays . | | | |

SF1B

| Monthly fee | Per purchase | ATM withdrawal | Cash reload |
|--|--------------|------------------|---------------------------|
| \$4.95[*] | \$0 | \$2.00 | \$3.95[*] |
| ATM balance inquiry | | \$1.00 | |
| Customer service | | \$1.50* per call | |
| Inactivity (no transactions for 3 months) | | \$2.50 per month | |
| Bank teller cash withdrawal | | \$2.50 | |
| Bill payment | | \$2.00* | |
| Transfer to another XYZ prepaid card | | \$2.00 | |
| We may offer overdraft after 30 days. Fees would apply. | | | |
| * Fees can be lower depending on how and where this card is used. We charge 6 other fees not listed here. Register your card to protect your money. For information about prepaid cards in general, visit cfpb.gov/prepays . | | | |
| We also offer a pay-as-you-go plan. Find details on all fees and services inside the package or call 800-234-5678 or visit bit.ly/XYZprepays . | | | |

SF2

| Monthly fee | Per purchase | ATM withdrawal | Cash reload |
|---|--------------|---|---------------|
| \$5.99[†] | \$0 | \$0 in-network \$1.99 out-of-network | \$1.99 |
| ATM balance inquiry (in-network or out-of-network) | | \$0 or \$0.50 | |
| Customer service (automated or live agent) | | \$0 or \$1.99 per call | |
| Inactivity (no transactions for 3 months) | | \$2.95 per month | |
| Secondary card | | \$5.00 | |
| Foreign transactions | | 3% of transaction amt. | |
| Bill payment | | \$1.50* | |
| No overdraft or credit-related features offered. | | | |
| [†] No monthly fee with direct deposit or 30 transactions per month. * Fees can be lower depending on how and where this card is used. We charge 6 other fees not listed here. No FDIC insurance. Register your card for other protections. For information about prepaid cards in general, visit cfpb.gov/prepays . | | | |
| Find details on all fees and services inside the package or call 800-234-5678 or visit bit.ly/XYZprepays . | | | |

MSP1

| | Pay-as-you-go plan | Monthly plan |
|--|--------------------|-------------------------------|
| Plan fee | \$0 | \$4.95 [†] per month |
| Per purchase | \$0.50* | \$0 |
| ATM withdrawal | \$2.50 | \$1.50 |
| Cash reload | \$3.95* | \$2.95* |
| ATM balance inquiry | \$1.00 | \$0.50 |
| Customer service (per call) | \$1.00* | \$0.50* |
| Inactivity (no transactions for 3 mo.) | \$2.50 per month | \$2.50 per month |
| Bill payment | \$2.00* | \$1.00* |
| Custom card design | \$11.95 | \$9.95 |
| Load via credit or debit card | \$2.95 | \$1.95 |
| No overdraft or credit-related features offered. | | |
| [†] No monthly fee with direct deposit. * Fees can be lower depending on how and where this card is used. We charge 6 other fees not listed here. Register your card to protect your money. For information about prepaid cards in general, visit cfpb.gov/prepays . | | |
| Find details on all fees and services inside the package or call 800-234-5678 or visit bit.ly/XYZprepays . | | |

MSP2

| | Pay-as-you-go plan | Monthly plan | Yearly plan |
|--|--------------------|-----------------------------|-----------------|
| Plan fee | \$0 | \$5.99 [†] per mo. | \$39.99 per yr. |
| Per purchase | \$0.25 | \$0 | \$0 |
| ATM withdrawal (in-net.) | \$0 | \$0 | \$0 |
| ATM withdrawal (out-net.) | \$1.99 | \$0.99 | \$0.99 |
| Cash reload | \$2.99* | \$1.99* | \$0.99* |
| ATM balance inquiry (in-net.) | \$0 | \$0 | \$0 |
| ATM balance inquiry (out-net.) | \$1.00 | \$0.50 | \$0.50 |
| Customer service (per call) | \$1.50* | \$0.50* | \$0 |
| Inactivity (no trans. for 3 mo.) | \$2.50 per mo. | \$2.50 per mo. | \$2.50 per mo. |
| Bill payment | \$2.00* | \$1.00* | \$1.00* |
| Custom card design | \$11.99 | \$9.99 | \$9.99 |
| Load via credit or debit card | \$3.99 | \$2.99 | \$1.99 |
| No overdraft or credit-related features offered. | | | |
| [†] \$1.00 monthly fee with direct deposit. * Fees can be lower depending on how and where this card is used. We charge 6 other fees not listed here. Register your card to protect your money. For information about prepaid cards in general, visit cfpb.gov/prepays . | | | |
| Find details on all fees and services inside the package or call 800-234-5678 or visit bit.ly/XYZprepays . | | | |

PG1

You do not have to accept this payroll card. Ask about other ways to receive your wages.

| Monthly fee | Per purchase | ATM withdrawal | Cash reload |
|-------------|--------------|--|-------------|
| \$0 | \$0 | \$0 in-network \$1.95* out-of-network | N/A |

| | |
|--|----------------|
| ATM balance inquiry (in-network or out-of-network) | \$0 or \$1.95* |
|--|----------------|

| | |
|------------------|------------------|
| Customer service | \$1.95* per call |
|------------------|------------------|

| | |
|---|-----|
| Inactivity (no transactions for 3 months) | N/A |
|---|-----|

| | |
|--------------|---------|
| Bill payment | \$1.00* |
|--------------|---------|

| | |
|-----------------------------|---------|
| Bank teller cash withdrawal | \$2.50* |
|-----------------------------|---------|

| | |
|------------------|--------|
| Replacement card | \$5.00 |
|------------------|--------|

No overdraft or credit-related features offered.

* Fees can be lower depending on how and where this card is used. See below for free ways to access your funds and balance information.

We charge 2 other fees not listed here.

Your funds are FDIC insured.

For information about prepaid cards in general, visit cfpb.gov/prepays.

Find details and conditions for all fees and services in the cardholder agreement or call **800-234-5678** or visit bit.ly/XYZprepays.

Get access to your funds, and balance information, for free:

- First 3 ATM withdrawals per pay period are free.
- 1 free bank teller cash withdrawal per pay period.
- Balance information is available for free online, via mobile app, and by calling our automated customer service line.

PG2

You have several options to receive your wages: by direct deposit to your bank account or prepaid card, or to this payroll card. Tell your employer which option you want.

| Monthly fee | Per purchase | ATM withdrawal | Cash reload |
|-------------|--------------|--|--------------------|
| \$0 | \$0 | \$0 in-network \$1.95* out-of-network | Not offered |

| | |
|--|----------------|
| ATM balance inquiry (in-network or out-of-network) | \$0 or \$1.95* |
|--|----------------|

| | |
|------------------|------------------|
| Customer service | \$1.95* per call |
|------------------|------------------|

| | |
|---|------|
| Inactivity (no transactions for 3 months) | None |
|---|------|

| | |
|--------------|---------|
| Bill payment | \$1.00* |
|--------------|---------|

| | |
|-----------------------------|---------|
| Bank teller cash withdrawal | \$2.50* |
|-----------------------------|---------|

| | |
|------------------|--------|
| Replacement card | \$5.00 |
|------------------|--------|

No overdraft or credit-related features offered.

* Fees can be lower depending on how and where this card is used. See below for free ways to access your funds and balance information.

We charge 2 other fees not listed here.

Your funds are FDIC insured.

For information about prepaid cards in general, visit cfpb.gov/prepays.

Find details and conditions for all fees and services in the cardholder agreement or call **800-234-5678** or visit bit.ly/XYZprepays.

Get access to your funds, and balance information, for free:

- First 3 ATM withdrawals per pay period are free.
- 1 free bank teller cash withdrawal per pay period.
- Balance information is available for free online, via mobile app, and by calling our automated customer service line.

**APPENDIX C:
FORMS SHOWN IN
ROUND 5 INTERVIEWS**

SF3A

| Monthly fee | Per purchase | ATM withdrawal | Cash reload |
|---|--------------|------------------|----------------|
| \$4.95 | \$0 | \$2.00 | \$3.95* |
| \$0[†] w/direct deposit | | | |
| ATM balance inquiry | | \$1.00 | |
| Live customer service | | \$0.25 per call | |
| Inactivity (after 3 months with no transactions) | | \$2.50 per month | |
| <p>We charge 9 additional fees. Details on fees inside the package, at 800-234-5678 or at bit.ly/XYZprepaids. These are our most common:</p> | | | |
| Bank teller cash withdrawal | | \$2.50 | |
| Bill payment | | \$2.00* | |
| Transfer to another XYZ prepaid card | | \$2.00 | |
| <p>[†] Also no monthly fee with \$500 total deposits per month. * This fee can be lower depending on how and where this card is used. We may offer credit after 30 days. Fees would apply. Register your card for FDIC insurance and other protections. For general information about prepaid accounts, visit cf.gov/prepaid.</p> | | | |

SF3B

| Monthly fee | Per purchase | ATM withdrawal | Cash reload |
|---|--------------|------------------|----------------|
| \$4.95[†] | \$0 | \$2.00 | \$3.95* |
| ATM balance inquiry | | \$1.00 | |
| Live customer service | | \$0.25 per call | |
| Inactivity (after 3 months with no transactions) | | \$2.50 per month | |
| <p>We charge 9 additional fees. Details on fees inside the package, at 800-234-5678 or at bit.ly/XYZprepaids. These are our most common:</p> | | | |
| Bank teller cash withdrawal | | \$2.50 | |
| Bill payment | | \$2.00* | |
| Transfer to another XYZ prepaid card | | \$2.00 | |
| <p>[†] No monthly fee with direct deposit. * This fee can be lower depending on how and where this card is used. We may offer overdraft/credit after 30 days. Fees would apply. Register your card to protect your money. For general information about prepaid accounts, visit cf.gov/prepaid.</p> | | | |

SF4

| Monthly fee | Per purchase | ATM withdrawal | Cash reload |
|--|--------------|---|----------------|
| \$5.99[†] | \$0 | \$0 in-network \$1.99 out-of-network | \$3.99* |
| ATM balance inquiry (in-network or out-of-network) | | \$0 or \$0.50 | |
| Customer service (automated or live agent) | | \$0 or \$0.50 per call | |
| Inactivity (after 3 months with no transactions) | | \$1.00 per month | |
| We charge 10 additional fees. Details on fees inside the package, at 800-234-5678 or at bit.ly/XYZprepaids . These are our most common: | | | |
| Replacement card (regular or expedited delivery) | | \$5.00 or \$20.00 | |
| Bill payment (regular or expedited delivery) | | \$0 or \$1.00 | |
| <p>[†] No monthly fee with 30 transactions or \$500 total loaded per month. * This fee can be lower depending on how and where this card is used. No overdraft or credit-related features offered. No FDIC insurance. Register your card for other protections. For general information about prepaid accounts, visit cf.gov/prepaid.</p> | | | |

NR1

\$4.95

Purchase price

| Monthly fee | Per purchase | ATM withdrawal | Cash reload |
|-------------|--------------|----------------|-------------|
| \$0 | \$0 | N/A | N/A |

| | |
|---------------------|-----|
| ATM balance inquiry | N/A |
|---------------------|-----|

| | |
|--|-----|
| Customer service (automated or live agent) | \$0 |
|--|-----|

| | |
|------------|-----|
| Inactivity | \$0 |
|------------|-----|

Details on all fees and terms inside the package, at **800-234-5678** or at bit.ly/XYZprepaids. **We charge 1 additional fee:**

| | |
|-----------------------|--------|
| Lost card replacement | \$5.00 |
|-----------------------|--------|

No overdraft or credit-related features offered.

No FDIC insurance.

For general information about prepaid accounts, visit cf.gov/prepaid.

NR2

\$4.95

Purchase price

THIS PREPAID CARD IS NOT RELOADABLE.

Treat this card like cash. Not FDIC insured.

To replace a lost card, a \$5 fee applies (must be able to show proof of purchase). This card charges no other fees after purchase (including dormancy, service fees, or other fees).

MSP4

| | Pay-as-you-go plan | Monthly plan | Yearly plan |
|---|--------------------|-----------------------------|-----------------|
| Plan fee | \$0 | \$5.99 [†] per mo. | \$39.99 per yr. |
| Per purchase | \$0.25 | \$0 | \$0 |
| ATM withdrawal (in-net.) | \$0 | \$0 | \$0 |
| ATM withdrawal (out-net.) | \$2.50 | \$1.99 | \$1.99 |
| Cash reload | \$4.99* | \$4.99* | \$4.99* |
| ATM balance inquiry (in-net.) | \$0.50 | \$0.50 | \$0.50 |
| ATM balance inquiry (out-net.) | \$1.00 | \$1.00 | \$1.00 |
| Customer service (per call) | \$1.50* | \$1.00 | \$1.00 |
| Inactivity (after 3 mo. w/ no trans.) | \$2.50 per mo. | \$2.50 per mo. | \$2.50 per mo. |
| We charge 9 additional fees. Details on fees inside the package, at 800-234-5678 or at bit.ly/XYZprepaids . These are our most common: | | | |
| Bill payment | \$2.00* | \$1.50* | \$1.00* |
| Replacement card | \$20.00* | \$20.00* | \$20.00* |
| Load via credit or debit card | \$3.99 | \$2.99 | \$1.99 |

[†] \$1.00 monthly fee with direct deposit.

* This fee can be lower depending on how and where this card is used.

No overdraft or credit-related features offered.

Register your card for FDIC insurance and other protections.

For general information about prepaid accounts, visit cf.gov/prepaid.

MSP3

| | Pay-as-you-go plan | Monthly plan |
|---|--------------------|-----------------------------|
| Plan fee | \$0 | \$5.99 [†] per mo. |
| Per purchase | \$0.25 | \$0 |
| ATM withdrawal (in-net.) | \$0 | \$0 |
| ATM withdrawal (out-net.) | \$2.50 | \$1.99 |
| Cash reload | \$4.99* | \$4.99* |
| ATM balance inquiry (in-net.) | \$0.50 | \$0.50 |
| ATM balance inquiry (out-net.) | \$1.00 | \$1.00 |
| Customer service (per call) | \$1.50* | \$1.00 |
| Inactivity (after 3 months w/ no trans.) | \$2.50 per mo. | \$2.50 per mo. |
| We charge 9 additional fees. Details on fees inside the package, at 800-234-5678 or at bit.ly/XYZprepaids . These are our most common: | | |
| Bill payment | \$2.00* | \$1.50* |
| Replacement card | \$20.00* | \$20.00* |
| Load via credit or debit card | \$3.99 | \$2.99 |

[†] \$1.00 monthly fee with direct deposit.

* This fee can be lower depending on how and where this card is used.

No overdraft or credit-related features offered.

Register your card for FDIC insurance and other protections.

For general information about prepaid accounts, visit cf.gov/prepaid.

PG3

You do not have to get your payments on this prepaid card.
Ask about other ways to get your payments.

| Monthly fee | Per purchase | ATM withdrawal | Cash reload |
|-------------|--------------|--|-------------|
| \$0 | \$0 | \$0 in-network \$1.95* out-of-network | N/A |

| | |
|--|----------------|
| ATM balance inquiry (in-network or out-of-network) | \$0 or \$1.95* |
|--|----------------|

| | |
|------------------|------------------|
| Customer service | \$1.95* per call |
|------------------|------------------|

| | |
|------------|-----|
| Inactivity | \$0 |
|------------|-----|

We charge 6 additional fees. Find details for all fees and services in the attached fee schedule. These are our most common:

| | |
|--------------|---------|
| Bill payment | \$1.00* |
|--------------|---------|

| | |
|-----------------------------|---------|
| Bank teller cash withdrawal | \$2.50* |
|-----------------------------|---------|

| | |
|------------------|--------|
| Replacement card | \$5.00 |
|------------------|--------|

* This fee can be lower depending on how and where this card is used.
See below for free ways to access your funds and balance information.

No overdraft or credit-related features offered.

Your funds are FDIC insured.

For general information about prepaid accounts, visit cf.gov/prepaid.

Get access to your funds, and balance information, for free:

- First 3 out-of-network ATM withdrawals per month are free.
- 1 free bank teller cash withdrawal per month.
- Balance information is available for free online, via mobile app, and by calling our automated customer service line.

PG4

You have several options to receive your payments: direct deposit to your bank account; direct deposit to your own prepaid card; or using this benefits card. Tell the benefits office which option you want.

| Monthly fee | Per purchase | ATM withdrawal | Cash reload |
|-------------|--------------|--|-------------|
| \$0 | \$0 | \$0 in-network \$1.95* out-of-network | N/A |

| | |
|--|----------------|
| ATM balance inquiry (in-network or out-of-network) | \$0 or \$1.95* |
|--|----------------|

| | |
|------------------|------------------|
| Customer service | \$1.95* per call |
|------------------|------------------|

| | |
|------------|-----|
| Inactivity | \$0 |
|------------|-----|

We charge 6 additional fees. Find details for all fees and services in the attached fee schedule. These are our most common:

| | |
|--------------|---------|
| Bill payment | \$1.00* |
|--------------|---------|

| | |
|-----------------------------|---------|
| Bank teller cash withdrawal | \$2.50* |
|-----------------------------|---------|

| | |
|------------------|--------|
| Replacement card | \$5.00 |
|------------------|--------|

* This fee can be lower depending on how and where this card is used.
See below for free ways to access your funds and balance information.

No overdraft or credit-related features offered.

Your funds are FDIC insured.

For information about prepaid cards in general, visit cfpb.gov/prepays.

Get access to your funds, and balance information, for free:

- First 3 out-of-network ATM withdrawals per month are free.
- 1 free bank teller cash withdrawal per month.
- Balance information is available for free online, via mobile app, and by calling our automated customer service line.

LF1

| Fee description | Amount | Details |
|---|--------|--|
| Get started | | |
| Activation fee | \$0 | No fee to activate your benefits card. |
| Monthly usage | | |
| Monthly fee | \$0 | Your benefits card has no monthly fee. |
| Spend money | | |
| Per purchase | \$0 | |
| Bill pay (regular) | \$0 | Bill pay available when you log in to your account at xyzbank.com/prepaid or using the XYZ Bank mobile app. Regular bill pay transactions will be completed within 3 business days for electronic payments and within approximately 7 days if we have to mail a paper check to pay your bill. |
| Bill pay (expedited) | \$1 | Bill pay available when you log in to your account at xyzbank.com/prepaid or using the XYZ Bank mobile app. Expedited bill pay transactions will be completed within 1 business day. Electronic payments only. |
| Get cash | | |
| ATM withdrawal (in-network) | \$0 | "In-network" refers to the XYZ Bank ATM Network. Locations can be found at xyzbank.com/ATMs . |
| ATM withdrawal (out-of-network) | \$1.95 | This is our fee. We will not charge you this fee for your first 3 out-of-network ATM withdrawals each month. "Out-of-network" refers to all the ATMs outside of the XYZ Bank ATM Network. You may also be charged a fee by the ATM operator even if you do not complete a transaction. |
| Bank teller cash withdrawal | \$2.50 | This is our fee. We will not charge you this fee for your first bank teller cash withdrawal each month. |
| Information | | |
| Customer service (automated) | \$0 | No fee for calling our automated customer service line, including for balance inquires. |
| Customer service (live agent) | \$1.95 | |
| Online balance inquiry | \$0 | |
| Mobile app balance inquiry | \$0 | |
| ATM balance inquiry (in-network) | \$0 | "In-network" refers to the XYZ Bank ATM Network. Locations can be found at xyzbank.com/ATMs . |
| ATM balance inquiry (out-of-network) | \$1.95 | This is our fee. "Out-of-network" refers to all the ATMs outside of the XYZ Bank ATM Network. You may also be charged a fee by the ATM operator even if you do not complete a transaction. |
| Using your card outside the U.S. | | |
| International transactions | 3% | Of the U.S. dollar amount of each transaction. |
| International ATM withdrawal | \$4 | This is our fee. You may also be charged a fee by the ATM operator. |
| International ATM balance inquiry | \$2 | This is our fee. You may also be charged a fee by the ATM operator. |
| Other | | |
| Inactivity | \$0 | Some banks charge a fee if you do not use your card for a certain period of time. We do not charge this fee. |
| Replacement card | \$5 | Card will arrive within 5-7 business days. |

Your funds are FDIC insured.

No overdraft or credit-related features offered.

Contact XYZ Bank about your benefits card by calling 1-800-555-555, by mail at 555 Street Name, Anytown, NY 12345, or visit xyzbank.com/benefitscard.

For general information about prepaid accounts, visit consumerfinance.gov/prepaid. If you have a complaint about a prepaid account, call 1-855-411-2372 or visit consumerfinance.gov/complaint.



ICF Interational
9300 Lee Highway
Fairfax, VA 22031

SUMMARY OF FINDINGS:

Design and Testing of Prepaid Card Fee Disclosures

November
2014

SUBMITTED TO:

Consumer Financial Protection Bureau

SUBMITTED BY:



ICF Interational
9300 Lee Highway
Fairfax, VA 22031

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Appendix A: Recruitment Screener

Appendix B: Sample Fee Disclosures Shown in Consumer Focus Groups

Appendix C: Forms Shown in Consumer Interviews

Executive Summary

Prepaid card products are among the fastest growing payment instruments in the United States, and consumers are increasingly using these products as an alternative to traditional checking or demand-deposit accounts. Consumers may reload funds onto a prepaid card using cash, through direct deposit of their paychecks or government benefits, and can use their prepaid cards to withdraw funds at ATMs or to make purchases in stores. However, currently some prepaid products may not carry the same consumer protections given to checking accounts under federal law, and are not subject to the same disclosure rules.

The Electronic Fund Transfer Act (EFTA), enacted in 1978, establishes the rights, liabilities, and responsibilities of participants in electronic fund transfer (EFT) systems, with the primary objective of providing individual consumer rights. The EFTA is implemented, in part, by the Consumer Financial Protection Bureau (CFPB) in Regulation E (12 CFR part 1005). The CFPB is developing a proposed rulemaking that would specify how Regulation E applies to prepaid accounts. As a result, the agency seeks to determine how to best ensure that consumers have the information they need in order to make informed decisions about these products.

Since October 2013, the CFPB has been working with ICF International (ICF) to develop model forms illustrating how fee and other information for prepaid accounts can most effectively be disclosed. In December 2013, ICF conducted four exploratory focus groups with consumers to learn more about their use and understanding of prepaid accounts, as well as what factors they consider when making acquisition decisions. After these focus groups were complete, ICF helped the CFPB use the findings to develop model forms that described important information about prepaid accounts. In the second phase of the research, ICF conducted three rounds of iterative user testing of these model forms through in-depth interviews. ICF worked with the CFPB to revise the forms between rounds in order to address any issues that arose during the testing. ICF's research involved a total of 69 consumers, and data were collected in four different cities across the country.

Summary of Key Findings

- Participants in the focus group sessions were asked how they chose the prepaid card they had purchased most recently from among the multiple products on the market. By a wide margin, three factors were mentioned most often by participants. In order of frequency, these factors were (1) low fees; (2) convenience (*e.g.*, wide acceptance of a card at stores or ATMs); and (3) advertising or brand recognition.
- Focus group participants were asked to identify the fees that were most important to them when selecting a prepaid card. By far, the four fees mentioned most frequently by participants were the monthly fee and fees for loading cash into their account, withdrawing money at an ATM, and making purchases. Because of their importance to consumers, these four fees were highlighted in most of the forms developed for the user testing interviews.
- Over the course of the project, the CFPB tested several different formats for the model forms. For example, while all forms listed fees in a table, some versions grouped those fees into categories while others did not. Throughout all rounds, participants consistently expressed a



preference for a format in which the four most important fees (*i.e.*, monthly, cash reload, ATM withdrawal, and per purchase fees) were in large, bold print at the top of the form. This “top-line” format is used in the proposed model forms that the CFPB will publish with its proposed rules.

- Throughout the three rounds of testing, the vast majority of participants were able to successfully identify fees on the forms when asked (*e.g.*, when asked whether there was a monthly fee, they could find the fee on the form). There were misconceptions as to the details of some of the fees (*e.g.*, participants did not always see or understand information associated with asterisks), but the overall format of the forms proved easy for participants to navigate.
- Most of the user testing focused on “short forms” that included a subset of fee information about a given product. When shown short forms, most interview participants understood that they presented only a subset of fee information and that they could potentially be charged other fees not shown on the forms.
- Participants in all three rounds of testing were asked whether there was any additional information that was not displayed on the short form that they felt it was important to include. Only a few participants mentioned any additional fees that they thought should be included; nearly all participants felt that the fees that were listed were those that were mostly likely to factor into their purchase decisions.
- In some forms, fees that could vary due to usage were followed by superscript asterisks. These asterisks linked to footnotes that described situations in which the fees might differ from the amount shown on the form. A few participants in each round connected fees to the wrong footnotes. As a result, the CFPB shifted to an approach in which any variable fees were linked to a single, more general footnote that those fees “could be less depending on how and where this card is used.” The use of a more general footnote eliminated the confusion caused by multiple, more specific references. However, when participants viewing these forms were asked in what situations they thought fees might vary, some of their responses seemed to reflect incorrect assumptions about when fees might be lower.
- One of the form versions included a graphic that showed how each of the four top-line fees compared to those charged by other prepaid cards. However, participant comprehension of this graphic was very low, and even those few participants who did understand it did not consistently find it useful. Therefore, the graphic was not included on any forms that were subsequently tested.
- The short forms also included text indicating that consumers could get more detailed and comprehensive information about fees by contacting the provider in various ways.¹ Almost all participants understood that they could access this information, although it was not always clear whether this understanding was based on the text on the form or personal experience.

¹ The forms tested in Rounds 1 and 2 provided a specific website at which consumers could access comprehensive fee information; the forms tested in Round 3 indicated that consumers could get this information going online or by calling or texting the company.



- In all three rounds of testing, participants engaged in shopping simulations in which they were shown fee information for two different products and asked to indicate which of the two they would choose. In these simulations participants were shown both short forms and “long forms,” which listed all of the fees that could possibly be charged as well as additional details about how and when those fees could be charged. These simulation exercises showed that participants were capable of using both short and long forms to compare prepaid cards, and to make purchase decisions based on fee tradeoffs between them. Participants, however, did take longer to come to a decision when choosing between long forms, compared to the short forms (approximately 4 minutes vs. 2 minutes, on average). They also demonstrated difficulty handling two long form disclosures simultaneously, particularly when they attempted to use the long forms to compare products while standing up.
- Nine participants were asked to compare two prepaid card packages containing long form disclosures, and to indicate which of the two they would purchase. When asked to describe all the reasons that they chose one of the two prepaid cards over the other, participants cited at most one piece of information that appeared on the long form but not on the short form. The majority of participants only cited information that appeared on the short form—implying that they did not believe the additional information on the long form was relevant to their decision.
- One of the model forms shown to participants provided information for multiple service plans. The majority of participants understood that the form was describing different service plans from which they could choose after they purchased the card. However, there were also a few participants that did not understand what the multiple service plan form was showing, and consequently were confused as to what fees they might be charged. Some participants were also confused as to which of the multiple service plans would apply upon activation of the card if they did not actively indicate a preference to the issuer.

The findings from this user testing have informed the CFPB’s proposed rulemaking for prepaid accounts, which will be published for public comment later in 2014. It is ICF’s understanding that the model forms that were developed and refined through the testing will be included with the proposed rules as examples for how fee information can most effectively be disclosed to consumers.



Chapter I: Background

As discussed above, the EFTA establishes the rights, liabilities, and responsibilities of participants in electronic fund transfer (EFT) systems, with the primary objective of providing individual consumer rights. The EFTA is implemented in Regulation E (12 CFR part 1005) by the CFPB.

Prepaid products are one of the fastest growing payment instruments in the United States, and consumers are increasingly using these products as an alternative to traditional checking or demand-deposit accounts. Consumers may reload funds onto a card using cash, through direct deposit of their paychecks or government benefits, and can use their prepaid cards to withdraw funds at ATMs or to make purchases. However, prepaid products may not carry the same consumer protections given to checking accounts under federal law, because Regulation E has traditionally been interpreted not to apply to these accounts.

Given the growth in the market for prepaid card products and the potential risk for harm to consumers due to the lack of coverage under existing Federal regulations, the CFPB is considering how best to apply Regulation E to prepaid accounts. As part of this process, the CFPB will have to decide how information about the cost of these products—most notably fees that are charged for card use and other services—can most effectively be disclosed to consumers. One aspect of this decision will be to determine how fee information can best be disclosed to consumers on the packages of prepaid cards sold in retail stores. It is important that consumers have access to this information so that they can make informed acquisition decisions.

In September 2013, the CFPB contracted with ICF to assist it with the development and testing of these new fee disclosures for prepaid cards. ICF's work was completed in two phases. First, ICF conducted a series of exploratory focus groups with consumers to learn more about their experiences with and understanding of prepaid cards. In the second phase, ICF conducted three rounds of user testing of model forms developed by the CFPB. ICF worked with the CFPB to revise the forms between rounds to address any comprehension concerns that became apparent.²

It is ICF's understanding that the findings from this work have informed the CFPB's proposed disclosure regulations for prepaid accounts that will be published for public comment during the second half of 2014. The forms that were developed and refined through the testing were used as the basis for proposed model forms that are included with those proposed rules. This report details ICF's research methodology and outlines the key findings from each phase of the user testing.

² The CFPB may also ask ICF to conduct additional rounds of testing on revised model forms after the agency receives public comments on its proposed regulations.



Chapter II: Methodology

This user testing project consisted of a series of focus groups and in-depth interviews conducted with consumers from December 2013 through April 2014. A total of 69 consumers participated in these activities, which were held in four different cities across the country. While the CFPB had significant input into research design, ICF was primarily responsible for developing the interview protocol, recruiting participants, conducting the interviews, and analyzing the data.

The qualitative methods used in this study are effective at providing an in-depth understanding of complex phenomena, such as participants' experiences, preferences, and reactions to and understanding of the forms presented. For these reasons, ICF believes that these methodologies are well-suited to informing the design of disclosures like those being developed through this project. However, these methods are not suited to identifying effect sizes at standard levels of statistical significance, as would be required for measuring changes in behavior between different versions of model forms. In order to do so, one would need to conduct quantitative experimental research with many more participants—an approach that was not included in this study.

Throughout this report, findings are presented as exact numbers (*e.g.*, nine out of ten participants) when it is clear exactly how many participants acted in a very specific way or gave a specific answer to a question. However, that level of precision is not always possible given the complex nature of the phenomena being studied and because of the qualitative nature of the testing. Therefore, findings are sometimes reported as a proportion of the participants. For the purposes of this report, the following terms are used to describe different proportions:

- “Nearly all” is used when all of the participants responded in a particular way with very few exceptions.
- “Most” is used when more than half of the participants responded in a particular way, but fewer than nearly all of them.
- “Approximately half” refers to the range from slightly more to slightly less than half of the participants (*e.g.*, 1 participant more or less than half in a single round).
- “A few” is used when it is clear that only a few participants responded in a particular way (*e.g.*, two participants in a single round).

Focus Groups

In order to explore consumers' understanding of, and behavior related to, prepaid cards, ICF conducted a series of four focus groups in Bethesda, Maryland on December 3 and 10, 2013. Each focus group was led by an experienced ICF moderator and lasted approximately 90 minutes. The topics addressed included participants' experiences with prepaid cards, behaviors related to shopping and account monitoring, understanding of, and attitudes toward, prepaid card fees, and understanding of liability and protection as they relate to prepaid accounts. Participants were also asked to review and comment on redacted sample disclosures of prepaid products sold in retail stores at that time.



Interviews

Following the focus groups, ICF assisted the CFPB with the design of several model prepaid card disclosure forms that presented alternative ways of disclosing fee information to consumers. In order to explore the clarity and usefulness of these forms, ICF conducted three rounds of in-depth interviews with consumers. These interviews took place in Baltimore, Maryland (February 12 and 19, 2014); Los Angeles, California (March 19 and 20, 2014); and Kansas City, Missouri (April 9 and 10, 2014). Each interview was led by an experienced ICF interviewer and lasted approximately 60-75 minutes. In each round, consumers were asked background questions about their past experience with prepaid cards. They also reviewed several different versions of model prepaid disclosure forms, and were asked questions to assess their understanding of the information included on the forms. They were also asked to complete a variety of shopping simulations, in which they were shown forms for two different hypothetical prepaid products and asked to indicate which they would choose. A more specific description of the interview protocol and forms used for each round is provided in Chapters IV, V, and VI.

Design of Model Forms

Throughout the project, the team that participated in design decisions included ICF staff and design experts and other representatives from the CFPB. The forms developed disclosed a variety of different fees, footnotes, and other text. Most of the forms designed and tested were “short forms,” which displayed only a subset of fees that could be charged. These short forms included “static” and “incidence-based” portions. By design, the static portion of each model short form disclosed the same fees across all products, while the incidence-based portion contained fees that could vary across products. Testing conformed to these principles, generally; whenever participants were asked to compare two forms, the static portions listed the same fees (although the amounts of the fees varied), while the incidence-based portions contained some similar fees and some dissimilar fees. The fee values and fee types (the type of service) included in the static and incidence-based portions of the short form were varied between different versions of the forms and across rounds of testing.

In Round 3, a comprehensive “long form” was also tested. Unlike the short forms, the long form included a longer list of all possible fees, rather than only a subset of fees.

Each of the forms was intended to describe a fee structure for a hypothetical prepaid product. The fee structures that were displayed were not intended to mirror those of any actual products on the market.

After each round, ICF participated in discussions with the CFPB about how the findings from that round could inform revisions to the content and design of the forms for the next round. The design team from CFPB led the development of the forms used in all three rounds.

Recruitment of Research Participants

Focus group and interview participants were recruited by telephone using a structured screening instrument developed by ICF and the CFPB (Appendix A). Participation was limited to consumers who had not worked for a financial institution or a non-profit consumer rights group related to the banking or financial industries. A total of 40 consumers participated in the focus groups, and 29 consumers



participated in the three rounds of interviews. All participants self-identified as having used a prepaid card in the previous 6 months (for focus group participants) or 12 months (for interview participants). Several participants had payroll cards in addition to or in lieu of prepaid cards.³ As shown in Table 1, participants in each round and at all locations varied in terms of gender, age, race/ethnicity, and education level. Consumers received a \$75 stipend for their participation.

Table 1. Characteristics of Focus Group and Interview Participants

| | Focus Groups | Interviews | | | All Participants Combined (n=69) |
|------------------------|----------------------------------|----------------------|------------------------|-----------------------|----------------------------------|
| | Bethesda, MD (n=40) ⁴ | Baltimore, MD (n=10) | Los Angeles, CA (n=10) | Kansas City, MO (n=9) | |
| Gender | | | | | |
| Male | 19 (48%) | 5 (50%) | 5 (50%) | 2 (22%) | 31 (45%) |
| Female | 21 (52%) | 5 (50%) | 5 (50%) | 7 (78%) | 38 (55%) |
| Age | | | | | |
| 18-35 | 20 (50%) | 3 (30%) | 3 (30%) | 3 (33%) | 29 (42%) |
| 36-50 | 11 (28%) | 4 (40%) | 4 (40%) | 4 (44%) | 23 (33%) |
| 51+ | 9 (23%) | 3 (30%) | 3 (30%) | 2 (22%) | 17 (25%) |
| Race/Ethnicity | | | | | |
| African American | 17 (43%) | 4 (40%) | 3 (30%) | 3 (33%) | 27 (39%) |
| Caucasian | 17 (43%) | 5 (50%) | 3 (30%) | 4 (44%) | 29 (42%) |
| Hispanic | 6 (15%) | 2 (20%) ⁵ | 4 (40%) | 2 (22%) | 14 (20%) |
| Education Level | | | | | |
| High School or Less | 10 (25%) | 2 (20%) | 3 (30%) | 2 (22%) | 17 (25%) |
| Some College | 12 (30%) | 5 (50%) | 4 (40%) | 4 (44%) | 25 (36%) |
| College Graduate | 18 (45%) | 3 (30%) | 3 (30%) | 3 (33%) | 27 (39%) |

³ Based on the way that they described their use of prepaid cards, it seemed that a few of the participants in the first two focus groups may have had gift cards rather than reloadable prepaid cards. For the remaining focus groups and all rounds of interviews, the recruitment screener was revised to clarify the distinction between those two products and ensure that all participants were reloadable prepaid card users.

⁴ Due to rounding, percentages may not add up to 100%.

⁵ One participant self-identified as both African American and Hispanic.



Chapter III: Findings from Focus Groups with Consumers

On December 3 and 10, 2013, ICF conducted a total of four focus groups with consumers in Bethesda, Maryland, a suburb of Washington, DC. All 40 focus group participants self-identified as having used a prepaid card in the previous six months. The purpose of the focus groups was to explore participants' experiences, attitudes, and behaviors related to prepaid cards. This chapter summarizes the key findings from these discussions.

Participants' Experiences with Prepaid Cards

- When asked how they use their prepaid cards, participants most frequently indicated that they use their prepaid cards for general shopping purposes; for a range of specific purposes (*e.g.*, travel, school); to make online purchases; to pay bills; or to receive funds (*e.g.*, payroll, tax refund, disability benefits). Several participants said they had purchased a prepaid card as a personal budgeting tool (*e.g.*, to limit their own spending or to set aside "fun money"). A few participants used prepaid cards specifically to transfer money to other people.
- Most of the participants who reported using their cards to make purchases online or when traveling said they appreciate the security their prepaid cards offer. For example, one participant liked being able to make purchases without having to share her credit card information, and another uses a prepaid card when traveling abroad instead of carrying a large amount of cash.
- A few participants said that they own and use more than one prepaid card. Of these participants, approximately half use their cards for distinct purposes; for example, one participant uses one card for personal expenses and another for business expenses.

Card Registration

- Most participants seemed clear on what it meant to "register" a prepaid card. Participants generally agreed that registering a prepaid card referred to linking their personal information to the account. A few participants in each focus group used the terms "register" and "activate" interchangeably; these participants typically had purchased their cards online or by phone, when activation and registration can happen at the same time. Participants who differentiated between the terms had varied ideas about what it meant to "activate" their card (*e.g.*, calling an automated phone number, something the cashier does at checkout), but they generally thought that, unlike registration, activating a card did not involve sharing any personal information.
- When asked what the advantage was to registering a prepaid card, participants generally agreed that it provided more security in the event of loss or fraudulent charges because they would be able to identify themselves as the owner of the funds. A few participants also noted that registration may be required in order to take advantage of particular card features (*e.g.*, signing up for account monitoring through text messages), or, in some cases, to use the card at all.

Selecting a Prepaid Card

- When asked why they chose to purchase a particular prepaid card, participants gave a range of responses. By a wide margin, three factors were mentioned most often by participants. In order of frequency, these factors were (1) low fees; (2) convenience (*e.g.*, wide acceptance of a card at



stores or ATMs); and (3) advertising or brand recognition. Other factors that were mentioned (in approximate order of frequency) were:

- Ease of transferring money to other people (*e.g.*, those with the same prepaid card product)
 - Special deals or rewards from a specific vendor (*e.g.*, earning “points” toward purchases)
 - Recommendation from friends or family who used that particular product
 - The speed at which funds become available
 - Lack of overdraft program⁶
 - Ability to maintain anonymity
 - Ability to link the card to other accounts
 - Level of access to account information
 - Color of the card
- Most participants said that they typically do some research on prepaid cards prior to purchasing one. A few of these participants said they usually compared different prepaid products to determine which would work best for them; others indicated that they would seek out information on a particular card. Only a few participants said they would purchase a prepaid card without first doing any research on the product.
 - When asked how they conducted their research, participants said that they generally obtained information online, through advertisements (either online, in a store, or on television), or by contacting the provider by phone to ask questions. Participants who searched online said they reviewed comparisons of the fees and features of different cards and/or read customer reviews of prepaid products.

Prepaid Card Fees

- At one point in the session, each group was asked to brainstorm a list of any fees that they thought prepaid card companies might charge. Across all four groups, participants brainstormed a total of 18 different fees.

Mentioned by all four groups:

- Per purchase fee (*i.e.*, fee for making purchases)
- ATM withdrawal fee

⁶ Most participants said they specifically preferred prepaid products that did *not* offer an overdraft program. A few participants said that they had a prepaid card that allowed them to overdraw their account by a limited amount with no fee if they loaded additional funds within a few days. These participants said that they were unaware of that feature when they purchased the card, but that the feature was now one of the reasons they kept their card rather than purchasing a different one.



Mentioned by three groups:

- Cash Reload fee (*i.e.*, fee for reloading money onto the card)
- Monthly fee
- ATM balance inquiry fee

Mentioned by two groups:

- Inactivity fee
- Initial purchase fee (*i.e.*, fee for initial purchase of the card)
- Minimum balance fee
- Replacement card fee
- Overdraft program fee

Mentioned by one group:

- Fee for using the card more than a certain number of times per month
- Account setup fee
- Cash advance fee
- Card personalization fee
- Transfer money fee (*i.e.*, fee for transferring money)
- Theft/fraud protection fee
- Bill pay fee

- In three of the focus groups, participants were asked to identify the three fees from the list their group generated that would be the most important to them if they were choosing a new card. By a large margin, four fees were mentioned most frequently by participants. More than half of the participants indicated that the monthly fee, cash reload fee, and ATM withdrawal fee would be among the most important fees for them, while just under half said the same of the per purchase fee. No more than three participants identified any of the other fees on the list as among the most important.
- When asked when they learned about the fees associated with their prepaid accounts, approximately half of participants indicated that they learned about fees before purchasing their card. Most of these participants said that they found out about these fees online while searching for information about prepaid cards or a specific prepaid card product, while others said they learned about fees by reading a card's packaging. The other half of participants indicated that they learned about the fees associated with their accounts after purchasing their card. A few of these participants said they only learned about the presence of certain fees after they used the card and were charged those fees. Most of these participants said they thought that they could have learned about the fees earlier by going online or reading the materials provided with the card, but had not done so.
- Approximately half of the participants said at some point they had been surprised by a fee that they were charged by their prepaid card provider. When participants were asked what fees had



surprised them, they mentioned fees related to inactivity, “monthly maintenance,” balance inquiries, making purchases, using an out-of-network ATM, and reloading money. At the same time, however, nearly all of these participants also indicated that they were satisfied with the fee information they had been provided when they purchased the card. However, a few commented that if they had read all the information that they had been provided, they would have known about the presence of the fees earlier.

Review of Sample Fee Disclosures

Prior to the focus groups, ICF prepared redacted versions of fee disclosures that appeared on the packages of three prepaid card products sold in retail stores at that time. These sample disclosures are provided in Appendix B to this report. In each focus group session, participants were shown two of these three sample disclosures and asked a series of questions about each. The sample disclosures were presented one at a time, and the order of presentation was rotated between groups.

- When participants were asked if they had any questions about the sample fee disclosures after reading them, the aspects of the disclosures that were mentioned most frequently were the following:
 - *Conditional fees*: Each of the sample disclosures had fees that would be charged under certain conditions but not others, and several participants commented that they did not understand in what situations the fees would be charged. For example, one disclosure indicated that there would be “no charge at retailers offering cash back with purchase.” A few participants were unsure whether this meant simply that these retailers would not charge a fee for getting cash back, or whether retailers that offered cash back would not charge any fees in connection with the prepaid account (e.g., for cash reloads, etc.).
 - *Fee ranges*: Some of the sample disclosures included situations in which a fee was provided as a range, rather than a specific amount. For example, one indicated that the fee for reloading money onto the card would be “\$4.95 or less” and did not provide any information about what might determine this fee. When asked what might cause this fee to vary, participants were unsure, and a few were concerned that they might not know what the fee would be when it was time to reload funds.
 - *Meaning of the phrase “qualifying purchase”*: One of the disclosures said that the monthly fee would be waived if the customer had “at least 30 qualifying purchases” and that “qualifying purchases include completed transactions where you are paying for goods or services with your card.” Several participants felt this definition was too vague and unclear, and that the provider could use “loopholes” to say that certain purchases did not qualify. One participant also said that the time period in which the purchases had to be made (i.e., one “billing cycle”) was not clear.
 - *Meaning of the phrases “foreign transaction” and “foreign merchant”*: Two of the sample disclosures referred to foreign transactions or merchants. Some participants expressed confusion as to whether these terms referred to a transaction or merchant in a different country, or only outside of an established network (e.g., another state).
 - *Footnotes*: All three disclosures displayed fees in a tabular format and used footnotes to provide further explanations. A few participants appeared to be unfamiliar with the use



of footnotes, and therefore were unable to connect the information in the footnotes to the fees in the table.

- *Use of the word “may”*: All three sample disclosures stated that some fees or charges “may” apply. A few consumers interpreted this to mean that the provider itself did not know whether or not a fee would be charged in a particular situation, and found this difficult to understand.
- *Significance of third party fees*: Two of the sample disclosures showed \$0 for a particular fee but then noted that the consumer could be charged “third party” or “owner fees.” Several participants said it seemed contradictory to say the fee for a particular service was \$0 if the customer might in fact be charged other fees.
- The sample disclosures that were shown to participants did not show a complete list of all fees that could be charged; in all three cases there were other fees that did not appear in the disclosure that could be charged in certain situations. When reviewing the disclosures, most participants understood that other fees could be charged. In some cases this was because participants noticed text in the disclosures implying that this was the case (*e.g.*, “here are some of the fees you are most likely to pay”). Other participants expressed a general mistrust of banks and assumed that prepaid card providers would find ways to charge “hidden fees” in order to generate revenue.
 - A few participants incorrectly thought that the sample disclosures did show all fees that could possibly be charged. One of these participants mentioned the large number of footnotes in one of the disclosures, and reasoned that because the disclosure included so much “fine print” it must include all the details about the product’s fee structure.

Monitoring of Prepaid Accounts

- All participants said that they were satisfied with the access they have to account information for their current prepaid accounts. However, one participant commented that it was sometimes difficult to reach a live person by phone if she had questions about her account.
- Participants were asked how often they check the balance in their prepaid card account. While responses varied, the frequency with which participants check their balance was generally related to how frequently they use the card. Those who use their cards more often check their balance more frequently (*e.g.*, every day or several times per week) and on a regular basis. Those who use their card less often tend to check their balance only when they make a transaction.
- When asked how they monitored their account balance and transaction history, participants were most likely to say they do so online. A few said that they access information about their account through text messages send by their card company, while fewer said they monitor their account by calling the provider. Only one participant said they monitor their account through paper statements received in the mail, but this person reported using other monitoring methods as well.
- Only a few of the participants had ever been charged a fee for accessing their account information. In all such cases, these participants were charged for getting customer service from

a live agent over the phone. Most said they were told in advance that they would be charged a fee for this service, and chose to continue with the inquiry.

- Most participants indicated that they receive periodic account statements by email or online. Fewer than half of these participants said they print or save the electronic statement.
- Only a few participants said they receive a paper periodic statement for their prepaid accounts. Even fewer participants indicated that they would find a paper statement useful; only one of the 40 participants said she would strongly prefer to receive a paper statement. No one said they would be willing to pay any money to receive a paper statement. In fact, a few participants specifically said that they did not want to receive paper statements, because they already receive too much paper in the mail and/or were concerned with security of having account information in paper form.

Liability and Protection

- When asked what would happen if there were a fraudulent or inaccurate charge on their prepaid account, most participants believed that their prepaid card provider would credit the funds to their account. This belief seemed to be based almost exclusively on prior experiences with prepaid card providers and other financial institutions, rather than an understanding of any legal protections that may or may not exist. Several participants indicated that fraudulent or inaccurate charges had appeared on their prepaid accounts in the past, and all reported that the funds had been returned.
- Participants generally agreed that if a prepaid card had not been registered, the provider would not be obligated to credit funds from fraudulent or inaccurate charges to the account, because there was no way to prove who the account holder was.
- Nearly all participants said they had heard of FDIC deposit insurance, and most participants believed the funds on their prepaid cards were FDIC-insured. When asked to explain what it meant that their prepaid card had FDIC deposit insurance, most participants made vague references to their funds being “protected.” Upon further probing, the majority of participants incorrectly believed that FDIC deposit insurance would protect their funds in the event of fraudulent charges or a stolen card. Only a few participants understood that FDIC insurance protected their funds against the failure of the bank rather than fraudulent charges although some were confused because they did not believe that their prepaid card was issued by a bank.

Overdraft Programs

- Most participants said they did not know whether their prepaid account offered an overdraft program, while others said that their account did offer such a program. Among participants who thought that their accounts did offer an overdraft program, a few recalled being asked if they wanted to opt into an overdraft program. Others believed they were registered in such a program but did not remember opting in.
- Most participants indicated that they would not want to have an overdraft program on their prepaid accounts. In fact, a few participants said one primary reason that they used a prepaid card was to prevent themselves from overspending and incurring overdraft fees. However, a few other participants were aware that their prepaid card allowed them to overdraw by a



limited amount without a fee as long as the funds were loaded within a few days. In general, these participants liked having that feature on their prepaid card.

After the focus groups were concluded, ICF and the CFPB met to discuss the results, and their implications for the Bureau's development of its prepaid rule in general and the design of an effective fee disclosure framework for retail packaging in particular. These discussions informed the development of a set of "short form" model forms that presented key information about the costs associated with prepaid card products. Chapters IV, V, and VI describe the results of ICF's testing of these forms.



Chapter IV: Findings from the First Round of Consumer Interviews

Following the focus groups, ICF worked with the CFPB to design forms for prepaid card fee disclosures. ICF then conducted 10 hour-long in-depth interviews with consumers in Baltimore, Maryland on February 12 and 19, 2014. The purpose of the interviews was to assess how well participants could understand and use the content presented in the forms. This chapter describes the forms, the interview protocol, and findings from this first round of testing.

Description of Forms Tested

All four forms designed for this round were short forms that showed only a subset of the fees that would apply to a particular product, rather than all fees that could possibly be charged. Each form listed the names of several fees and the amount of each fee, presented in a tabular format. The fees included a set of static fees that appeared on all the forms (*i.e.*, monthly, cash reload, ATM withdrawal, and per purchase fees⁷) as well as incidence-based fees (which varied between different versions of each form).⁸ The table of fees also included a sentence that said “We charge other fees not listed here. See the enclosed account agreement or visit www.abcprepaid.com/fees for details.” Below the table of fees were several pieces of explanatory text and footnotes related to the fees, a warning that account funds were not protected until the card was registered, and instructions for accessing general information about prepaid cards through the CFPB website.

The four designs are provided in Appendix C, and differed as follows:

- **Form 1** presented the fees in a simple table. There was not any formatting to highlight specific fees or organize them in any particular way.
- **Form 2** grouped the fees in the table into labeled categories (*e.g.*, “make purchases,” “get information”). These category labels were in bold print, and were included to see if they improved participants’ comprehension of the forms.
- **Form 3** prominently displayed the four most important fees—the monthly, cash reload, ATM withdrawal, and per purchase fees—in larger, bold print across the top of the form. Throughout the rest of this report, this format is referred to as the “top-line” format.
- **Form 4** was identical to Form 3 in format, except that Form 4 also included graphics next to each of the top-line fees. Each graphic showed how one of the top-line fees hypothetically compared to the maximum and minimum fees for other cards on the market. Form 4 also included a sentence explaining these graphics that said, “The graphics show how this card’s fees compare to the ranges of fees charged by other cards for the same services.” This design was included to

⁷ The per purchase fee—that is, the fee that consumers would be charged for making a purchase—was referred to on the forms in Round 1 as a “purchase fee.” For Rounds 2 and 3 the forms used the term “per purchase fee,” to distinguish this fee from the cost of buying the prepaid card itself.

⁸ The most important fees were identified by the CFPB based on previous research, including the findings from the focus groups conducted as a part of this project that are discussed above.



give participants information about how the top-line fees compared to the range of fees other product might charge for the same service.

For Forms 1 through 3, two different versions were created (A and B) that showed hypothetical fee structures for two different products.

Description of Interview Protocol

The interviews followed a semi-structured protocol developed by ICF and the CFPB. Each interview began with a brief introductory discussion of the participant's prior experience with prepaid cards. Participants were then asked to imagine that they were in a store to purchase a prepaid card, and were comparing two different products. They were shown two versions of the same type of form (*e.g.*, Forms 1A and 1B) and asked to indicate which one they would choose and why. They were then asked a series of questions to test their understanding of the information on the form. This process was repeated for Forms 1, 2, and 3; the order of presentation was rotated between participants. Participants were then shown Form 4 and asked a series of questions to assess the extent to which the fee graphics were useful and clear. In the final portion of the interview, participants were asked to select which design they found most helpful and easy to understand, and to explain their reasoning.

Key Findings

General Understanding of and Reaction to the Forms

- Across all forms, nearly all of the participants were able to correctly identify the monthly fee they would be charged, as well as the fees they would be charged for online bill pay, live agent customer service, inactivity, and reloading money onto the card.
- When asked if there was any additional information they felt should be included on the forms, eight participants either said that the forms contained all the information they would need, or were satisfied that they could access additional fee information if necessary by going to the product's website. The remaining two participants commented that the forms only showed some of the product fees, and said that they would prefer to have access to all of the fees in the store. One of these two suggested that this information did not have to be on the package itself, but could instead be available on a sign in the store.

Understanding of Potential Variance in Fees

Several of the fees listed on the forms could vary under certain circumstances. In this first round of testing, this potential variation was disclosed in two ways. For ATM withdrawal and per purchase fees, two different fee amounts were shown, separated by a forward slash to indicate that the fee could be either of these amounts.⁹ For monthly and cash reload fees, the fee amounts each included asterisks linking to footnotes explaining in what situations these fees would vary.

⁹ In the case of the ATM withdrawal fee, the two amounts corresponded to the fees that would be charged at in-network and out-of-network ATMs. In the case of the per purchase fee, the two amounts corresponded to the fees that would be charged if the consumer made a purchase using a PIN or with a signature.



Two Fees Listed (ATM Withdrawal and Per Purchase Fees)

- When asked to explain what might cause ATM withdrawal fees to vary, most participants correctly indicated that the fees would be different for “in-network” and “out-of-network” ATMs. Most participants were able to explain the distinction between these two categories of ATMs, although a few participants mistakenly thought this distinction was based on where the ATM was located (*e.g.*, in a bank or gas station), rather than which networks could be accessed at a particular ATM.
- When asked why per purchase fees might vary, only about half of participants were able to explain that fees would be different depending on whether the purchases were made using a signature or a PIN. Two participants saw this distinction on the form, but did not understand what “with signature” or “with PIN” meant. Two others also saw the distinction between the two fees, but indicated that there would be no way to know which of the two fee amounts you would be charged for any given purchase. One participant did not appear to see the distinction between the two fees at all, and indicated that the per purchase fee would never vary.
- Overall, approximately half of the participants correctly interpreted the meaning of the slash, and understood that the fee charged would be one of the two amounts shown depending on the circumstance. The other participants either mistakenly believed that the fee could fall anywhere in the range between the two amounts shown, or identified the fee as only one of the two amounts shown. Participants’ interpretation of the slashes did not seem to vary systematically by form version.

Use of Fee-Specific Asterisks (Monthly and Cash Reload Fees)

- The monthly fee included an asterisk with footnote text that said it would be “\$0 if at least \$1,000 loaded onto card or 10 purchases made in that month.” All but one of the participants saw the monthly fee, but only about half of the participants located the footnote and understood that the monthly fee could be less. The remaining participants did not appear to notice the footnote.
- The cash reload fee included a double asterisk (“**”) next to it and the words “or less.” The footnote text said that it would be “\$0 if loaded at certain locations.” While all participants correctly identified the cash reload fee that would generally be charged, again only about half located the footnote and understood the circumstances under which the cash reload fee would be less. In fact, at least three of the participants mistakenly said that the cash reload fee would be \$0 if at least \$1,000 was loaded onto card or 10 purchases were made in a given month, because they mistakenly applied the footnote for the monthly fee to the cash reload fee.

Interpretation of Fees Not Listed

- As noted above, each form included the following text: “We charge other fees not listed here. See the enclosed account agreement or visit www.abcprepaid.com/fees for details.” When consumers were asked if they could be charged any fees other than those listed on the form, eight of 10 understood that they could. Most of these participants specifically referenced the relevant text on the form in their response; for others, their answer seemed to be based on a belief that, in their experience, prepaid card products were often subject to “hidden fees.”



- Notably, all participants who reviewed Form 1 referenced the text “we charge other fees not listed here,” compared to only about half of participants reviewing Forms 2 and 3. This might have been due to the design of the forms: the relevant sentence was the only text in bold print on Form 1, whereas Forms 2 and 3 included other text in bold print as well.
- Participants were also asked about specific fees that were not shown on the short forms used for testing.
 - When asked whether they thought they would be charged a fee for having funds directly deposited onto their card, most participants indicated that while they did not think it was likely that they would be, it was possible because the form indicated that “other fees” might be charged.
 - In contrast, when asked whether they thought they would be charged a fee for getting cash back at a store, most participants assumed they *would* be charged such a fee. When asked to explain their response, most of these participants said they would be charged the “purchase with PIN” fee or “ATM withdrawal” fee if they got cash back.
 - While neither direct deposit nor cash back fees were listed on the form, participants’ responses seemed to be based on their past experiences and their assumptions about how likely card providers would be to charge fees for these services, rather than on particular information included on the form itself.

Availability of Additional Information

- As mentioned above, the forms used in testing included the statement, “See the enclosed account agreement or visit www.abcprepaid.com/fees for details.” Eight of the participants were asked how they could get additional information about the fees for that card. Three of these eight participants clearly saw the statement on the form about how to get more information; they pointed out this information and indicated that they would go to the www.abcprepaid.com website for more information. One participant did not appear to notice this statement, and said that a consumer had to register the card to get any information. It was unclear whether the other four participants saw the statement on the form. These participants said they would either go online or call the company to get full fee information, despite the fact that the forms made no mention of a phone number.
- The forms also included the following sentence: “For more information about prepaid cards contact the Consumer Financial Protection Bureau at consumerfinance.gov/prepays.”¹⁰ However, when asked what they would do if they wanted more general information about prepaid cards, only two participants specifically mentioned the CFPB website. Others commented that they could go to the provider’s website, conduct a general search for information online (*e.g.*, to find customer reviews for the card), or call the company to talk to a live agent.

¹⁰ While the forms did not explicitly state this, www.consumerfinance.gov is the website of the CFPB.



- When asked how likely they would be to seek out additional information about prepaid cards, only three participants said they would be likely to do so. The remaining participants did not believe that accessing general information about prepaid cards was worth the effort.

Understanding of Funds Protection

- Below the table of fees and the footnotes on each form was the sentence, “Your money is not protected against unauthorized transactions until you register this card.” After reviewing one of the forms, participants were told to imagine that a purchase they did not make was charged to their account, and asked if that money would be refunded to their account. Eight participants said that their funds would be protected. However, it is not clear if these responses were based on the text or participants’ assumptions; only two participants referenced that text when explaining their answer.
 - When specifically asked to read the sentence about funds protection and explain what it meant, six participants understood it meant that they had to take action in order to protect the money in their account. The remaining participants did not read the sentence carefully and mistakenly believed that it meant that their funds would not be protected in any situation.
 - All but one of the participants understood that registering the card meant linking personal information (*e.g.*, name, address, social security number) to the account.

Shopping Simulations

- Across all forms, when asked to review two different forms representing different prepaid cards and to select the one that they would purchase for their own use, participants were able to make a selection without difficulty. When asked to explain why they chose a particular card, approximately half of participants said that they made their choice based on a single fee (*e.g.*, if they were most concerned about the monthly fee, they selected the product with the lower monthly fee). A few participants made more complex comparisons, factoring multiple fees into their decision. Participants were generally able to determine which fees were higher for each product, state which fees would be most important to them, and make a selection based on that information.¹¹
- During the shopping exercise with Forms 1, 2, and 3, participants were asked if they were satisfied with the form they selected, or if they would continue shopping at another store (given the chance). Overall, most participants said the fee differences were too small to be worth the effort to continue shopping.

¹¹ The researchers did not attempt to determine whether each participant made the “correct” selection between the two prototypes, because this would have required more detailed information about each participant’s prepaid card usage patterns. Variations between the fee structures of the two prototypes shown to participants were fairly small, in order to make the task more cognitively challenging.

Graphic Fee Scales

- As noted above, Form 4 included graphics next to each of the four top-line fees that showed how that fee amount compared to a hypothetical range of fees of other prepaid cards on the market. Participant understanding of these graphics was very low—only one of the 10 participants understood what the graphics were trying to communicate without any additional prompting from the moderator. Two more participants understood these graphics after the moderator specifically prompted them to read the explanatory text provided on the form.
 - Even though the graphics showed that the fee amounts for this particular card were average or above average relative to other cards on the market, only one of the three participants indicated that it made them more likely to look for less expensive options. Another of the three specifically stated that the graphics were distracting and felt that they should not be included.
- Among the seven participants who did not understand the graphics, most participants incorrectly believed that each represented the range that they could be charged for a particular fee for that particular card.

Consumer Preferences between Form Versions

- Participants were asked to focus on the format of Forms 1, 2 and 3, and to select the one that would best help consumers understand the fees associated with the card. Eight of the 10 participants selected Form 3. Several participants commented that the most important fees were easy to find in Form 3 because they were on top, large, and in bold print (in the top-line format). Of the other two participants, one preferred Form 2 because she liked the fact that fees were grouped into categories. The other participant preferred Form 1, but did not provide a reason for this selection.

Implications for Subsequent Design

Based on the findings from the first round of interviews, ICF and CFPB made several changes to the forms:

- Because very few participants understood the fee graphics, they were not included on any of the disclosures tested in subsequent rounds.
- Because none of the forms tested in this round demonstrated significant weaknesses, both the top-line (Form 3) and category (Form 2) formats were tested again in Round 2.
- Because there was some confusion related to using footnotes during the focus groups and this first round of testing, the CFPB decided to test in Round 2 whether using a single general footnote that applied to multiple fees might be more effective than multiple fee-specific footnotes.
- Because about half of participants misinterpreted a slash between two fee amounts to indicate that the fee would fall in a range between those two amounts, slashes were not used on any of the forms tested in subsequent rounds. Instead, in situations where two different fee amounts



might be charged, these amounts were either listed on two separate lines or were separated by the word "or."

- Because four of the 10 participants did not read the funds protection statement carefully when reviewing the form and misinterpreted its meaning, this statement was reworded so that the beginning of the sentence emphasized the action consumers were supposed to take: "Until you register this card, your money is not protected."

After being revised based on these findings and other considerations, the forms were then tested through a second round of interviews, the results of which are described in the next chapter.



Chapter V: Findings from the Second Round of Consumer Interviews

After the conclusion of Round 1, ICF worked with CFPB to discuss how the findings from the first round of testing could be used to inform the development of forms for the second round of testing. Design experts from the CFPB then developed forms that were tested in a second round of interviews. Round 2 consisted of ten one-hour-long in-depth interviews with consumers in Los Angeles, California on March 18 and 19, 2014. Again, the goal of these interviews was to assess the clarity and usability of the revised forms.

Description of Forms Tested

As in Round 1, four different forms were designed, all of which were short forms displaying a subset of fees, including static fees that appeared on each form and incidence-based fees that varied between different versions of each form. The content of the forms for Round 2, including the fees that were listed and other explanatory text, was similar to Round 1, except as noted below. The four designs are provided in Appendix C and differed as follows:

- **Form 1** used the same top-line format as Form 3 from Round 1, in that it prominently displayed four fees (*i.e.*, monthly, cash reload, per purchase, and ATM withdrawal fees) across the top of the form in larger bold print. Form 1 showed two separate per purchase fees (one for purchases “with signature” and the other for purchases “with PIN”) and for ATM withdrawals (for “in-network” and “out-of-network” withdrawals). For the monthly and cash reload fees, Form 1 used asterisks to direct readers to fee-specific information about situations in which the fees might be lower than the amounts shown.
- **Form 2** was the same as Form 1, except that:
 - a) Rather than listing two separate per purchase fees and ATM withdrawal fees, Form 2 showed the more expensive of the two fees and used an asterisk to direct readers to the same footnote that stated that “fees can be less depending on usage.”
 - b) Like Form 1, Form 2 included asterisks next to the monthly and cash reload fees. However, in Form 1 the asterisks directed readers to multiple footnotes providing information about the circumstances under which each specific fee could be lower. In Form 2 a single asterisk was used to direct readers to a single footnote with more general text stating that these fees “can be less depending on usage.”
- **Form 3** described three different service plans for the same product, labeled “pay as you go,” “monthly plan,” and “annual plan.” The form listed the periodic plan fee and per purchase fee for each of these three plans at the top, followed by a list of other fees that applied to all plans.
- **Form 5**¹² included exactly the same information as Form 2. However, rather than listing four fees across the top of the form and the others in a list below that top line, Form 5 placed all fees

¹² The forms tested in this round are not numbered consecutively because “Form 4” was an internal version that was not used in the consumer interviews.

into a single list and grouped them into categories using headings. This format was very similar to that used in Form 2 of Round 1.

Unlike the forms used in Round 1, those tested in Round 2 also included text below the fee box related to whether or not the card offered an overdraft program. For Forms 1, 2, and 5, two different versions were created (A and B). These versions were identical, except for text at the bottom of the form indicating whether or not the product offered an overdraft program—version A offered such a program, while version B did not.

Description of Interview Protocol

As in Round 1, interviews in Round 2 were guided by a semi-structured interview protocol developed by ICF and CFPB. Each interview began with a brief introductory discussion of the participant's prior experience with prepaid cards. Participants were then asked to imagine that they were in a store to purchase a prepaid card and were looking at a package that included a form with information about the product's fees. The interviewer then handed the participant one of three different forms (1, 2, or 5). After giving the participant a short period of time to review the form, the interviewer then asked a series of questions to test his or her understanding of the information provided. This process was repeated for the other two forms.¹³

In the next segment of the interview, participants were again asked to imagine that they were in a store to purchase a prepaid card, but that this time they were comparing two different products. They were given Forms 2A and 3A, and asked to indicate which one they would choose and why. They were then asked a series of questions about Form 3A to test their understanding of the different service plans it described.

Finally, participants were asked to read a paragraph of text titled "Information About Your Right to Dispute Errors." They were then asked to describe in their own words what the paragraph was saying, in order to test their comprehension of the content.

Key Findings

General Understanding of and Reaction to the Forms

- When asked to identify the amount charged for specific fees that appeared on the form, in nearly all cases participants were able to do so easily and quickly.¹⁴ In isolated cases a participant did not see a particular fee on the form, but these cases were infrequent and there did not seem to be any pattern to them—for example, they did not vary systematically by form type or by fee.

¹³ As in Round 1, the order in which the participant was given Forms 1, 2, and 5 to review was rotated between interviews. Forms were also rotated between the A and B versions, ensuring that all participants saw both an A and a B version. For example, one participant might have been shown 5A, 1B, and 2A in that order; another might have been shown 2A, 5B, and 1A.

¹⁴ At various points in the interview participants were asked to identify the following fees: monthly, reload, purchase, ATM withdrawal, live agent customer service by phone, ATM balance inquiry, and online bill pay.



- When asked if there was any additional information that should be included on the forms, about half of the participants said they wanted more details about the “other fees” that could be charged. About half also said the forms should include a more detailed description of the situations in which the fees could be less than the amount shown (in reference to the general footnote). Two participants said the company’s phone number should be included in addition to the website.

Understanding of Potential Variance in Fees

Several of the fees listed on the form could vary based on the situation. The forms disclosed this variation in three different ways: (a) listing multiple distinct fees, along with a short description of when that fee would be charged; (b) using fee-specific asterisks to provide information about variations in individual fees; and (c) using an asterisk to link several fees to the same general footnote stating that fees “could be less depending on usage.”

Two Fees Listed (ATM Withdrawal and Per Purchase Fees)

- Form 1 displayed two different fees for ATM withdrawals, corresponding to withdrawals from in-network and out-of-network ATMs. When looking at this form, nine of the ten participants understood that there were two possible fees that they could be charged. Of these nine, six clearly understood the distinction between “in-network” and “out-of-network” withdrawals. The other three did not seem to understand this distinction; for example, one did not understand why an ATM would be part of a “network.”
- Form 1 also displayed two different per purchase fees—one for purchase with a signature and another for purchase with a PIN. Nine of the ten participants understood that there were two possible fees that they could be charged for making purchases. Of these nine, all but one clearly understood the distinction between making a purchase “with signature” versus “with PIN,” although several expressed surprise that the fees for doing so would be different.

Use of Fee-Specific Asterisks

- The monthly fee on Form 1 was \$4.95, but included an asterisk indicating that the fee would be “\$0 if at least \$1,000 loaded onto card or 30 purchases made in that month.” When asked whether the fee might ever be lower than the amount shown on the form, five of the ten participants referenced this asterisk and correctly described the circumstances under which no monthly fee would be charged. The other five participants did not mention the asterisk or did not recognize that the monthly fee could be waived.
- The fee for cash reloads listed on Form 1 included a double asterisk (**) indicating that the fee could be “\$0 if loaded at certain locations.” When asked whether the fee for loading money onto the card could be less than the amount shown, six of the ten participants referenced the asterisk text. Three of the participants did not comment on the asterisk next to the cash reload fee at all; the other participants incorrectly applied the asterisk associated with the monthly fee to the cash reload fee.

Use of a Single General Asterisk Applicable to Multiple Fees

- On Forms 2 and 5, several of the fees included an asterisk referencing the same footnote that those fees “can be less depending on usage.” When asked to explain whether or not one of these fees could be different from the amount shown on the form, participants referenced the



asterisks slightly more than two thirds of the time.¹⁵ In the remainder of cases the participant did not mention the asterisk or the fact that fees could vary based on usage when answering the question. There was no systematic evidence that participants found Form 2 any more or less difficult to understand than Form 5, and participants were no more or less likely to answer questions correctly when looking at either one of these forms.

- Forms 2 and 5 noted that fees “can be less depending on usage,” but did not specify in what circumstances they could be less. Participants were asked in what situations they thought the fees might vary, to assess what assumptions they might make when interpreting these labels without additional information. The most common response given by participants was that the fees might be lower depending on how often they used their card, or the amount of money involved in their transactions. For example, most participants said that the asterisk next to the fee for ATM withdrawals might mean that the fee would be lower if they had more withdrawals per month, or if they withdrew more money. A few participants proposed other hypotheses for why the fees might vary; for example, one participant interpreted the asterisk next to the per purchase fee to mean that the fee might depend on what they bought with the card.
- Four of the ten participants commented at some point during the interview that they felt the statement that “fees could be less depending on usage” did not provide enough information. They suggested that more specific information be provided on the forms about the conditions under which fees would be different from the amounts shown. However, it was difficult to determine the extent to which these participants’ requests for more information were an artifact of the testing environment—that is, whether they would have wanted more information had they not been asked to answer specific questions about the fees on the label.

Interpretation of Fees Not Listed

- When reviewing Form 1, participants were asked if they might be charged a fee for a replacement card. This fee was not listed on any version of Form 1. Eight of the 10 participants indicated that it was still possible they would be charged this fee even though it was not listed, and cited the text on the form that said “we charge other fees not listed here.” The other two participants assumed that because no card replacement fee appeared on Form 1, the product did not offer that service.

Availability of Additional Information

- Like the forms in Round 1, the forms in this round included two references to websites; they noted that (1) consumers could visit www.abcprepaid.com/fees for more details about the product’s fees; and (2) consumers could go to consumerfinance.gov/prepays “for more info about prepaid cards.” When asked where they could go online to get more information about fees for a particular prepaid card product, all participants referenced one of the websites on the form. However, there was some confusion as to the distinction between the two websites shown; half of the participants said they would go to the www.abcprepaid.com website to learn

¹⁵ Some participants seemed to notice the asterisks when asked about some fees, but not to notice them in other contexts. There was no apparent pattern as to when participants were most likely to notice the asterisks.

about fees for that specific product, while the other half said they would go to the *consumerfinance.gov* website.

- All ten participants said that they had a smartphone on which they could access the internet. When asked whether they would access a website on their phone while they were in the store to learn more about product fees, seven of the ten participants said they would be very likely to do so. Of the other three participants, one said he might go to the website but was not sure, one said she would call with questions about fees rather than go online, and the third said he would probably not take the time to research fees online while in the store.

Understanding of Funds Protection

- The forms included a sentence stating, “Until you register your card, your money is not protected.” However, it seemed that most participants did not notice this text. When asked if there were any benefits to registering a prepaid card, only four of the ten participants commented that registration was necessary to protect their funds, or made any reference to the relevant sentence on the form.
- When specifically asked by the interviewer to read the sentence about funds protection, participants seemed to understand the information slightly better than they had in Round 1. Eight of the ten participants understood that it meant that they had to register their card to protect their money against fraudulent purchases or identity theft. The other two participants mistakenly thought that the sentence meant that their funds would never be protected against these threats.
- At the end of the interview, participants were shown a model clause on error resolution titled “Information about Your Right to Dispute Errors,” and asked to imagine that the paragraph appeared in the terms and conditions for their prepaid card account. They were asked to read the text, and then to explain what it meant in their own words. Comprehension of the paragraph was very high; all ten participants understood that it meant that the prepaid card company would not help them resolve account errors unless their account was registered. Three participants did express some confusion as to what would happen if they called to report an error for an unregistered account. These participants were unsure whether or not the company would give them the opportunity to register at the time they called to resolve an error, or would simply refuse to help them if they had not already registered the card.

Multiple Service Plan Form

- Participants were asked to imagine that they were in a store to purchase a prepaid card, and were trying to select between two different products. Participants were told that the packages for the two products they were considering each had a form on them giving information about fees. Participants were given Forms 2A and 3A and asked to imagine that these were the forms on the packages they were comparing. Form 2A described a single service plan, while Form 3A described three different service plans. After reviewing the forms for 2 to 3 minutes, seven of the participants understood that the product described by Form 3A offered multiple service plans; the other three participants were confused by the information on the form and did not understand that multiple service plans were offered.



- Of the three plans listed on Form 3A, participants seemed to find the information in the “pay as you go” column the most confusing. For example, one participant did not realize that the “pay as you go” option was distinct from the monthly and annual plans, and mistakenly thought that the \$2 per purchase fee in that column would be charged under those other plans as well. Another thought that the “pay as you go” option would apply if a person did not register his or her card, and upon registration the cardholder would select either the monthly or annual plan.
- The forms were constructed so that the monthly plan for Form 3A offered lower fees than Form 2A—in other words, based on fees alone the rational choice for a consumer would always be to select Form 3A over 2A. Seven of the ten participants did indicate that they would choose Form 3A over 2A after comparing the two. The other three participants said that they would choose Form 2A. Two of the three did not understand the fee information on Form 3A, and therefore incorrectly thought that the fees described by Form 2A were lower. The third participant said that she would choose Form 2A because she found the information on Form 3A too confusing.
- Nine of the ten participants were able to correctly identify the fee they would pay for making a purchase under the “pay as you go” option. Seven of the ten participants were able to correctly identify the fee they would pay for making a withdrawal at an ATM. The other three participants did not realize that any ATM withdrawal fee would be charged under the “pay as you go” option, because this fee appeared in a separate list of fees for “all plans.”
- Participants were asked which of the three service plans described on Form 3A they thought would apply if they purchased the card and did not communicate any preference to the company.¹⁶ Five said that they thought the “pay as you go” service plan would apply, while two thought that the monthly plan would apply. One indicated that she did not know which plan would apply, and two said that the company would know which service plan the consumer wanted based on how much the consumer loaded onto the card at the time of purchase.¹⁷

Consumer Preferences between Form Versions

- Five of the participants were asked whether they thought Form 2 (which included “top-line” fees) or Form 5 (which grouped fees into categories) would be clearer for prepaid card customers. All five indicated that they preferred Form 2 because the fees at the top were printed in large bold font.

Overdraft Program

- At different points in the interview, each participant was shown both a form that indicated at the bottom that the card did not offer an overdraft program, and another form that indicated that the card charged an overdraft fee of \$15 per transaction (implying that it did offer such a program). All participants noticed this text on both versions, and in all cases were able to correctly identify whether or not the card offered an overdraft program.

¹⁶ The forms did not give any indication as to which of the plans would apply in this situation.

¹⁷ These two participants seemed to think that the amount that they loaded onto the card would in some way dictate which plan applied; it was unclear from their responses exactly why they felt this way.



- When reviewing forms for cards that did offer an overdraft program, all participants were able to correctly identify the fee that they would be charged if they overdrew their account (*i.e.*, \$15). This version of the form also stated that the cardholder’s overdraft fees “could total up to \$60 per month.” Most participants understood this statement to mean that they would be allowed to overdraw their account up to four times per month (paying a fee of \$15 each time), but that any subsequent transactions for more money than they had in their account would be denied because of the \$60 fee limit. However, two participants instead thought that after their fourth overdraft in a month, subsequent overdrafts would be allowed and they would not be charged a fee.
- Six of the ten participants assumed that the overdraft program described on the form would automatically apply to their account as soon as they purchased the card.¹⁸ Three participants assumed that the program would not automatically apply; one thought the customer would have to opt into the program, one thought consumers would have to have the account for a certain period of time before they qualified for the program, and the third thought that the consumer would have to first link another source of funds to their prepaid card.¹⁹ The tenth participant did not know whether or not the overdraft program would automatically apply at card purchase.
- Seven of the ten participants said that they would not want their prepaid card to offer an overdraft program. However, when the interviewer described a hypothetical program in which customers could pay an annual subscription fee for the year and then overdraft an unlimited number of times without being charged any additional fees, seven participants said they would consider signing up for such a program.

Implications for Subsequent Design

Several of the findings from the second round of user testing were used by ICF and the CFPB to inform decisions related to form design:

- The top-line format (represented by Form 3 in the first round and Form 2 in the second round) was strongly preferred by participants in the first two rounds. Several participants in both rounds specifically commented that they liked the fact that it was easy to see the most important fees because they were shown at the top in large and bold print. Therefore, this top-line format was used in all the short forms that were developed for Round 3.
- When reviewing Form 1 nearly half of participants did not notice the detailed footnote text about how fees could vary and at least one participant confused the footnotes for different fees. Therefore, all forms tested in Round 3 used the approach of using a single, more general footnote to indicate that fees could vary (modeled in Forms 2 and 5 of this round). However, because several participants commented that the general footnote used in Forms 2 and 5 that

¹⁸ The form did not indicate whether or not this program would automatically apply; this question was asked to assess participants’ assumptions.

¹⁹ This participant appeared to assume that in order to cover overdrafts, the prepaid card company would not use its own funds but would instead pull funds from the consumer’s linked account.

the fees shown could be less “depending on usage” was not specific enough, the wording of this text was revised for Round 3 to be “depending on how and where this card is used.”

- In the top line of fees, Form 1 explicitly listed two distinct fees for purchases (with signature vs. with PIN) and ATM withdrawals (in- vs. out-of-network). These format changes were very effective. Unlike in Round 1, almost all participants understood that these were distinct fees that could be charged in different situations, and did not mistakenly interpret them as fee ranges. Therefore, all versions of the forms tested in Round 3 used this approach.
- While comprehension of the funds protection sentence was improved in this round compared to Round 1, most participants did not initially notice the sentence and two participants still thought, even after reading the text, that their funds would *not* be protected under any circumstances. Therefore the wording of the sentence was simplified and made more direct and “action-oriented” in the hopes that more participants would notice it: “Register your card to protect your money.”
- In the multiple service plan form (Form 3), at least one person mistakenly thought that a list of fees applied only to the annual plan, because they lined up vertically with that column heading. In order to avoid that misconception in Round 3, the column of fees for all plans was moved slightly so that it no longer lined up vertically with the column of fees under the “annual plan” heading.
- Because several participants mentioned that they would want to call the card issuer to ask questions about their fees, all forms in the third round included information about how consumers could phone or text to get more fee information, as well as a website.

After the second round of testing, the forms were revised based on the findings. The CFPB also published prototype forms on its blog, and received additional input that was incorporated into the design of revised forms.²⁰ These new forms were tested through a third round of consumer interviews, the results of which are presented in the next chapter.

²⁰ The CFPB’s blog post can be found at <http://www.consumerfinance.gov/blog/prepaid-cards-help-design-a-new-disclosure/>.



Chapter VI: Findings from the Third Round of Consumer Interviews

Following the second round of user testing, ICF and the CFPB redesigned the forms in preparation for the third round of testing with consumers. These revised forms were tested with consumers in Kansas City, Missouri on April 9 and 10, 2014. ICF conducted nine hour-long in-depth interviews with consumers to understand their comprehension of the content of the redesigned forms, and how well could identify specific information in each of the forms. This chapter describes the forms, protocol, and findings from this round of user testing.

Description of Forms Tested

As with previous rounds, four form designs were tested in Round 3. Three of these designs were short forms that included only a subset of fees, with the static fees appearing on all forms and the incidence-based fees that varied between different versions of each form. The content and format of these forms were similar to the versions used in the previous two rounds that included top-line fees (*i.e.*, Form 3 in Round 1 and Form 1 in Round 2). There was also one long form design, which was meant to include all fees for a hypothetical prepaid card product. The four designs are included in Appendix C, and differed as follows:

- **Form 1** was used for the comprehension portion of the interview. It prominently displayed the top-line fees (*i.e.*, monthly, cash reload, per purchase, and ATM withdrawal fees) at the top of the form. Below the top-line fees was a table that listed five additional static fees (*i.e.*, ATM balance inquiry, live agent phone service, inactivity, overdraft program, and online bill pay service). Below those fees, each form listed two of five incidence-based fees: check refund, replacement card, bank teller withdrawal, and/or ATM or purchase decline. A gray bar with the text “The fees below generate significant revenue for this company” separated the static fees from the incidence-based fees. Below the table of fees were several pieces of explanatory text related to the prepaid card. Like forms from previous rounds, Form 1 included a statement indicating that there were additional fees that were not shown. Unlike previous rounds, however, Form 1 stated the specific number of other fees that were charged: “We charge [X] other fees not listed here.” On different versions of the forms in this round, the number of other fees ranged from 6 to 11.
- **Form 3**²¹ was very similar to Form 3 from Round 2, in that it described three different service plans for the same product, again labeled as “pay as you go,” “monthly plan,” and “annual plan.” Below that, it listed several fees and their amounts in a column that it said “applies to all plans.” Below the fees was the same explanatory text as Form 1.
- **Forms 4 through 7** were shown to participants during comparison shopping simulations. Unlike forms used in previous rounds, they were not provided as separate documents, but were presented on the backs of prepaid card package prototypes. These forms were identical to Form 1 in format and content, except that instead of directing participants to look online, call, or text for more fee information, they indicated that participants could get details and conditions for all

²¹ The forms tested in this round are not numbered consecutively because “Form 2” was an internal version that was not used in the consumer interviews.

fees “by asking the interviewer.”²² The fee structures of the products described by these four forms were constructed for particular scenarios; more information about these scenarios is provided below in the Key Findings section.

- **Forms 8 and 9** were printed on 11” x 17” paper, folded up, and attached to the back of the prepaid card package prototypes so that participants could unfold and read them. Unlike all other forms tested in the three rounds of testing, which showed only a subset of fees, these forms showed all of the fees that could be charged in a tabular format, as well as additional details about several of the fees.²³

As in Round 2, some of the forms for Round 3 (i.e., Forms 1 and 3) had A and B versions, in which the product described in the A version offered an overdraft program and the product described by the B version did not. However, the forms used in Round 3 disclosed information about the overdraft program differently than in Round 2. All forms in Round 3 included a row in the fee table labeled “overdraft fee,” in which the A versions provided a fee amount and the B versions instead stated “not offered.”

For simplicity, when discussing multiple forms in this section, the term “short form” refers to Forms 1 through 7, while the term “long form” refers to Forms 8 and 9.

Description of Protocol

As in the other rounds, the interviews for Round 3 followed a semi-structured protocol developed by ICF and the CFPB. Each interview began with a brief introductory discussion of the participant’s prior experience with prepaid cards. Participants then engaged in three shopping comparisons in which they compared two different prepaid products that were hanging on a vertical surface. They were asked to do so while standing up, as they would in a store. In the first two of these comparisons (Forms 4 vs. 5 and 6 vs. 7), participants were told to imagine that they were purchasing a prepaid card for their friend, and were given a specific scenario describing how their friend intended to use the card. They were then asked to select which of the two cards would be best for their friend’s purposes. In the third shopping comparison, participants were asked to review two prototype packages that had Forms 8 and 9 attached. They were then asked to select the card that would be best for them, and to explain their choice.

Following the shopping simulations, the interviewer provided participants with Form 1 and asked them a series of questions to test their comprehension of the information on the form. Participants were then given Form 3 and asked another series of comprehension questions.

²² This language was included on the forms in order to test whether or not participants would ask for additional information when necessary in shopping. For more information, see the Key Findings section.

²³ Similar “long form” designs were created as the additional information for Forms 4 through 7. However, they were not provided to participants unless they requested more information during the shopping simulation.

Key Findings

General Understanding of and Reaction to the Forms

- As in previous rounds, when asked to identify the amount charged for specific fees that appeared on the forms, participants were able to do so easily and quickly in almost all cases.²⁴ While there were some instances in which a participant did not see a particular fee on the form, these cases were infrequent and did not appear to be systematic.
- While some of the participants said they would have questions about fees on the form with which they were not familiar (*e.g.*, check refund), most participants said there was not any important information missing from the forms that they thought should be there. However, two participants said they would want more information about “in-network” ATM withdrawals to be listed on the form itself, and one participant felt the replacement card fee should also be listed.
- As mentioned above, the fee table on the short forms included a gray bar separating the static and incidence-based fees. Text in that bar said “The fees below generate significant revenue for this company.” The goal of this text was to explain to consumers why certain fees appeared in the fee table, while others did not.²⁵ However, this text was not effective. None of the participants mentioned the gray bar or the text within it when reviewing any of the forms, and when asked about it, none of them could explain what it meant.
 - Most participants said they were unsure about the purpose of that text. Two participants thought that since the text stated that the fees below the gray bar generated revenue for the prepaid card company, revenue from the fees in the top section must go to a different entity (*e.g.*, a bank). Others thought that the text just emphasized that the company made a lot of money from those fees, but they were not sure why it was important to communicate that information.

Understanding of Potential Variance in Fees

As with the previous rounds of user testing, several of the fees on the forms could vary for different reasons. The forms in Round 3 communicated this potential variance in two ways: (a) listing multiple distinct fees, along with a short description of when that fee would be charged; and (b) using an asterisk to link several fees to the same general footnote that said, “Fees can be less depending on how and where this card is used.”

Two Fees Listed

- The short forms displayed two different ATM withdrawal fees, indicating that the fee would vary depending on whether the ATM being used was in-network or out-of-network. All participants saw both these fees, and understood that the fee would be different depending on whether or not the ATM was in-network. Some participants did not seem to fully understand the distinction between “in-network” and “out-of-network,” but all understood that it was a characteristic of the ATM and could affect the fee they were charged.

²⁴ At various points in the interview participants were asked to identify the following fees: monthly, reload, purchase, ATM withdrawal, live agent customer service by phone, ATM balance inquiry, and online bill pay.

²⁵ The text was intended to clarify that those fees were shown in the table of fees because they generated more revenue for the company than other fees that were not shown on the form.



- The short forms displayed two different per purchase fees, indicating that this fee would be different depending on whether the purchase was made “with sig.” or “with PIN.”²⁶ Of the seven participants who saw the per purchase fee, all but one understood that it could vary depending on whether they used a signature or PIN to make the purchase. Two participants also said the fee could vary “depending on how and where the card was used.” These two participants mistakenly applied the footnote text for the asterisk to the per purchase fee, even though there was no asterisk next to the per purchase fee.

Use of a Single General Asterisk Applicable to Multiple Fees

- On the short forms, the monthly and cash reload fees included an asterisk that referenced a footnote which said, “Fees can be less depending on how and where this card is used.” When asked whether or not the monthly and cash reload fees could vary, most participants indicated that they could. When asked to explain their response, most participants simply restated the footnote language on the form, saying they would vary “depending on how and where the card is used.”
- When asked to interpret this text, participants gave a variety of explanations. Most participants thought that the monthly fee might be less depending on how frequently the card was used. Others had different interpretations; for example, one participant thought the monthly fee could be different if the card was used in a different state, while another thought variations in the monthly fee might be related to the “other fees not listed” on the card. When asked why the cash reload fee might vary, the most common responses were that it might depend on where the card was purchased, where it was being reloaded, and whether it was reloaded using cash or direct deposit.

Interpretation of Fees Not Listed

- The short forms were designed so that in each pair of forms that participants compared, at least one of the incidence-based fees appeared on one form but not the other. Participants were asked what they thought this meant. Overall, approximately half of the participants understood that they could not know whether they would be charged that fee based on the information provided, but that it was possible. However, some of the remaining participants interpreted the absence of a fee from the label to mean either that the service was not offered, or that the service was offered without any fee.
- As noted above, the short forms included a sentence that read “we charge X other fees not listed here”, where X was a number (e.g., 6, 7, 9, or 11). All participants who were asked said they assumed that a higher number would always be worse than a lower number of additional fees. In fact, four participants factored the number of “other fees not listed” into their choice during the shopping simulations. Most participants assumed a higher number would negatively impact them. Until they were prompted by the interviewer, none of the participants considered that a higher number could also indicate that the card offered more, potentially beneficial, services than other cards (and not just more fees).

²⁶ Due to limited space on these forms, “with signature” was abbreviated to “with sig.” None of the participants expressed confusion over what the abbreviation meant.



Availability of Additional Information

- The forms also included a sentence indicating that consumers could find details and conditions for all fees and services inside the package or by calling, texting, or visiting the provider’s website. When asked how they could get more information, all participants said they could call, text, and/or visit the website. At least seven participants saw that information on the form; for the remaining two, it was not clear if their responses were based on their own assumptions or the form text. Notably, a few participants were concerned that calling for more information would incur the “live agent phone service” fee listed in the table of fees.
 - The eight participants who had smartphones were asked how likely they would be to seek more information by accessing the website while they were in the store. Three participants said they would be very likely to do so. The remaining five participants said they would not be likely to access the website on their phone while in the store.
- When asked if there was any additional information participants wished had been on the card, three participants commented that they would want the form to describe the “other fees” that it said were also charged. Another participant said she wished that the same fees were presented on each form, to make it easier to compare them side-by-side. One participant thought that the form should indicate *how* a cardholder could check their account balance (and not just the fee for doing so).

Understanding of Funds Protection

- Like the forms for Rounds 1 and 2, those used in this round included a sentence indicating that the consumers’ funds would not be protected unless they registered their account. The sentence was reworded for this round to be more “action-oriented,” in the hopes that more participants would notice it: “Register your card to protect your money.” When asked what the benefits of registering their account might be, only two participants mentioned this text on the form. When specifically asked to read this sentence, almost all participants understood what it meant.

Shopping Simulations

Comparisons of Short Forms

- In the first shopping exercise, participants reviewed prototype packages for two different prepaid cards that displayed short form disclosures and were asked to select the one that would be the best choice for a friend who would load funds onto the card and use it to buy groceries. Forms 4 and 5 were displayed on the outside of the two prototype packages, both of which indicated that the participants could ask the interviewer for more fee information. The interviewer had long form disclosures for both products that she could provide to participants if they asked. For this scenario, all of the information that participants should have needed to make their decision—that is, the fees their friend would be charged for loading funds and making purchases at a store—was included in the short forms on the packages they were reviewing. The participants therefore had no need to ask for additional information.
 - Four of the nine participants did not base their decision on the specific scenario they were provided—that is, they considered a variety of fees when making their decision other than the cash reload and per purchase fees. Of these four, two chose Form 4 and two chose Form 5. However, because they were not answering based on the intended



scenario, it is difficult to draw any conclusions from their decisions about the usability of the forms.

- The remaining five participants specifically based their decision on the scenario they were given, and therefore selected a card for their friend based on the per purchase and cash reload fees that would be charged. All five were able to correctly identify the prepaid card with the lower per purchase and cash reload fees (Form 4).
- None of the participants asked the interviewer for more fee information about either of the cards. As noted above, it was not necessary to do so to complete the scenario.
- The second shopping exercise was structured identically to the first, except that (a) participants were choosing between packages displaying Forms 6 and 7, and (b) the scenario they were given was that they were purchasing a card for a friend who planned to use it during a vacation in another country.²⁷ Neither form included fees related to making international purchases, so in order to make an informed choice participants would have had to ask the interviewer for more detailed fee information.
 - As in the first scenario, about half of the participants did not appear to base their decision on the scenario they were given, and instead selected a product based on other information that appeared on the forms they were reviewed (*e.g.*, lower fees overall). Again, it is not clear what conclusions can be drawn from these participants.
 - The remaining four participants did base their decision on the scenario. However, three of these participants assumed that international fees would be covered under the “out-of-network” fee on the form, and therefore did not request additional information from the interviewer.
 - Only one participant requested additional information from the interviewer. The interviewer provided this participant with long forms listing all fees for each product. This participant then successfully located the fee for international purchases and selected the product that charged a lower percentage as the fee for international purchases.

Comparison of Long Forms

- Participants were also asked to complete a third shopping exercise. In this exercise they were shown two prototype packages that included long form disclosures (Forms 8 and 9) that folded out from the package. The participants were then asked to choose which of the two prepaid cards would be best for them. Five of the participants chose the package displaying Form 9. These participants based their decisions on a variety of factors, such as that card’s lower per purchase, ATM withdrawal, cash reload, transfer, and international fees. The remaining four participants chose Version 8; the reasons they gave for their decision included that card’s lower monthly fee, live agent customer service fee, and bank teller withdrawal fee.²⁸

²⁷ For a few interviews, participants were given an alternate scenario in which the card was going to be used not for international purchases, but instead to transfer money. Again, no information about money transfer fees was provided on the forms, so participants would have had to request additional information from the interviewer in order to make a fully informed decision. However, the results were no different when the scenario was changed.

²⁸ The researchers did not attempt to determine whether participants made the “correct” choice between the two prototypes, since this would have required a very detailed understanding of how they would use the card.



- Some of the fees listed on the long form also appeared in the short forms, while others did not. When asked to describe all the information played into their selection, five of the nine participants mentioned only information that would have also appeared on a short form. Most of the information mentioned by the remaining four participants would have appeared on the short form, but they each mentioned one fee that factored into their decision that was only found on the long form. Two of these four mentioned the fact that using direct deposit could lower their monthly fee; one each mentioned transfer and international transaction fees.
- One goal of the long form shopping comparison task was to assess the extent to which participants were able to effectively compare packages displaying the “fold-out” long forms while standing up (as they would if shopping in a store). Participants were able to do so, although it appeared to be more difficult than when comparing packages with shorter fee disclosures.
 - Participants spent more time reviewing the long forms before making their decision, compared to the amount of time they spent reviewing the short forms earlier in the interview (an average of approximately 4 minutes vs. 2 minutes).
 - Participants appeared more awkward during this task, and many initially asked or tried to compare the long forms on the table while sitting, rather than standing up. However, after the interviewer asked them to compare the forms and make a decision without using the table (since a table and chair are rarely present at a retail store), participants were ultimately able to do so.

Multiple Service Plan Form

- As noted above, all participants were asked to review Form 3, which provided information for several different service plans. All nine participants understood without being prompted by the interviewer that monthly and annual plans were an option with this card, although it did take a few participants several minutes to come to this understanding. However, three participants did not understand that “pay as you go” was a third service plan.
- In addition to the plan-specific fees, the form also listed several other fees that applied to all plans, including a fee for ATM withdrawals. All but one of the participants correctly indicated that this fee would apply if they were using the pay as you go plan.²⁹ This represented an improvement in comprehension as compared to Round 2.
- Participants were also asked if there was a way to avoid paying a monthly fee if they purchased this card. All but one of the participants understood that the monthly fee could be avoided by selecting one of the other plans.
- Participants were then asked which of the service plans on the form they thought would apply to their account if they purchased the card and did not indicate any preference to the

²⁹ As noted above, three participants did not initially seem to realize that “pay as you go” was a plan they could select. These participants were told that this was a plan as a part of this question.

company.³⁰ Initially, most participants indicated that they did not know. When pressed by the interviewer, all but one of the participants said that the pay as you go plan would be the default service plan. Participants gave a variety of explanations for this answer; for example, one said that the company would make the most money from that service plan, while another said that the company would not be able to charge a monthly or annual fee if the customer had not approved it. Some participants' reasoning seemed to be based on misunderstanding of the options; for example, one said that if a customer did not opt into a service plan then the pay as you go option would apply because it was "not really a plan." The remaining participant believed the monthly plan would automatically apply, because it was the "most common" service plan for prepaid cards.

Consumer Preferences between Form Versions

- Seven of the participants were asked whether, when shopping for a prepaid card in a store, they would find it more helpful for packages to display (a) the short form showing a subset of most important fees and information about where to get more details (*e.g.*, Form 1); or (b) a long form that provided all information about product fees (*e.g.*, Forms 8 and 9). Participants' preferences were varied:
 - Five of the seven participants said they would prefer to see the short form on the package. They said they could read this form more quickly and easily, and that if they needed more detailed information about fees they could always access it using the instructions on the form. However, one of these participants did note that cell phone reception can sometimes be unreliable in stores, and therefore consumers may not always be able to access additional information in the store.
 - One participant said she would prefer that packages include the long form in the store. She explained that she often uses her prepaid card to transfer funds, so it is important in her decision, but a transfer fee did not appear on any of the short forms tested.
 - The seventh participant said she would prefer that both forms be provided on the package. She described this approach as being "like a medicine bottle," where some information is provided on the outside of the package but the label can be peeled back to access more details, without having to purchase the product to do so.

Overdraft Program

- When reviewing a short form that presented one service plan, all participants were able to correctly indicate whether or not an overdraft program was offered. When reviewing the multiple service plan form, seven of the nine participants were able to do so. One of the remaining participants did not notice the overdraft fee listed on the form, and therefore thought (based on past experience) that a prepaid card would not offer an overdraft program. The other participant did see the notice on the form that an overdraft program was not offered, but she still believed that the program would be available if the consumer called the company and requested it.

³⁰ As with the multiple service plan form used in Round 2, this form did not indicate which plan would apply by default.

- Of the four participants who reviewed a short form that presented one service plan and offered an overdraft program, three assumed that they would have to opt in to such a program if they purchased the card. Of the four participants who reviewed a short form that presented multiple service plans and offered an overdraft program, only one assumed that they would have to opt in—the other three thought that the program would apply automatically to their account. One possible explanation for this finding is that on the multiple service plan form, the overdraft fee appeared in a list of fees titled “applies to all plans.”

Implications for Subsequent Design

Following the third round of testing, ICF and the CFPB created a revised set of model forms for publication with the CFPB’s proposed rule in the second half of 2014. This set of proposed model forms was informed by findings from the final round of interviews as follows:

- In Round 3, the text used in the footnote to indicate that some fees could vary read, “Fees can be less depending on how and where the card is used.” This wording seemed to be clearer to participants than the wording used in previous rounds; while four participants commented that they found this sentence unclear in Round 2, none of the participants made this comment in Round 3. Therefore, the revised version of the text was used for the proposed model forms.
- In Round 3, the sentence about funds protection was reworded in hopes of making it more prominent so more participants would notice it. The revised wording did not seem to be effective in this regard, as only two participants mentioned the information without prompting. However, comprehension of the sentence remained high (seven of the nine participants understood it), and therefore this wording was used for the proposed model forms.
- For Round 3, the design of the multiple service plan form was revised so that the column of fees that applied to all plans no longer aligned with the fees for the annual plan. This change was intended to alleviate the misconception, held by three participants in Round 2, that these fees only applied to the annual plan. The revised format appeared to be effective, because only one participant in Round 3 did not understand that these fees applied to all of the plans. Therefore, this revised format was used in the proposed model forms.
- In both Rounds 2 and 3, when reviewing the multiple service plan form a few participants did not understand that the “pay as you go” option was a separate service plan that they could choose, just as the “monthly plan” and “annual plan” were. In order to clarify that these were three different service plans, the “pay as you go” option was relabeled “pay as you go plan” in the proposed model forms.
- In Round 3, a gray row was added to the fee table to more explicitly separate the incidence-based fees from the static fees. This gray row included the text, “The fees below generate significant revenue for this company.” None of the participants seemed to notice this text, nor could they explain what it meant when asked. Therefore, neither the gray bar nor this text was included in the proposed model forms.
- Because some participants indicated that the information was useful to them in choosing between cards, the proposed model short forms included the number of other fees that could be charged but were not shown on the form (i.e., “we charge X other fees not listed here”).



Chapter VII: Conclusion

For consumers who use prepaid accounts—especially those who use them as an alternative to traditional banking instruments—it is important to have an accurate understanding of the fees and other costs associated with using these products. Without a clear sense of the costs involved, consumers will have difficulty making informed decisions related to the purchase and use of prepaid accounts. To help address this need, the CFPB has embarked on this study of how fee information can most effectively be provided to prepaid card users.

This report summarizes findings from focus groups and in-depth interviews conducted by ICF on behalf of the CFPB between October 2013 and May 2014. The purpose of the project was to explore consumers' understanding of, experiences with, and behaviors related to prepaid cards, and to use that information to develop effective ways of disclosing fee information for these products. Based in part on some findings from this research, the CFPB is proposing a “two-pronged approach” to prepaid account disclosures. Under this approach, consumers would receive or have access to both a short form disclosure that includes a subset of the most important fees, and a long form containing comprehensive fee information about the prepaid account. This approach is supported by the following findings in particular:

- Across all rounds, participants were generally able to identify and use fee information on the short forms.
- Most participants understood that the fees provided on the short forms represented only a subset of the fees they could be charged, and they understood how they could access a comprehensive list of fees if they wanted it.
- In Round 3, participants were asked to review two long form disclosures, and choose the product that was best for them. Almost all of the information participants used to make their decisions would have appeared on the short form disclosures as well, implying that their decision-making process would not have been significantly different if they had been shown the short forms instead.
- When asked whether they would prefer to be shown a short form or long form disclosure form when shopping for a prepaid card at a retail store, five of seven participants in the final round of testing said that they would prefer to have only the short form, given that if they wanted to, they could still access the information provided on the long form.

In addition, this study provides support for the use of the top-line design in the proposed model forms. Findings from the focus groups showed that the fees participants found most important when shopping for a prepaid card were the monthly, cash reload, ATM withdrawal, and per purchase fees. Most participants in the interviews confirmed that these fees (which appeared on the top line for some designs) were the most important fees. In the first and second rounds of user testing, the vast majority of participants expressed a strong preference for the top-line design.

While this research provided rich insight into consumers' experiences with prepaid cards and their understanding of and reactions to the forms, it is important to note that questions remain, which we



understand the CFPB will continue to study in order to ensure that its proposed disclosure framework for prepaid accounts is as effective as possible. Some of these remaining questions include:

- Some participants in early rounds had difficulty understanding the exact circumstances under which fee amounts might be different from those shown. In order to alleviate this confusion, the proposed model forms instead include a general note that “fees can be less depending on how and where this card is used.” While this approach simplified the forms, the tradeoff is that it provides less detailed information to consumers on which to base their decisions. Therefore, the CFPB should continue to consider the tradeoffs between different approaches to describing variable fees.
- While most participants understood the multiple service plan forms in a general sense, there were more comprehension errors with these forms than with those that presented only a single service plan. It will be important for the CFPB to continue to examine whether it is possible to disclose fee information for multiple service plans in a way that will make them more understandable to consumers.
- While the inclusion of incidence-based fees seems to be a promising way to ensure that the most relevant fees for each product are displayed, in some cases the fact that different fees were shown on different labels confused participants who were comparing two different them. In some cases participants believed that if a fee did not appear on a label it meant that the product did not offer a particular service, or that they did offer the service but did not charge a fee for it—neither of which would necessarily be the case. The CFPB should continue to weigh the value of including incidence-based fees on the forms against the potential that doing so may lead some consumers to make false assumptions.
- This research showed that most participants who reviewed a short form understood how they could access additional information about fees. However, it is very difficult to assess through this type of testing how likely consumers will be to actually seek out this information while shopping.
- There were a number of cases in which testing participants did not appear to notice or read explanatory text that was included on the forms. The CFPB should continue to develop and test strategies for making this information more prominent without detracting from consumers’ understanding of other parts of the form.
- All of the forms in this study were tested in a hard copy format. However, it is reasonable to assume that, over time, more and more consumers will encounter prepaid fee disclosures in electronic format rather than on paper or on a retail package. Therefore, the CFPB should consider this trend as it continues to develop its disclosure frameworks for prepaid cards and other financial products.

These findings have been used by the CFPB to develop its proposed rulemaking that would apply Regulation E to prepaid accounts. The model forms that were developed and refined through this project will be included as examples of how fees can best be disclosed to consumers. Through this rulemaking, the CFPB hopes to ensure that Americans have access to the information they need to become informed users of prepaid cards.



**APPENDIX A:
RECRUITMENT SCREENER**

Participant Screener for Prepaid Card User Testing
[LOCATION]
[DATE]

General Information and Recruiting Specifications

- Ten in-depth interviews
 - Five interviews will be held on two different dates, at 9:00, 10:30, 1:00, 2:30, and 4:00.
 - Length of each interview: 90 minutes
 - Participant incentive: \$75
 - RECRUITERS: Ask all interview participants to bring their reading glasses, if necessary, because they may be asked to review one or more documents as part of the interview.
-

Recruiting Script

Hello, my name is **[first and last name]**. May I speak to **[candidate]**?

If someone other than Respondent asks why you are calling, say: I'm calling regarding an important US government study about prepaid cards.

Say to Respondent: I am calling from **[marketing company's name]** for ICF International. ICF International is working with a US government agency, the Consumer Financial Protection Bureau. The Bureau is an agency in the Federal government whose goal is to ensure that consumers get the information they need to make financial decisions. For this specific project, the Bureau is studying how people use prepaid cards and how they make decisions about those cards.

We are seeking people to voluntarily participate in interviews being held on _____. The interview will last 90 minutes, and we will give participants an incentive of \$75. If you are selected and agree to participate in one of these interviews, we will ask you some questions about your use of prepaid cards and how you choose between different products. You will not have to provide any information that you feel uncomfortable discussing.

It is important that you know that we will be audio- and videotaping your interview so that we can be sure to collect what you say accurately. However, your name will not appear in any reports. Also, just so you are not surprised, staff from the Bureau and ICF International will observe your interview from another room.

Do you have a few minutes to answer some pre-qualifying questions? (*If not, When would be a convenient time to call back?*)

If necessary: We are not selling anything, we are only looking to find people to participate in a study that the Consumer Financial Protection Bureau is conducting. Everything you say will be kept private except where required by law. Further, your personal information will not be given to the Consumer Financial Protection Bureau.

Q1: In the past 12 months, have you purchased (either in a store or online) a reloadable prepaid card that you can load funds onto yourself? You can buy these cards in a store or online and can reload them by cash or direct deposit if you wish. Examples would include prepaid cards such as GreenDot, NetSpend, RushCard, or Bluebird cards. These cards do **not** include gift cards or health care flexible spending account cards.

- Yes → Continue to Q1a
- No or doesn't know → *Respondent does not qualify; thank them politely and end call.*

Q1a: Are you only able to use this card at a single business or retailer, or can you use it at a variety of different businesses or retailers on the Visa, Discover, American Express, or MasterCard networks?

- Single kind → *Thank respondent politely and end call.*
- Variety → Continue to Q1b

Q1b: Are you only able to use this card to purchase any goods you want or is its use limited to particular categories of merchandise (e.g., health care related goods)?

- Limited use → *Thank respondent politely and end call.*
- Unlimited → Continue to Q1c

Q1c: Have you *more than once* in the past year: (1) loaded cash funds onto this prepaid card **or** (2) set up an electronic transfer of funds (including a direct deposit) onto this prepaid card?

- Yes → Continue to Q1d
- No or doesn't know → *Thank respondent politely and end call*

Q1d: What is the brand name of the prepaid card you have used most frequently (if you remember)?

- Record open-ended response. If respondent says "Visa" or "MasterCard," ask if there is another brand identified on the card.*

Q2: Do you work or have you ever worked for a bank or other financial institution?

- Yes → *Thank respondent politely and end call.*
- No → Continue

Q3: Do you work or have you ever worked for a consumer rights non-profit related to the banking or financial industries?

- Yes → *Thank respondent politely and end call.*
- No → *Ask respondent what his/her occupation is, record respondent's answer, and continue to Q4.*

Q4: Have you participated in any other interviews or focus groups in the past 6 months?

- Yes → *Thank respondent politely and end call.*
- No → Continue

Q5: **ARTICULATION QUESTION:** In a few sentences please tell us why you use prepaid cards. Tell us some things you like about this product. If you could change one thing about your prepaid card account, what would it be? (*Record respondent's answer.*)

- If respondent gives a thoughtful, articulate answer → **Respondent qualifies**
- If respondent does not give a thoughtful, articulate answer → *Thank respondent politely and end call.*

| Screening Criteria | Recruiting Quotas |
|--|--|
| <p>Q6: In the past <u>two years</u>, have you ever used a card that your employer provided and loaded money onto, also called a payroll card?</p> <ul style="list-style-type: none"> • <i>Do not include gift cards or any prepaid cards that you purchase yourself.</i> <input type="checkbox"/> Yes → Continue to Q6a <input type="checkbox"/> No → Skip to Q7a <p>Q6a: Were you only able to use this card at a single business or retailer, or could you use it at a variety of different businesses or retailers on the Visa, Discover, American Express, or MasterCard networks?</p> <ul style="list-style-type: none"> a) Single kind → Skip to Q7a b) Variety → Continue to Q6b <p>Q6b: Please describe this card. Who placed the funds on this card? Why were the funds placed on the card? <i>Record open-ended response</i></p> | <ul style="list-style-type: none"> • At least 3 recruits should answer (a) to Q6a. |
| <p>Q7a: In the past <u>12 months</u>, have you yourself opened a prepaid account <u>online</u> or purchased a prepaid card <u>online</u>? Please answer based on whether you have <i>opened</i> an account or <i>purchased</i> a card online, not whether you have <i>loaded</i> funds online.</p> <ul style="list-style-type: none"> a) Yes b) No <p>Q7b: In the past <u>12 months</u>, have you yourself purchased a prepaid card <u>in a store</u>? Please answer based on whether you have <i>purchased</i> prepaid cards in a store, not whether you have <i>loaded</i> funds onto them in a store.</p> <ul style="list-style-type: none"> a) Yes b) No | <ul style="list-style-type: none"> • At least 3 recruits should answer Yes to Q7a • At least 6 recruits should answer Yes to Q7b |

| Screening Criteria | Recruiting Quotas |
|--|---|
| <p>Q8: Do you currently have a checking or savings account with a bank or credit union?</p> <p>a) Yes b) No</p> | <ul style="list-style-type: none"> • At least 3 recruits should answer No |
| <p>Q9: What is your age?</p> <p>a) 18 to 35 b) 36 to 50 c) 51 or above</p> | <ul style="list-style-type: none"> • At least 3 recruits should answer (a) • At least 3 recruits should answer (b) • At least 2 recruits should answer (c) |
| <p>Q10: Are you of Hispanic or Latino origin (ethnicity)?</p> <p>a) Yes → Continue to Q10a b) No → Skip to Q11</p> <p>Q10a: Do you primarily speak Spanish at home?</p> <p>a) Yes b) No</p> | <ul style="list-style-type: none"> • At least 3 recruits should answer Yes to Q10 • At least 2 recruits should answer Yes to Q10a |
| <p>Q11: What is your race? You can select more than one, if applicable.</p> <p>a) White b) Black or African-American c) Asian d) Native Hawaiian or other Pacific Islander e) American Indian or Alaska Native</p> | <ul style="list-style-type: none"> • At least 3 recruits should answer (a) • At least 3 recruits should answer (b), (c), (d), or (e) |
| <p>Q12: What is the highest level that you reached in school?</p> <p>a) High school degree or less b) Some college work c) College graduate</p> | <ul style="list-style-type: none"> • At least 3 recruits should answer (a) • At least 3 recruits should answer (b) • At least 2 recruits should answer (c) |
| <p>Q13: <i>Gender</i></p> | <ul style="list-style-type: none"> • At least 4 recruits of each gender |

If participant qualifies: Based on your responses, we would like to invite you to participate in an interview, which will be held at **[facility name and address]**. The interview will last about 90 minutes. We may be showing you some documents to look at during the interview, so if you use reading glasses please be sure that you bring them. We will provide you with a \$75 incentive for participating in the interview.

If participant is willing to participate, record their name and contact information, confirm the time and date, and indicate that they will receive a confirmation call the day before the interview. Regardless of whether or not they are willing to participate, thank them before ending the call.

APPENDIX B:
SAMPLE FEE DISCLOSURES SHOWN IN
CONSUMER FOCUS GROUPS

No Overdraft Fees • No Credit Card Debt

| | |
|--------------------------------------|---|
| Buying the Card | <ul style="list-style-type: none"> ▶ \$4.95 purchase fee plus your initial load amount. Cash only. |
| Using the Card | <ul style="list-style-type: none"> ▶ \$5.95 Monthly Charge. BUT...we will waive the Monthly Charge in any billing cycle that you either load at least \$1,000 or have at least 30 qualifying purchases* posted to your account. |
| Reloading the Card | <ul style="list-style-type: none"> ▶ No charge to automatically direct deposit your wages or government benefits. ▶ \$4.95 or less when loading cash at a retail store. |
| Using ATMs & Getting Cash | <ul style="list-style-type: none"> ▶ No ATM withdrawal fee at over 20,000 MoneyPass® ATMs nationwide. ▶ No charge at retailers offering "cash back" with purchase. ▶ At non-MoneyPass ATMs and bank teller locations, \$2.50 for cash withdrawals and \$0.50 for balance inquiries, plus any fee the bank or ATM owner may charge. |
| Other Fees | <ul style="list-style-type: none"> ▶ \$4.95 to replace a lost, stolen, or damaged card. ▶ At foreign merchants, we will add a 3% surcharge to the transaction amount. ▶ Optional services may also be offered for a fee. |

*Qualifying purchases include completed transactions where you are paying for goods or services with your card. See Cardholder Agreement at [redacted] or inside this package to see when your billing cycle starts and ends and for complete details about your account. Patent Pending

Open to learn more

TO RETURN THIS CARD OR GET REFUND INFORMATION,

Here are some of the fees you are most likely to pay. Fees for loading and using this card appear in the enclosed Cardholder Agreement. For more information, visit [redacted] or call [redacted].

| PLAN OPTIONS | Pay-As-You-Go SM Plan | Monthly FeeAdvantage SM Plan | Annual FeeAdvantage SM Plan |
|---|--------------------------------------|---|--|
| Plan Fee | NONE | \$9.95 | \$69.95 |
| Signature Purchase Transaction Fee | \$1 each | INCLUDED IN PLAN | |
| PIN Purchase Transaction Fee | \$2 each | INCLUDED IN PLAN | |
| Domestic ATM Cash Withdrawal ⁴ | \$2.40 each | | |
| Balance Inquiry Fee Online, Email, or Text ² | INCLUDED IN PLAN | | |
| Balance Inquiry Fee Toll-Free Number or ATM | \$.00 each | | |
| Account Maintenance Fee (Monthly) ³ | \$.00 (AFTER 90 DAYS OF NO ACTIVITY) | | |

¹ **IMPORTANT INFORMATION ABOUT PROCEDURES FOR OPENING A NEW CARD ACCOUNT:** To help the government fight the funding of terrorism and money laundering activities, federal law requires all financial institutions to obtain, verify, and record information that identifies each person who opens a Card Account. What this means for you: When you open a Card Account, we will ask for your name, address, date of birth, and other information that will allow us to identify you. We may also ask to see a copy of your driver's license or other identifying documents.

² No fee for cardholder-to-cardholder transfers made via text message or online. There are fees associated with some online bill pay services.

³ Withdrawal fees apply and ATM owner fees may apply. Refer to the enclosed Cardholder Agreement and fee chart for details.

⁴ Our email and text message services are free, but your carrier may charge you for messages.

⁵ This fee applies if Card Account has not had any activity - that is, no purchases; no cash withdrawals; no load transactions; or no balance inquiry fee - for 90 days. If you are enrolled in the FeeAdvantage Plan (FAP) and your Card Account has had no activity, this fee will apply (a) if the annual FAP fee was paid, or (b) instead of the monthly FAP fee. The Account Maintenance fee is not applicable to residents of Connecticut and New Jersey.

[redacted] Visa Prepaid Debit Cards are issued by The Bancorp Bank pursuant to a license from Visa U.S.A. Inc. The Bancorp Bank Member FDIC. [redacted] is an Independent Sales Organization pursuant to an agreement with The Bancorp Bank. Use of card subject to funds availability. Transaction fees, terms, and conditions apply. See Cardholder Agreement for complete details.

| FEE CHART | |
|---|----------------------------------|
| LOW MONTHLY FEE* (WAIVED WITH MINIMUM MONTHLY LOAD) | \$1 (NO FEE IN NY, TX, VT) |
| MINIMUM BALANCE | \$0 |
| OVERDRAFT FEE | \$0 |
| Load your Serve Account with: | |
| DIRECT DEPOSIT | \$0 |
| CHECKING/SAVINGS ACCOUNT | \$0 |
| CASH RELOAD PACK (3RD PARTY PURCHASE FEES MAY APPLY) | \$0 |
| WITHDRAWAL/DECLINE AT MONEYPASS® ATMS | \$0 |
| WITHDRAWAL/DECLINE AT OTHER ATMS (ATM OWNER FEES MAY ALSO APPLY) | \$2 (NO FEE IN VT) |
| PAY BILLS | \$0 |
| SEND AND RECEIVE MONEY ONLINE AND BY APP ² | \$0 |
| FOREIGN TRANSACTIONS ³ | 2.7% ³ (NO FEE IN VT) |

SUBJECT TO APPLICABLE LAW, A \$1 MONTHLY FEE WILL BE ASSESSED AGAINST TEMPORARY CARD BALANCE STARTING 30 DAYS AFTER PURCHASE.* NO FEE IN AR, NY, TX.

Fees subject to change. Visit [REDACTED] for the latest Fee Schedule and more details.

¹ Fee waived on monthly statement periods you load \$500 or more or have any Direct Deposit load. Funds loaded to Temporary Card do not qualify toward fee waiver requirements. Fee waiver only available after successful signup for full [REDACTED] Account.

² Data rates may apply.

³ 2.7% of each transaction after conversion to US dollars.

*Fees not effective before 12/03/13; see [REDACTED] for updated information.

**APPENDIX C:
FORMS SHOWN IN
CONSUMER INTERVIEWS**

Round 1:
Baltimore, MD
February 12 & 19, 2014

1A

| | |
|---|--------------------|
| Monthly fee | \$5.95* |
| Cash reload | \$3.95 or less** |
| ATM withdrawal (in-network/out-of-network) | \$1.50 / \$2.50*** |
| Purchase (with signature/with PIN) | \$0.75 / \$1.00 |
| Online bill pay | \$1.50 per bill |
| ATM balance inquiry (in-network/out-of-network) | \$0.50 / \$2.50*** |
| Live agent phone service | \$1.50 per call |
| Inactivity (no transactions for 3 months) | \$4.95 per month |
| Purchase decline | \$0.95 |
| ATM decline | \$0.95 |

We charge other fees not listed here. See the enclosed account agreement or visit www.abcprepaid.com/fees for details.

* \$0 if at least \$1,000 loaded onto card or 10 purchases made in that month.

** \$0 if loaded at certain locations.

*** Third party fees may also apply.

Your money is not protected against unauthorized transactions until you register this card.

For more information about prepaid cards contact the Consumer Financial Protection Bureau at consumerfinance.gov/prepays.

1B

| | |
|---|--------------------|
| Monthly fee | \$4.95* |
| Cash reload | \$3.00 or less** |
| ATM withdrawal (in-network/out-of-network) | \$1.00 / \$2.50*** |
| Purchase (with signature/with PIN) | \$0.75 / \$2.00 |
| Online bill pay | \$2.00 per bill |
| ATM balance inquiry (in-network/out-of-network) | \$0.50 / \$2.50*** |
| Live agent phone service | \$2.50 per call |
| Inactivity (no transactions for 6 months) | \$4.95 per month |
| Purchase decline | \$0.95 |
| ATM decline | \$1.50 |

We charge other fees not listed here. See the enclosed account agreement or visit www.abcprepaid.com/fees for details.

* \$0 if at least \$1,000 loaded onto card or 30 purchases made in that month.

** \$1.00 if loaded at certain locations.

*** Third party fees may also apply.

Your money is not protected against unauthorized transactions until you register this card.

For more information about prepaid cards contact the Consumer Financial Protection Bureau at consumerfinance.gov/prepays.

2A

| | | |
|--------------------------------|---|-------------------|
| Maintenance | Monthly fee | \$0 |
| Add and withdraw money | Cash reload | \$3.00 or less* |
| | ATM withdrawal (in-network/out-of-network) | \$0.75 / \$1.75** |
| Make purchases | Purchase (with signature/with PIN) | \$0.50 / \$1.50 |
| | Online bill pay | \$2.00 per bill |
| Get account information | ATM balance inquiry (in-network/out-of-network) | \$0.75 / \$2.75** |
| | Live agent phone service | \$2.00 per call |
| | Inactivity (no transactions for 3 months) | \$2.50 per month |
| Other fees | Purchase decline | \$1.00 |
| | ATM decline | \$0 |

We charge other fees not listed here. See the enclosed account agreement or visit www.abcprepaid.com/fees for details.

* \$1.00 if loaded at certain locations.

** Third party fees may also apply.

Your money is not protected against unauthorized transactions until you register this card.

For more information about prepaid cards contact the Consumer Financial Protection Bureau at consumerfinance.gov/prepays.

2B

| | | |
|--------------------------------|---|--------------------|
| Maintenance | Monthly fee | \$3.95* |
| Add and withdraw money | Cash reload | \$3.00 or less** |
| | ATM withdrawal (in-network/out-of-network) | \$0.75 / \$1.25*** |
| Make purchases | Purchase (with signature/with PIN) | \$0 / \$0 |
| | Online bill pay | \$2.50 per bill |
| Get account information | ATM balance inquiry (in-network/out-of-network) | \$0.50 / \$2.50*** |
| | Live agent phone service | \$2.00 per call |
| | Inactivity (no transactions for 3 months) | \$5.00 per month |
| Other fees | Purchase decline | \$0.75 |
| | ATM decline | \$1.00 |

We charge other fees not listed here. See the enclosed account agreement or visit www.abcprepaid.com/fees for details.

* \$0 if at least \$500 loaded onto card or 30 purchases made in that month.

** \$0 if loaded at certain locations.

*** Third party fees may also apply.

Your money is not protected against unauthorized transactions until you register this card.

For more information about prepaid cards contact the Consumer Financial Protection Bureau at consumerfinance.gov/prepays.

3A

| \$4.95* Monthly fee | \$2.00** or less Cash reload | \$0.50 ATM withdrawal (in-network) | \$0 / \$0 Purchase (with signature/with PIN) |
|---|--|---|---|
| ATM withdrawal (out-of-network) | | | \$1.50*** |
| Online bill pay | | | \$1.75 per bill |
| ATM balance inquiry (in-network/out-of-network) | | | \$0.50 / \$2.50*** |
| Live agent phone service | | | \$1.50 per call |
| Inactivity (no transactions for 3 months) | | | \$4.50 per month |
| Purchase decline | | | \$1.00 |
| ATM decline | | | \$1.00 |

We charge other fees not listed here. See the enclosed account agreement or visit www.abcprepaid.com/fees for details.

* \$1.00 if at least \$1,000 loaded onto card or 30 purchases made in that month.
 ** \$0 if loaded at certain locations.
 *** Third party fees may also apply.

Your money is not protected against unauthorized transactions until you register this card.
 For more information about prepaid cards contact the Consumer Financial Protection Bureau at consumerfinance.gov/prepays.

3B

| \$0 | \$2.25* or less | \$0 | \$0.75 / \$1.00 |
|-------------|------------------------|---|------------------------------------|
| Monthly fee | Cash reload | ATM withdrawal (in-network) | Purchase (with signature/with PIN) |
| | | ATM withdrawal (out-of-network) | \$2.00** |
| | | Online bill pay | \$1.75 per bill |
| | | ATM balance inquiry (in-network/out-of-network) | \$0.50 / \$2.50** |
| | | Live agent phone service | \$1.00 per call |
| | | Inactivity (no transactions for 3 months) | \$4.00 per month |
| | | Purchase decline | \$1.00 |
| | | ATM decline | \$0.75 |

We charge other fees not listed here. See the enclosed account agreement or visit www.abcprepaid.com/fees for details.

* \$0 if loaded at certain locations.
 ** Third party fees may also apply.

Your money is not protected against unauthorized transactions until you register this card.

For more information about prepaid cards contact the Consumer Financial Protection Bureau at consumerfinance.gov/prepays.

4



\$5.95*
Monthly fee



\$3.95** or less
Cash reload



\$1.50
ATM withdrawal
(in-network)



\$0.75
Purchase
(with signature)

The graphics show how this card's fees compare to the ranges of fees charged by other cards for the same services.

| | |
|---|--------------------|
| ATM withdrawal (out-of-network) | \$2.50*** |
| Purchase (with PIN) | \$1.00 |
| Online bill pay | \$1.50 per bill |
| ATM balance inquiry (in-network/out-of-network) | \$0.50 / \$2.50*** |
| Live agent phone service | \$1.50 per call |
| Inactivity (no transactions for 3 months) | \$4.95 per month |
| Purchase decline | \$0.95 |
| ATM decline | \$0.95 |

We charge other fees not listed here. See the enclosed account agreement or visit www.abcprepaid.com/fees for details.

* \$0 if at least \$1,000 loaded onto card or 10 purchases made in that month.
 ** \$0 if loaded at certain locations.
 *** Third party fees may also apply.

Your money is not protected against unauthorized transactions until you register this card.
 For more information about prepaid cards contact the Consumer Financial Protection Bureau at consumerfinance.gov/prepays.

Round 2:
Los Angeles, CA
March 19-20, 2014

1A

| Monthly fee | Cash reload | Per purchase | ATM withdrawal |
|--|-----------------|---|---|
| \$4.95* | \$2.00** | \$0 with signature \$1.50 with PIN | \$0 in-network \$2.00 out-of-network |
| ATM balance inquiry (in-network or out-of-network) | | | \$0 or \$1.00 |
| Live agent phone service | | | \$1.50 per call |
| Inactivity (no transactions for 3 months) | | | \$4.50 per month |
| Online bill pay service | | | \$0.45 |
| Check refund | | | \$4.95 |
| Bank teller withdrawal | | | \$1.00 |

* \$0 if at least \$1,000 loaded onto card or 30 purchases made in that month.
 ** \$0 if loaded at certain locations.

We charge other fees not listed here. See the enclosed account agreement or visit www.abcprepaid.com/fees for details.

WARNING: this product charges an overdraft fee of \$15 per transaction. Your overdraft fees could total up to \$60 per month.

Until you register this card, your money is not protected.

For more info about prepaid cards, visit consumerfinance.gov/prepays.

1B

| Monthly fee | Cash reload | Per purchase | ATM withdrawal |
|--|-----------------|---|---|
| \$4.95* | \$2.00** | \$0 with signature \$1.50 with PIN | \$0 in-network \$2.00 out-of-network |
| ATM balance inquiry (in-network or out-of-network) | | | \$0 or \$1.00 |
| Live agent phone service | | | \$1.50 per call |
| Inactivity (no transactions for 3 months) | | | \$4.50 per month |
| Online bill pay service | | | \$0.45 |
| Check refund | | | \$4.95 |
| ATM or purchase decline | | | \$0.50 |

* \$0 if at least \$1,000 loaded onto card or 30 purchases made in that month.
 ** \$0 if loaded at certain locations.

We charge other fees not listed here. See the enclosed account agreement or visit www.abcprepaid.com/fees for details.

This product does not offer an overdraft program.

Until you register this card, your money is not protected.

For more info about prepaid cards, visit consumerfinance.gov/prepays.

2A

| Monthly fee | Cash reload | Per purchase | ATM withdrawal |
|----------------|----------------|----------------|----------------|
| \$6.95* | \$3.00* | \$1.00* | \$2.50* |

*Fees can be less depending on usage.

| | |
|---|------------------|
| ATM balance inquiry | \$0.50* |
| Live agent phone service | \$0.95 per call |
| Inactivity (no transactions for 3 months) | \$2.95 per month |
| Online bill pay service | \$0 |
| Replacement card | \$4.95 |
| Bank teller withdrawal | \$1.00 |

We charge other fees not listed here. See the enclosed account agreement or visit www.abcprepaid.com/fees for details.

WARNING: this product charges an overdraft fee of \$15 per transaction. Your overdraft fees could total up to \$60 per month.

Until you register this card, your money is not protected.

For more information about prepaid cards, visit consumerfinance.gov/prepays.

2B

| Monthly fee | Cash reload | Per purchase | ATM withdrawal |
|----------------|----------------|----------------|----------------|
| \$6.95* | \$3.00* | \$1.00* | \$2.50* |

*Fees can be less depending on usage.

| | |
|---|------------------|
| ATM balance inquiry | \$0.50* |
| Live agent phone service | \$0.95 per call |
| Inactivity (no transactions for 3 months) | \$2.95 per month |
| Online bill pay service | \$0 |
| Replacement card | \$4.95 |
| ATM or purchase decline | \$1.00 |

We charge other fees not listed here. See the enclosed account agreement or visit www.abcrepaid.com/fees for details.

This product does not offer an overdraft program.

Until you register this card, your money is not protected.

For more information about prepaid cards, visit consumerfinance.gov/prepays.

3A

| | Pay-as-you-go | Monthly plan | Annual plan |
|---|---------------|------------------|------------------|
| Plan fee | \$0.00 | \$4.95 per month | \$49.95 per year |
| Purchase | \$2.00* | \$0.00 | \$0.00 |
| All plans | | | |
| Cash reload | | | \$0 |
| ATM withdrawal | | | \$1.95* |
| ATM balance inquiry | | | \$1.00* |
| Live agent phone service | | | \$1.00 per call |
| Inactivity (no transactions for 3 months) | | | \$1.95 per month |
| Online bill pay service | | | \$0 |

* Fees can be less depending on usage.

We charge other fees not listed here. See the enclosed account agreement or visit www.abcprepaid.com/fees for details.

WARNING: this product charges an overdraft fee of \$15 per transaction. Your overdraft fees could total up to \$60 per month.

Until you register this card, your money is not protected.

For more details about prepaid cards, visit consumerfinance.gov/prepays.

5A

| | | |
|-------------------------------------|---|-----------------|
| Maintenance | Monthly fee | \$5.95 |
| Add and with- draw money | Cash reload | \$1.00* |
| | ATM withdrawal | \$2.00* |
| Spend money | Per purchase | \$1.25* |
| | Online bill pay service | \$1.00 |
| Get account information | ATM balance inquiry | \$0.95* |
| | Live agent phone service | \$1.50 per call |
| Other fees | Inactivity (no transactions for 3 months) | \$0 per month |
| | Replacement card | \$5.95 |

* Fees can be less depending on usage.

We charge other fees not listed here. See the enclosed account agreement or visit www.abcprepaid.com/fees for details.

WARNING: this product charges an overdraft fee of \$15 per transaction. Your overdraft fees could total up to \$60 per month.

Until you register this card, your money is not protected.

For more details about prepaid cards, visit consumerfinance.gov/prepays.

5B

| | | |
|-------------------------------------|---|-----------------|
| Maintenance | Monthly fee | \$5.95 |
| Add and with- draw money | Cash reload | \$1.00* |
| | ATM withdrawal | \$2.00* |
| Spend money | Per purchase | \$1.25* |
| | Online bill pay service | \$1.00 |
| Get account information | ATM balance inquiry | \$0.95* |
| | Live agent phone service | \$1.50 per call |
| Other fees | Inactivity (no transactions for 3 months) | \$0 per month |
| | Replacement card | \$5.95 |

*Fees can be less depending on usage.

We charge other fees not listed here. See the enclosed account agreement or visit www.abcprepaid.com/fees for details.

This product does not offer an overdraft program.

Until you register this card, your money is not protected.

For more details about prepaid cards, visit consumerfinance.gov/prepays.

Round 3:
Kansas City, MO
April 9-10, 2014

1A

| Monthly fee | Cash reload | Per purchase | ATM withdrawal |
|--|----------------|------------------------|------------------------------|
| \$4.95* | \$2.00* | \$0 with sig. | \$0 in-network |
| | | \$1.50 with PIN | \$2.00 out-of-network |
| ATM balance inquiry (in-network or out-of-network) | | | \$0 or \$1.00 |
| Live agent phone service | | | \$1.50 per call |
| Inactivity (no transactions for 3 months) | | | \$4.50 per month |
| Overdraft program | | | \$15.00 per overdraft |
| Online bill pay service | | | \$0.45 |
| THE FEES BELOW GENERATE SIGNIFICANT REVENUE FOR THIS COMPANY: | | | |
| Check refund | | | \$4.95 |
| Bank teller withdrawal | | | \$1.00 |

*Fees can be less depending how and where this card is used.
We charge 7 other fees not listed here.
 Find details and conditions for all fees and services inside the package or:
 Text **FEES** to **816-287-5333** Call **816-287-5FEE** Visit bit.ly/prepays
 Register your card to protect your money.
 For more info about prepaid cards, visit bit.ly/cfpb-prepays.

1B

| Monthly fee | Cash reload | Per purchase | ATM withdrawal |
|--|----------------|------------------------|------------------------------|
| \$4.95* | \$2.00* | \$0 with sig. | \$0 in-network |
| | | \$1.50 with PIN | \$2.00 out-of-network |
| ATM balance inquiry (in-network or out-of-network) | | | \$0 or \$1.00 |
| Live agent phone service | | | \$1.50 per call |
| Inactivity (no transactions for 3 months) | | | \$4.50 per month |
| Overdraft program | | | not offered |
| Online bill pay service | | | \$0.45 |
| THE FEES BELOW GENERATE SIGNIFICANT REVENUE FOR THIS COMPANY: | | | |
| Check refund | | | \$4.95 |
| Bank teller withdrawal | | | \$1.00 |

*Fees can be less depending how and where this card is used.

We charge 7 other fees not listed here.

Find details and conditions for all fees and services inside the package or:

Text **FEES** to **816-287-5333** Call **816-287-5FEE** Visit bit.ly/prepays

Register your card to protect your money.

For more info about prepaid cards, visit bit.ly/cfpb-prepays.

3A

| | Pay-as-you-go | Monthly plan | Annual plan |
|---|---------------|------------------|-----------------------|
| Plan fee | \$0.00 | \$4.95 per month | \$49.95 per year |
| Purchase | \$2.00 | \$0.00 | \$0.00 |
| Applies to all plans | | | |
| Cash reload | | | \$0 |
| ATM withdrawal | | | \$1.95* |
| ATM balance inquiry | | | \$1.00* |
| Live agent phone service | | | \$1.00 per call |
| Inactivity (no transactions for 3 months) | | | \$1.95 per month |
| Overdraft program | | | \$15.00 per overdraft |
| Online bill pay service | | | \$0 |

*Fees can be less depending how and where this card is used.

We charge 6 other fees not listed here.

Find details and conditions for all fees and services inside the package or:
Text FEES to 816-287-5333 Call 816-287-5FEE Visit bit.ly/prepays

Register your card to protect your money.

For more info about prepaid cards, visit bit.ly/cfb-prepays.

3B

| | Pay-as-you-go | Monthly plan | Annual plan |
|---|---------------|------------------|------------------|
| Plan fee | \$0.00 | \$4.95 per month | \$49.95 per year |
| Purchase | \$2.00 | \$0.00 | \$0.00 |
| Applies to all plans | | | |
| Cash reload | | | \$0 |
| ATM withdrawal | | | \$1.95* |
| ATM balance inquiry | | | \$1.00* |
| Live agent phone service | | | \$1.00 per call |
| Inactivity (no transactions for 3 months) | | | \$1.95 per month |
| Overdraft program | | | not offered |
| Online bill pay service | | | \$0 |

*Fees can be less depending how and where this card is used.

We charge 6 other fees not listed here.

Find details and conditions for all fees and services inside the package or:
Text FEES to 816-287-5333 Call 816-287-5FEE Visit bit.ly/prepays

Register your card to protect your money.

For more info about prepaid cards, visit bit.ly/cfb-prepays.

4 (Short)

| Monthly fee | Cash reload | Per purchase | ATM withdrawal |
|--|----------------|------------------------|------------------------------|
| \$2.95* | \$2.00* | \$0 with sig. | \$0 in-network |
| | | \$1.00 with PIN | \$0.75 out-of-network |
| ATM balance inquiry (in-network or out-of-network) | | | \$0 or \$0.75 |
| Live agent phone service | | | \$2.00 per call |
| Inactivity (no transactions for 3 months) | | | \$2.50 per month |
| Overdraft program | | | not offered |
| Online bill pay service | | | \$2.00 |
| THE FEES BELOW GENERATE SIGNIFICANT REVENUE FOR THIS COMPANY: | | | |
| Check refund | | | \$1.00 |
| Replacement card | | | \$4.00 |

*Fees can be less depending how and where this card is used.

We charge 9 other fees not listed here.

Find details and conditions for all fees by asking the interviewer or:

Text **FEES** to **816-287-5333** Call **816-287-5FEE** Visit bit.ly/prepays

Register your card to protect your money.

For more info about prepaid cards, visit bit.ly/cfpb-prepays.

4 (Long)

| Fee description | Amount | Details |
|---|-------------|--|
| Get started | | |
| Card purchase fee | \$3.95 | |
| Monthly usage | | |
| Monthly fee (with direct deposit) | \$0 | |
| Monthly fee (without direct deposit) | \$2.95 | Charge waived in any billing cycle when you load at least \$1,000 or have at least 30 qualifying purchases posted to your account. |
| Add money | | |
| Direct deposit | \$0 | |
| Cash reload | \$2.00 | Additional reload network fees may apply. |
| Spend money within the U.S. | | |
| Each purchase with PIN | \$1.00 | The combined total of Transaction Fees and International Transaction Fees is limited to \$10.00 in each calendar month and is based on the date the transaction is posted to your account as reflected on your statement. |
| Each purchase with signature | \$0 | |
| Online bill pay service | \$2.00 | Charge for having us send a check to pay a bill on your behalf. |
| Card to card transfer (to/from your own cards) | \$0.75 | |
| Card to card transfer (to/from any other card member) | \$1.00 | |
| Get cash | | |
| ATM withdrawal, in-network | \$0 | "In Network" refers to the MoneyPass® ATM network. Locations can be found at www.abcprepaid.com or moneypass.com . You will not be charged a fee by ABC Prepaid Card or the ATM operator. |
| ATM withdrawal, out-of-network | \$0.75 | "Out of Network" refers to all the ATMs outside of the MoneyPass ATM network. You may also be charged a fee by the ATM operator even if you do not complete a transaction. |
| Bank teller cash withdrawal | \$1.25 | Plus any fee the bank may charge. |
| Store cash back with PIN purchase | \$0 | |
| Information | | |
| Live agent phone service | \$2.00 | per call |
| ATM balance inquiry, in-network | \$0 | "In Network" refers to the MoneyPass® ATM network. Locations can be found at www.abcprepaid.com or moneypass.com . You will not be charged a fee by ABC Prepaid Card or the ATM operator. |
| ATM balance inquiry, out-of-network | \$0.75 | "Out of Network" refers to all the ATMs outside of the MoneyPass ATM network. You may also be charged a fee by the ATM operator even if you do not complete a transaction. |
| Other | | |
| Overdraft program | Not offered | |
| Replacement card | \$4.00 | |
| Expedited cash | \$3.95 | |
| Inactivity (no transactions for 3 months) | \$2.50 | per month |
| Check refund | \$1.00 | |
| Paper statement | \$1.00 | Fee changes to \$1.00 for any duplicate request for a paper statement made in the same calendar year. |
| ATM or purchase decline | \$0 | |
| Spend money outside the U.S. | | |
| Each international transaction | 3.0% | of total transaction amount |
| International ATM balance inquiry | \$5.00 | |
| International ATM withdrawal fee | \$5.00 | |

For more details about prepaid cards, visit bit.ly/cfpb-prepays.

5 (Short)

| Monthly fee | Cash reload | Per purchase | ATM withdrawal |
|--|----------------|-------------------------|------------------------------|
| \$2.95* | \$4.00* | \$1.00 with sig. | \$0 in-network |
| | | \$2.00 with PIN | \$0.75 out-of-network |
| ATM balance inquiry (in-network or out-of-network) | | | \$0 or \$0.50 |
| Live agent phone service | | | \$2.00 per call |
| Inactivity (no transactions for 3 months) | | | \$2.75 per month |
| Overdraft program | | | not offered |
| Online bill pay service | | | \$2.25 |
| THE FEES BELOW GENERATE SIGNIFICANT REVENUE FOR THIS COMPANY: | | | |
| Check refund | | | \$0.75 |
| Bank teller withdrawal | | | \$1.00 |

*Fees can be less depending how and where this card is used.

We charge 9 other fees not listed here.

Find details and conditions for all fees by asking the interviewer or:

Text **FEES** to **816-287-5333** Call **816-287-5FEE** Visit bit.ly/prepays

Register your card to protect your money.

For more info about prepaid cards, visit bit.ly/cfpb-prepays.

5 (Long)

| Fee description | Amount | Details |
|---|-------------|--|
| Get started | | |
| Card purchase fee | \$3.50 | |
| Monthly usage | | |
| Monthly fee (with direct deposit) | \$0 | |
| Monthly fee (without direct deposit) | \$2.95 | Charge waived in any billing cycle when you load at least \$1,000 or have at least 30 qualifying purchases posted to your account. |
| Add money | | |
| Direct deposit | \$0 | |
| Cash reload | \$4.00 | Additional reload network fees may apply. |
| Spend money within the U.S. | | |
| Each purchase with PIN | \$2.00 | The combined total of Transaction Fees and International Transaction Fees is limited to \$10.00 in each calendar month and is based on the date the transaction is posted to your account as reflected on your statement. |
| Each purchase with signature | \$1.00 | |
| Online bill pay service | \$2.25 | Charge for having us send a check to pay a bill on your behalf. |
| Card to card transfer (to/from your own cards) | \$1.00 | |
| Card to card transfer (to/from any other card member) | \$1.50 | |
| Get cash | | |
| ATM withdrawal, in-network | \$0 | "In Network" refers to the MoneyPass® ATM network. Locations can be found at www.abcprepaid.com or moneypass.com . You will not be charged a fee by ABC Prepaid Card or the ATM operator. |
| ATM withdrawal, out-of-network | \$0.75 | "Out of Network" refers to all the ATMs outside of the MoneyPass ATM network. You may also be charged a fee by the ATM operator even if you do not complete a transaction. |
| Bank teller cash withdrawal | \$1.00 | Plus any fee the bank may charge. |
| Store cash back with PIN purchase | \$0 | |
| Information | | |
| Live agent phone service | \$2.00 | per call |
| ATM balance inquiry, in-network | \$0 | "In Network" refers to the MoneyPass® ATM network. Locations can be found at www.abcprepaid.com or moneypass.com . You will not be charged a fee by ABC Prepaid Card or the ATM operator. |
| ATM balance inquiry, out-of-network | \$0.50 | "Out of Network" refers to all the ATMs outside of the MoneyPass ATM network. You may also be charged a fee by the ATM operator even if you do not complete a transaction. |
| Other | | |
| Overdraft program | Not offered | |
| Replacement card | \$3.00 | |
| Expedited cash | \$4.95 | |
| Inactivity (no transactions for 3 months) | \$2.75 | per month |
| Check refund | \$0.75 | |
| Paper statement | \$2.00 | Fee changes to \$1.00 for any duplicate request for a paper statement made in the same calendar year. |
| ATM or purchase decline | \$0 | |
| Spend money outside the U.S. | | |
| Each international transaction | 2.0% | of total transaction amount |
| International ATM balance inquiry | \$5.00 | |
| International ATM withdrawal fee | \$5.50 | |

For more details about prepaid cards, visit: bit.ly/cpb-prepays.

6 (Short)

| Monthly fee | Cash reload | Per purchase | ATM withdrawal |
|--|----------------|------------------------|------------------------------|
| \$4.95* | \$1.50* | \$0 with sig. | \$0 in-network |
| | | \$1.00 with PIN | \$0.75 out-of-network |
| ATM balance inquiry (in-network or out-of-network) | | | \$0 or \$0.50 |
| Live agent phone service | | | \$1.50 per call |
| Inactivity (no transactions for 3 months) | | | \$4.00 per month |
| Overdraft program | | | not offered |
| Online bill pay service | | | \$1.50 |
| THE FEES BELOW GENERATE SIGNIFICANT REVENUE FOR THIS COMPANY: | | | |
| Check refund | | | \$1.00 |
| ATM or purchase decline | | | \$1.50 |

*Fees can be less depending how and where this card is used.

We charge 11 other fees not listed here.

Find details and conditions for all fees by asking the interviewer or:

Text **FEES** to **816-287-5333** Call **816-287-5FEE** Visit bit.ly/prepays

Register your card to protect your money.

For more info about prepaid cards, visit bit.ly/cfpb-prepays.

6 (Long)

| Fee description | Amount | Details |
|---|-------------|--|
| Get started | | |
| Card purchase fee | \$3.95 | |
| Monthly usage | | |
| Monthly fee (with direct deposit) | \$0 | |
| Monthly fee (without direct deposit) | \$4.95 | Charge waived in any billing cycle when you load at least \$1,000 or have at least 30 qualifying purchases posted to your account. |
| Add money | | |
| Direct deposit | \$0 | |
| Cash reload | \$1.50 | Additional reload network fees may apply. |
| Spend money within the U.S. | | |
| Each purchase with PIN | \$1.00 | The combined total of Transaction Fees and International Transaction Fees is limited to \$10.00 in each calendar month and is based on the date the transaction is posted to your account as reflected on your statement. |
| Each purchase with signature | \$0 | |
| Online bill pay service | \$1.50 | Charge for having us send a check to pay a bill on your behalf. |
| Card to card transfer (to/from your own cards) | \$0 | |
| Card to card transfer (to/from any other card member) | \$1.00 | |
| Get cash | | |
| ATM withdrawal, in-network | \$0 | "In Network" refers to the MoneyPass® ATM network. Locations can be found at www.abcprepaid.com or moneypass.com . You will not be charged a fee by ABC Prepaid Card or the ATM operator. |
| ATM withdrawal, out-of-network | \$0.75 | "Out of Network" refers to all the ATMs outside of the MoneyPass ATM network. You may also be charged a fee by the ATM operator even if you do not complete a transaction. |
| Bank teller cash withdrawal | \$1.00 | Plus any fee the bank may charge. |
| Store cash back with PIN purchase | \$0 | |
| Information | | |
| Live agent phone service | \$1.50 | per call |
| ATM balance inquiry, in-network | \$0 | "In Network" refers to the MoneyPass® ATM network. Locations can be found at www.abcprepaid.com or moneypass.com . You will not be charged a fee by ABC Prepaid Card or the ATM operator. |
| ATM balance inquiry, out-of-network | \$0.50 | "Out of Network" refers to all the ATMs outside of the MoneyPass ATM network. You may also be charged a fee by the ATM operator even if you do not complete a transaction. |
| Other | | |
| Overdraft program | Not offered | |
| Replacement card | \$5.00 | |
| Expedited card replacement | \$24.95 | |
| Expedited cash | \$5.95 | |
| Inactivity (no transactions for 3 months) | \$4.00 | per month |
| Check refund | \$1.00 | |
| Paper statement | \$1.00 | Fee changes to \$1.00 for any duplicate request for a paper statement made in the same calendar year. |
| ATM or purchase decline | \$1.50 | |
| Spend money outside the U.S. | | |
| Each international transaction | 3.0% | of total transaction amount |
| International ATM balance inquiry | \$4.75 | |
| International ATM withdrawal fee | \$4.50 | |

For more details about prepaid cards, visit bit.ly/cfpb-prepays.

7 (Short)

| Monthly fee | Cash reload | Per purchase | ATM withdrawal |
|--|----------------|------------------------|------------------------------|
| \$4.95* | \$1.75* | \$0 with sig. | \$0 in-network |
| | | \$1.00 with PIN | \$0.50 out-of-network |
| ATM balance inquiry (in-network or out-of-network) | | | \$0 or \$0.50 |
| Live agent phone service | | | \$1.00 per call |
| Inactivity (no transactions for 3 months) | | | \$4.50 per month |
| Overdraft program | | | not offered |
| Online bill pay service | | | \$1.75 |
| THE FEES BELOW GENERATE SIGNIFICANT REVENUE FOR THIS COMPANY: | | | |
| Check refund | | | \$1.00 |
| Bank teller withdrawal | | | \$1.00 |

*Fees can be less depending how and where this card is used.

We charge 9 other fees not listed here.

Find details and conditions for all fees by asking the interviewer or:

Text **FEES** to **816-287-5333** Call **816-287-5FEE** Visit bit.ly/prepays

Register your card to protect your money.

For more info about prepaid cards, visit bit.ly/cfpb-prepays.

7 (Long)

| Fee description | Amount | Details |
|---|-------------|--|
| Get started | | |
| Card purchase fee | \$4.25 | |
| Monthly usage | | |
| Monthly fee (with direct deposit) | \$0 | |
| Monthly fee (without direct deposit) | \$4.95 | Charge waived in any billing cycle when you load at least \$1,000 or have at least 30 qualifying purchases posted to your account. |
| Add money | | |
| Direct deposit | \$0 | |
| Cash reload | \$1.75 | Additional reload network fees may apply. |
| Spend money within the U.S. | | |
| Each purchase with PIN | \$1.00 | The combined total of Transaction Fees and International Transaction Fees is limited to \$10.00 in each calendar month and is based on the date the transaction is posted to your account as reflected on your statement. |
| Each purchase with signature | \$0 | |
| Online bill pay service | \$1.75 | Charge for having us send a check to pay a bill on your behalf. |
| Card to card transfer (to/from your own cards) | \$5.00 | |
| Card to card transfer (to/from any other card member) | \$5.00 | |
| Get cash | | |
| ATM withdrawal, in-network | \$0 | "In Network" refers to the MoneyPass® ATM network. Locations can be found at www.abcprepaid.com or moneypass.com . You will not be charged a fee by ABC Prepaid Card or the ATM operator. |
| ATM withdrawal, out-of-network | \$0.50 | "Out of Network" refers to all the ATMs outside of the MoneyPass ATM network. You may also be charged a fee by the ATM operator even if you do not complete a transaction. |
| Bank teller cash withdrawal | \$1.00 | Plus any fee the bank may charge. |
| Store cash back with PIN purchase | \$0 | |
| Information | | |
| Live agent phone service | \$1.00 | per call |
| ATM balance inquiry, in-network | \$0 | "In Network" refers to the MoneyPass® ATM network. Locations can be found at www.abcprepaid.com or moneypass.com . You will not be charged a fee by ABC Prepaid Card or the ATM operator. |
| ATM balance inquiry, out-of-network | \$0.50 | "Out of Network" refers to all the ATMs outside of the MoneyPass ATM network. You may also be charged a fee by the ATM operator even if you do not complete a transaction. |
| Other | | |
| Overdraft program | Not offered | |
| Replacement card | \$4.00 | |
| Inactivity (no transactions for 3 months) | \$4.50 | per month |
| Check refund | \$1.00 | |
| Paper statement | \$1.00 | Fee changes to \$1.00 for any duplicate request for a paper statement made in the same calendar year. |
| ATM or purchase decline | \$1.00 | |
| Spend money outside the U.S. | | |
| Each international transaction | 2.5% | of total transaction amount |
| International ATM balance inquiry | \$5.25 | |
| International ATM withdrawal fee | \$4.50 | |

For more details about prepaid cards, visit bit.ly/cfpb-prepays.

| Fee description | Amount | Details |
|---|-------------|--|
| Get started | | |
| Card purchase fee | \$3.95 | |
| Monthly usage | | |
| Monthly fee (with direct deposit) | \$0 | |
| Monthly fee (without direct deposit) | \$2.50 | Charge waived in any billing cycle when you load at least \$1,000 or have at least 30 qualifying purchases posted to your account. |
| Add money | | |
| Direct deposit | \$0 | |
| Cash reload | \$2.00 | Additional reload network fees may apply. |
| Spend money within the U.S. | | |
| Each purchase with PIN | \$2.00 | The combined total of Transaction Fees and International Transaction Fees is limited to \$10.00 in each calendar month and is based on the date the transaction is posted to your account as reflected on your statement. |
| Each purchase with signature | \$1.00 | |
| Online bill pay service | \$2.00 | Charge for having us send a check to pay a bill on your behalf. |
| Card to card transfer (to/from your own cards) | \$3.00 | |
| Card to card transfer (to/from any other card member) | \$4.00 | |
| Get cash | | |
| ATM withdrawal, in-network | \$0.50 | "In Network" refers to the MoneyPass® ATM network. Locations can be found at www.abcprepaid.com or moneypass.com . You will not be charged a fee by ABC Prepaid Card or the ATM operator. |
| ATM withdrawal, out-of-network | \$1.50 | "Out of Network" refers to all the ATMs outside of the MoneyPass ATM network. You may also be charged a fee by the ATM operator even if you do not complete a transaction. |
| Bank teller cash withdrawal | \$1.00 | Plus any fee the bank may charge. |
| Store cash back with PIN purchase | \$0 | |
| Information | | |
| Live agent phone service | \$1.75 | per call |
| ATM balance inquiry, in-network | \$0 | "In Network" refers to the MoneyPass® ATM network. Locations can be found at www.abcprepaid.com or moneypass.com . You will not be charged a fee by ABC Prepaid Card or the ATM operator. |
| ATM balance inquiry, out-of-network | \$1.00 | "Out of Network" refers to all the ATMs outside of the MoneyPass ATM network. You may also be charged a fee by the ATM operator even if you do not complete a transaction. |
| Other | | |
| Overdraft program | Not offered | |
| Replacement card | \$4.00 | |
| Expedited card replacement | \$24.95 | |
| Expedited cash | \$7.95 | |
| Inactivity (no transactions for 3 months) | \$2.50 | per month |
| Check refund | \$1.00 | |
| Paper statement | \$1.00 | Fee changes to \$1.00 for any duplicate request for a paper statement made in the same calendar year. |
| ATM decline, in-network | \$0 | "In Network" refers to the MoneyPass® ATM network. Locations can be found at www.abcprepaid.com or moneypass.com . You will not be charged a fee by ABC Prepaid Card or the ATM operator. |
| ATM decline, out-of-network | \$0.50 | "Out of Network" refers to all the ATMs outside of the MoneyPass ATM network. You may also be charged a fee by the ATM operator even if you do not complete a transaction. |
| Spend money outside the U.S. | | |
| Each international transaction | 3.0% | of total transaction amount |
| International ATM balance inquiry | \$5.00 | |
| International ATM withdrawal fee | \$5.00 | |

For more details about prepaid cards, visit bit.ly/ctpb-prepays.

| Fee description | Amount | Details |
|---|-------------|--|
| Get started | | |
| Card purchase fee | \$3.50 | |
| Monthly usage | | |
| Monthly fee (with direct deposit) | \$2.50 | |
| Monthly fee (without direct deposit) | \$4.95 | Charge waived in any billing cycle when you load at least \$1,000 or have at least 30 qualifying purchases posted to your account. |
| Add money | | |
| Direct deposit | \$0 | |
| Cash reload | \$1.75 | Additional reload network fees may apply. |
| Spend money within the U.S. | | |
| Each purchase with PIN | \$1.00 | The combined total of Transaction Fees and International Transaction Fees is limited to \$10.00 in each calendar month and is based on the date the transaction is posted to your account as reflected on your statement. |
| Each purchase with signature | \$0 | |
| Online bill pay service | \$2.25 | Charge for having us send a check to pay a bill on your behalf. |
| Card to card transfer (to/from your own cards) | \$0 | |
| Card to card transfer (to/from any other card member) | \$1.00 | |
| Get cash | | |
| ATM withdrawal, in-network | \$0 | "In Network" refers to the MoneyPass® ATM network. Locations can be found at www.abcprepaid.com or moneypass.com . You will not be charged a fee by ABC Prepaid Card or the ATM operator. |
| ATM withdrawal, out-of-network | \$1.00 | "Out of Network" refers to all the ATMs outside of the MoneyPass ATM network. You may also be charged a fee by the ATM operator even if you do not complete a transaction. |
| Bank teller cash withdrawal | \$1.25 | Plus any fee the bank may charge. |
| Store cash back with PIN purchase | \$0 | |
| Information | | |
| Live agent phone service | \$2.00 | per call |
| ATM balance inquiry, in-network | \$0 | "In Network" refers to the MoneyPass® ATM network. Locations can be found at www.abcprepaid.com or moneypass.com . You will not be charged a fee by ABC Prepaid Card or the ATM operator. |
| ATM balance inquiry, out-of-network | \$1.00 | "Out of Network" refers to all the ATMs outside of the MoneyPass ATM network. You may also be charged a fee by the ATM operator even if you do not complete a transaction. |
| Other | | |
| Overdraft program | Not offered | |
| Replacement card | \$3.00 | |
| Inactivity (no transactions for 3 months) | \$2.75 | per month |
| Check refund | \$2.00 | |
| Paper statement | \$2.00 | Fee changes to \$1.00 for any duplicate request for a paper statement made in the same calendar year. |
| ATM decline, in-network | \$0 | "In Network" refers to the MoneyPass® ATM network. Locations can be found at www.abcprepaid.com or moneypass.com . You will not be charged a fee by ABC Prepaid Card or the ATM operator. |
| ATM decline, out-of-network | \$0.75 | "Out of Network" refers to all the ATMs outside of the MoneyPass ATM network. You may also be charged a fee by the ATM operator even if you do not complete a transaction. |
| Spend money outside the U.S. | | |
| Each international transaction | 1.0% | of total transaction amount |
| International ATM balance inquiry | \$2.00 | |
| International ATM withdrawal fee | \$1.50 | |

For more details about prepaid cards, visit bit.ly/c/pb-prepays.



ICF Interational
9300 Lee Highway
Fairfax, VA 22031

November 2015

Mobile financial services

A summary of comments from the public on opportunities, challenges, and risks for the underserved.



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Executive summary

The Consumer Financial Protection Bureau (Bureau or CFPB), established under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank Act), has as part of its mission to empower consumers to take more control over their economic lives. Part of the Bureau's charge is to promote financial education, research developments in markets for consumer financial services and products, and provide information, guidance, and technical assistance regarding the offering and provision of consumer financial products or services to traditionally underserved consumers and communities.

A major development in the consumer financial services market over the past few years has been the increasing use and proliferation of mobile technology to access financial services and manage personal finances. Consumers are using mobile financial services (MFS) – financial services and products accessed through mobile phones and other devices – more and more to access accounts, pay bills, deposit funds and manage their financial lives. The increasing use is not surprising given that 87-90 percent of the adult population in the United States has a mobile phone and approximately 62-64 percent of consumers own smartphones.¹ For example, for those with bank accounts, the rate of mobile banking use went from 22 percent in 2011 to 39 percent in 2014; 52 percent of those with smartphones reported using mobile banking in 2014.²

¹ FEDERAL RESERVE SYSTEM, CONSUMERS AND MOBILE FINANCIAL SERVICES 2015 1-2 (MARCH 2015) [hereinafter FRB 2015 MOBILE SURVEY]; Pew Research Center, *Mobile Technology Fact Sheet* (2014) available at <http://www.pewinternet.org/fact-sheets/mobile-technology-fact-sheet/> (last visited May 25, 2015)[hereinafter *Pew Mobile Technology Fact Sheet 2014*]; Pew Research Center, *U.S. Smartphone Use in 2015* 13 (April 2015)[hereinafter *Pew Smartphone Use 2015*].

² FRB 2015 MOBILE SURVEY, *supra* note 1, at 6, 10.

The Bureau's Office of Financial Empowerment issued a Request for Information in June of 2014³ to help the Bureau understand better the potential for mobile financial services to help underserved consumers – including low-income, unbanked, underbanked and economically vulnerable consumers – access products and services that help them achieve their financial goals. The focus of the RFI was not mobile proximity (or “point of sale”) payments except in so far as those products may be marketed to or used by underserved consumers. In response to the Request for Information, we received comments from individuals, financial services providers, financial institutions, regulators, trade associations, research and consulting firms, academics, nonprofits, and consumer advocacy organizations. While several trade associations submitted comments, we received few comments directly from financial institutions and providers themselves.

The following are some of the key takeaways from the comments related to mobile financial services and the underserved. This report is not intended to identify areas in which the Bureau may or will take regulatory, supervisory, or enforcement action. Some of the commenters' views on these topics are included where relevant to the particular topic of the discussion.

Increasing smartphone use presents opportunities for expanded use of MFS for the underserved

The rate of growth in smartphone use among underserved households and individuals is growing and significant. For example, 44 percent of unbanked individuals⁴ and 50 percent of adults living in households earning less than \$30,000 per year have smartphones.⁵ For many, their smartphones or devices are the primary way they access the internet.⁶ Increased smartphone use appears to be correlated with increasing use of MFS among the banked as well

³ <http://www.gpo.gov/fdsys/pkg/FR-2014-06-12/pdf/2014-13552.pdf>

⁴ FRB 2015 MOBILE SURVEY, *supra* note 1, at 1-2.

⁵ *Pew Smartphone Use in 2015*, *supra* note 1, at 2, 13.

⁶ According to Pew, 13 percent of those in households earning less than \$30,000 annually are “smartphone-dependent,” defined as having neither traditional broadband service at home, nor easily available alternatives for going online other than their cell phone. *Pew Smartphone Use in 2015*, *supra* note 1, at 2, 13.

as the un- and underbanked.⁷ For certain demographic groups and subpopulations, however, there is considerable variation. For example, commenters provided evidence that Hispanic adults have a higher rate of smartphone ownership and mobile banking and mobile payments usage than the general population.⁸ Rural residents on the other hand, appear to have lower rates of smartphone ownership and mobile financial services activity.⁹

Focus on products first, channel second

Comments indicated while mobile may be a useful channel through which to access products for underserved consumers, it is critical that financial services providers focus first on ensuring the underlying products and services meet consumer demand in ways that advance consumer goals.

Faster payments could help industry and consumers

Some of the commenters said that faster payments would help accelerate use of Remote Deposit Capture (depositing checks remotely with the camera on the phone) and other mobile financial services that were identified by commenters as potentially helping consumers save time and money, which could make higher priced alternative financial services such as high fee check cashing services less attractive to underserved consumers. Commenters stated that underserved consumers tend to use alternative financial services over bank services because they want immediate access to funds or they may not qualify for bank accounts.¹⁰ Though industry comments supported faster payments, many acknowledged that delays are often not caused by the speed of the various payment systems, but caused by the need to address potential fraud

⁷ See discussion *infra* at pp. 16-37.

⁸ See discussion *infra* at pp. 19-20, 33-34. In this report, when describing or summarizing study results, the terms used to identify race, ethnicity or other demographic characteristics of populations are those used by the publishers of the reports or other information sources. These terms or demographic characterizations are not necessarily those used by or endorsed by the CFPB.

⁹ See FRB 2015 MOBILE SURVEY, *supra* note 1, at 7-8.

¹⁰ American Bankers Association (ABA) #45, at 6; Consumers Union, #30, at 6; Center for Financial Services Innovation (CFSI), #6, at 9 (overall desire of low-income consumers for immediate access to funds).

issues (such as double deposits – discussed more fully at pages 22-25), and that technological or other solutions to fraud risks would be welcomed.

Mobile financial services need to be paired with in-person services

There was general consensus among the commenters that for mobile financial services to effectively reach underserved consumers, the mobile channel must be paired with consultative or assistance services, at least in the short-term. Some commenters expressed concerns that the void left by branch closures in low-income neighborhoods could not be filled by mobile financial services alone. The value of MFS to underserved consumers, comments suggest, can be realized with the assistance of one-on-one or other in-person facilitation. One commenter gave as an example hybrid services, such as small kiosks with personnel, where personal assistance is linked to mobile. However, comments indicated that these options are not yet widely available or familiar to the underserved population.

Mobile financial services can save consumers money and time

For consumers, the ability to access financial services anytime, anywhere can save time and money. Comments suggest that some underserved consumers are saving more as they use mobile financial services frequently to check balances, deposit checks remotely and use tools to manage their money. Accessing financial information and managing finances in real time is valuable to these consumers. Comments suggested more research is needed on the impact of using mobile financial services on consumers' financial lives.

Two capabilities that commenters identified as holding much potential for reaching the underserved in ways that could produce savings for both providers and consumers were mobile/online account opening and mRDC (mobile Remote Deposit Capture). Since customers typically continue conducting their financial services using the channel they initially used to acquire an account, comments suggested that enhanced lower-cost mobile/online account opening capabilities could incentivize more financial providers to target underserved consumers. Commenters agreed that if fraud risks could be mitigated in the context of mRDC, the potential to lower the cost for the providers and help underserved consumers access lower cost ways to cash checks could be significant.

Two specific types of products were also highlighted by commenters – virtual prepaid products and those that facilitate cash-based electronic transactions – as potentially serving some of the financial services needs of underserved consumers. Prepaid products in general are used

disproportionately more by unbanked and lower-income households than banked, higher income households; comments indicated a significant increase in use of virtual prepaid products – that is, prepaid products accessed via computer or on a mobile device (without a physical plastic card). Comments also suggested that underserved consumers can benefit from products designed to help consumers using cash access digital platforms. An example is services that enable consumers to initiate a transaction online and complete it with cash at a retail establishment.

Industry comments were split over whether and how much the mobile channel can reduce their costs

Banks and some credit unions pointed to the “additive” nature of mobile financial services and the additional costs to develop and maintain the channel, including significant technical and other customer service support. Several comments related that this is especially true for smaller financial institutions that may find it very difficult to support new technology and systems to support the technology. Some nonbank providers who commented seemed to lean more in the direction of mobile being a cost savings channel. Some comments reported that using the mobile channel has helped providers reduce costs for products targeting the underserved.

Privacy and security concerns – real or perceived – pose barriers and risk

Comments indicated that real and perceived privacy and security concerns remain a significant barrier to adoption of MFS. Commenters cited concerns about access to and security of financial account and personal information, security of transaction-specific information, online/mobile fraud and scams, and security related to the devices used for MFS, including loss or theft. Consumers managing limited resources are also less able to absorb financial losses or interruptions that may result from security-related problems.

More transparency, protections and consumer control may be needed around use of consumer data

Comments across the stakeholder spectrum highlighted as unique to mobile financial services the amount and type of data collected, used and shared. Consumers are often required to provide this data, commenters pointed out, in exchange for accessing the services, products or information. Several commenters discussed the benefits of data for linking consumers to products and services at lower cost and reducing fraud. Some of these commenters pointed to the risks associated with personal, location, financial and other data all connected to the

consumer through the device. The potential risks identified in comments include disparate impacts in marketing, underwriting and other decision-making processes; and the potential for “virtual segregated neighborhoods” that would continue to limit access to affordable and safe products for underserved consumers.

Several comments pointed to the numerous entities involved in the opaque mobile financial services ecosystem. Some suggested a need to clarify, or develop new, protections to ensure transparency, and oversight and accountability of those entities that provide information that is used to market to or make decisions about consumers. Some commenters urged clearer privacy policies and opt-in processes for consumers as well as accountability by all entities in the mobile payment chain.

Digital access and digital financial literacy need to be improved for mobile to be an effective channel for underserved consumers

Commenters discussed challenges related to accessing digital channels as well as the need for digital financial literacy. Comments pointed out that while many think smartphones and devices are a growing necessity, the cost of devices and data plans, as well as lack of service in some geographic areas, can leave many behind. Many commenters highlighted the need for efforts to enhance digital financial literacy in addition to broader digital and technological literacy. Comments identified key challenges for underserved consumers including those with disabilities and older adults, around language access, screen size and adaptability, and lack of comfort with using mobile technology.

Comments noted that mobile financial services will not help underserved consumers who don't know about them or don't know how to use them safely and effectively. Education, outreach and marketing are always needed to attract underserved consumers but it appears even more critical with mobile, where the most difficult link for industry to make with consumers may be the link to the technology itself. Comments identified efforts focused on 1) enhancing affordable access to the technology and 2) educating consumers and intermediaries about the safe and effective use of the technology for accessing financial services, products and personal financial management tools as key to making MFS a way to reach more underserved consumers and help those consumers achieve their financial goals.

Policymaking should be widely informed

Comments varied as to whether and to what extent additional consumer protections are needed in the area of mobile financial services. There was general consensus, however, that there are a wide array of stakeholders, including the CFPB, other financial regulatory agencies, the Federal Communications Commission (FCC), the Federal Trade Commission (FTC), state regulatory bodies, other regulatory organizations and others. Comments suggested that any regulator acting in this area should act with certainty but should not choose technological winners and losers as the mobile financial services landscape is continuing to evolve.

Some commenters encouraged the CFPB and other agencies to continue to work to better understand both the risks, including those associated with data collection and use, and the entities involved in the mobile financial services ecosystem.

1. About this report

A major development in the consumer financial services market over the past few years has been the increasing use and proliferation of mobile technology to access financial services and manage personal finances. For example, in 2013, 74,000 new customers a day began using mobile banking services.¹¹ Using a mobile device to access accounts and pay bills can reduce cost and increase convenience for consumers. By enabling consumers to track spending and manage personal finances on their devices through mobile applications or text messages, mobile technology may help consumers achieve their financial goals. For economically vulnerable consumers, mobile financial services accompanied by appropriate consumer protections can enhance access to safer, more affordable products and services in ways that can improve their economic lives.

In order to learn more about opportunities, challenges and risks associated with the mobile financial services market, especially for underserved consumers (i.e. unbanked and low-income consumers) and other economically vulnerable consumers¹² – the Bureau’s Office of Financial Empowerment issued a Request for Information on June 11, 2014. The RFI used the term “mobile financial services” (MFS) to cover mobile banking services and mobile financial management services. The RFI was not intended to address mobile point-of-sale (“POS”) payments, except with respect to mobile payment products that are targeted specifically at underserved consumers.

¹¹ Javelin Strategy and Research, *Mobile Banking, Tablet and Smartphone Forecast 2013-2018: Smart Device Adoption Drives Mobile Banking Boom in 2013*, March 2014 (95 million U.S. adults used mobile banking – a gain of 27 million mobile bankers over 2012, or 74,000 per day) available at <https://www.javelinstrategy.com/brochure/318/>.

¹² The term “underserved” for purposes of this report includes low-income, underbanked, unbanked, economically vulnerable, and traditionally underserved consumers as well as consumers with thin or no credit file.

The purpose of the RFI was to inform the Bureau's consumer financial education and empowerment strategies related to developments in these areas. We received more than 50 comments from individuals, financial services providers, financial institutions, regulators, trade associations, research and consulting firms, academics, nonprofits, and consumer advocacy organizations. While several trade associations submitted comments, we received few comments from individual financial institutions and providers.

The purpose of this report is to describe the responses by the commenters to help inform the discussion around 1) identifying the scope and types of mobile financial services available with a focus on the underserved; 2) opportunities mobile technology provides for enhancing access to financial services and improving financial lives of underserved consumers; 3) challenges, barriers and risks to accessing financial products and services via mobile technology; and 4) recommendations for how the CFPB might educate and empower consumers in using mobile technology for financial services.

Nothing in this report is intended to identify areas in which the Bureau may or will take regulatory, supervisory, or enforcement action. Some of the commenters' views on these topics are included where relevant to the particular topic of the discussion.

2. Scope of mobile financial services for the underserved

The market for and scope of mobile financial services (MFS) is expanding as the use of mobile phones, smartphones, and other digital devices increases and the services and products designed for mobile evolve rapidly. The use of mobile financial services has risen significantly throughout the general population but, with some exceptions, has yet to see the same adoption by underserved consumers, despite the fact that many rely on smartphones as their primary or only access to the internet. However, according to several commenters, once connected, many underserved consumers are more likely than others to use mobile to access those services.

2.1 Mobile and the underserved

There are many efforts, including by financial providers and community organizations, to reach underserved populations to help either bring them into the traditional banking system or enhance their access to safe and affordable financial services from nonbank providers. Mobile financial services are one potential way to help to achieve these goals.

Mobile phone use among underserved populations is significant, and for many in this population is the primary way to access the internet. The MFS survey by the Federal Reserve Board, *Consumers and Mobile Financial Services 2015* [hereinafter *FRB 2015 Mobile Survey*], conducted in 2014, shows 90 percent of underbanked consumers had access to mobile phones

and 68 percent had access to smartphones.¹³ Unbanked consumers' access to mobile phones (67 percent) and smartphones (44 percent) was also significant.¹⁴ The percentage of unbanked consumers with access to smartphones rose from 35 to 44 percent between 2013 and 2014.¹⁵

Other estimates provided in the comments suggest even higher levels of smartphone use among the unbanked individuals. According to Javelin Research and Strategy's (Javelin) research, 55 percent of unbanked consumers own smartphones.¹⁶

Among the lower income population generally, mobile phone use is high – Pew Research Center (Pew) 84 percent of adults living in households earning less than \$30,000 per year have a cell phone;¹⁷ and 50 percent have a smartphone (compared to 64 percent ownership of a smartphone for all American adults).¹⁸

With regard to minorities, Pew found 71 percent of Hispanic adults and 70 percent of non-Hispanic black adults had a smartphone, compared to 61 percent of non-Hispanic white adults.¹⁹ The Federal Reserve Board's recent survey on mobile financial services also found adoption of smartphone use higher among Hispanic consumers (82 percent are mobile phone users) than

¹³ FRB 2015 MOBILE SURVEY, *supra* note 1, at 1-2.

¹⁴ *Id.*

¹⁵ See FEDERAL RESERVE SYSTEM, CONSUMERS AND MOBILE FINANCIAL SERVICES 2014 1-2 (MARCH 2014) [hereinafter FRB 2014 MOBILE SURVEY](The 2014 report of the survey conducted in 2013 found 69 percent of unbanked consumers had access to a mobile phone, approximately half of which were smartphones, so approximately 35 percent of those surveyed had smartphones)

¹⁶ Javelin, #49, at 3.

¹⁷ *Pew Mobile Technology Fact Sheet*, *supra* note 1.

¹⁸ *Pew Smartphone Use in 2015*, *supra* note 1, at 13. The FRB 2015 MOBILE SURVEY found 74 percent of adults living in households with less than \$25,000 have a mobile phone and 53 percent have a smartphone.

¹⁹ *Id.*

among non-Hispanic white consumers (68 percent) but found a lower percentage of smartphone use among non-Hispanic black consumers (66 percent).²⁰

Pew found that 52 percent of adults in rural areas own smartphones.²¹ Not surprisingly, young adults have a high rate of smartphone adoption – 85 percent of individuals between the ages of 18-29 have smartphones.²²

Reliance on smartphones to access the internet is significant among younger adults, low-income households and people of color. The Pew Research Center found 19 percent of Americans rely to some extent on smartphones for internet access²³ but identified consumers in three categories as “smartphone-dependent”, meaning they had neither broadband access at home nor an easily available alternative way to access the internet except through their phone:

- *Younger adults – 15% of Americans ages 18-29 are heavily dependent on a smartphone for online access.*
- *Those with low household incomes and levels of educational attainment – Some 13% of Americans with an annual household income of less than \$30,000 per year are smartphone-dependent. Just 1% of Americans from households earning more than \$75,000 per year rely on their smartphones to a similar degree for online access.*
- *Non-whites – 12% of African Americans and 13% of Latinos are smartphone-dependent, compared with 4% of whites.*

Pew Research Center, *Smartphone Use in 2015*²⁴

²⁰ FRB 2015 MOBILE SURVEY, *supra* note 1, at 4-5.

²¹ *Pew Smartphone Use in 2015*, *supra* note 1, at 13.

²² *Id.*

²³ *Id.* at 2.

²⁴ *Id.* at 17.

Netspend, a prepaid card program manager that identified its customer base as low- to moderate-income consumers, reported in its comments that almost 85 percent of its cardholders reported owning a smartphone.²⁵ Netspend stated that in focus groups its customers said that they “maximize their limited incomes by consolidating their phone and Internet service to a single source - typically by relying on mobile phone and data plan in lieu of home phone and home Internet. With cell phone upgrade plans, such consumers can frequently be early adopters of new technology.”²⁶ This is not surprising given that less than half of consumers (43 percent) with annual household incomes below \$25,000 have access to broadband internet at home.²⁷

Though not specific to mobile, Javelin found that 17 percent of underserved consumers switched financial institutions, compared with 10 percent of all consumers, in the 12 months preceding the date of submission of their comments in September 2014.²⁸ Javelin suggested that these consumers “are open to transferring to new financial service providers.”²⁹ Another commenter reported that 65 percent of banked customers surveyed indicated mobile banking services played an important or extremely important role in their choice to switch financial institutions.³⁰ As financial institutions and providers want to build a loyal customer base, how and whether mobile maintains that loyalty will affect the way in which companies provide financial services. One banking trade association commenter stated that “[t]he prevalence of

²⁵ Netspend, #52, at 3.

²⁶ *Id.*

²⁷ National Consumer Law Center (NCLC), #35, at 16 *citing* White House Office of Science and Technology Policy, National Economic Council, Four Years of Broadband Growth at 8-9 (June 2013), *available at* http://www.whitehouse.gov/sites/default/files/broadband_report_final.pdf.

²⁸ Javelin #49, at 5.

²⁹ *Id.* According to a report in April published by Mercator, approximately 31 percent of young adults and 28 percent of other mobile banking users surveyed in 2014 reported a financial institution switch during the past two years, compared to 20 percent who reported doing so in 2013. Mercator Advisory Group, Mobile and Tablet Banking: P2P Is Driving Growth April 2015, Press Release, *available at* https://www.mercatoradvisorygroup.com/Press_Releases/Mobile_and_Tablet_Banking_P2P_Is_Driving_Growth/.

³⁰ Consumer Bankers Ass’n (CBA), #10, at 4 (citing research by AlixPartners).

mobile phones among such persons [unbanked and underbanked] suggests a particularly egalitarian vehicle for bringing access to mainstream bank products and services.”³¹ In its comments, Javelin also suggested, “[u]nderserved Americans are fueling demand for new, improved methods to monitor and manage their finances – and they won’t necessarily turn to or be satisfied with traditional banking products, services, or providers.”³²

2.2 Defining MFS and its use

Several of the comments raised the need to define and clarify the meaning of “mobile financial services” to avoid confusion and to ensure that public policy discussions take place in the context of commonly understood terms and scope.

For example, the U.S. Chamber of Commerce (Chamber) pointed out potential confusion around whether the term depends on the device, the size of the screen, the network connection used, the location of the user or some other factor.³³ As a result, the Chamber noted, the following questions remain unanswered in the context of defining MFS:

- *Whether the term “mobile financial services” exclusively covers financial services accessed through cell phones and smart phones, or whether it covers accessing financial services with other devices, such as tablets, phablets, wearables, devices embedded in cars, laptops, or laptop/tablet hybrids;*
- *Whether accessing financial services through any device that connects through a mobile network meets the definition of the term “mobile financial services,” whereas accessing those same financial services with the same device, but on a WiFi network would not meet the definition; or*

³¹ American Bankers Ass’n (ABA), #45, at 1.

³² Javelin #49, at 5.

³³ U.S. Chamber #42, at 3-8.

- *Whether the mobile nature of the user defines the term “mobile financial services,” irrespective of the type of device or the nature of the network.*

U.S. Chamber of Commerce, #42, at 5-6.

These questions point out the complex nature of the discussion around mobile financial services and the need for clarity when engaged in these issues.³⁴ This may be relevant for future disclosure or other requirements that may be designed to address a particular channel.

A related but different perspective of the broader market was provided by U.S. Public Interest Research Group and the Center for Digital Democracy, which pointed out that the “online industry views the mobile platform as an integral part of a holistic ‘marketing and media ecosystem’ ” where the “provision and marketing of financial services on mobile devices are integrated into a broader set of industry practices on all digital media.”³⁵ These commenters urged the inclusion of issues related to marketing and data of mobile financial services in a broader discussion.

The comments included references to myriad products and technology that pertain to mobile financial services. The number and technical nature of the terms suggest a potential value in developing common nomenclature around products, technology, channels, and type of use to help guide consumers, regulators and industry.

2.2.1 Mobile Banking

Mobile banking refers to a system or a channel that allows customers of a financial institution to conduct financial transactions through a mobile device such as a mobile phone or tablet. Some mobile banking can be done via SMS (short message service), or texting, through the mobile phone. Other types of mobile banking require access to internet through the financial

³⁴ For example, the ABA, #45, at 3 urged that “[i]n considering the potential for “mobile phones” to expand opportunities for the unbanked and underbanked it is important to look beyond just mobile phones and recognize in the discussion other easily and commonly transported devices that continue to evolve in terms of capabilities, features, ease of use, size and transportability.”

³⁵ U.S. Public Interest Research Group (US PIRG) and Center for Digital Democracy (CDD), #19, at 3 [hereinafter PIRG and CDD].

institution's website or an app provided through the financial institution or others, e.g., links to accounts through money management or account aggregation applications or services.

Mobile banking is on the rise and in demand - it has steadily gained momentum and is preferred, according to a study conducted for American Banker Association in 2014, by 10 percent of bank customers, up from 8 percent in 2013.³⁶ The FRB 2015 Mobile Survey found that 39 percent of those with bank accounts had used mobile banking in the previous 12 months, compared to 22 percent in 2011; for those with bank accounts who use smartphones, the rate is 52 percent.³⁷ Deloitte Services LP reported in its comment letter that according to a January 2014 survey by Deloitte Center for Financial Services, nearly 40 percent of surveyed bank customers would bypass branches and interact directly via mobile if offered additional types of mobile banking services.³⁸

The Credit Union National Association (CUNA), in its comments, reported that 23 percent of members from the largest credit unions have enrolled in mobile services.³⁹ One credit union reported that an average of 52 percent of its membership accessed their account via mobile device monthly.⁴⁰ In its comments, CUNA said generally larger credit unions are more likely to offer a broader range of mobile financial services, while smaller credit unions continue to evaluate whether it is cost effective to provide or expand their mobile services.⁴¹

Both the FRB 2015 Mobile Survey of individuals and the Federal Deposit Insurance Corporation's (FDIC) 2013 FDIC National Survey of Unbanked and Underbanked Households

³⁶ ABA, #45, at 2. The ABA stated that the study was conducted by Ipsos Public Affairs, an independent market research firm, for the ABA during August 7-12, 2014.

³⁷ FRB 2015 MOBILE SURVEY, *supra* note 1, at 9.

³⁸ Deloitte #44 at 2, n. 2, citing Mobile Financial Services Survey, Deloitte Center for Financial Services, January 2014. According to Deloitte, the online survey included 2,193 responses from a broad cross section of demographic groups. All respondents had a bank account and were at least 21 years old.

³⁹ Credit Union National Ass'n (CUNA), #24, at 1-2 (Nearly 60% of the more than 200 credit unions that responded to CUNA's 2014 Technology Spending survey currently offer mobile financial services)

⁴⁰ Randolph-Brooks Federal Credit Union (RBFCU), #27, at 2.

⁴¹ CUNA, #24, at 3.

[hereinafter FDIC 2013 Survey] found that underbanked consumers had a higher use of mobile banking as their primary means to access accounts than the overall population with a deposit account.⁴² For lower income customers, a 2014 survey done by the Deloitte Center for Financial Services found that use of mobile is significant - 56 percent of surveyed customers with incomes between \$25,000 and \$49,000 use smartphones to interact with a financial institution, which is not that different from higher income users (61 percent for customers with incomes above \$100,000).⁴³

The potential for managing one's money via mobile is great. The FDIC 2013 Survey indicated two of the three most common mobile banking activities reported for consumers in underbanked and fully banked households are monitoring of account balances or recent transactions (underbanked - 88.5 percent and fully banked - 85.7 percent) and bill payment (60 percent for both underbanked and fully banked consumers).⁴⁴ According to the FRB 2015 Mobile Survey, 63 percent of mobile banking users reported that they had checked their account balance before making a large purchase in the 12 months preceding the survey, and 53 percent of them decided not to purchase an item as a result of their account balance or credit limit.⁴⁵

Javelin also found underserved⁴⁶ consumers had higher rates of mobile banking (53 percent vs. 42 percent in 90 days previous to comment submission) and mobile bill pay than among all

⁴² FRB 2015 MOBILE SURVEY, *supra* note 1, at 5 found 48 percent of underbanked had used mobile banking in previous 12 months compared to 39 percent of all mobile phone owners with bank accounts; 32 percent of the underbanked reported making mobile payments in the previous 12 months; FDIC National Survey of Unbanked and Underbanked Households 10 (2013) found that among mobile banking users, underbanked households were considerably more likely (32.4 percent) than the fully banked (21.6 percent) to use mobile banking as their main banking method [hereinafter FDIC 2013 SURVEY].

⁴³ Deloitte, #44, at 5.

⁴⁴ FDIC 2013 SURVEY, *supra* note 42, at 61.

⁴⁵ FRB 2015 MOBILE SURVEY, *supra* note 1, at 25.

⁴⁶ Javelin, #49, at 5 defines underserved as consumers who lack a checking account or have used alternative financial services in past 12 months, which is different from definitions used by the Federal Reserve Board in its survey: unbanked (not having a bank account) and underbanked (having a bank account but also using an alternative financial service such as a money order, check cashing service, pawn shop loan, auto title loan, paycheck advance/deposit advance, or a payday loan) FRB 2015 MOBILE SURVEY, *supra* note 1, at 5 or the FDIC in its survey:

consumers (33 percent v. 22 percent).⁴⁷ On the other hand, the Alliance for Stabilizing our Communities (ASOC) reported that its Banking in Color: New Findings on Financial Access for low- and Moderate-Income Communities survey found though 59 percent of the respondents had internet access via phone, only 17 percent used it for mobile banking and only 11 percent of respondents reported they were comfortable with conducting financial transactions online or on their mobile phone, citing security most often as the concern when banking via the use of the smartphone.⁴⁸ This contrasts with comments from the Consumer Bankers Association, which reported a study by Alix Partners that showed non-Caucasian *banked* customers were more likely to use mobile banking than their Caucasian counterparts (52 percent for Hispanic customers, 41 percent for African American customers, and 38 percent for Asian customers, versus 28 percent for non-Hispanic Caucasian customers).⁴⁹

As suggested in comments, this use is significant but there is still untapped potential.⁵⁰ MFY Legal Services, which provides legal services to low-income and other vulnerable consumers in New York City, commented that mobile access, which would allow clients to check their account balances anywhere, could be a benefit as “they are more likely to avoid purchases that overdraw their accounts and lead to overdraft fees.”⁵¹ MFY Legal noted, however, that “simply because people have technology does not mean they know how to use it, or use it safely.”⁵²

According to financial industry members, because the acquisition channel is so important to developing an ongoing customer relationship, successful account opening strategies are very

underbanked households (having an account, but have also obtained financial services and products from non-bank, alternative financial services (AFS) providers in the prior 12 months) FDIC 2013 SURVEY, *supra* note 42, at 4.

⁴⁷ Javelin, #49, at 6.

⁴⁸ Alliance for Stabilizing our Communities (ASOC) #40 at 5, 7. ASOC is a collaboration between National CAPACD (Coalition of Asian and Pacific Americans for Community Development), the National Council of La Raza, and the National Urban League.

⁴⁹ CBA, #10, at App. 2.

⁵⁰ See, e.g., FRB 2015 MOBILE SURVEY, *supra* note 1, at 5 (gradual rise in mobile payments by smartphone users suggests smartphone adoption substantially contributed to the increased use of mobile payments.)

⁵¹ MFY Legal Services, #17, at 2.

⁵² *Id.*

important for financial institutions. The Center for Financial Services Innovation (CFSI) commented that it identified two services that allow consumers to open an account directly from their mobile device.⁵³ A credit union reported that members can open accounts via mobile device.⁵⁴ Some comments raised the issue of KYC (know-your-customer) and AML (anti-money laundering) rules as barriers to mobile and online account opening. Comments noted that although innovative products may be designed to assist with account opening, it remains difficult to comply with the rules through an online channel, e.g., gathering the information to validate a customer's identity.⁵⁵ But one comment noted that "innovations including photo recognition of common forms of identification should improve this situation in the next several years."⁵⁶

Many respondents highlighted the potential of mobile Remote Deposit Capture (mRDC) to help underserved bank customers and attract unbanked consumers to the banking system.⁵⁷ Mobile Remote Deposit Capture (mRDC) allows consumers to take a photo of and deposit a check remotely via their mobile device. As one commenter noted: "To date, this has perhaps been the most transformational mobile development for the underserved because it overcomes the limitations of branch hours and locations."⁵⁸ It has the potential to save time and reduce costs for the 38 percent of the unbanked households that use nonbank check cashing services,⁵⁹ which the Center for American Progress (CAP) noted may charge as much as 2 to 5 percent of the

⁵³ CFSI, #6, at 4.

⁵⁴ RBFCU, #27 at 2.

⁵⁵ ABA, #45, at 17; One Financial, #33, at 6.

⁵⁶ One Financial, #33, at 6. *See also*, CFSI, #6, at 3 (There are software programs that enable financial institutions to use device features such as the camera, the GPS locator to execute know your customer protocols for account opening or loan applications.)

⁵⁷ *See, e.g.*, ABA, #45, at 7-8; CBA, #10, at 5; CFED, #26, at 5. Susan Burhouse, Matthew Homer, Yazmin Osaki and Michael Bachman, FDIC, Assessing the Economic Inclusion Potential of Mobile Financial Services 24 (2014) [hereinafter FDIC Staff Paper] (as of 2013, 77 percent of the 25 largest banks offered mRDC, and about 25.7 percent of mobile banking users have used mRDC in the previous 12 months).

⁵⁸ Center for American Progress (CAP), #34, at 1-2.

⁵⁹ FDIC Staff Paper, *supra* note 57, at 25.

check value.⁶⁰ According to the FRB 2015 Mobile Survey, 51 percent of mobile banking users surveyed said that they had deposited a check electronically using their phone camera.⁶¹

Though the benefits may be significant, a number of comments raised issues that might make banks wary of offering mRDC to all customers, and might make mRDC not as appealing for all consumers. These included:

- **Fraud:** The ABA, in its comments, stated that “quick access to funds via RDC deposits presents fraud risks.”⁶² The ABA cited the risk that a check could be deposited more than once or might be forged or fake as one of the reasons for the lag between deposit and access.
- **Delay in access to funds:** The report, *Assessing the Economic Inclusion Potential of Mobile Financial Services* [hereinafter FDIC Staff paper], issued by staff of the FDIC in June 2014, noted that banks typically require consumers to wait a period of time before their remotely deposited funds become available for withdrawal.⁶³ Commenters stated that they think institutions hold checks deposited remotely because it is not clear to them whether Regulation CC funds availability rules apply, and because of the fraud risk inherent in RDC (described in the previous paragraph).⁶⁴ Research by Consumers Union confirmed reports from consumers about delay of funds issues with mRDC, finding that checks deposited via mRDC into accounts at one bank took 10 days to become available.⁶⁵ Consumers Union noted that the potential to attract customers away from higher priced check cashing services may be limited as “RDC may not satisfy the need/want of many of the unbanked – and underbanked – to have immediate access to

⁶⁰ CAP, #34, at 2.

⁶¹ FRB 2015 MOBILE SURVEY, *supra* note 1, at 12.

⁶² ABA, #45, at 14.

⁶³ FDIC Staff Paper, *supra* note 57, at 24.

⁶⁴ NCLC, #35, at 19; Consumers Union, #30, at 6.

⁶⁵ Consumers Union, #30, at 6. The comment refers to time “to clear,” but in context, it appears to refer to the time when funds become available to the depositor.

funds or cash.”⁶⁶ In contrast, the ABA suggested that “[e]fforts to improve the payment system to make it faster and more efficient will further reduce and perhaps eliminate the need for holds.”⁶⁷

- Different regulations apply: At least one comment noted that checks deposited via mRDC may be subject to different laws and regulations than checks deposited by traditional means.⁶⁸
- Errors from the quality of the image itself: One commenter noted that errors from the quality of the image captured by consumers may affect low-income consumers more than others because they may have cheaper, inferior phones and cameras.⁶⁹ If there is a blurred image, the amount of the check may be erroneously recorded. Comments noted that this could cause serious consequences such as overdraft and other fees that may result from such errors.⁷⁰
- Problems when the original check is not destroyed: If the original check is not destroyed, comments suggested, there is risk that it may be deposited again. If a check is deposited more than once there may be a double debit to the account of the customer who wrote the check and a payee who accidentally deposits a check more than once may think he has more money available than he does.⁷¹ This too might lead to insufficient funds or other types of fees.⁷²

⁶⁶ ABA, #45, at 8.

⁶⁷ *Id.* at 19.

⁶⁸ Mark Budnitz, Georgia State University School of Law (Budnitz) #48, at 1-3.

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² *Id.*

Comments reported that financial institutions often offer fee-based options to get faster access.⁷³ For example, according to comments from the Consumer Bankers Association, one bank charges its customers who deposit checks through mRDC - 50 cents for funds availability within two business days, \$3 for funds availability the same night, and 1 percent to 3 percent of the check amount for immediate funds access, with a \$5 minimum fee.⁷⁴ One comment suggested that if institutions develop mobile systems that enable consumers to deposit checks without paying a fee before the check has cleared, that may help move consumers away from higher priced check cashing services.⁷⁵

2.2.2 Personal financial management tools

Personal financial management (PFM) tools are available online not only via websites, but also via mobile applications. Some “alerts” and other tools use text messaging that can be received on a smartphone or other cell phone. (See Texting discussion below)

These tools provide a variety of services, such as aggregating account information, sending alerts and reminders about balances and bill payments, and tracking and reporting on spending habits. CFSI noted that of the 900 mobile applications it reviewed for personal financial management capabilities “there are relatively few apps that focus on savings goals or debt reduction.”⁷⁶ Intuit, however, claimed that users of its product, Mint.com, a money management software system that aggregates accounts and helps consumers establish individualized savings goals and set up alerts, are saving over \$1 billion per month towards their goals.⁷⁷

⁷³ CBA, #10, at 5; CFSI, #6, at 9.

⁷⁴ CBA, #10, at 5.

⁷⁵ NCLC, #35, at 23.

⁷⁶ CFSI, #6, at 2.

⁷⁷ Intuit, #21, at 12. According to a recent posting on Mint.com website, Mint has more than 20 million registered users. <http://blog.mint.com/news/the-time-is-now-mint-available-on-apple-watch041515/> accessed online May 27, 2015. The number of active users, however, would presumably be lower.

Commenters noted that when consumers can access more than one type of account via mobile they can make an informed decision about when and whether to switch from a debit to a credit method for their purchase.⁷⁸ Such features help in managing accounts and possibly avoiding fees. However, commenters raised issues about privacy and security in these situations as discussed at pp. 53-62.

Evidence suggests that underserved consumers use and value alerts as a key function of their mobile financial service. According to the FRB 2015 Mobile Survey, 57 percent of mobile banking users received an alert in the previous 12 months.⁷⁹ Javelin found that while 86 percent of all mobile bankers receive email alerts, 93 percent of underserved mobile bankers received alerts.⁸⁰ CFSI reported that consumers who use one MFS app that also offers users transaction accounts issued by a bank check their account three to five times per day.⁸¹

Netspend, which noted that it has 3.4 million active prepaid cards, commented that between 55-65 percent of its GPR cardholders and 40-45 percent of its payroll cardholders are enrolled in its alerts program, and 150,000 unique users use Netspend's smartphone apps per month.⁸² The company stated that its customers, many of whom maintain low average balances – typically less than \$100 on any given day - “closely and actively manage their accounts.”⁸³

CFED (Corporation for Enterprise Development) stated that while MFS has many potential benefits for low-income consumers, more product development and innovation is needed to meet some of their unique needs. For example, financial management software may not be able to accurately capture payments such as government benefits and tax credits, which “limits their

⁷⁸ Appleseed, #41, at 8; PayPal, #29, at 2.

⁷⁹ FRB 2015 MOBILE SURVEY, *supra* note 1, at 12.

⁸⁰ Javelin, #49, at 7.

⁸¹ CFSI, #6, at 3.

⁸² Netspend, #52, at 1-2.

⁸³ *Id.* at 2.

ability to help users review their finances to make decisions in real time and plan ahead with an understanding of what their resources will be in the future.”⁸⁴

One use of personal financial management tools is in the area of credit scores. Knowledge and understanding of credit scores can be very useful for consumers because improved credit scores are associated with greater access to a variety of credit products and lower cost credit. One commenter discussed a credit score/credit report card mobile app it provides to its customers and reported that its members in “very poor,” “poor,” and “fair” (according to the credit score it uses) who check the credit scores on its app on a regular basis showed higher credit scores than members with the same credit score ratings who check their credit scores less frequently.⁸⁵ As the market moves in the direction of providing free credit scores on credit card and other types of account statements provided by lenders to consumers, credit score mobile apps may have a broader positive impact for consumers with lower scores.

2.2.3 Text messaging

Commenters highlighted the importance of text messaging to low-income bank customers. They noted that many low-income consumers do not have smartphones; text messaging is one of the only ways for them to benefit from alerts and push notifications from financial services providers.⁸⁶ Texting was viewed as an important yet untapped function to enable consumers to set up alerts and track their accounts. One commenter suggested that providers could use texts to “nudge their more at-risk consumers ... into better financial behavior”⁸⁷ but noted that any tradeoffs with regard to fees charged would need to be explored.⁸⁸

⁸⁴ CFED, #26, at 3-4.

⁸⁵ Credit Karma, #32, at 4.

⁸⁶ Intuit, #21, at 19, recommended that CFPB consider the opportunities available to consumers through texting because it may “provide real-time information to consumers in a way that they are most likely to read.”

⁸⁷ PIRG and CDD, #19, at 9-10.

⁸⁸ *Id.*

One commenter noted that “text-based mobile financial services may also offer greater opportunities in serving the unbanked.”⁸⁹ According to comments from One Financial Holdings Group (One Financial), some providers noted measurable changes in consumer spending habits, “based purely on post-transaction, real-time text-messaging to increase awareness of spend and spend patterns.”⁹⁰

One commenter reported examples of nonprofits successfully using SMS as their primary engagement platform with their customers, adopting the target audience’s preferences to better reach them.⁹¹ ASOC reported that its local affiliates have begun to utilize texting to reinforce personal financial goals and action plans developed by the client through their financial coaching process and to provide ongoing encouragement as part of their financial capability program.⁹²

While many comments acknowledged the use of texting and its benefits,⁹³ some industry commenters objected that the Telephone Consumer Protection Act (TCPA) requires consumer permission before text messages are sent to a consumer.⁹⁴ The American Financial Services Association (AFSA) cited litigation risk and disclosure requirements (perceived as difficult to

⁸⁹ Deloitte, #44, at 19.

⁹⁰ One Financial Holdings Group, (One Financial), #33, at 5 (One Financial Holdings Group is a “laboratory for innovation in financial services focusing on the underserved, funded by a consortium of the most prominent early-stage financial services investors in the United States.” In its comments, it stated that one provider saw changes within one month of adoption).

⁹¹ Deloitte, #44, at 19.

⁹² ASOC, #40, at 7.

⁹³ See, e.g., CUNA, #24, at 3 (reported that half their credit unions offered SMS/text messaging).

⁹⁴ ABA, #45, at 16; American Financial Services Association (AFSA), #18, at 4. On July 10th, the Federal Communications Commission (FCC) issued a declaratory ruling reaffirming that the TCPA applies to text messages and that consumer consent therefore is generally required. FCC, TCPA Omnibus Declaratory Ruling and Order, FCC 15-72 (July 10, 2015)[hereinafter FCC Declaratory Ruling and Order].

meet because texts have character limits) as two challenges their members face when providing texting services.⁹⁵

Some industry commenters stated that the cost of TCPA compliance, uncertainty regarding whether certain activity complies with the TCPA, and the risk of liability are all factors that discourage banks from investing more in text messaging, “especially as text is viewed as an interim system as people move to smart phones.”⁹⁶ Deloitte Services LP, in its comments, also stated that the prospects for texting are limited “given the dramatic rate of change in technology and reduction in price, it may not make sense to invest heavily in text banking.”⁹⁷ The National Consumer Law Center (NCLC) shared its viewpoint that many providers may not be complying with Electronic Signatures in Global and National Commerce (ESIGN) Act,⁹⁸ which requires consumer consent in order to deliver certain communications electronically.⁹⁹

2.2.4 Mobile applications

Many financial products and services, including financial management services, are accessed through applications on mobile devices.

In its review of nearly 900 financial apps, a substantial proportion of which were personal financial management (PFM) apps, CFSI found most are available free of charge.¹⁰⁰ According to CFSI, some apps had been downloaded more than 10 million times, while others were

⁹⁵ AFSA, #18, at 4.

⁹⁶ ABA, #45, at 17. Though smartphones also have texting capability, data plans on smartphones allow consumer and providers to communicate in additional ways.

⁹⁷ Deloitte, #44, at 19.

⁹⁸ The Electronic Signatures in Global and National Commerce (ESIGN) Act 15 U.S.C. §7001 *et seq* addresses requirements for electronic records and signatures.

⁹⁹ NCLC, #35, at 15-18.

¹⁰⁰ CFSI, #6, at 2 (these were “popular financial apps independent of those related to bank and GPR accounts”.)

downloaded fewer than 10,000 times.¹⁰¹ But CFSI remarked that there is virtually no data on use patterns, length of engagement and retention, or on consumer financial outcomes as a result of using the apps.¹⁰² It is also not known how downloads correlate with actual use.

Some commenters cited problems with some money management and other apps that include a failure to disclose whether a fee applies to a particular transaction, a failure to provide required disclosures before the app is downloaded or alerts are activated, requiring consumers to visit the website to find out the terms and conditions, and a lack of uniform terminology among providers.¹⁰³ One commenter stated that consumers should have access to disclosures before they enroll in a service or download an app and suggested that consumers should see a simple box display with any fees before being asked to provide any personal information or download an app.¹⁰⁴

One commenter raised concerns about the impact of cell phone service providers moving away from providing unlimited data in mobile phone plans, suggesting that such a change may limit the ability of low-income consumers to comparison shop via mobile because such activity uses a lot of data.¹⁰⁵ Another commenter, however, suggested an increasing availability of prepaid phone plans and unlimited data plans at reduced prices as a positive trend.¹⁰⁶ In addition, for mobile users mobile apps are increasingly becoming the way some consumers access their

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ See Consumers Union, #30, at 2-4; Staff of the Bureau of Consumer Protection, Federal Trade Commission (FTC), #11, at 7-8. FTC cited staff recommendations from its report, FED. TRADE COMM'N, WHAT'S THE DEAL? A FTC STUDY ON MOBILE SHOPPING APP, (Aug. 2014), available at <http://www.ftc.gov/system/files/documents/reports/whats-deal-federal-trade-commission-study-mobile-shoppingapps-august-2014/140801mobileshoppingapps.pdf>, including that companies clearly describe how they collect, use and share consumer data so that consumers can make informed choices about the apps they use.

¹⁰⁴ Consumers Union, #30, at 2-4.

¹⁰⁵ NCLC, #35, at 23.

¹⁰⁶ One Financial, #33, at 3, 9.

deposit accounts.¹⁰⁷ Commenters noted concerns about the privacy and security of data shared with apps, one stating that account access apps are not all the same in functionality or in level of security or privacy protections.¹⁰⁸

2.2.5 Prepaid products

Prepaid products are typically loaded with funds by a consumer or by a third party, such as an employer. Consumers can use these products to make payments, store funds, get cash at ATMs, receive direct deposits and tax returns, and send funds to other consumers, among other things. Prepaid products are often purchased by consumers at retail stores or online. Prepaid products are amongst the fastest growing types of consumer financial payment products in the United States.¹⁰⁹ For example, according to one estimate the amount of money consumers loaded onto “general purpose reloadable” prepaid cards grew from less than \$1 billion in 2003 to nearly \$65 billion in 2012.¹¹⁰

One commenter noted that the increasing use of prepaid products, including via mobile devices, among unbanked and underbanked consumers demonstrates a willingness to use alternative products.¹¹¹ CFSI’s market size report for 2013 found a 30 percent increase in growth in volume between 2012 and 2013 (to \$84.3 billion) in GPR prepaid cards.¹¹² The FDIC 2013 Survey found

¹⁰⁷ See, e.g., FRB 2015 MOBILE SURVEY, *supra* note 1, at 12 (Mobile banking users appear to be using mobile applications to conduct their banking transactions, as 71 percent of mobile banking users have installed their bank’s application on their phones.)

¹⁰⁸ ASOC, #40, at 5; FTC, #11, at 7-8; Privacy Rights Clearinghouse, #31, at 2.

¹⁰⁹ See generally Prepaid Accounts Under the Electronic Fund Transfer Act (Regulation E) and the Truth in Lending Act (Regulation Z), 79 Fed. Reg. 77101 (Dec. 23, 2014).

¹¹⁰ *Id.* Citing to projections by the Mercator Advisory Group, which estimated that the amount loaded onto GPR cards grew from less than \$1 billion in 2003 to nearly \$65 billion in 2012.

¹¹¹ Javelin, #49, at 5. See also Association for Neighborhood and Housing Development, Inc. (ANHD), #12, at 3.

¹¹² Center for Financial Services Innovation (CFSI), 2013 Financially Underserved Market Size 6 (December 2013) available at <http://www.cfsinnovation.com/CMSPages/GetFile.aspx?guid=c032e4aa-039b-4723-8f2d-4fbf7fc0eb19> (CFSI in the market size report defined a GPR card as “An open-loop card which serves as an account where consumers can load, store and spend funds electronically.”).

that in 2013, the use of GPR cards was more common among lower income, unbanked and underbanked households.¹¹³ Specifically, it found that more than a quarter (27.1 percent) of unbanked households had used a prepaid account, compared with 19.6 percent of underbanked households and 8.8 percent of fully banked households.¹¹⁴ More than a quarter (28.3 percent) of unbanked consumers in households with incomes between \$30,000 and \$50,000 reported using prepaid cards whereas only 13.7 percent of those earning \$75,000 or over reported using them.¹¹⁵ The increased use of prepaid cards by unbanked and underbanked consumers was noted by Javelin in its comment letter, which reported that in the 12 months preceding its comment submission, 43 percent of underserved consumers had used prepaid cards for purchases, versus 28 percent of all consumers.¹¹⁶

Some prepaid products that target the lower-income market provide consumers with the ability to access a savings account or set-aside account, and some provide check writing services.¹¹⁷ Also, comments noted that some consumers who cannot get bank accounts because of blemished reports with specialty consumer reporting agencies that provide checking account screening services may find providers of prepaid, often accessed via mobile device, more willing to take them as customers.¹¹⁸

The Network Branded Prepaid Card Association (NBPCA) stated in its comment that its members had a “significant increase in the issuance of virtual prepaid card products which can be accessed through a mobile device.”¹¹⁹ They noted that the physical prepaid card had served as a replacement for the check and today “disbursement is increasingly being handled through

¹¹³ FDIC 2013 SURVEY, *supra* note 42, at 29.

¹¹⁴ *Id.*

¹¹⁵ *Id.* at 33.

¹¹⁶ Javelin, #49, at 6.

¹¹⁷ *See generally* ELISA TAVILLA, FEDERAL RESERVE BANK OF BOSTON, HOW MOBILE SOLUTIONS HELP BRIDGE THE GAP: MOVING THE UNDERSERVED TO MAINSTREAM FINANCIAL SERVICES (DECEMBER 2013).

¹¹⁸ Consumers Union, #30, at 4-5.

¹¹⁹ Network Branded Prepaid Card Association (NBPCA), #13, at 3.

mobile applications and virtual prepaid products.”¹²⁰ One industry commenter reported that while it sees a mobile app usage rate of only 10 percent among active consumers of GPR prepaid cards, an increasing number of prepaid card program managers are providing customers with the ability to access and manage their finances via mobile application and there is a steady growth in usage by prepaid cardholders.¹²¹ The commenter noted that several card providers tend to market to lower-income consumers.¹²²

The ABA stated that “[m]obile banking features, when coupled with prepaid cards, show promise to attract the unbanked to bank products.”¹²³ It highlighted the prepaid product it has endorsed, which it said allows users to access their account via a mobile application, in discussing the potential benefits for potential unbanked customers of using prepaid and mobile together.¹²⁴

A consumer group noted that some prepaid cards are marketed more like an application than a card, with the expectation that consumers will manage their account via mobile or online.¹²⁵ It also suggested that protections may vary among debit and credit cards, which can be confusing for consumers when they are accessing those cards through one device.¹²⁶ The commenter suggested that there should be more uniformity and clarification of consumer financial protections as they apply to prepaid and other products that are accessed via mobile device.¹²⁷

¹²⁰ *Id.* Also, the ABA noted that a key feature of their prepaid card, which more than 170 member banks have issued over 200,000, was the ability of users to access account information online via a mobile app. (ABA, #45, at 20-21).

¹²¹ One Financial, #33, at 3-4.

¹²² *Id.* at 5.

¹²³ ABA, #45, at 8 (citing as support Elisa Tavilla, Federal Reserve Bank of Boston, How Mobile Solutions Help Bridge the Gap: Moving the Underserved to Mainstream Financial Services (December 2013))

¹²⁴ *Id.* at 19-20 (More than 170 ABA member banks have issued over 200,000 of the ABA endorsed prepaid cards).

¹²⁵ Consumers Union, #30, at 4.

¹²⁶ *Id.* at 4-5.

¹²⁷ *Id.* at 6-8.

2.2.6 Mobile payments

In this report, the term “mobile payments” refers to mobile point-of-sale (mPOS) payments made through a mobile device. Using mobile payment (m-payment), a consumer with a mobile device can pay for purchases in a retail store or restaurant through a point-of-sale terminal. Bank accounts, credit cards, debit cards, and prepaid cards can be accessed through the consumer’s device, often through a “digital wallet.” The most common models of retail contactless payments terminals require consumers to “tap-and-pay” by waving the mobile device across the terminal or to use a Quick Response (QR) or other readable code at the POS. If a terminal accepts near-field communication (NFC)-based payments,¹²⁸ communication allows for information to travel across to the terminal without the devices having to touch each other.

Loyalty cards, insurance member cards, coupons, boarding passes, tickets and many other types of information can also be added to the associated mobile wallet. Digital wallets offer varying levels of security. For example, some require biometrics for authentication purposes.¹²⁹ Some examples of digital wallets that facilitate m-payments include Android Pay and Apple Pay.¹³⁰

Appleseed, which works with immigrant communities, commented that “[i]nnovations in mobile payment services, the development of mobile wallets, and the introduction of personal money management tools and applications have effectively transformed how some individuals manage their money and may have ramifications for broad scale use by underserved communities, including immigrants.”¹³¹ Another commenter noted that experience in other

¹²⁸ Near field communication (NFC), according to NearFieldCommunication.org, is a technology that allows a device, known as a reader, interrogator, or active device, to create a radio frequency current that communicates with another NFC compatible device or a small NFC tag holding the information the reader wants. Passive devices, such as the NFC tag in smart posters, store information and communicate with the reader but do not actively read other devices. Peer-to-peer communication through two active devices is also a possibility with NFC. This allows both devices to send and receive information. <http://www.nearfieldcommunication.org/about-nfc.html>

¹²⁹ See Deloitte, #44, at 15; Gemalto, #37, at 4; Netspend, #52, at 7.

¹³⁰ Android Pay and Apple Pay are payment systems provided by Google and Apple that allow users to store various credit and debit card payment and other information, and make payments via their devices.

¹³¹ Appleseed, #41, at 2. (Appleseed is a nonprofit network of 17 public interest justice centers in the United States and Mexico)

countries suggests that mobile payments could facilitate financial access in this country as well.¹³²

The Federal Reserve Board's 2014 survey found, conditional on owning a mobile phone, minorities are more likely to adopt mobile payments (the Federal Reserve Board's definition of which includes bill payments).¹³³ The Federal Reserve Board found Hispanic consumers accounted for 32 percent of all mobile payment users relative to 22 percent of all mobile phone users.¹³⁴ For non-Hispanic black consumers, the rate was higher – 34 percent of those with mobile phones made mobile payments.¹³⁵

2.2.7 Mobile carrier billing

Mobile carrier billing enables consumers to charge goods or services directly to a mobile phone account. The consumer is billed through her mobile carrier and charges show up on her statement from the mobile carrier or telecommunications firm. The FTC commented that it is a payment method that “may be useful for consumers who do not have credit cards, or do not want to use them, especially for small transactions. In this way, carrier billing may be especially beneficial for unbanked and underbanked consumers.”¹³⁶ However, commenters identified important potential problems with mobile carrier billing for the underserved.¹³⁷ Reasons cited by commenters for caution include fraud, the potential lack of adequate error resolution procedures, and impact on credit reports and scores from unpaid bills in dispute.¹³⁸ The FTC

¹³² Deloitte, #44, at 20.

¹³³ FRB 2015 MOBILE SURVEY, *supra* note 1, at 14-18.

¹³⁴ *Id.* at 15.

¹³⁵ *Id.*

¹³⁶ FTC, #11, at 5; NCLC, #35, at 7; Consumers Union, #30, at 9-10.

¹³⁷ *Id.* at 1, 5-6; ABA, #45, at 22, NCLC, #35, at 7; Budnitz, #48, at 3-4.

¹³⁸ From its report from a workshop, FED. TRADE COMMISSION, MOBILE CRAMMING: AN FTC ROUNDTABLE (MAY 2013), the FTC recommended that: (1) mobile carriers give consumers the option to block all third-party charges on their phone accounts; (2) market participants take appropriate action so that advertisements for products or services

estimates that consumers have lost millions due to mobile cramming – the unlawful practice of placing unauthorized third-party charges on mobile phone accounts.¹³⁹

2.2.8 Mobile P2P

One area of fairly rapid adoption is mobile person-to-person money transfers (such transfers are sometimes included in “mobile payments”).¹⁴⁰ Consumers can send money directly to others through email or texts or mobile applications. This service is provided by banks, credit unions and through other product providers (e.g., PayPal, Square). Some comments discussed the potential benefits of person-to-person for providing a less expensive and more convenient option for consumers.¹⁴¹ Javelin stated that underserved consumers are highly open to mobile P2P payments as a replacement for cash transactions.¹⁴² According to its research, Javelin reported that in the 30 days preceding the submission of its comments, 28 percent of mobile underserved consumers conducted a mobile P2P transfer, twice the percentage of consumers overall.¹⁴³

charged to a mobile bill are not deceptive; (3) market participants obtain consumers’ express, informed consent to charges before they are billed to a mobile account, and maintain reliable records of such authorizations; (4) mobile carriers disclose all charges for third-party services clearly and conspicuously to consumers in a non-deceptive manner; and (5) carriers implement an effective dispute resolution process. FTC, #11, at 6.

¹³⁹ FTC, #11, at 5. The CFPB, in coordination with state attorneys general and the FCC, filed orders in federal courts against Sprint and Verizon which provide \$120 million in redress to wireless customers who were illegally billed hundreds of millions of dollars in unauthorized third-party charges. See <http://www.consumerfinance.gov/newsroom/cfpb-takes-action-to-obtain-120-million-in-redress-from-sprint-and-verizon-for-illegal-mobile-cramming/>

¹⁴⁰ See Business Insider, *The Peer-to-Peer Payments Report: The Exploding Market For Smartphone Apps That Transfer Money* (August 28, 2014) <http://www.businessinsider.com/explosive-growth-in-peer-to-peer-payment-apps-2014-8>

¹⁴¹ CBA, #10, at 6; Consumers Union, #30, at 10.

¹⁴² Javelin, #49, at 5.

¹⁴³ *Id.*

2.2.9 Accessing digital channels with cash

There are products that enable consumers who use cash to access digital channels through various means, including using in-person retail to accept cash and confirm transactions initiated through a digital channel. Low-income consumers carry out a significant portion of transactions with cash. According to a report published by the Cash Product Office of the Federal Reserve System, 55 percent of consumers with household incomes less than \$25,000 per year prefer cash over non-cash payment instruments.¹⁴⁴ The total value of low-income consumers' cash spending, at \$558 average per consumer per month, is much higher than any other income group's cash spending and this group uses cash much more frequently for bill payments than other groups of consumers.¹⁴⁵ Javelin reported that it found the underserved are more likely to use cash through online payment services (22 percent v 10 percent of all consumers).¹⁴⁶

Commenters noted that access to mobile bill-payment channels could present a safe, convenient and possibly cheaper alternative to cash for unbanked, low-income consumers who may use cash for transactions such as bill payments.¹⁴⁷ One provider, for example, commented that its service enables consumers to go online to initiate an electronic bill payment that is completed in cash at a nearby retail outlet.¹⁴⁸ A person who wanted to pay his or her rent the day before it is due, for example, could go online and submit the transaction, complete the transaction at a nearby retail partner of the provider, and have a receipt to show payment.¹⁴⁹ A consumer group

¹⁴⁴ BARBARA BENNETT, DOUGLAS CONOVER, SHAUN OBRIEN, AND ROSS ADVINCULA, FEDERAL RESERVE SYSTEM, CASH PRODUCT OFFICE, CASH CONTINUES TO PLAY A KEY ROLE IN CONSUMER SPENDING: EVIDENCE FROM THE DIARY OF CONSUMER PAYMENT CHOICE 9 (APRIL 2014)

¹⁴⁵ *Id.* at 11.

¹⁴⁶ Javelin, #49, at 6.

¹⁴⁷ See Assets and Opportunity Network (AON), # 28, at 5; CFED, #26, at 4; NBPCA, #13, at 6-7; NCLC, #35, at 27; One Financial, #33, at 6.

¹⁴⁸ Intuit, #21, at 1, 12.

¹⁴⁹ *Id.*

acknowledged the potential benefits of the such services but stated it had concerns that certain recourse and other protections may not available to customers of those services.¹⁵⁰

One industry commenter discussed cash reload networks that allow users of prepaid cards to load cash for a fee onto their prepaid cards, which can then be used to initiate card-not-present transactions with merchants over the phone, via internet, or through electronic bill pay of utilities.¹⁵¹ Its comments highlighted services such as self-serve kiosk-based solutions that allow users to directly transform cash into a variety of electronic payments, including remittances and bill payments.¹⁵²

2.3 MFS is a channel, not a separate product

While various mobile financial services may be described as “products,” many commenters pointed out that “mobile financial services” is not a discrete set of products and services but rather a channel through which consumers can access financial services and products through many devices. The ABA stated that the FDIC has defined it as such.¹⁵³ The ABA noted that “[mobile banking] is a channel, not a product, and does not address the primary reasons people do not use bank products.”¹⁵⁴ Both consumer and some industry groups cautioned that using the mobile channel should not be viewed as a replacement for accessing products and services via other, more traditional channels.

¹⁵⁰ NCLC, #35, 27-28.

¹⁵¹ One Financial, #33, at 6.

¹⁵² *Id.*

¹⁵³ ABA, #45, at 4, 10.

¹⁵⁴ *Id.* at 1.

2.3.1 Channels are secondary to ensuring access to appropriate products and services

Pointing to consumer benefits associated with having a bank account, several commenters suggested that mobile is secondary to the need for safe, affordable accounts. One commenter stated: “People with mainstream bank accounts tend to keep more of their earnings, fare better against financial shocks, and save more for the future. Conversely, lack of a bank account is directly related to poverty. Yet, traditional banking accounts remain out of reach for many people.”¹⁵⁵

In discussing whether mobile will facilitate access to financial products, the ABA stated that “the primary reasons people use nonbank credit products such as payday loans rather than a bank loan or credit card are that they do not think that they qualify for a bank loan or credit card product or find alternative loans quicker and more convenient to obtain.”¹⁵⁶ The ABA further commented that some consumers do not know or believe that banks make small loans, which may indicate a need for outreach and marketing to the underserved, through mobile or other means.¹⁵⁷ Though the ABA acknowledged that “mobile banking may assist some people in moving from alternative credit products to bank products,” it stated that mobile banking will not address the primary reasons people use alternative credit products.¹⁵⁸

Consumer and community advocates stressed the need to focus on an overarching goal of ensuring access to products that meet the needs of low-income consumers and communities. As one community group remarked:

However services are delivered, regulators must also look at the products banks offer and their impact on the community, including the availability of low-cost bank accounts without high and hidden fees, equal access for immigrants,

¹⁵⁵ ANHD, #12, at 5.

¹⁵⁶ ABA, #45, at 10 (citing FDIC Staff Paper, *supra* note 57 and FRB 2015 MOBILE FINANCIAL SERVICES, *supra* note 1).

¹⁵⁷ *Id.*

¹⁵⁸ *Id.* at 10.

outreach and flexibility to truly reach unbanked and under-banked people, and finally how those products are marketed and utilized. Basic banking products must be accessible, affordable, and appropriate to the needs of the communities in which they operate. Mobile banking has the potential to be one such product to increase access to banking.

ANHD, #12, at 2.

3. Opportunities

There was a general consensus among the commenters that mobile provides opportunities to enhance access to financial services and products. But not all commenters agreed that increasing mobile opportunities for customers will reduce provider costs associated with providing financial services and products. Some commenters suggested that the time and money savings have the potential to help low-income consumers achieve their financial goals.¹⁵⁹ To achieve such improvements, however, commenters acknowledged that consumers need to know how to use them and in ways that provide an overall net benefit to them.¹⁶⁰

3.1 Industry: Costly but scalable options

Some commenters identified as significant the cost to industry of developing the necessary infrastructure to support mobile financial services. In addition, commenters highlighted the resources needed to provide ongoing technical support for the mobile channel, including support for customers new to or unfamiliar with how to use mobile technology to access financial services and products.¹⁶¹ Some providers described mobile as an “additive” channel. As a result, some industry comments asserted that mobile does not necessarily reduce costs for

¹⁵⁹ See discussion *infra* at pp. 46-48.

¹⁶⁰ See discussion *infra* at pp. 49-52.

¹⁶¹ See ABA, #45, at 15-16; CBA, #10, at 10; CUNA, #24, at 1-3; Electronic Payments Core of Knowledge (EPCOR), #46, at 1.

financial services providers.¹⁶² In its comments, the ABA provided an estimate of the “additive” costs banks are charged monthly by vendors for various add-on account features:

- Mobile: \$1.86;
- Debit card: \$1.08;
- Internet banking: \$2.06;
- Bill pay: \$5.56;
- IP and statement rendering \$3.43; and
- Mailing costs \$.16¹⁶³

CUNA stated in its comments that credit unions incur significant costs to implement and integrate rapidly evolving different mobile services with their systems and “secure the mobile, online, and other channels. Additional costs could include fees for software licensing, third party providers, and legal review.”¹⁶⁴ CUNA acknowledged that as consumers continue to make greater use of mobile financial services, there is potential for cost savings on a per-transaction basis over time.¹⁶⁵

The ABA and CBA both took issue with the example in the RFI comparing the costs of an in-branch transaction to a mobile transaction.¹⁶⁶ ABA suggested that “[i]t is misleading to compare

¹⁶² See ABA, #45, at 15-16; CBA, #10, at 10; CUNA, #24, at 1-3; EPCOR, #46, at 1.

¹⁶³ ABA, #45, at 15 (the comment did not specify whether these costs were per transaction, per account or other basis).

¹⁶⁴ CUNA, #24, at 2.

¹⁶⁵ *Id.*

¹⁶⁶ In the RFI, the Bureau provided an example from the FDIC Staff Paper, *supra* note 57, at 29-30: “One industry estimate cited in the White Paper calculated the average cost of an in-branch transaction was \$4.25 whereas the average cost was \$0.10 for a mobile transaction.” RFI, at 5, *available at* http://files.consumerfinance.gov/f/201406_cfpb_request-for-information_mobile.pdf

mobile banking transaction costs with branch transactions.”¹⁶⁷ It noted that “the ease of use often increases the volume of transactions, offsetting cost-savings from the lower-cost channel. For example, customers use ATMs more frequently and withdraw less per transaction (\$118 on average) than they do with branches (\$715 on average).”¹⁶⁸

The CBA noted various benefits of mobile banking for unbanked and underbanked consumers but stated that “mobile banking imposes great expense on our members through research and development, innovation, vendor management, system maintenance, and cybersecurity measures [sic].”¹⁶⁹

One Financial expressed the view that MFS presents an opportunity to “realize significant reductions in customer acquisition and customer services costs,” which it described as historical barriers that prevent traditional or non-predatory financial institutions from servicing low-income consumers.¹⁷⁰ It noted that data from some prepaid providers “suggest cost-to-serve a low-income consumer through a prepaid channel with MFS is approximately 20 percent of the cost of using a traditional checking account and branch infrastructure.”¹⁷¹

In its comments, CFSI stated that one provider expects average customer acquisition costs to be one-third to one-tenth that of a traditional brick and mortar bank (citing typical checking account customer acquisition costs of \$200 to \$300).¹⁷² CFSI went on to state that this model “translates into direct benefits for the consumer: the provider is able to offer a free app and debit

¹⁶⁷ ABA, #45, at 16.

¹⁶⁸ *Id.* (citing FEDERAL RESERVE SYSTEM, THE 2013 FEDERAL RESERVE PAYMENTS STUDY 19 (DECEMBER 2013))

¹⁶⁹ CBA, #10, at 10.

¹⁷⁰ One Financial, #33, at 4.

¹⁷¹ *Id.* As PayPal, #29, at 2 noted, by making MFS faster (citing a study that found that certain types of contactless mobile payments can increase transaction speed by up to 15-30 seconds) it enhances convenience and flexibility, which could be critical for certain types of services, especially in the aggregate.

¹⁷² CFSI, #6, at 6. In its comments, the ABA, #45, at 15, cited an estimate by Celente, a unit of Marsh & McLennan Cos., of \$250-\$300 per year to maintain a bank account, as reported in the Wall Street Journal, Robin Sidel and Dan Fitzpatrick, “End is Seen to Free Checking” (June 16, 2010).

card with no monthly minimum balance or transaction fees while offsetting operating expenses entirely from interchange revenue.”¹⁷³

By allowing consumers to open an account directly on their phones, CFSI reported that one provider has also been able to save on customer acquisition costs.¹⁷⁴ Since consumers generally have their mobile phones with them at all times, CFSI opined, they can act on the advertising and messaging they receive to immediately open an account, rather than waiting to return home to their computers or having to visit a brick and mortar location.¹⁷⁵ As a consequence, according to CFSI, mobile account opening results in a higher revenue rate for each marketing dollar spent.¹⁷⁶

Sending customer notifications through mobile channels has also been an important cost-saving feature for the provider mentioned, according to CFSI.¹⁷⁷ Mobile push notifications are free and are efficient; unlike email, CFSI noted, push notifications have a nearly 100 percent open rate since they appear at the top of a user’s screen even when the program itself is not open.¹⁷⁸

Intuit, owner of Mint.com, stated that it assumes that savings from lower transaction costs for providing financial products and services through mobile channels “will inevitably be passed through to consumers.”¹⁷⁹ Deloitte said that “once the core infrastructure is in place, scaling is relatively inexpensive—the same trait that makes software startups able to reach millions.”¹⁸⁰

¹⁷³ CFSI, #6, at 6.

¹⁷⁴ *Id.* at 6-7.

¹⁷⁵ *Id.*

¹⁷⁶ *Id.* at 6.

¹⁷⁷ *Id.* at 6-7.

¹⁷⁸ *Id.* at 6-7.

¹⁷⁹ *Id.* at 6.

¹⁸⁰ Deloitte, #44, at 8.

One commenter noted that it is not surprising that informational services, deposits and transfers, and inquiries hold the most potential for reducing costs.¹⁸¹

Electronic Payments Core of Knowledge (EPCOR), a trade association focused on payments education and support to its member financial institutions, reported that its members were “split on whether there is cost savings to financial institutions in offering mobile services, especially when factoring in higher amounts of fraud often present in this environment.”¹⁸² Some members reported savings related to fewer in-branch transactions, but others said it creates more work in the back office.¹⁸³ Also, members identified as expensive the implementation of remote deposit capture and mobile bill pay, as well as the existence of ongoing expenses such as upgrades to technology and security.¹⁸⁴

One Financial also stated that the ability of “innovators” to offer a “nationwide distribution channel at almost no cost” through MFS is limited by state Money Services Business (MSB) regulations.¹⁸⁵ One Financial said that bank partners were harder for it to find and suggested that may mean more costs and delay for third-party entities wanting to issue products to vulnerable population through bank partners.¹⁸⁶

3.1.1 Costs to maintain

Commenters noted that the move to mobile may mean fewer visits to the teller or calls about transactions. This does not alleviate customer service needs, commenters stated, but merely changes the nature of the calls to more technological inquiries. The National Association of Federal Credit Unions (NAFCU), for example, stated that once credit unions have mobile

¹⁸¹ *Id.*

¹⁸² EPCOR, #46, at 1.

¹⁸³ *Id.*

¹⁸⁴ *Id.*

¹⁸⁵ One Financial, #33, at 7.

¹⁸⁶ *Id.*

applications designed or their websites are optimized for mobile use, “the overhead increases to provide those services and the technical support to troubleshoot those features for members.”¹⁸⁷ According to one credit union, “[m]obile financial services are effective at reducing the need for call center representatives to provide basic teller functions, but have increased the need for call center representatives who understand technical issues, are familiar with various mobile devices, and can help diagnose technical problems.”¹⁸⁸

Comments also included concerns about trying to support a large percentage of account holders and field increased call volume of questions or issues with applications given the various number of issues that could be causing the problem, such as the operating system itself.¹⁸⁹

EPCOR noted that most of its members report that it would prove cost-prohibitive to offer enhanced customer service times beyond normal business hours, and that a small institution is not likely to have staff available to address technical questions since the services are generally contracted through a third-party.¹⁹⁰ EPCOR said that this could prove a major impediment to the adoption of mobile services.¹⁹¹ The NBPCA suggested that over time, as MFS and applications are able to serve consumers more efficiently, there may be less need for customer service by telephone.¹⁹²

¹⁸⁷ National Association of Federal Credit Unions (NAFCU), #14, at 4.

¹⁸⁸ RBFCU, #27, at 3.

¹⁸⁹EPCOR, #46, at 3. *See also* CFSI, #6, at 9 (“The possible proliferation of multiple types of operating systems (beyond Android and iOS currently in use) could also place a burden on providers who will need to customize their apps for each system.”).

¹⁹⁰ EPCOR, #46, at 3.

¹⁹¹ *Id.*

¹⁹² NBPCA, #13, at 9.

3.2 Consumers: Saving money and time

Although commenters disagreed about whether adoption of mobile technology would raise industry costs, which might be passed on to consumers, most commenters agreed that in other respects MFS has great potential to lower costs for consumers. Commenters noted that mobile can provide access via a less expensive, “anytime, anywhere” means, for example, minimizing wait times and transportation costs.¹⁹³ They said that mobile can also help consumers avoid higher cost products by using a product such as mRDC rather than a check casher.¹⁹⁴

Commenters said that it can also help consumers avoid fees associated with lack of real-time information such as overdrafts on accounts that could have been avoided by checking balances or alerts.¹⁹⁵ Commenters also noted that the extent of savings for consumers also depends on whether provider cost savings are passed along by the financial services provider.¹⁹⁶

Comments varied about the charges and costs for MFS currently incurred by the consumer. For example, EPCOR reported that its members generally do not charge account holders for mobile services; a few indicated they charge for Remote Deposit Capture (RDC) services due to the reported expense of this service.¹⁹⁷ At least one consumer group stated that providers should be encouraged or required to offer multiple free ways to find out balances, such as by text message, so that consumers can find a convenient method that works for them.¹⁹⁸ The groups reasoned that because consumers so frequently access account information via mobile and such access enhances their money management and other goals, free access will enhance consumers’ ability to achieve their financial goals.

¹⁹³ Appleseed, #41, at 9; CFSI, #6, at 5, 6; Intuit, #21, at 6, 8, 10; NBPCA, #13, at 2, 9.

¹⁹⁴ CAP, #34, at 1-2. *See also* ABA, #45, at 7-8; CBA, #10, at 5; CFED, #26, at 5.

¹⁹⁵ CAP, #34, at 2; Consumers Union, #30, at 2.

¹⁹⁶ CUNA, #24, at 2; Deloitte, #44, at 6; Intuit, #21, at 6; RBFCU, #27, at 2-3.

¹⁹⁷ EPCOR, #46, at 1.

¹⁹⁸ NCLC, #35, at 16.

In terms of accessing financial services, one commenter pointed out that many higher fee, alternative financial services providers gain market share from lower-cost banks and credit unions due to their slightly extended hours of operation.¹⁹⁹ Commenters noted that prepaid provider NetSpend reports that 40 percent of prepaid account loads, or deposits, take place outside of traditional banking hours.²⁰⁰ Comments suggested that the mobile channel could enhance the ability of lower-cost providers to provide access to their services and products 24/7, potentially enhancing access to lower cost services for underserved consumers.²⁰¹ At least one commenter suggested, however, that low cost benefits of mobile products may be undermined by “fees, certain credit features, and other add-ons to the baseline cost” of the mobile products.²⁰²

The “real time” nature of mobile was discussed as a benefit in several ways. Several comments highlighted the ability to pay bills and access other services in real time via mobile, decreasing time and costs and possibly late fees.²⁰³ NetSpend reported that its customers, many of whom it reports are low to moderate income, like the ability to control and decide spending, and pay bills in real time.²⁰⁴ It noted that while online automatic withdrawals or bill pays may be attractive to people with regular and consistent paychecks, if income volatility is an issue then the ability to control transaction by transaction in real time may be an even more important feature of mobile.²⁰⁵

¹⁹⁹ One Financial, #33, at 2.

²⁰⁰ CAP, #34, at 2, n. 9 (citing Bailey Reutzel, *Prepaid Card Use Shows More Differences from Bank Habits*, AMERICAN BANKER, April 9, 2013, http://www.americanbanker.com/issues/178_68/prepaid-card-use-shows-more-differences-from-bank-habits-1058162-1.html); CBA, #10, at 4.

²⁰¹ CBA, #10, at 4; Intuit, #21, at 3-4; One Financial, #33, at 2.

²⁰² The Commonwealth of Massachusetts Office of the Attorney General (Mass AG), #20, at 6.

²⁰³ CBA, #10, at 5-6; Intuit, #21, at 4; NBPCA, #13, at 2.

²⁰⁴ Netspend, #52, at 2-3. In its comments, NetSpend stated that it is focused on providing the estimated 68 million underbanked U.S. consumers with innovative and affordable financial products tailored to their unique needs.

²⁰⁵ *Id.* at 5-6.

Commenters said that access to mobile financial services may encourage consumers to comparison shop. One commenter identified a product feature that provides notification of alternative products that may benefit individual users, such as cheaper financial products.²⁰⁶ Another comment highlighted that MFS enables “consumers who otherwise lack internet access to shop and pay for a wider array of goods and services, often with higher quality and better prices than are available locally.”²⁰⁷ Related to this point, one commenter noted that those consumers who may move from using cash to using MFS may also start to use mobile more to access other kinds of products and services.²⁰⁸

Real time and location services also can help people detect fraud by helping them monitor accounts and receive alerts from their providers.²⁰⁹ Location services can also help consumers identify services available nearby. For example, Deloitte suggested that, during tax season, an application could show a consumer the closest free or low-cost tax preparation centers or Volunteer Income Tax Assistance (VITA) sites.²¹⁰ Applications could also use geolocation to direct citizens to government resources on public benefits and explain the process or information required for processing.²¹¹

²⁰⁶ Intuit, #21, at 12 (citing a feature of Mint.com that provide information about alternative products.)

²⁰⁷ NCLC, #35, at 22.

²⁰⁸ AON, #28, at 5.

²⁰⁹ Intuit, #21, at 14; NBPCA, #13, at 2.

²¹⁰ Deloitte, #44, at 6.

²¹¹ *Id.*

3.3 Outreach efforts to connect underserved consumers to mobile

Commenters suggested that, based on the FDIC 2013 Survey findings and other information low-income and vulnerable consumers often seek the in-person experience of bank tellers, telephone customer service, storefront alternatives and working with trusted partners.²¹²

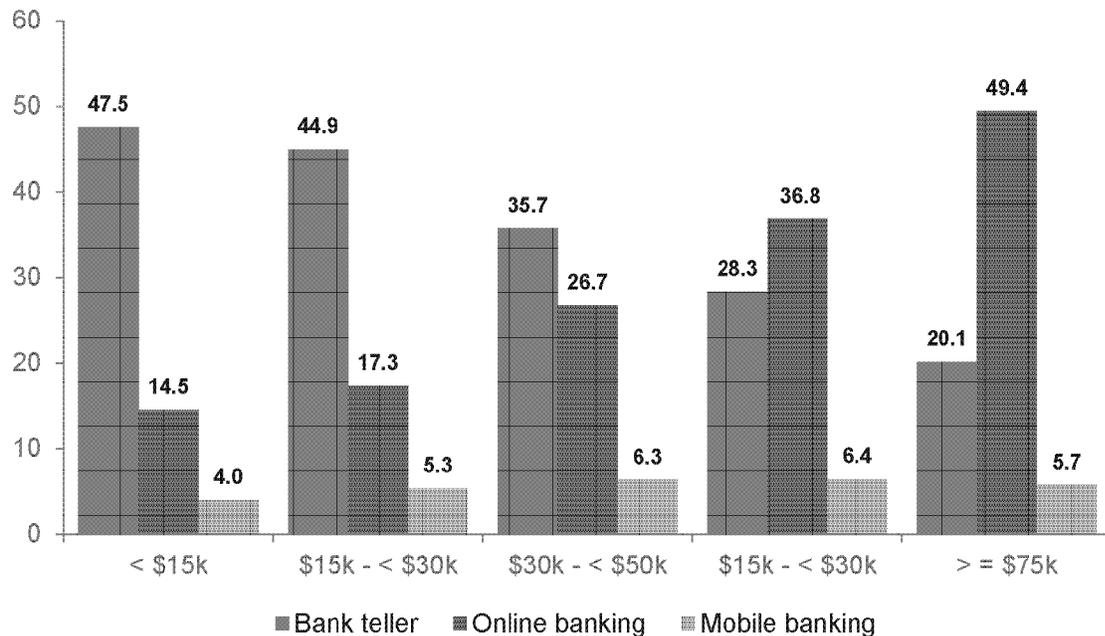
According to FDIC's 2013 survey on unbanked and underbanked, about one-third of customers primarily used bank tellers to access their accounts (nearly 80% had used a bank teller in the previous 12 months) and another third primarily used online as their means to access their accounts.²¹³ Underbanked people were less likely to use the online channel but were more likely to use mobile devices as the primary method.²¹⁴ Roughly half (54.7 percent) of households age 65 or older and 47.5 percent of households with annual income under \$15,000 primarily used bank tellers to access their accounts.²¹⁵

²¹² ANHD, #12, at 4; Americans for Financial Reform (AFR), #23, at 3; NCLC, #35, at 13-18, 29.

²¹³ FDIC 2013 SURVEY, *supra* note 42, at 53.

²¹⁴ *Id.*

²¹⁵ *Id.* at 8.

FIGURE 1: USE OF BANK TELLERS, ONLINE BANKING, AND MOBILE BANKING AS PRIMARY METHODS BY INCOME

2013 FDIC Survey of Unbanked and Underbanked Households, p. 56

Several comments cited a concern over the potential loss of bank branches and the impact on various segments of the underserved population who, for a variety of reasons, may need or want in-person guidance.²¹⁶ One commenter stated that “mobile services should be used to make branches more efficient and expand outreach to underserved areas, not shrink financial inclusion.”²¹⁷ Some commenters suggested that mobile and human assistance and other hybrid approaches may be very beneficial or needed to enhance access for this population.²¹⁸

Deloitte recommended that financial firms could improve outreach to underserved consumers by applying the strategy of adapting the audience’s preferred mode of communication to the

²¹⁶ See discussion *infra* pp. 72-75.

²¹⁷ NCLC, #35, at 30.

²¹⁸ *Id.* at 28; ASOC, #40, at 8; Javelin, #49, at 6; Mass AG, #20, at 9; One Financial, #33, at 5.

design and marketing of mobile financial services.²¹⁹ It also suggested that gaining a better understanding of the targeted population could help identify effective partnership or marketing campaign opportunities.²²⁰ It gave as examples partnering with a utility company or partnering with a trusted government agency to leverage infrastructure and reach large numbers of consumers.²²¹

EPCOR reported that its members use a variety of methods to market mobile financial services to underserved populations: radio and television ads; billboards; social media; online banking websites; training of all consumer-facing institution staff to discuss mobile options with consumer account holders; digital signs outside of branches; lobby displays; community events; and statement stuffers were the highest used methods.²²² They did not report the extent to which each of these efforts was successful.

Several commenters pointed out that for mobile to reach the underserved in a meaningful way, it must be coupled with appropriate products and marketing. For example, a few commenters suggested ideas such as that “the current banking industry should be incentivized, if not required, to offer free or low cost checking accounts to the income eligible underbanked.”²²³ One of the requirements suggested was that “the account must be advertised and promoted, available online, and understood and marketed by all branch staff so that any customer will have it readily available to them.”²²⁴

Some comments highlighted the need for increased education and outreach.²²⁵ Appleseed noted that its “Immigrant-Friendly Financial Services” characteristics as applied to mobile would

²¹⁹ Deloitte, #44, at 21.

²²⁰ *Id.* at 7.

²²¹ *Id.*

²²² EPCOR, #46, at 2.

²²³ Mass AG, #20, at 10; Appleseed, #41, at 6.

²²⁴ ANHD, #12, at 5.

²²⁵ *Id.* at 2; CUNA, #24, at 4-5; ASOC, #40, at 9; Appleseed, #41, at 11.

include efforts to increase financial education and ensure mobile financial services are used appropriately by consumers.²²⁶ The ABA stated that, “[m]obile banking does not make people smarter or supply individual financial acumen. Improving financial literacy remains a priority even in a mobile world.”²²⁷

In their comments, the Federation of Community Development Credit Unions (CDCUs) and CUNA highlighted a proposal to invest in the expansion of these mobile technologies in trusted community development financial institutions to help ensure that MFS is used to empower and address the financial needs of consumers in affordable and safe ways.²²⁸ Specifically, they proposed a national strategy to:

- Increase the delivery and reach of electronic services in trusted financial institutions, such as credit unions; and
- Support the training and education of the most economically vulnerable consumers to take advantage of online banking and mobile applications.²²⁹

²²⁶ Appleseed, #41, at 11.

²²⁷ ABA, #45, at 20.

²²⁸ CDCUs, #38, at 2.

²²⁹ *Id.*

4. Challenges and risks

Most commenters agreed that mobile provides opportunities for greater access to safe, low-cost and appropriate financial services for lower income and underserved consumers. Many commenters also stated that there are challenges and risks that prevent more widespread adoption of mobile.²³⁰ Not all agreed, however, about what those barriers and risks are and how best to overcome them.

The most significant barriers and risks mobile poses for low-income and economically vulnerable consumers identified by commenters are:

- perceived risk of financial loss from data security breaches and loss of devices;
- lack of digital financial literacy;
- lack of digital access due to cost or technological issues;
- interconnectedness of digital media, e.g., social media, with financial services;
- eliminating in-person support services;
- ubiquitous use of data for marketing and underwriting that may create “virtual segregated neighborhoods;” and
- potential for a multi-tiered system where non-mobile enabled consumers are left behind and nonbank customers are left with fewer protections.

²³⁰ See discussion *infra* pp. 54-75.

4.1 Security

Data security is not an issue that is particular or limited to mobile devices but many comments discussed security issues in the context of mobile financial services. There was widespread consensus among commenters that concern over security – real or perceived – is one of the most significant barriers to MFS adoption for consumers.²³¹

4.1.1 Data and transaction security

Data breaches and hacking: Many commenters discussed the risk and the increasing frequency of data breaches in general.²³² The Massachusetts Attorney General’s office stated in its comment letter, “the storage and transmittal of financial information on and through mobile devices presents unique security risks.”²³³ Comments discussed the risks the mobile channel presents including the amount of personal and financial information provided and accessed through the channel; the wide range and variability of operating systems and reliance on the customer to implement updates; and that more advanced security measures are not yet widely offered on more affordable smartphones.²³⁴ One commenter cautioned that “even if the number of attacks on mobile financial services is much lower than on online services, we must understand this will not last forever.”²³⁵

Identity theft: Several commenters identified identity theft as a risk, particularly because consumers are more likely to be in a public place when they access accounts through a mobile phone and they may not be aware of the risks when they transmit data using WiFi that is not

²³¹ ASOC, #40, at 3,5; Gemalto, #37, at 1; ABA, #45, at 14; EPCOR, #46, at 3 (“Mobile device authentication and consumer authentication measures need to advance to make mobile banking safe.”)

²³² Budnitz, #48, at 4; One Financial, #33, at 6 (“Consumers are legitimately concerned about identity theft and data breaches, as well as about broader spectrum surveillance.”)

²³³ Mass AG, #20, at 2. The Office reported that from January 1, 2008 through December 31, 2013, it received notice of over 5,330 data breaches, affecting approximately 4.75 million Massachusetts consumers across a multitude of technologies.

²³⁴ ABA, #45, at 14; EPCOR, #46, at 3; Mass AG, #20, at 1.

²³⁵ Gemalto, #37, at 8.

their own.²³⁶ The impact of identity theft is more significant for low-income consumers, a commenter pointed out, because they have “few funds to absorb any economic loss that results.”²³⁷

Transaction security issues: Commenters noted that while there may be risks generally of personally sensitive data being transmitted electronically, risks also arise on a per transaction basis. Making sure that a transaction is both secure (from the consumer’s perspective) and not fraudulent (from the provider’s perspective) is important to maintain trust in the e-commerce environment. Biometrics, innovative authentication measures, and tokenization were all raised by commenters as potential ways to help ensure that financial transactions remain safe.²³⁸

4.1.2 Security associated with the device

Theft of devices: Commenters noted that mobile devices can be easily lost, stolen, or damaged, and consumers may not be able to access information if it was deleted or if they changed phones or providers.²³⁹ A commenter noted that consumers may become crime targets when they use mobile devices.²⁴⁰ Consumers Union reported that based upon a nationally representative survey of adult Internet users, Consumer Reports® projected that 1.6 million American were victims of smartphone theft in 2012.²⁴¹ Consumers in cities appear especially vulnerable.²⁴²

²³⁶ MFY, #17, at 3.

²³⁷ Budnitz, #48, at 5.

²³⁸ See, e.g., Gemalto, #37, at 4.

²³⁹ *Id.*; CFSI, #6, at 8; CBA, #10, at 8: “As many of us can unfortunately attest, the portable nature of mobile phones makes potential loss or theft an unavoidable reality.”

²⁴⁰ Consumers Union, #30, at 13.

²⁴¹ *Id.*

²⁴² *Id.* at 13-14. (Over fifty percent of the robberies committed in San Francisco during a certain period, for example, were of mobile devices; Consumers Union also noted that N.Y. Attorney General has characterized smartphone theft

Consumers Union reported that 36 percent of consumers surveyed do not have a passcode on their phone.²⁴³ In addition, few consumers understand that when they retire a phone, they have to overwrite the information or the phone has to be destroyed to get rid of the data – merely deleting it doesn't remove it permanently.²⁴⁴ EPCOR also noted that lost devices that are not passcode-protected and mobile malware represent significant threats to all mobile services.²⁴⁵

In its comments, Appleseed raised the concerns of both personal and financial security for immigrants and posed the question of how the shift to mobile may affect those concerns.²⁴⁶ Appleseed commented that vulnerable populations, such as immigrants, are more often the victims of street crimes and theft than other population subgroups.²⁴⁷

Difference in operating system security: Though all operating systems can experience security breaches, a few commenters pointed out the different levels of risk associated with iOS (Apple phones) versus Android systems. According to comments, the Android's open platform enables a greater number of users to access the platform, making it harder to monitor.²⁴⁸ Though Android and iPhone use across the general population is fairly equal, there is a contrast at the lower-income levels. According to Pew, in households with incomes under \$30,000, 13 percent have iPhones, and 28 percent have Android (compared with 40 percent iPhone

as a "growing public safety problem," citing article Lisa Ward, "NY AG asks smartphone makers to fight theft," *Silicon V. Bus. J* (May 14, 2013) 2013 WLNR 11882324)

²⁴³ *Id.* According to the FRB 2015 MOBILE SURVEY, the share of smartphone owners who password protect their phone increased to 69 percent in 2014 from 61 percent in 2013.

²⁴⁴ Consumers Union, #30 at 13.

²⁴⁵ EPCOR, #46, at 2.

²⁴⁶ Appleseed, #41, at 7.

²⁴⁷ *Id.*

²⁴⁸ See NAFCU, #14, at 2; Gemalto, #37, at 9 (citing to 2013 figures that showed 97 percent of the malware attacks targeted android platforms at <http://www.forbes.com/sites/gordonkelly/2014/03/24/report-97-of-mobile-malware-is-on-android-this-is-the-easy-way-you-stay-safe/>)

ownership rate in households with incomes above \$75,000).²⁴⁹ According to Javelin, 24 percent of the unbanked who own a smartphone are on the iOS system and 57 percent are on the Android system.²⁵⁰ In contrast, 44 percent of the phones owned by underbanked and fully banked consumers run on the iOS system.²⁵¹

Applications: The Privacy Rights Clearinghouse stated that the major app stores such as the Google Play store and Apple iTunes store may be “more likely to catch bad actors than other third-party app stores” but, it noted, an app doesn’t have to be malicious to contain security vulnerabilities.²⁵²

Denial of service attack: One commenter described the risk that consumers will not be able to access their institution because of a “distributed denial of service” attack.²⁵³ When these attacks occur, the commenter stated, consumers are not able to conduct timely financial transactions, which may result in late fee charges, or other consequences of late payment.²⁵⁴ The commenter suggested that current laws do not directly address protection for consumers harmed by these attacks.²⁵⁵

4.1.3 Enhancing security

Many pointed to the flip side of security concerns – positive characteristics such as the ability to track and manage accounts and to detect fraud. Comments pointed to real-time alerts of suspicious transactions and the ability to block or manage account access instantaneously from

²⁴⁹ Pew Research Center, *Smartphone Ownership 2013*, <http://www.pewinternet.org/2013/06/05/smartphone-ownership-2013/>.

²⁵⁰ Javelin, #49, at 3.

²⁵¹ *Id.*

²⁵² PRC, #31, at 2.

²⁵³ Budnitz, #48, at 6.

²⁵⁴ *Id.*

²⁵⁵ *Id.*

the phone as “a powerful new kind of defense against fraud and theft” for consumers.²⁵⁶ In addition, the ability to detect when phones and payment instruments are not co-located and to track the location of a device, commenters explained, can help deter fraud and theft.²⁵⁷ As some commented, however, consumers need to be comfortable with using their mobile devices safely for this to be effective.²⁵⁸ For example, Appleseed cautioned that recent innovations in mobile payments may require an even “higher level of comfort with technology and many consumers may find it easier to pay with another method.”²⁵⁹

4.2 Privacy

Many commenters pointed to a lack of privacy of consumers’ data as a risk of MFS. Comments reported that this risk often arises because consumers may not be aware of the extent and type of data collection practices and their consequences.²⁶⁰ Even if they are aware, one commenter pointed out, they may “have no opportunity or mechanism to avoid or mitigate them.”²⁶¹

Some commenters asserted that consumers have control over their privacy because they can choose to not turn on location-based services or choose to exchange data for real-time information or services they may want.²⁶² Others pointed out that the business model for MFS and mobile commerce in general has become service in exchange for data, with little to no

²⁵⁶ One Financial, #33, at 8. The FCC TCPA ruling discussed *supra* at n. 94 above exempted from the TCPA’s consent requirements financial institutions sending free-to-end-user messages relating to identity theft, fraud, data security breaches, and arranging for the receipt of pending money transfers, if financial institutions meet various conditions. See FCC Declaratory Ruling and Order, paragraphs 125-139.

²⁵⁷ *Id.*

²⁵⁸ MFY Legal, # 17, at 2; NCLC, #35, at 16.

²⁵⁹ Appleseed, #41, at 8. According to the FRB 2015 MOBILE SURVEY, *supra* note 1, at 18, among those surveyed who do not use mobile payments, 75 percent reported that is easier to pay with other methods.

²⁶⁰ AFR, #23, at 2; Mass AG, #20, at 3; Reinvestment Partners, #22, at 3.

²⁶¹ Mass AG, #20, at 3.

²⁶² *See, e.g.*, Intuit, #21, at 15.

choice for consumers.²⁶³ There is evidence that consumers are growing more concerned about their online information sharing. According to the Pew Mobile Technology Fact Sheet:

- *54% of app users have decided to not install a cell phone app once they discovered how much personal information they would need to share in order to use it*
- *30% of app users have uninstalled an app that was already on their cell phone because they learned it was collecting personal information that they didn't wish to share....*
- *19% of all cell owners have turned off the location tracking feature on their cell phone because they were concerned that other individuals or companies could access that information.*

Pew Research Center, *Privacy and Data Management on Mobile Devices* (2012)²⁶⁴

More recently, in a survey conducted by Pew on Americans' views on data collection and security, 90% of respondents said that controlling *what* information is collected about them is important— 65% think it is “very important” and 25% say it is “somewhat important.”²⁶⁵ Only 9 percent of respondents, however, believed that they had “a lot” of control over how much information is collected about them and how it is used.²⁶⁶ Though the survey was not limited to mobile services, the survey indicates “Americans hold a range of strong views about the importance of control over their personal information the importance of control over their personal information...”²⁶⁷

²⁶³ PIRG and CDD, #19, at 5, 7; PRC, #31, at 3.

²⁶⁴ Available at <http://www.pewinternet.org/2012/09/05/privacy-and-data-management-on-mobile-devices>

²⁶⁵ Pew Research Center, Mary Madden and Lee Rainie, *Americans' Views About Data Collection and Security* (May 20, 2015) available at <http://www.pewinternet.org/2015/05/20/americans-views-about-data-collection-and-security/>

²⁶⁶ *Id.*

²⁶⁷ *Id.*

The FTC pointed out the risks to privacy (and security) due to the high number of companies involved in the mobile payments system and the large volume of data collected.²⁶⁸ AgeCheq and PrivacyCheq, both companies that provide mechanisms designed to help consumers control access to their identification, suggested a streamlined disclosure design.²⁶⁹ Suggesting that consumers may be more comfortable with MFS if devices gave them more control over their identification, AgeCheq suggested that “[a] logical way to provide that ability would be for ... vendors of mobile devices to create a new pseudo identifier for “privacy” that would give the consumer full control over the identification of their device for privacy purposes.”²⁷⁰ The Privacy Rights Clearinghouse suggested that privacy protection must be built into products from the beginning, as the creation of detailed personal profiles, which it said may result in discriminatory practices, grows more pervasive.²⁷¹

Commenters noted that providing disclosures that are clear and sufficient for consumers to make informed decisions is difficult in the MFS environment. The Privacy Rights Clearinghouse offered that “it is completely unrealistic to expect a consumer who only has access to a mobile device with a small screen to read the privacy policies.”²⁷² Industry comments identified the small screen size as limiting providers’ ability to comply with disclosure requirements.²⁷³ Comments suggested that required disclosures should be adapted to mobile technology in ways that enhance understanding about the product such as its costs and fees.²⁷⁴

Data brokers and lead generators: Another issue related to data raised by comments involves data brokers and lead generators. According to one set of comments, credit card and other financial companies, auto dealers, for-profit schools, and many other businesses pay

²⁶⁸ FTC, #11, at 7.

²⁶⁹ AgeCheq, #9, at 1-2; PrivacyCheq, #8, at 1-2.

²⁷⁰ AgeCheq, #9, at 2.

²⁷¹ PRC, #31, at 4.

²⁷² *Id.*

²⁷³ ABA, # 45, at 16; AFSA, #18, at 2-3; NAFCU, #14, at 3.

²⁷⁴ CAP, #34, at 3; NCLC, #35, at 5.

online “lead generators” or data brokers to gain access to and information about “qualified potential customers.”²⁷⁵ The FTC stated that when data is sold to data brokers and other entities, “often outside the protections of specific privacy laws, questions arise regarding how this data may be used to either benefit or disadvantage low-income and underserved communities.”²⁷⁶

Some respondents perceived regulatory gaps related to these practices.²⁷⁷ One consumer group stated that a recent report from the World Privacy Forum “highlighted the fact that new types of predictive consumer scoring, fueled by thousands of pieces of information about consumers, are largely unregulated [by] either the FCRA or the Equal Credit Opportunity Act.”²⁷⁸ The group also referred to a survey it conducted on data brokers that it reported revealed “serious inaccuracies in some uses of big data.”²⁷⁹ Along with other recommendations, it suggested that “[A]t a minimum, providers must comply with the FCRA for any data that is assembled or evaluated by third parties and might be used for credit, insurance, employment or other FCRA purposes. In particular, data should be provided to and used by mobile providers and others only if they have a permissible purpose under the FCRA.”²⁸⁰

Industry comments suggested that existing laws such as FCRA and the Gramm-Leach-Bliley Act (GLBA) protect consumer information.²⁸¹ But some consumer groups opined that the GLBA prohibitions on sharing information only apply to financial institutions and their accounts, not

²⁷⁵ PIRG and CDD, #19, at 10 (terms were in quotes in comments).

²⁷⁶ FTC, #11, at 10. See also FED’L TRADE COMM’N, DATA BROKERS: A CALL FOR TRANSPARENCY AND ACCOUNTABILITY (MAY 2014), *available at* <http://www.ftc.gov/system/files/documents/reports/data-brokers-call-transparency-accountability-report-federal-trade-commission-may-2014/140527databrokerreport.pdf> cited by the FTC and other commenters, e.g., PRC, #31, at 3.

²⁷⁷ NCLC, #35, at 11. See also, Appleseed, #41, at 16; FTC, #11, at 9-11; #PRC, #31, at 3-4.

²⁷⁸ NCLC, #35, at 11.

²⁷⁹ *Id.* n. 21 citing NCLC, “Big Data: A Big Disappointment for Scoring Consumer Credit Risk” (March 2014), *available at* <http://www.nclc.org/issues/big-data.html>.

²⁸⁰ *Id.* at 12. See also Mass AG, #20, at 4.

²⁸¹ CBA, #10, at 10.

to sharing by or accounts of other types of providers.²⁸² One commenter also noted that GLBA only prohibits sharing of account numbers for purposes of marketing, and some inappropriate sharing may fall outside that restriction.²⁸³ The commenter noted that there are other laws designed to restrict sensitive information from being shared, but mobile transactions may not be covered by these protections or they may not be sufficient to protect consumers.²⁸⁴

One consumer group called on the Bureau to “go beyond GLBA and FCRA data sharing provisions, and adopt additional protections for consumers.”²⁸⁵ Groups recommended that consumers should have to affirmatively opt in to data sharing or entities should not be permitted to share certain types of sensitive personal and financial information at all.²⁸⁶ US Public Interest Research Group (PIRG) and the Center for Digital Democracy (CDD) urged the Bureau to take more action to protect privacy, including building on a proposal for a Consumer Privacy Bill of Rights developed by President Obama’s Administration in 2012 and work already done by the FTC, and to develop rules that place consumers’ financial data more under their control.²⁸⁷

4.2.1 Data for marketing and other purposes

Consumer advocates cited a significant risk of MFS data being used to segment the market with potentially negative consequences for low-income consumers, people of color, and other

²⁸² See AFR, #23, at 2; NCLC, #35, at 3-4, 9-11.

²⁸³ NCLC, #35, at 10.

²⁸⁴ *Id.* For example, it cited the Telemarketing Sales Act (prohibits telemarketers from using pre-acquired account information to charge consumers’ credit or debit cards without their express informed consent) and the Restore Online Shoppers Confidence Act (prohibits the initial merchant from disclosing a consumer’s billing information to any “post-transaction third-party seller” for purposes of charging the consumer’s account).

²⁸⁵ AFR, #23, at 2.

²⁸⁶ *Id.*; NCLC, #35, at 1.

²⁸⁷ PIRG and CDD, #19, at 9.

traditionally underserved populations.²⁸⁸ These commenters noted various ways such segmentation could be done.²⁸⁹ Whether referred to as “digital dossiers” or “personal profiles,” commenters discussed concerns over the extent of locational-based data collection and targeting technologies, and other geo-technologies that permit highly granular geographic focused marketing practices.²⁹⁰ The commenters raised concerns that geographic-based targeting, combined with data profiling predictive analytics, can lead to potentially discriminatory practices, e.g., denial of credit to certain segments, which further sub-divide a neighborhood based on race, ethnicity, income, buying behaviors, and other factors.²⁹¹

One commenter noted that as the digital marketing ecosystem grows larger and more integrated, “the provision and marketing of financial services on mobile devices are integrated into a broader set of industry practices on all digital media. Increasingly, consumers are identified and tracked across all “screens,” which, due to our often-simultaneous use of multiple devices, enables far more effective commercial targeting.”²⁹²

Others expressed concerns related to data being used to track where consumers reside, their movements and purchasing patterns, and also to determine with whom a person associates.²⁹³ Commenters also noted that a significant finding of a report on big data from the Executive Office of the President, in a letter to the President from the agencies submitting the report, was that “big data analytics have the potential to eclipse longstanding civil rights protections in how

²⁸⁸ AFR, #23, at 3; NCLC, #35, at 25; PIRG and CDD, #19, at 6.

²⁸⁹ PIRG and CDD, #19, at 8; PRC, #31, at 3-4.

²⁹⁰ *Id.*; Reinvestment Partners, #22, at 2.

²⁹¹ See PIRG and CDD, #19, at 5; AFR, #23, at 2.

²⁹² PIRG and CDD, #19, at 3-4 went on to explain that “[k]ey features of this system include widespread data gathering and analysis; use of real-time location; specialized mobile ad-targeting services that reach a person in real time; formats for ads and commercial content specifically honed for the mobile platform; measurement services that identify how we interact with mobile applications; apps and other specialized applications that make ongoing targeting easier to accomplish; frameworks to utilize mobile and other digital “path-to-purchase” strategies; a focus on multicultural consumers’ use of mobile services; and “Big Data”-driven technologies and practices that incorporate consumer mobile data into comprehensive and actionable user profiles.”

²⁹³ Reinvestment Partners, #22, at 2.

personal information is used in housing, credit, employment, health, education, and the marketplace.”²⁹⁴

Some groups warned that mobile financial services without strong consumer protections related to data collection and use could lead to “virtual segregated neighborhoods.”²⁹⁵ Others warned about the use of cultural differences in behavior to market products. An example provided by a commenter involves situations in which some in a “group” are ranked financially lower based on social media or other information.²⁹⁶

Some commenters spoke positively about the use of big data for validating identity or for fraud detection purposes,²⁹⁷ as well as its use to help financial institutions identify and reach potential new customers, including the underserved.²⁹⁸ Recognizing that “big data is here to stay,” one commenter suggested that the focus should be on how the data is “operationalized.”²⁹⁹ This commenter expressed concerns that the use of big data may bring about both “general privacy problems” as well as “thousands of new possible methods for disparate and adverse impacts upon protected classes.”³⁰⁰ It suggested that the “proper unit for regulatory analysis is the creator of the analytics [that use big data.]”³⁰¹

²⁹⁴ *Id.* citing Executive Office of the President, Big Data: Seizing Opportunities, Preserving Values Introduction, 65 (May 2014)

²⁹⁵ *See, e.g.*, AFR #23, at 3; PIRG and CDD, #19, at 8; Reinvestment Partners, #22, at 2-3.

²⁹⁶ NCLC, #35, at 11-12.

²⁹⁷ Intuit, #21, at 15.

²⁹⁸ AFSA, #18, at 5.

²⁹⁹ Reinvestment Partners, #22, at 2.

³⁰⁰ Reinvestment Partners, #22, at 2.

³⁰¹ *Id.*

4.3 Digital financial literacy and access

4.3.1 Digital financial literacy

The existing challenges and barriers to underserved consumers accessing financial services and products may be exacerbated by a lack of “digital financial literacy.” Digital financial literacy includes knowing how to use devices to safely access financial products and services via digital channels in ways that help consumers achieve their financial goals, protect against financial harm and enhance ability to know where to get help. There seems to be consensus in the comments that along with investments in mobile technology to bridge access, there is a need for “major investments in digital literacy to ensure that consumers are able to navigate the technology necessary to conduct their financial services online.”³⁰² Commenters noted a need for more understanding for both consumers and those intermediaries and front-line staff working with consumers who may benefit from knowing more about MFS options and how to engage in digital finance in ways that help clients achieve their goals.

A recent study conducted by the Federation of Community Development Credit Unions and the Aspen Institute revealed that very low-income members with annual incomes below \$20,000, do not use financial services offered via the internet because “they do not understand the terms and costs associated with services and are afraid of being scammed.”³⁰³

This is not surprising given the level of complexity involved in many MFS. As one commenter noted, in pointing out the need for technological literacy: “MFS applications require users to understand how to download MFS applications, navigate websites using a mobile browser, upload photos for remote deposit capture, etc. Recent innovations in mobile payment services, such as Near Field Communications (NFC) technologies and mobile wallets, require an even

³⁰² ASOC, #40, at 6.

³⁰³ CDCU, #38, at 2.

higher level of comfort with technology and many consumers may find it easier to pay with another method.”³⁰⁴

4.3.2 Access to financial services

“Access” to financial services has long meant having physical access to branches and personnel that help low-income consumers achieve their financial goals. Commenters noted that mobile, as a channel, raises other issues of “access.”

Cost: Comments raised concerns about the increasing costs of data plans, and fewer unlimited plans, as a challenge for underserved and immigrant consumers.³⁰⁵ One commenter noted that various nonfinancial service providers such as social media sites are competing for scarce data allotments.³⁰⁶ Pew’s research found 44 percent of smartphone owners with household incomes less than \$30,000 reported cancelling or having their service cut off for a period of time because maintaining their service was a financial burden.³⁰⁷

In the FRB 2013 Mobile Survey, 11 percent of all mobile phone owners noted that data costs prevented them from using mobile banking and payment services.³⁰⁸ In the FRB 2015 Mobile Survey, 6 percent of respondents chose “my bank charges a fee for using mobile banking” as one of the reasons they did not use mobile banking.³⁰⁹

In addition, commenters expressed concern that the inability to obtain or afford the latest technology could leave low-income and economically vulnerable people behind and may create another means of being “underserved.” One commenter noted that the greater reliance on pay-as-you-go or prepaid phones may mean that consumers do not have 24/7 access if phones run

³⁰⁴ Appleseed, #41, at 8.

³⁰⁵ *Id.* at 9; NCLC, #35, at 23.

³⁰⁶ NCLC, #35, at 23.

³⁰⁷ *Pew Smartphone Use in 2015*, *supra* note 1, at 14.

³⁰⁸ FEDERAL RESERVE BOARD, CONSUMERS AND MOBILE FINANCIAL SERVICES 2013 11 (MARCH 2013).

³⁰⁹ FRB 2015 MOBILE SURVEY, *supra* note 1, at 13.

out of minutes or data or service is not good.³¹⁰ This could affect the ability of the consumer to access his or her prepaid products, potentially locking the consumer out of access to financial services, at least in a convenient and timely manner.³¹¹ One commenter suggested that prepaid phones are helping to make smartphones more accessible to the population at large by reducing prices.³¹²

Some groups pointed to the Lifeline Assistance and other programs where the government provides access to and discounts on cell phone service. Though this may be a way to help low-income consumers access mobile technology, groups pointed out that many low-income consumers still have no access to smartphones through these programs.³¹³ AARP suggested many still view smartphones as a luxury even as more and more financial and other services are moving to online and mobile channels.³¹⁴

Language: According to comments, many if not most mobile applications do not provide multilingual options, limiting the ability of non-English speaking consumers to use MFS or understand the terms and fees.³¹⁵ Some services, one commenter noted, may be marketed in the consumer's primary language, but many of the details in the fine print may only be in English.³¹⁶ One commenter suggested that mobile applications should have a default language feature, which would allow access to the user's native language.³¹⁷ Others suggested that providers should make services available in the different languages used in the bank or credit union's customer service and marketing areas and have service personnel available to explain how to use

³¹⁰ ABA, #45, at 18.

³¹¹ See, e.g., ABA #45, at 18; NCLC #35, at 23; One Financial #33, at 9.

³¹² One Financial, #33, at 9.

³¹³ AARP, #51, at 9; PIRG and CDD, #19 at 7.

³¹⁴ AARP, #51, at 9. .

³¹⁵ AFR, #23, at 3; CUNA, #24, at 4; NCLC, #35, at 25-26.

³¹⁶ NCLC, #35, at 25-26.

³¹⁷ Deloitte, #44, at 13.

the system.³¹⁸ Appleseed also pointed to the need to “ensure to the greatest extent possible that the terms of the services being marketed to non-English speaking customers are the same as those marketed to English-speaking mobile money users.”³¹⁹

Technology: Though technology can enhance access, commenters pointed out that it can also present barriers to access if the technology is turned off, the device is lost or the phone service is terminated.³²⁰ Lower-cost devices may not have the latest technology such as high resolution cameras, larger screens, near-field-communication (NFC), and other features.³²¹ Commenters noted that mobile apps that require the latest features would not be accessible to consumers that do not have or cannot afford the latest technology.³²²

Commenters noted that small screens may not be conducive to reading text-heavy disclosures, particularly for consumers who may be visually impaired. While the small screen may make it difficult to provide detailed or complex information, NCLC noted that “[s]mart design can use that small screen as an advantage, to provide clear information in manageable bites, enhancing understanding.”³²³ One industry commenter listed the following reasons that user experience (UX) design for MFS for underserved consumers is particularly difficult:

- a. *High proportion of customers with limited technological aptitude or experience*
- b. *Low income consumers’ use of a large variety of different smartphones, including those with varying operating systems, screen sizes, hardware, and other key features*

³¹⁸ Appleseed, #41, at 6-7 (Appleseed noted the remittance disclosure provisions added to the Electronic Funds Transfer Act (EFTA) in the Dodd-Frank financial reform legislation that require that the disclosures be made in English and in each of the foreign languages principally used by the remittance transfer provider, or any of its agents, to advertise, solicit, or market, either orally or in writing, at that office.)

³¹⁹ *Id.*

³²⁰ See ASOC, # 40, at 5; CFSI, #6, at 8; NCLC, #35, at 22.

³²¹ CUNA, #24, at 4.

³²² See, e.g., CUNA, #24, at 4.

³²³ NCLC, #35, at 5.

- c. *Difficulties designing MFS that provide access to consumers in multiple languages*
- d. *Health problems with higher incidence among low-income consumers (e.g. diabetic retinopathy or arthritis) and which may affect their ability to use the device*
- e. *Limited affordances for consumers who are uncomfortable reading small text or large bodies of text*
- f. *Mandated or standard disclosures that make it difficult for service providers to provide plain English or translated explanations of terms and conditions*
- g. *Trust issues around remote account opening and surveillance*

One Financial, #33, at 6-7.

In addition, another set of access barriers was noted by the ABA, stating that “opening an account through a mobile app (or online) may be more difficult for the unbanked because they may lack commonly used identification verifiers, such as information contained in credit reports, that banks use to verify identities for purposes of compliance with identity theft and customer identification requirements.”³²⁴

4.4 Financial loss

Many comments noted that many underserved or economically vulnerable consumers are living within tight margins and can benefit from MFS because of its real-time tracking and other features.³²⁵ But, they cautioned, the risk of loss also exists as more products may not have safety

³²⁴ ABA, #45, at 17.

³²⁵ MFY Legal, #17, at 2; NCLC, #35, at 22; Netspend, #, 52, at 2.

of funds (FDIC insurance), clear dispute resolution consumer rights and procedures or understandable fee disclosures.³²⁶

It may also be unclear which entity in the mobile payment chain is liable for loss. In "Paper, Plastic ... or Mobile? An FTC Workshop on Mobile Payments," the FTC pointed out that when compared to a more traditional payment system, a mobile payment system involves numerous, unrelated parties that comprise the mobile payment chain, including:

- The developer of the application ("app") that enables the transaction or activity;
- The developer of the operating system of the mobile device;
- The manufacturer of the mobile device;
- The carrier of cellular and data service for the mobile device;
- Payment processors that facilitate the transfer and authorization of payments;
- Advertisers, marketers, data aggregators, billing aggregators, and other third parties who may collect, aggregate, analyze, and/or sell information about the user for marketing, advertising, and other business purposes;
- The financial entity providing funds; and
- The recipient of the funds.³²⁷

One commenter identified risks when third party agents are involved as including that the fund transfers may not occur as directed by the consumer or may not occur at all, or the payment may be late, for an incorrect amount, or sent to the wrong person.³²⁸ The commenter suggested that the problem may be due to an error caused by the financial institution or a third party agent; or

³²⁶ See generally NCLC, #35; Consumers Union, #30.

³²⁷ FTC, #11, at, 7.

³²⁸ Budnitz, #48, at 8.

it may instead be due to one of the parties facilitating the transfer.³²⁹ The commenter questioned whether current law is sufficient to protect against these risks of loss given the various parties that may be involved in mobile transactions.³³⁰

Though many commenters spoke to the convenience and benefits of providing access to multiple forms of payment via a mobile device, commenters raised issues arising from the fact that there are multiple parties to the transaction and the protections that apply may depend on the payment method used for the transaction.³³¹ The presence of multiple parties can cause confusion for consumers, which, in turn, may cause financial loss if it is not clear from which entity they must seek redress.

The varying levels of protection can also cause confusion and loss, commenters noted. From one device, a consumer may use a credit card, a debit card or mobile carrier billing to pay for a transaction. Depending on which payment method is used, varying rules apply. If there is an unauthorized charge on a credit card, for example, one commenter said, there is no liability if the charge is reported, and payment is not due during the time the charge is being investigated.³³² The commenter further noted that unauthorized debits are subject to varying caps on liability depending on whether the access device was lost or stolen and when the unauthorized transfer is reported. In that instance, with debits, funds must be restored in the account unless an investigation shows the transaction was authorized.³³³ But, commenters noted concerns that payments charged directly to a mobile carrier may be treated differently.³³⁴

³²⁹ *Id.*

³³⁰ *Id.*

³³¹ Consumers Union, #30, 9-10; NCLC, #35, at 6-7.

³³² Consumers Union, #30, at 9. *See also* Regulation Z, 12 C.F.R. §1026.12.

³³³ Consumers Union, #30, at 9. *See also* Regulation E, 12 C.F.R. § 1005.6.

³³⁴ *See, e.g.*, Consumers Union, #30, at 9; MFY Legal, #17, at 3. The CFPB, in coordination the state attorneys general and the Federal Communications Commission (FCC), took action against Verizon and Sprint alleging that the companies engaged in unfair practices by operating billing systems that allowed third parties to “cram”

4.5 Loss of other channels – person-to-person contact and customer service

Several comments pointed out the benefits of branches while other comments focused on the impact of more branch closures, which have disproportionately affected low-income communities.³³⁵ One industry commenter expressed the view that “MFS provides an opportunity to replace and supplement the ‘vanishing branch network’ in low income neighborhoods.³³⁶ It viewed MFS as a ‘mitigating factor’ that could help maintain access to mainstream financial services.³³⁷ But consumer groups and others made clear that they believe there is an ongoing need for some physical, in-person presence.³³⁸

In its comment, One Financial noted that its customers typically access accounts at financial institutions through the marketing channel by which they were acquired. But One Financial reported that “customers return again and again to their neighborhood locations for service”³³⁹ for both insured banks and nonbank AFS providers.

While ASOC reported that its Banking in Color survey of low- and moderate-income communities of color showed that “bank branches remain a vital part of how some communities

unauthorized charges on customers’ mobile-phone accounts and ignored complaints about the charges. *See supra* note 139.

³³⁵ *See, e.g.*, CAP, #34, at 2; (“the vast majority of branch closures since 2008 have taken place in zip codes with household incomes below the US median”); CFED, #26, at 5-6; One Financial, #33, at 8.

³³⁶ One Financial, #33, at 8.

³³⁷ *Id.*

³³⁸ *See, e.g.*, ANHD, #12, at 1, 4; AFR, #23, 2-3; CFED, #26, at 5-6.

³³⁹ One Financial, #33, at 3.

access financial products and services,”³⁴⁰ they noted interesting differences across different communities, as follows:

The proximity to home or work was a priority for nearly half (48%) of all survey respondents when choosing where to conduct financial transactions. Forty percent of all survey respondents deposit checks or cash inside a bank branch. While more than one-third of African American and Latino respondents deposited checks within a branch, fifty-two percent of AAPI [Asian Americans and Pacific Islanders] respondents deposit checks inside a bank or credit union branch, 45% deposits [sic] cash inside the branch, and 39% cash checks inside bank branches. By comparison, only 25% of AAPI respondents use online banking services for managing payments and accounts.

The reliance on bank branches was especially high for Chinese and Taiwanese respondents, who deposit checks in bank branches at 57% and 64%, respectively. Chinese language respondents also indicated distance from home (70%) and ability to communicate in their native language (56%) as a top consideration for determining where to bank.... Taken together, survey results reflect both a high level of comfort and reliance on bank branches as well as high prevalence of bank branches with culturally and linguistically relevant services in neighborhoods and communities with high concentrations of the Chinese community.

ASOC, #40, at 6.

A related concern raised by commenters about the move to mobile is loss of customer service. In a survey of low-income Hispanic consumers across California conducted by National Council of La Raza (NCLR) in 2013, 85 percent of account holders and 71 percent of those without a transaction account rated customer service as very important in choosing financial services.³⁴¹ In the Banking in Color survey, LMI consumers, regardless of banking status, identified

³⁴⁰ ASOC, #40, at 6.

³⁴¹ Consumers Union, #30, at 12, n.39.

customer service as a significant factor in what they were looking for in a bank.³⁴² As the FDIC Staff Paper noted (citing a Javelin survey from July 2013) “25 percent of consumers who do not use mobile banking stated that one of the top three reasons they do not use mobile banking was that they preferred to deal with people.”³⁴³

Commenters cited problems related to obtaining service from some mobile service providers, including prepaid products often accessed via mobile channel, that fail to provide a phone number, clearly display the phone number, make phone access difficult to navigate, or charge customers who wish to speak with a customer service representative.³⁴⁴ Commenters pointed to the ongoing need for free customer service via phone, for those using the mobile channel as well as those who cannot easily access internet or who do not transact via mobile.³⁴⁵ As CAP commented: “[t]his is particularly important for mobile products that have either a limited physical retail presence where customers may ask questions and get help, or no physical presence at all.”³⁴⁶

Comments suggested an ongoing need for paper statements or account agreements.³⁴⁷ NCLC also added that “[p]aper copies of account agreements or statements may be unnecessary for mobile transactions that are used only once or for small dollar amounts. But for larger transactions and more significant, ongoing relationships, paper options can ensure that consumers can carefully read or reference account terms and can see ongoing charges.”³⁴⁸

³⁴² ASOC, #40, at 3.

³⁴³ FDIC Staff Paper, *supra* note 57, at 33.

³⁴⁴ *See* Consumers Union, # 30, at 2-4; CAP, #34, at 2; NCLC, #35, at 13-14.

³⁴⁵ *See also*, NCLC, #35, at 13-14 (“All mobile financial services should be required to provide a toll free number to address problems”); CAP, #34, at 2 (“At a minimum, mobile financial services should include free telephone access to customer service.”)

³⁴⁶ CAP, #34, at 2.

³⁴⁷ AARP, #51, at 5-6; NCLC, #35, at 13-18.

³⁴⁸ NCLC, #35, at 15. *See also* AARP, #51, at 3 (consumers should have ready access to paper statements and terms and conditions at no or low cost for a period of two years).

NCLC also pointed out that the person who opens or views an account on a mobile device may not be the account holder. In that circumstance, NCLC noted, it would be inappropriate to have as a consequence taking away the account holder's access to paper statements or other communications.³⁴⁹ Other comments noted the cost savings from moving to mobile and online statements, including saving paper.³⁵⁰

³⁴⁹ NCLC, #35, at 15-16.

³⁵⁰ AFSA, #18, at 2; NBPCA, #13, at 4.

5. Education and empowerment – ideas for the future

Consumer and industry commenters discussed the potential for mobile financial services to help the underserved access financial products and services, and manage financial resources to achieve their goals.³⁵¹ The comments also noted the increasing use of smartphones among the underserved has not led to widespread adoption of mobile financial services, with some exceptions.³⁵² For those who use MFS, the use appears to be significant, especially as it relates to managing money through checking balances and alerts.³⁵³

Though there are many reasons for the rate of adoption, comments suggest that there is a need to enhance digital financial literacy to help bridge the divide. But there are impediments to digital financial literacy. As identified in the comments, these include 1) the cost of the technology and data plans; 2) the lack of comfort with the technology and digital literacy; 3) the lack of transparency with regard to data; 4) the concern about security; 5) the language access issues; and 6) the number of entities in the payment chain. Commenters agreed about the need for more efforts specifically targeting low-income and economically vulnerable populations and the groups that serve them about how to engage through mobile devices safely and effectively.

³⁵¹ See discussion *supra* at pp. 40-52.

³⁵² See discussion *supra* at pp. 46-52.

³⁵³ See discussion *supra* at pp. 17-34.

Many conveyed the same opinion expressed by Javelin that “[a] winning combo” for underserved consumers is “[c]ommunity outreach, personalized support, in their own language.”³⁵⁴ As previously discussed, they noted that underserved consumers show an interest in using both digital and in-person channels. The preference often for in-person transactions was partly attributed to the underserved consumer’s frequent use of cash, or needing guidance when opening accounts or language barriers. Targeted, sensitive, face-to-face education can help underserved consumers move to more sophisticated products and services.

5.1 Suggested areas for further information and research

Personal financial management apps: Several commenters suggested more research on how underserved consumers (and specific subpopulations) might use mobile tools and the impact of such use in areas such as reducing debt and increasing savings.³⁵⁵

Impact analysis of digital analytics: Commenters suggested a need for research to analyze the impact that the real-time and location-aware financial mobile services marketplace will have on economically vulnerable consumers. These commenters pointed out that there will be legitimate advantages for consumers using mobile financial services to obtain product information, pricing options, and discounts.³⁵⁶ But commenters also cited potential risks and suggested that policymakers could do more research on how and what types of information are being shared and how to help inform efforts to prevent discrimination and virtual segregated neighborhoods.³⁵⁷

³⁵⁴ Javelin, #49, at 6.

³⁵⁵ See CFSI, #6, at 4, 10.

³⁵⁶ FTC, #11, at 1; NCLC, #35, at 1, 6, 22; PIRG and CDD, #19, at 8.

³⁵⁷ See AFR, #23, at 2-3; PIRG and CDD, #19, at 8.

Security: Several commenters suggested that there is a need to promote greater consumer awareness regarding important security issues.³⁵⁸ Also, commenters noted that more information is needed around the extent to which consumers understand the differences in security among operating systems they use or among mobile applications. One commenter also suggested research and analysis on how personal and financial security are advanced or imperiled by a shift to mobile technologies.³⁵⁹

One commenter, who provides digital security services, outlined various security risks and some of the ways technology can be used to provide more security.³⁶⁰ Along with specific examples of some actions consumers can take, the commenter also suggested the need for providers to give “simple and to the point” messages about mobile security, such as reminders about using a pin code and activating the remote location and phone wipeout feature to help if the phone is lost or stolen.³⁶¹

Specific population needs: Several comments pointed to the need for more research on specific populations and how they use mobile and access financial services, including issues around language and culture, to help identify ways to remove barriers to access, for both mobile and physical channels. Commenters pointed out that communities of color and underserved consumers are often lumped together but they often have different needs, challenges and use patterns. For example, Appleseed commented that there is little information on how non-Hispanic immigrants use technology for financial services.³⁶² Those groups for which comments suggested more information should be sought include:

- Unbanked and underbanked;
- Rural consumers;

³⁵⁸ See, e.g., Deloitte, #44, at 15; EPCOR, #46, at 2; Privacy Rights Clearinghouse, #31, at 1-4.

³⁵⁹ Appleseed, #41, at 7.

³⁶⁰ See generally Gemalto, #37.

³⁶¹ *Id.* at 10.

³⁶² Appleseed, #41, at 4.

- People with disabilities;
- Consumers with limited English proficiency;
- Recent immigrants;
- Underserved youth or “opportunity youth” (i.e., youth between the ages of 16 and 24 who are neither enrolled in school nor participating in the labor market); and
- People residing in traditionally underserved communities.

Use of text messaging: Commenters highlighted the importance of text messaging, pointing out that many underserved consumers do not have smartphones and their only way to benefit from alerts, etc. would be via text.³⁶³ To facilitate effective texting and mobile banking, particularly for communities of color, ASOC proposed partnerships with government entities to work to better understand the problems and test out the solutions to bring more consumers and communities of color into the mobile banking space.³⁶⁴

5.1.1 Moving forward

Commenters provided various suggestions to help make MFS a more viable option for helping to empower and improve the financial lives of low-income and economically vulnerable consumers, including:

Consumer security toolkit: One suggestion was for financial service providers to develop “a simple customer security toolkit, showing consumers how to protect their mobile devices and payments data by creating passwords for login and access; using antivirus software to ensure the applications downloaded are safe from viruses and malware; loading software that enables the

³⁶³ Intuit recommended that CFPB consider the opportunities available to consumers through texting because it may “provide real-time information to consumers in a way that they are most likely to read.” Intuit, #21, at 19.

³⁶⁴ ASOC, #40, at 9.

phone to be remotely wiped, locked, or deactivated if lost or stolen; and encouraging more consumers to set up fraud alerts.”³⁶⁵

Tokenization: To help mitigate the loss associated with data breaches, several commenters suggested and highlighted the benefits of tokenization. Tokenization works by substituting a sensitive data element with a non-sensitive equivalent “token” that has no extrinsic or exploitable meaning or value.³⁶⁶ Using tokens for transactions, known only to the parties to the transaction, reduces the digital footprint that enables others to track or steal information.

Privacy: Many commenters suggested the need for consumers to be able to control their privacy and access to their data. Some stated a need for additional regulatory mechanisms. Other comments from products providers pointed to technology to give consumers the ability to control their privacy when data is used in transactions.³⁶⁷ A commenter suggested a box display with fees that comes up before any personal information is submitted to help prevent entities not involved in a transaction from obtaining personal information.³⁶⁸

³⁶⁵ CFSI, #6, at 8. Some comments referred positively to a mobile device feature that allows consumers to remotely delete information and disable applications or the device itself as a way to prevent loss, referred to as “kill switch.” Consumers Union, #30, at 13; EPCOR, #46, at 2; Gemalto, #37, at 5. One commenter suggested federal legislation to require devices to have “kill switch” feature built into all mobile devices. Budnitz, #48, at 5.

³⁶⁶ See, e.g., Merchant Advisory Group, #39, 1-3 (comments suggested an open and competitive process for security standards creation and enforcement and included its support for guiding principles for the creation, maintenance, and enforcement of tokenization security standards); VISA, #25. See also, Dwolla, #36, at 2 provided a description of its tokenization process. Using an API (Application Programming Interface), it stated that its system removes sensitive banking information and: 1) transparently notifies the sender of the additional information and privileges, which may be needed by the third party in order to complete the service or deliver value; 2) requires explicit authorization from the sender to use said information; 3) provides the receiver with a unique “token” that only the authorized receiver can use; and 4) allows the sender or Dwolla to revoke or invalidate the token at any time. Dwolla suggested that its design helps its community reduce its digital “financial fingerprint,” offers greater transparency to its users and improves privacy controls.

³⁶⁷ See AgeCheq, #9, at 1 (commented that “Over the past few years, mobile device manufacturers have systematically removed the ability for a device to be uniquely identified through programming means. This change was prompted by privacy concerns, but ironically the removal of device identification has made it impossible for services such as ours who seek to help users understand and manage their personal privacy”); PrivacyCheq, 8, at 2; Intuit, #21, at 15.

³⁶⁸ Consumers Union, #35, at 4.

Public Service Campaigns: One commenter suggested that any campaign encouraging use of mobile device software have as a component a Public Service Advertisement campaign targeted toward low-income and limited-English proficient communities to help educate about the risks of mobile banking to consumers who are new to it.³⁶⁹

Training: Several comments suggested the need for education and training programs, though not as a replacement for consumer protections, that help teach technological literacy (generally or focused on specific topics), and recommended training workers who already interact with low-income populations to address some of the vulnerabilities as well as the benefits.³⁷⁰ One comment identified municipally run financial empowerment centers as examples of appropriate places in which to locate such trainings.³⁷¹

Mobile-enabled websites: One commenter noted that mobile-enabled websites are able to detect the size of the user's screen and provide full website-level services regardless of the access device.³⁷² This can help consumers who primarily use smartphones access a broader range of financial services features and functions available on the website.

³⁶⁹ MFY Legal, #17, at 3.

³⁷⁰ See, e.g., Appleseed, #41; ASOC, #40; CDCUs, 38; #Deloitte, #15; Privacy Rights Clearinghouse, #31.

³⁷¹ MFY Legal, #17, at 3.

³⁷² CFSI, #6, at 4.

6. Conclusion

The increasing access to and use of mobile technology available to conduct financial transactions and manage personal finances presents opportunities and risks for the underserved.

Commenters suggested that mobile financial services can drive access to products and services that meet the needs of the underserved and enhance opportunities for saving time and real time money management.³⁷³ But several industry and consumer commenters expressed the viewpoint that mobile financial services is not a panacea or a silver bullet and “will not undo fundamental financial issues that cause some consumers to be underserved.”³⁷⁴ Commenters suggested that while MFS may help people access financial services and products and achieve cost savings, the reasons underlying consumers’ use of higher-cost products and the need for “in-person consultation” (e.g., brick and mortar) will continue for some time.³⁷⁵ Many noted that unless MFS is coupled with strategies to address the underlying issues related to lack of access to safe and affordable products, the full potential benefits for low-income and underserved consumers will remain elusive.³⁷⁶ In order for MFS to achieve those benefits, comments suggest, there needs to be broader digital financial literacy, more confidence that appropriate consumer protections are in place and greater comfort with the technology, including around security and other potential risks associated with this data driven ecosystem.

³⁷³ See discussion *supra* at pp. 46-52.

³⁷⁴ US Chamber, #42, at 12. See ABA, #45, at 10; CFED, #26.

³⁷⁵ See discussion *supra* at pp. 49-52, 72-75.

³⁷⁶ See discussion *supra* at pp. 37-38.



PREPAID CARDS: How They Rate 2014

November 2014



Prepaid Cards: How They Rate 2014

Summary

Prepaid cards have rapidly become essential plastic. General purpose reloadable prepaid cards look and work like bank debit cards except no bank is required. Moreover, prepaid cards do not come with the federal consumer protections that consumers with bank debit cards enjoy. But consumers continue to choose prepaid cards in ever growing numbers. Today, these cards are in the wallets of consumers both with and without bank accounts. The prepaid card market has shifted dramatically in the past several years. A number of providers have entered then rapidly exited the market, and competition and regulatory scrutiny have driven down fees.

To help consumers choose the best prepaid cards, Consumer Reports first rated prepaid cards in 2013. This year we found that while there are some good prepaid card choices for consumers, the shopping experience can be difficult. Terms differ among providers and fees and charges are hard to find in the small print if they are there at all. We also remind consumers that although the Consumer Financial Protection Bureau is expected to issue preliminary rules covering prepaid cards late this year, consumers should carefully consider the lack of mandatory legal protections when using prepaid cards today.

The Prepaid Boom

Though a relatively new product, prepaid cards have rapidly become essential plastic in many American consumers' wallets alongside credit and debit cards. Prepaid usage is growing faster than debit and credit too, standing atop the Federal Reserve Board's rankings as the fastest growing noncash payment type.¹ Prepaid even gives cash a run for its money: once

¹ FED. RESERVE SYS., THE 2013 FEDERAL RESERVE PAYMENTS STUDY 126 (2014), *available at* http://www.frbservices.org/files/communications/pdf/general/2013_fed_res_paymnt_study_det_ailed_rpt.pdf.

consumers have prepaid cards, many say they prefer prepaid even to cash² and report using cash less often.³

General-purpose reloadable prepaid cards are a type of prepaid card that can be used much like a debit card linked to a bank account but without the bank. By one estimate, they are used by one in four U.S. households.⁴ How regularly those cards get used is another question. The Pew Charitable Trusts found that about one in twenty households uses a prepaid card every month,⁵ but other estimates of regular prepaid card use vary.⁶ Regardless of the number of regular prepaid card users, studies indicate that the cards are used by a wide variety of consumers.⁷

Prepaid cards are often marketed as bank account substitutes,⁸ and underserved consumers appear to use prepaid cards at higher rates than the general population.⁹ However, prepaid cards are not just for the unbanked.

² SUSAN HERBST-MURPHY & GREG WEED, PHILADELPHIA FED. RESERVE BANK, MILLENNIALS WITH MONEY: A NEW LOOK AT WHO USES GPR PREPAID CARDS 9 (2014), available at <http://www.phil.frb.org/consumer-credit-and-payments/payment-cards-center/publications/discussion-papers/2014/D-2014-Millennials.pdf>.

³ *Id.* at 25.

⁴ *Id.* at 5.

⁵ THE PEW CHARITABLE TRUSTS, WHY PEOPLE USE PREPAID CARDS: A SURVEY OF CARDHOLDERS' MOTIVATIONS AND VIEWS 1 (2014), available at http://www.pewtrusts.org/~media/legacy/uploadedfiles/pcs_assets/2014/PrepaidCardsSurveyReportpdf.pdf

⁶ Estimates range from 7.9% of US households, see FED. DEPOSIT INS. CORP., 2013 FDIC NATIONAL SURVEY OF UNBANKED AND UNDERBANKED HOUSEHOLDS 7 (2014), available at <https://www.fdic.gov/householdsurvey/2013report.pdf>, to 15%, see FED. RESERVE BD., CONSUMERS AND MOBILE FINANCIAL SERVICES 2014 8 (2014), available at <http://www.federalreserve.gov/econresdata/consumers-and-mobile-financial-services-report-201403.pdf>, to about 28%, see NAT'L COUNCIL OF LA RAZA, LATINO FINANCIAL ACCESS AND INCLUSION IN CALIFORNIA 13 (2013), available at http://www.nclr.org/images/uploads/publications/CA_Latino_Financial_Access_ReportWeb.pdf. The variety of numbers is not surprising. A Boston Federal Reserve study shows that how you ask people about prepaid cards matters - a lot - in terms of the numbers who report using them. See MARCIN HITCZENKO & MINGZHU TAI, BOSTON FED. RESERVE BANK, MEASURING UNFAMILIAR ECONOMIC CONCEPTS: THE CASE OF PREPAID CARD ADOPTION 5 (2014), available at <http://www.bostonfed.org/economic/wp/wp2014/wp1409.pdf> (number of users goes up as you ask more detailed questions, changing the number of reported users in statistically significant ways).

⁷ See HERBST-MURPHY & WEED, *supra* note 2, at 5 (both high- and low-income individuals use prepaid cards); THE PEW CHARITABLE TRUSTS, *supra* note 5, at 3 (African-Americans are more likely to use prepaid cards); FUMIKO HAYASHI & EMILY CUDDY, KANSAS CITY FED. RESERVE BANK, GENERAL PURPOSE RELOADABLE PREPAID CARDS: PENETRATION, USE, FEES AND FRAUD RISKS 12 (2014), available at <https://www.kansascityfed.org/publicat/reswkpap/pdf/rwp14-01.pdf> (showing that as the share of Hispanics in a population rises, so does prepaid card use).

⁸ NetSpend, <https://www.netspend.com/> (landing page advertises NetSpend's prepaid cards as "The Better Way to Bank").

⁹ See FED. DEPOSIT INS. CORP., *supra* note 6, at 7 (estimating that nearly 8% of consumers used prepaid cards in the last month, while 22 % of unbanked and about 13% of underbanked households did so).

Research shows that a majority of prepaid card users have bank accounts.¹⁰ Moreover, prepaid card users all report using prepaid cards for the same purposes. Those with bank accounts and without use prepaid cards to assert control of their financial lives, including limiting spending, avoiding bank and check cashing fees, and making electronic payments.¹¹

Despite Growth, Protections Lag

As much as consumers have found prepaid cards to be useful, there is a worrying aspect. Prepaid cards lack the federal consumer protections against fraud and merchant mistakes that come with debit cards linked to bank accounts. Because prepaid cards look and work much like bank debit cards, consumers cannot reliably distinguish between a bank debit product that comes with strong legal protections and one that does not. This is a particular concern because consumers consistently say that they value safety when it comes to payments.¹²

Consumers Union, the advocacy arm of Consumer Reports, has long advocated that all payment cards should come with the same strong mandatory protections,¹³ and the Consumer Financial Protection Bureau (CFPB) is expected to issue preliminary prepaid card rules in late 2014, though the content of such rules remains uncertain as of the date of this writing.¹⁴ While all but one of the prepaid cards reviewed here voluntarily provide customers deposit insurance and protections that mirror those afforded to debit card holders under the Electronic Fund Transfer Act,¹⁵ these voluntary protections can be withdrawn or changed anytime and are no substitute for strong federal protections. Consumers considering prepaid cards are encouraged to carefully consider the prepaid cards evaluated here against this backdrop.

¹⁰ See THE PEW CHARITABLE TRUSTS, *supra* note 5, at 7; HERBST-MURPHY & WEED, *supra* note 2, at 2.

¹¹ See, e.g., HERBST-MURPHY & WEED, *supra* note 2, at 2-3; THE PEW CHARITABLE TRUSTS, *supra* note 5, at 14.

¹² MICHAEL S. BARR, NO SLACK: THE FINANCIAL LIVES OF LOW-INCOME AMERICANS 34 (2012).

¹³ See, e.g., MICHELLE JUN, CONSUMERS UNION, PREPAID CARDS: SECOND-TIER BANK ACCOUNT SUBSTITUTES (2010), available at <http://defendyourdollars.org/Prepaid%20WP.pdf>; CONSUMER REPORTS, PREPAID CARDS: LOADED WITH FEES, WEAK ON PROTECTIONS (2012), available at http://consumersunion.org/wp-content/uploads/2013/02/Prepaid_Cards_Report_2012.pdf; CONSUMER REPORTS, PREPAID CARDS: HOW THEY RATE ON VALUE, CONVENIENCE, SAFETY AND FEE ACCESSIBILITY AND CLARITY (2013), available at http://consumersunion.org/wp-content/uploads/2013/07/Prepaid_Report_July_2013.pdf.

¹⁴ See Carter Dougherty & Jesse Hamilton, *Prepaid Debit Cards Said to Face Rules on Overdrafts, Disclosure*, BLOOMBERG, Oct. 16, 2014, available at <http://www.bloomberg.com/news/2014-10-16/prepaid-debit-cards-said-to-face-rules-on-overdrafts-disclosure.html>.

¹⁵ 15 U.S.C. §§ 1693—1693r (2012 & Supp. II).

Scrutiny and Competition Stoke Changes to Prepaid Offerings

In the past several years, the prepaid card market has shifted dramatically. Once dominated by smaller prepaid card programs, there is now intense competition between banks, payment networks and prepaid card program managers for customers. Competition and scrutiny have influenced prepaid offerings: fees have come down; features have improved; and a number of prepaid cards have gone off the market.

Last year, Consumer Reports rated 26 prepaid cards on **Value, Convenience, Safety and Fee Accessibility and Clarity**. A number of those prepaid cards are no longer available, including the top-rated Suze Orman Approved Card,¹⁶ the mid-rated MAGIC Card¹⁷ and Western Union's MoneyWise Prepaid MasterCard,¹⁸ lower rated U.S. Bank Convenient Cash card¹⁹ and two of the lowest-rated prepaid cards, The REACH Card²⁰ and the Redpack Mi Promesa Prepaid MasterCard.²¹

In addition to prepaid cards closing up shop, competition and scrutiny have driven down fees. Year over year, common fees such as monthly fees held steady or fell slightly²² and none of the prepaid cards included in the 2013 Consumer Reports survey raised their core fees this year. It is also worth noting that the core monthly fees for most prepaid cards in the survey are lower than many of the monthly fees big banks charge for their basic

¹⁶ Ron Lieber, *Suze Orman's Approved Prepaid Debit Cards Are Quietly Discontinued*, N.Y. TIMES, June 16, 2014, available at http://www.nytimes.com/2014/06/17/business/suze-ormans-approved-prepaid-debit-cards-are-quietly-discontinued.html?_r=0 (reporting that Approved Card would be discontinued as of July 1, 2014). The website, <http://www.theapprovedcard.com/>, no longer has any content.

¹⁷ Ian Mohr, *Credit card company promoted by Magic Johnson closes up shop*, PAGE SIX (N.Y. POST), Apr. 19, 2014, available at <http://pagesix.com/2014/04/19/credit-card-company-promoted-by-magic-johnson-closes-up-shop/>. The MAGIC Card's website, Onlymagicard.com, now redirects to <https://www.onewestbank.com/>.

¹⁸ Email from Western Union Customer Care (thewesternunion1@mailpc.custhelp.com) to author re: Has the MoneyWise prepaid card been discontinued (Sept. 30, 2014) confirming discontinuation of MoneyWise prepaid card (on file with author).

¹⁹ Email from U.S. Bank customer service to author re: Has the US Bank Convenient Cash Card been replaced by the Contour Prepaid Card for new users? (Oct. 23, 2014) confirming discontinuation of the Convenient Cash Card (on file with author). See also U.S. Bank Convenient Cash, <https://www.usbconvenientcash.com/> (website appears to be usable only by existing cardholders).

²⁰ Author call to REACH Customer Care (1-866-331-3067), November 5, 2014. Customer service agent Cara confirmed that REACH prepaid card operations shut down April 21, 2014.

²¹ The website for the Mi Promesa prepaid card, <http://www.mipromesa.com/>, is defunct and cannot be opened.

²² Fifth Third Bank Access 360's monthly fee went from \$7 to \$4. See Fifth Third Bank, Access 360 Reloadable Prepaid Card, <https://www.53.com/personal-banking/reloadable-cards/access360.html#tab-feeInformation> (2013 screenshot on file with author). The Mango Prepaid MasterCard monthly fee went from \$5 down to \$3. See Mango, Simple Fees, <https://www.mangomoney.com/simple-fees> (2013 screenshot on file with author).

checking accounts, including big banks that offer prepaid cards.²³ Direct deposit is popular with prepaid card users,²⁴ in part perhaps because it leads to fee discounts or waivers, particularly monthly fees. All of these developments are good news for consumers.

The Need for Transparency Remains

While the fee environment has improved, the need for greater transparency remains. The number of fees charged and how those fees are triggered varies by prepaid card, which means it is crucial for consumers to comparison shop. However, comparison shopping can be very hard for consumers.

One barrier to easy comparison shopping is the lack of standard terms to describe common fees. The fees associated with opening an account provide an example: on the landing page for the Chase Liquid prepaid card, the site advertises “\$0 Fee to Open”²⁵ while the RushCard has a “Get Started One-Time Card Fee” of \$3.95 - \$9.95²⁶ and the U.S. Bank Contour Card charges a \$4.00 “Enrollment Fee.”²⁷

It can also be maddeningly difficult to locate customer service fee information. While most prepaid cards make fee charts available either on the website landing page or a click or two away, these charts sometimes do not provide a full list of services with accompanying applicable fees. For example, it is not uncommon for prepaid cards to charge a fee for calling customer service,²⁸ and if prepaid cards do charge a fee, consumers need to know about it.

As part of this survey of prepaid cards, Consumer Reports reviewed prepaid card websites and disclosures to determine whether there was a customer service fee. We found that some prepaid cards list customer service in their fee charts, even when no fee is charged.²⁹ Other prepaid cards do not list

²³ The highest monthly fee for all the surveyed prepaid cards is \$9.95. Chase Total checking, an entry level checking account has a waivable \$12 monthly fee, *see* Chase, Total Checking, <https://www.chase.com/checking>, while the monthly fee for using its Liquid prepaid card is \$4.95, *see* Chase Liquid Prepaid Card, <https://www.chase.com/debit-reloadable-cards/liquid-prepaid-card>.

²⁴ *See, e.g.*, Press Release, American Express Serve® and Bluebird® Show You Where Your Money Goes with Free Tools that Track Spending and Budgets (June 5, 2014), *available at* <http://about.americanexpress.com/news/pr/2014/serve-bluebird-show-you-where-money-goes.aspx> (stating that more than 40% of funds loaded onto Bluebird and Serve were loaded via direct deposit).

²⁵ Chase Liquid Prepaid Card, <https://www.chase.com/debit-reloadable-cards/liquid-prepaid-card>.

²⁶ RushCard, Fee Chart, <https://www.rushcard.com/Fee-Chart>.

²⁷ U.S. Bank, Contour, Fees, <https://usbankcontour.com/fees>.

²⁸ *See, e.g.*, UPSide Visa Prepaid Card, Summary of Fees, <http://www.upsidecard.com/TC.aspx?sitemode=life#feeTable>.

²⁹ *See, e.g.*, RushCard, Fee Plan Details, <https://www.rushcard.com/Fee-Chart?clicksource=cardsandplans>.

customer service in their fees or disclosures.³⁰ When searching for this information, if we found no definitive statement about customer service fees, we next tried the customer service telephone numbers. Consumers trying to comparison shop may get caught up in the automated customer service systems that in some instances cannot be penetrated without a prepaid card account number.³¹ In order to get past this block, consumers would need to have an account number, which only comes if one signs up for a prepaid card first.³² While in each instance fee information eventually came to light and in all cases there was no fee for new customers, consumers should not have to sign up for products in order to learn how much they will be charged to use them.

Some Fees Are Hard to Quantify

Consumers may also find it difficult to quantify monthly fees because not all fees that consumers may incur in using a prepaid card are charged by the prepaid card program manager. Reloading fees are an example. Most prepaid cards can be reloaded (meaning value is added to a prepaid card) in a variety of ways, and few prepaid cards charge cardholders a fee to load. However, third-party reload fees are very common. These fees are not charged by the prepaid card program manager, therefore prepaid card websites cannot list the exact amount a reload will cost, since they are not the party setting or charging the fee.³³ This leaves consumers without

³⁰ For example, Serve by American Express does not charge a fee for calling customer service, but does not list any information on customer service in the fee chart; we had to call Serve customer service to verify that there is no fee. *See* Serve, <https://www.serve.com/> (scroll down to click on “Serve Fee Chart” button). We also had trouble deciphering some fee charts. For example, the Walmart MoneyCard Basic plan does not list a customer service fee in the fee chart, but also indicates that “Optional services may also be offered for a fee.” (*See* Walmart Money Card Basic, Fee Plan, <https://www.walmartmoneycard.com/walmart/account/legal-info-page?productname=basic&doc=feeplan>) Is calling customer service an optional service? That was not clear. In order to verify that in fact there was no fee, we had to email the Walmart MoneyCard customer service. Email from Walmart MoneyCard Email Support to author re: Needs Assistance (Oct. 24, 2014) (on file with authors).

³¹ This was our experience with Walmart MoneyCard Basic when we called their customer service phone number 866-633-9096.

³² We also used customer service email addresses in an effort to get fee information. We had very slow response times when we tried to get information from some of the customer service email accounts. For example, it took PayPower 16 days to respond to an email about ATM access. Email from author to PayPower customer service re: About PayPower (Oct. 10, 2014), Reply from PayPower Customer Service (paypower.cs@blackhawk-net.com) to author (Oct. 26, 2014) (on file with author).

³³ In reading prepaid card fee disclosures, consumers will find lines like this on the H&R Block site: “Cash Reload at Retail Location [Fee] Varies by location, up to \$4.95” and footnotes with explanations such as this: “118. Emerald Card Retail Reload Providers may charge a convenience fee. Any Retail Reload Fee is an independent fee assessed by the individual retailer only and is not assessed by H&R Block Bank.” *See* H&R Block, Emerald Prepaid MasterCard, <https://www.hrblock.com/financial-services/emerald-card-services/> (scroll down and click on “Offer Details and Disclosures” to see footnotes).

essential information, making it difficult to calculate what it will cost to use a prepaid card before they enroll in a prepaid card program.

Features Are Hard to Compare Across Prepaid Cards

Consumers may struggle to compare features across prepaid cards. As with fee disclosure, the lack of a common language makes it difficult to compare prepaid cards. Prepaid card account features vary, so comparison shopping is essential. Bill pay is an example of the confusion consumers may encounter trying to compare prepaid card features, even when those features are useful. Bluebird lists “bill pay” separately from the paper checks Bluebird customers can use.³⁴ By contrast, RushCard offers bill pay, which includes allowing consumers to have a paper check sent to a payee from a RushCard account.³⁵ The Univision MasterCard Prepaid Card website advertises that it is “Easy to Pay Bills”³⁶ with its prepaid card, but upon clicking through to the “Easier Way to Pay Bills” page, consumers will find that there is no bill pay feature comparable to that of Bluebird or RushCard. Rather, to pay a bill consumers are told: “Simply contact your provider and present your card as the form of payment.” There is also a disclaimer: “*Not all merchant [sic] allow payments on a prepaid card. Check with your service provider for further details.”³⁷

The bottom line is that it can still be very difficult for consumers to comparison shop among prepaid cards. Therefore, Consumer Reports has rated prepaid cards to help consumers choose safe, transparent, convenient prepaid cards that provide good value.

Ratings Results

As with the 2013 ratings, this year’s Consumer Reports prepaid card ratings evaluate prepaid cards in four categories: **Value, Convenience, Safety and Fee Accessibility and Clarity**. The ratings categories reflect what consumers have said they look for when it comes to payments³⁸ and

³⁴ Each of these features is described in a separate tab on the Bluebird.com landing page. *See* American Express, Bluebird, <https://www.bluebird.com/> (click on “Bill Pay” and then “Bluebird Checks”).

³⁵ *See* RushCard, Frequently Asked Questions, Bill Pay FAQs, <https://www.rushcard.com/faq/Paying-Bills> (click on “How do I pay a bill with my RushCard?”).

³⁶ Univision MasterCard Prepaid Card, <http://www.univisiontarjeta.com/en/> (scroll to the bottom under the “How It Works” heading to see “Easy to Pay Bills”).

³⁷ *See* Univision MasterCard Prepaid Card, Easier Way to Pay Bills, <http://www.univisiontarjeta.com/en/pay-bills-prepaid-card/>.

³⁸ Interviews and consumer surveys indicate that consumers consider monthly cost, safety and convenience when it comes to choosing payment methods. *See, e.g.*, HARRIS INTERACTIVE, INC., PUBLIC RELATIONS RESEARCH, THE 2012 CONSUMER FINANCIAL LITERACY SURVEY 4, 16 (2012), *available at*

practices that are regulated for bank accounts but not (yet) for prepaid cards. The rating for each factor is an average of the elements that make up that factor. Overall ratings reflect a weighted average of the prepaid cards' performance in each category.

The 23 prepaid cards reviewed here are evaluated for two different types of users:

- **Prepaid Cards Used in Addition to a Bank Account; and**
- **Prepaid Cards Used as a Bank Account Substitute**

The reason for the two ratings categories is that while prepaid cards are largely used for the same purposes - limiting spending, avoiding bank and check cashing fees, and making electronic payments³⁹ - the ways in which they are used appear to vary. For example, consumers looking to replace their primary transaction account with a prepaid card may load their prepaid cards more often,⁴⁰ make more ATM withdrawals⁴¹ and use bill pay.⁴² In contrast, consumers with bank accounts who are looking for an adjunct spending tool may be likely to rely on a prepaid card primarily for purchases⁴³ while being less likely to withdraw cash⁴⁴ or use bill pay.⁴⁵

<https://active.nfcc.org/newsroom/FinancialLiteracy/files2012/FLS2012FINALREPORT04021a1e.pdf>; BOSTON FED. RESERVE BANK, SURVEY OF CONSUMER PAYMENT CHOICE, 2010 HIGHLIGHTS (2014), available at <http://www.bostonfed.org/economic/cprc/SCPC/2010-Data/scpc2010visual-summary.pdf> (showing that consumers care most about security, convenience, cost and ubiquity of acceptance when it comes to rating payment attributes); BARR, *supra* note 12, at 34.

³⁹ See, e.g., See, e.g., HERBST-MURPHY & WEED, *supra* note 2, at 2-3; THE PEW CHARITABLE TRUSTS, *supra* note 5, at 14.

⁴⁰ In 2014, researchers released a report that in part attempted to examine the end-user prepaid card experience by looking at usage data over the course of a year. FUMIKO HAYASHI & EMILY CUDDY, KANSAS CITY FED. RESERVE BANK, GENERAL PURPOSE RELOADABLE PREPAID CARDS: PENETRATION, USE, FEES AND FRAUD RISKS 4 (2014), available at <https://www.kansascityfed.org/publicat/reswkpap/pdf/rwp14-01.pdf>. The authors found that load and debit activity influence how long a consumer uses a prepaid card. The more loads, the more transactions, the longer the prepaid card was used for debit transactions. *Id.* at 18-20, 50. While consumers using prepaid cards in addition to a bank account may also load prepaid cards with direct deposit, the transaction model used here extrapolates from these data that the more intensive use of bill pay, cash withdrawals and person to person transfers indicate greater reliance on a prepaid card account than is likely to be found for consumers choosing to use a prepaid card in addition to a bank account.

⁴¹ *Id.* at 22, 53 (showing that while 97% of prepaid cards are used for purchase transactions, only half are used to access cash at an ATM).

⁴² *Id.* at 20 (showing that the more loads to an account, the more purchases made and the more bill payments).

⁴³ *Id.* at 53. Table 4.6 shows that 95.2% of prepaid cards with only occasional loads are used for purchases, these prepaid cards are used far less often for ATM withdrawals, bill pay, and person-to-person transfers.

⁴⁴ *Id.* at 22, 53 (showing that while 97% of prepaid cards are used for transactions, only half are used to access cash at an ATM). This appears to be confirmed by the Pew survey of prepaid card users, which indicated about half of users surveyed had withdrawn cash at an ATM. THE PEW CHARITABLE TRUSTS, *supra* note 5, at 15.

⁴⁵ HAYASHI & CUDDY, *supra* note 42, at 22.

Ratings: Prepaid Cards Used in Addition to a Bank Account

 Recommended

 Excellent Very Good Good Fair Poor

| | PREPAID CARD | SCORE | | | | |
|-------------------------------------|--|-----------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Rec. | | | Value | Fee Accessibility & Clarity | Convenience | Safety |
| <input checked="" type="checkbox"/> | Bluebird (American Express and Walmart) | 90 | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | H&R Block Emerald Prepaid MasterCard | 86 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | Chase Liquid (Visa) | 86 | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | American Express Serve | 85 | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | Fifth Third Bank Access 360° (MasterCard) | 81 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | U.S. Bank Contour Card (Visa) | 81 | <input type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | Green Dot Prepaid Visa (issued by Green Dot Bank) | 80 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | Walmart MoneyCard Basic (Visa) (issued by Green Dot Bank) | 80 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | Prepaid Visa RushCard, RushUnlimited Plan (issued by The Bancorp Bank) | 79 | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | BB&T MoneyAccount Card (Visa) | 77 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | Prepaid Visa RushCard, Pay As You Go Plan (issued by The Bancorp Bank) | 77 | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | Regions Now Card (Visa) | 76 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | Halogen Reloadable Prepaid Card (MasterCard, Kmart, issued by Green Dot Bank) | 74 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | Walgreens Balance Financial Prepaid MasterCard | 72 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| | PNC SmartAccess Prepaid Visa Card | 68 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| | Mango Prepaid MasterCard (issued by First Bank & Trust) | 66 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| | PayPower Prepaid Visa Prepaid Card (MetaBank) | 63 | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| | Univision MasterCard Prepaid Card | 63 | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| | UPside Visa Prepaid Card, Classic Plan (issued by MetaBank) | 60 | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| | NetSpend Prepaid Visa, FeeAdvantage Plan (issued by MetaBank) | 59 | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| | NetSpend Prepaid Visa, Pay-As-You-Go Plan (issued by MetaBank) | 59 | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| | AccountNow Gold Visa Prepaid Card (issued by MetaBank) | 44 | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| | American Express for Target | 17 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |

Ratings Analysis: Prepaid Cards Used in Addition to a Bank Account

The top prepaid cards rated for use in addition to a bank account all have relatively low monthly fees and few other fees.⁴⁶ Bluebird comes out on top, as it did in 2013. This year, there is no distinction between Bluebird with direct deposit and without, as Bluebird now has the same fee structure for all users. This makes fees to use Bluebird more transparent, a positive development. H&R Block Emerald Prepaid MasterCard, a top performer in 2013, did well again this year, and with no purchase fees or monthly fees; it is a good choice for consumers who do not plan to use their prepaid card daily. Chase Liquid does an exceptional job of disclosing its fees, and comes with features consumers who already have bank accounts are likely to value, such as fee-free ATM access. Rated for the first time this year, American Express Serve, which is similar to Bluebird in fees and features, comes in a strong fourth overall.⁴⁷ Fifth Third Bank Access 360° (MasterCard), which had a middling score last year, came in fifth, in part due to its lower monthly fee in 2014.

The lowest rated prepaid cards, including NetSpend Prepaid Visa FeeAdvantage Plan and NetSpend Prepaid Visa Pay-As-You-Go-Plan, along with the AccountNow Gold Visa Prepaid Card, are expensive for users who want to rely on them primarily for purchases and budgeting. The lowest rated card, American Express for Target, is without FDIC insurance. While it is unlikely American Express or Target will fold anytime soon, consumer funds are vulnerable when prepaid cards lack this important protection, and we cannot recommend consumers use any prepaid card that does not offer it.

⁴⁶ There's evidence that banked consumers more sensitive to fees than unbanked consumers. See BARR, *supra* note 12, at 106-07.

⁴⁷ Bluebird and Serve consumers appear to be using their cards for savings, a feature which was not included in our evaluation, but may be helpful to consumers. American Express reports that Bluebird and Serve customers are putting aside money into Set Aside and Reserve accounts three times a month, and are saving 25% of funds loaded. Press Release, American Express Serve® and Bluebird® Show You Where Your Money Goes with Free Tools that Track Spending and Budgets (June 5, 2014), available at <http://about.americanexpress.com/news/pr/2014/serve-bluebird-show-you-where-money-goes.aspx>.

Ratings: Prepaid Cards Used as a Bank Account Substitute

 Recommended

 Excellent Very Good Good Fair Poor

| | PREPAID CARD | SCORE | | | | |
|-------------------------------------|--|-----------|-----------------------|----------------------------------|----------------------------------|----------------------------------|
| Rec. | | | Value | Fee Accessibility & Clarity | Convenience | Safety |
| <input checked="" type="checkbox"/> | Bluebird (American Express and Walmart) | 88 | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | Chase Liquid (Visa) | 86 | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | American Express Serve | 85 | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | Prepaid Visa RushCard, RushUnlimited Plan (issued by The Bancorp Bank) | 83 | <input type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | Green Dot Prepaid Visa (issued by Green Dot Bank) | 83 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | U.S. Bank Contour Card (Visa) | 81 | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | H&R Block Emerald Prepaid MasterCard | 81 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | Prepaid Visa RushCard, Pay As You Go Plan (issued by The Bancorp Bank) | 80 | <input type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | Fifth Third Bank Access 360° (MasterCard) | 80 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | BB&T MoneyAccount Card (Visa) | 80 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | Walmart MoneyCard Basic (Visa, issued by Green Dot Bank) | 79 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | Halogen Reloadable Prepaid Card (MasterCard, Kmart, issued by Green Dot Bank) | 76 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | Regions Now Card (Visa) | 72 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| <input checked="" type="checkbox"/> | Walgreens Balance Financial Prepaid MasterCard | 71 | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| | PNC SmartAccess Prepaid Visa Card | 70 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| | PayPower Prepaid Visa Prepaid Card (MetaBank) | 68 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| | Mango Prepaid MasterCard (issued by First Bank & Trust) | 65 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| | Univision MasterCard Prepaid Card | 63 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| | UPside Visa Prepaid Card, Classic Plan (issued by MetaBank) | 63 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| | NetSpend Prepaid Visa, FeeAdvantage Plan (issued by MetaBank) | 63 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| | NetSpend Prepaid Visa, Pay-As-You-Go Plan (issued by MetaBank) | 60 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| | AccountNow Gold Visa Prepaid Card (issued by MetaBank) | 47 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| | American Express for Target | 16 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |

Ratings Analysis: Prepaid Cards Used as a Bank Account Substitute

About one in thirteen U.S. households is “unbanked,” meaning no one in the household has a bank or credit union account.⁴⁸ The reasons people go without banking vary. Some consumers may find that a checking account is too expensive, with monthly fees being a particular barrier.⁴⁹ Others may find it onerous to wait for check deposits to clear before being able to access funds.⁵⁰ Some may lack the necessary identification for opening an account.⁵¹ Others may have “bounced out” of the banking system due to repeated overdrafts, which can lead to involuntary account closures and negative entries in ChexSystems, a consumer reporting agency with a database many banks consult to avoid offering accounts to “risky” consumers.⁵² But it’s not just low income consumers who are unbanked. Some younger Americans are eschewing banks because they find alternatives to banking more convenient.⁵³

Often, unbanked consumers rely on check cashers to turn paychecks into ready cash and money orders to pay bills. This can be a time consuming and expensive hassle. A person with a \$20,000 annual income may spend up to \$1,200 a year on fees for alternative financial services, such as check cashing and money orders.⁵⁴ A low-fee prepaid card that allows consumers to make deposits, spend money and pay bills can return a significant portion of those funds back to consumers’ pockets. There’s also some evidence that carrying a prepaid card may be safer than carrying cash by making a consumer less vulnerable to street crime.⁵⁵

⁴⁸ See FED. DEPOSIT INS. CORP., *supra* note 6, at 4.

⁴⁹ See Lisa Servon, *Are Banks Too Expensive to Use?*, N.Y. TIMES, Oct. 29, 2014, available at http://www.nytimes.com/2014/10/30/opinion/are-banks-too-expensive-to-use.html?_r=0.

⁵⁰ CHRISTOPHER BERRY, TO BANK OR NOT TO BANK? A SURVEY OF LOW-INCOME HOUSEHOLDS 7 (2004), available at http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/babc_04-3.pdf. Existing federal law requires the first \$200 of a check deposit to be made available on the first business day after the deposit was made; additional funds may take longer. See 12 U.S.C. § 4002(a)(2)(D) (2012 & Supp. I.) (next-day availability of first \$200); § 4002(b) (most other funds available on second business day after deposit); § 4003 (exceptions allowing for further delays in certain circumstances).

⁵¹ See FED. DEPOSIT INS. CORP., *supra* note 6, at 26.

⁵² DENNIS CAMPBELL, ET AL., BOUNCING OUT OF THE BANKING SYSTEM: AN EMPIRICAL ANALYSIS OF INVOLUNTARY BANK ACCOUNT CLOSURES 1-2 (2008), available at http://www.bostonfed.org/economic/cprc/conferences/2008/payment-choice/papers/campbell_jerez_tufano.pdf.

⁵³ See, e.g., Luke Landis, *Young Americans Likely to be Unbanked Regardless of Income Level*, CONSUMERISM COMMENTARY, <http://www.consumerismcommentary.com/young-americans-likely-to-be-unbanked-regardless-of-income-level/?WT.qsr=1&osrc=FBS-118706010>.

⁵⁴ Martha Perine Beard, *Reaching the Unbanked and Underbanked*, CENTRAL BANKER, Winter 2010, available at <http://www.stlouisfed.org/publications/cb/articles/?id=2039>.

⁵⁵ There is some evidence that in neighborhood where there is less cash, there is less crime. A recent study found that the introduction of electronic benefits transfer led to a drop in predatory street crime. See Richard Wright, et al., *Less Cash, Less Crime: Evidence from the*

Consumers looking to sidestep traditional banking have some good prepaid card choices. Bluebird again tops the list, with all the features a consumer could want, including bill pay, no monthly fee, no inactivity fees and no fees for calling customer service. Bluebird is versatile; features include no-overdraft paper checks.⁵⁶ Chase Liquid is another low-fee, high-feature account, though it does not have bill pay, Chase Liquid card is Visa branded, and thus consumers may find it more widely accepted than the Bluebird and its sibling card Serve, which both are American Express. Prepaid Visa RushCard, RushUnlimited Plan solves both problems, with a Visa brand, and bill pay that allows consumers to have a paper check sent to a payee from a RushCard account. Rounding out the top five is Green Dot Prepaid Visa, a top performer in 2013 which continues to be an excellent choice for consumers.

At the bottom of the ratings are the less-convenient, more expensive prepaid cards, including NetSpend Prepaid Visa, Pay-As-You-Go Plan and AccountNow Gold Visa Prepaid Card. Consumers who wish to use a prepaid card as a bank account substitute are likely to incur high fees with the lowest rated prepaid cards, none of which offer entirely fee-free in-network ATM access, as the top rated prepaid cards do. As with the ratings for prepaid cards used as an adjunct to a bank account, the lowest rated prepaid card here, American Express for Target, cannot be recommended because it lacks the most basic consumer protection - insurance for deposited funds.

Conclusion

The best prepaid cards are convenient, affordable tools for financial management, whether those cards are used in conjunction with a traditional bank account or instead of one. However, consumers may find it difficult to pick the best prepaid cards because comparison shopping is hobbled by the lack of uniform fee terms and disclosures. Prepaid users deserve the same high level protections that come with credit and debit cards, and regulators should move to implement such protections.

Electronic Benefit Transfer Program 1 (Nat'l Bureau of Econ. Research, Working Paper No. w19996, 2014), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2413344.

⁵⁶ Consumers using Bluebird checks must log into their Bluebird account online or mobile to authorize a check. The funds are then immediately deducted from the account, ensuring that once the check is cashed by the payee, the funds are available. American Express, Bluebird, <https://www.bluebird.com/> (click on "Bluebird Checks" tab).

APPENDIX I

Policy Recommendations

Consumers Union, the policy and advocacy division of Consumer Reports, has called on regulators and lawmakers to ensure that prepaid card users have the same protections that debit and credit card users now enjoy.⁵⁷ To that end, the following reforms should be enacted:

- The Consumer Financial Protection Bureau (CFPB) should require that all prepaid card fees be displayed in a simple comprehensive chart with clear definitions of each fee and that explanations for fees should be uniform and straightforward, and this information provided to consumers before signing-up;
- The CFPB should clarify existing regulations to ensure that prepaid card users have full protection under the Electronic Fund Transfer Act, including limited liability for unauthorized transactions and the right of recredit for funds that go missing.⁵⁸ The CFPB should clarify⁵⁹ that protected “accounts” include all prepaid card products marketed or used as account substitutes, or which provide a repository for significant sources of income or assets for an individual or household. Clarifying that the definition of “account” in Regulation E includes prepaid cards would protect important household funds in the event of unauthorized use for the growing number of consumers using prepaid cards, and provide error resolution rights. This could be achieved by adding:

C.F.R. § 1005.2 Definitions

...

(b)(1) Account means:

...

(b)(3) The term includes a “spending account,” which is an account that is directly or indirectly established by the consumer and to which prepayments are to be made on behalf of the consumer by the consumer or by others, or to which recurring electronic fund transfers may be made at the discretion of the consumer. This definition includes an account operated or managed by a retailer, third-party processor, a depository institution or any other person, an account held in the name of the consumer or the name of another entity, and an account where the funds are pooled with the funds of others;

- The CFPB should require that prepaid-card-issuing banks set up these programs to qualify for FDIC insurance for each cardholder. This could be done by setting up individual card accounts or by complying with the FDIC General Council Opinion No. 8’s “pass-through” requirements to provide deposit insurance to individual cardholders.⁶⁰ In addition, the Bureau should work with the FDIC to stop prepaid card product

⁵⁷ Consumers Union has advocated for these protections for years. *See, e.g.*, Letter from Consumers Union et al. to Jennifer Johnson, Secretary, Bd. of Governors, Fed. Reserve Sys. (Oct. 28, 2004), *available at* <http://consumersunion.org/wp-content/uploads/2013/04/payroll1004.pdf>. The Federal Reserve Board previously held jurisdiction over the Electronic Fund Transfer Act and its regulations.

⁵⁸ *See supra* note 57.

⁵⁹ Current regulations appear to exempt funds held and managed in pooled accounts, a common retail prepaid card arrangement. *See* Regulation E, Official Staff Interpretations, 12 C.F.R. § 1005, Supplement I (2014).

⁶⁰ Op. Gen. Counsel, Fed. Deposit Ins. Corp. 8 (2008), *available at* <http://www.gpo.gov/fdsys/pkg/FR-2008-11-13/pdf/E8-26867.pdf>.

advertisements, including websites, from displaying the FDIC logo or phrase “FDIC insured” unless the prepaid card funds are in fact insured to the individual cardholder directly or on a pass-through basis;⁶¹

- The CFPB should ban overdraft, linked credit and abusive fees. Overdrafts are likely to occur more often with signature-based transactions than PIN-based transactions. Prepaid cardholders owe repayment to make the account whole if they spend more money than they have placed in the card account. However, overdraft fees in prepaid cards, which can be called overdraft, shortage, negative balance, or some other name, should be prohibited. Prepaid should mean prepaid and no credit should be offered linked to a prepaid card. Prepaid card issuers should not profit from or grow their profits from assessing abusive fees, such as inactivity fees or dormancy fees. If an account is dormant for over 90 days, the account should be closed with the remaining balance returned to the consumer without a fee;
- To encourage uniformity among different payment cards and methods, all cards, devices, and other plastic payments should have loss caps of no more than \$50, Congress should amend the EFTA to reduce the EFTA’s dollar cap applicable to debit cards to the level of the credit card cap — no more than \$50. This could be accomplished by deleting 15 U.S.C. § 1693g(a)(2) and the “or” at the end of § 1693g(a)(1);⁶²
- Congress should amend the EFTA to include a “chargeback” provision for both bank account debit cards and prepaid cards to provide to those payment methods the protections that consumers already have when paying with credit cards. The chargeback is an important consumer protection that allows the cardholder to resolve a dispute with a merchant when goods or services are not accepted by the cardholder or not delivered as agreed.⁶³ Consumers should have the same chargeback rights when using debit cards or prepaid cards as when using credit cards. This can be done by adding the following to Section 908 of the Electronic Funds Transfer Act (15 U.S.C. § 1693f) by adding at the end of the following:

(g) Rights of Consumers With Respect to Accepted Cards and Other Means of Access

(1) In General—Subject to the limitation contained in paragraph (2), the issuer of an accepted card or other means of access to a consumer shall be subject to all claims (other than tort claims) and defenses arising out of any transaction in which the accepted card or other means of access is used as a method of payment, if

(A) the consumer has made a good faith attempt to obtain satisfactory resolution of a disagreement or problem relative to the transaction from the person honoring the accepted card or other means of access;

(B) the amount of the initial transaction exceeds \$50; and

⁶¹ 12 C.F.R. §§ 328.2, 328.3 (2014).

⁶² See Gail Hillebrand, *Before the Grand Re-thinking: Five Things to Do Today With Payments Law and Ten Principles to Guide New Payments Products and New Payments Law*, 83 CHL.-KENT L. REV. 769, 790 (2008).

⁶³ 12 C.F.R. § 226.12(b) (2014).

(C) the transaction was initiated by the consumer in the same State as the mailing address previously provided by the consumer, or within 100 miles from such address, except that the limitations set forth in subparagraphs (A) and (B) with respect to the right of a consumer to assert claims and defenses against the issuer of the card or other means of access shall not be applicable to any transaction in which the person honoring the accepted card or other means of access

(i) is the same person as the issuer;

(ii) is controlled by the issuer;

(iii) is under direct or indirect common control with the issuer;

(iv) is a franchised dealer in the products or services of the issuer; or

(v) has obtained the order for such transaction through a mail solicitation made by or participated in the issuer in which the cardholder or other means of access holder is solicited to enter into such transaction by using the accepted card issued by the issuer.

(2) Limitation—The amount of claims or defenses asserted by the holder of the card or other means of access under this subsection may not exceed the amount paid by the holder of the card or other means of access with respect to the subject transaction at the time in which the holder first notifies the issuer or the person honoring the accepted card or other means of access of such claim or defense.”⁶⁴

⁶⁴ Hillebrand, *supra* note 62, at 798.

APPENDIX II

Consumer Tips for Using Prepaid Cards

When choosing a prepaid card, shop around.

Before you buy a prepaid card, compare what it costs to buy and use it by looking out for these specific fees:

- ✓ Fees for withdrawing money. Look for prepaid cards that have free access to ATMs, sometimes called “in-network” ATMs.
- ✓ Fees for loading money onto the prepaid card. Look for prepaid cards that have no- or low-fee load options at places that are convenient for you.
- ✓ Fees for not using the card often enough. These can be called “dormancy” or “inactivity” fees. If you don’t plan to use your prepaid card much, these can eat up a balance, so look for prepaid cards that do not charge them or plan to close your account before these fees eat up any money left on your card.
- ✓ Fees for calling customer service. Some prepaid cards charge a fee for automated or live customer service. Look for prepaid cards that make account information and help available at no fee.
- ✓ Ask if there are any other fees or hidden fees.

If it's not easy to find out about fees for a prepaid card, don't buy it.

Compare what the prepaid card can do. Each prepaid card has different features, so you want to make sure that the prepaid card you choose can do what you need it to do. Some things that might be important include:

- ✓ Bill pay, especially with the ability to have a paper check sent.
- ✓ Apps where you can locate in-network ATMs, manage your account, and even deposit checks via your mobile phone.
- ✓ Linked savings accounts or the ability to create sub-accounts.

As with fee information, if you can't easily find a card's features and clear explanations of how they work, think twice before buying it.

Once you have a prepaid card, take these steps.

Register your prepaid card. Registering your prepaid card by providing personal information is usually necessary to ensure that you are eligible for the protections against loss and fraud that some prepaid cards voluntarily offer.

Avoid using a prepaid card where the merchant is likely to put a hold on your money. Try not to use prepaid cards to buy gas at the pump or to pay for hotels or rental cars. These types of companies can put extra holds on your card for a certain amount of time. During this time, you won't be able to use all of your money.

Prepaid card problem? Report it. Contact the Consumer Financial Protection Bureau (CFPB) if you have any complaints.

Go online: www.consumerfinance.gov/Complaint
Call: 1-855-411-2372 (TTY/TDD: 1-855-729-2372)

2013 Federal Reserve Payments Study

July 2014

The 2013 Federal Reserve Payments Study

Recent and Long-Term Trends in the United States: 2000–2012

Detailed Report and Updated Data Release



Research Sponsored by the Federal Reserve System

July 2014

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1 Overview

1.1 INTRODUCTION

Underlying the net economic output of the country are billions of transactions between buyers and sellers of goods and services (such as consumers and merchants, factories and suppliers, employers and employees), as well as various financial transactions (such as transfers of balances between accounts, loan originations, and loan payments). The 2013 Federal Reserve Payments Study attempts to measure the number and value of all such transactions conducted over noncash payment systems—including general-purpose and private-label card systems, automated clearinghouse (ACH), and checks. The study builds on the triennial Federal Reserve Payments Study series, conducted since 2001, to paint a more comprehensive picture of the U.S. payments system.

This detailed report is a complement to the “Summary Report and Initial Data Release” (Summary Report), which was released in December 2013 and has been updated for consistency with revisions made during preparation of this report.¹ This report includes new information related to noncash payments based on additional estimates and analysis. For instance, this detailed report provides new insights into the use of cards by consumers and businesses, alternative payment initiation methods, consumer and business domestic and cross-border wire transfers, and an expanded view of cash deposits and withdrawals from depository institutions.² It also includes information about the number of and balances in

¹ The revised Summary Report is available at <https://www.frbservices.org/assets/news/research/2013-payments-study-summary.pdf>. For a discussion of the revisions, see this report’s section 1.10.1.

² There are many innovative and emerging or established methods for initiating payments that typically settle over traditional payment systems. Several of the more visible types are tracked in the study, and are collectively called alternative payment initiation methods. Payments with transit cards and far-field radio frequency identification (RFID) devices for tolls are also tracked. The figures reported for these initiation methods are the amount reported by the respondents, and may not represent national totals. National totals were estimated, however, for several alternative payment methods being offered by depository institutions. Virtual currencies are not included or discussed in this report.

consumer and business credit card and transaction deposit accounts, and provides more discussion of the unauthorized third-party fraud payments reported in the Summary Report.

Findings in this detailed report are based on three separate survey data collection efforts undertaken for the 2013 Study. Accordingly, the report includes three sections detailing each of the component survey efforts:

- *The Depository and Financial Institutions Payments Survey (DFIPS)*³
- *The Networks, Processors, and Issuers Payments Surveys (NPIPS)*
- *The Check Sample Survey (CSS)*

The DFIPS collected information for the month of March 2013, and the NPIPS and the CSS collected information for the year 2012. For comparability with the other surveys, estimates from the DFIPS are annualized and reported as 2012 figures.⁴

The 2013 Study collected information that reflects varieties of payments behavior using the most common noncash payment methods. These payments can be framed by a simple set of counterparty transaction types or use cases:⁵

- business payments to consumers
- business payments to other businesses
- consumer payments to other consumers
- consumer payments to businesses

Where possible, this report will provide information on transaction types within this framework. For example, in CSS checks were divided into these counterparty transaction types, and checks written to businesses were further divided into point-of-sale payments and bill payments. As another example, in DFIPS and NPIPS card payments were divided into consumer and

³ The survey was renamed because of the inclusion of credit card banks in the sample. From a regulatory standpoint credit card banks are considered depository institutions but they do not hold transaction deposit accounts.

⁴ For more discussion on this topic, see section 1.10 and section 2.

⁵ Only the counterparty types of consumer and business were generally practical in this broad and comprehensive study. The classification of data depends on the ability of survey respondents to distinguish between the two counterparty types. As a result, consumer payments measures may include some small business payments, and business payments measures may include the payments of wealthy individuals. Unless otherwise noted, business counterparties include corporations, partnerships, and sole proprietors as well as federal, state, and local government agencies.

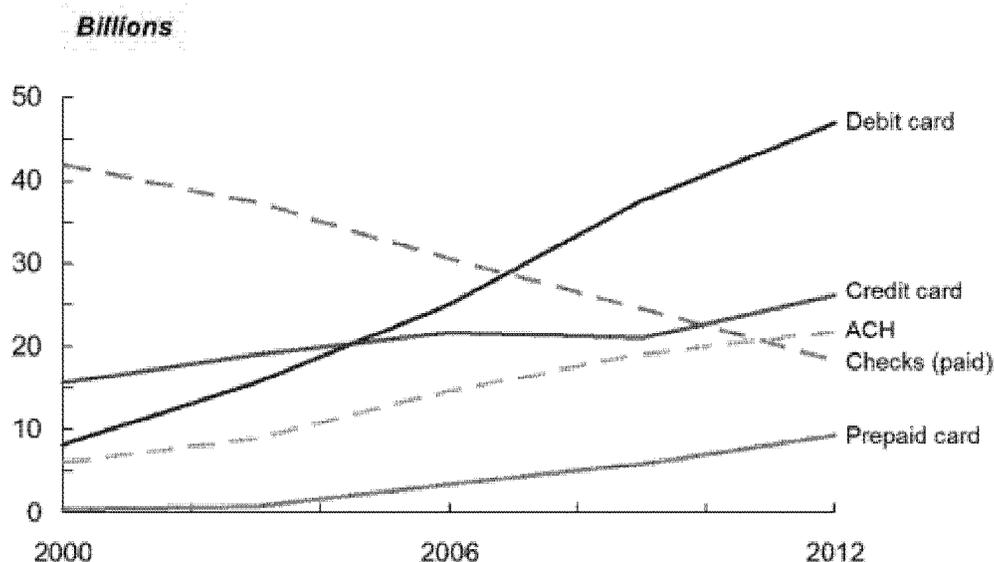
business payee transaction types, and separately divided into card-present (in-person) and card-not-present (remote purchase and bill payment) transaction types.

1.1.1 Recap of Broad Trends

Card and ACH payments made up 85 percent of all noncash payments (excluding wire transfers) by number and 67 percent of total value in 2012, with check payments making up the remainder. The chart and table below tell the story of noncash payments from 2000 to 2012. While the number of total noncash payments grew almost 69 percent since 2000 (from 72.4 to 122.2 billion), the composition of noncash payments also changed substantially. Exhibit 1 combines general-purpose cards and private-label cards to show the credit card and prepaid card payment trends. As shown in Exhibit 1,

- two-thirds of noncash payments made in the United States were made by card in 2012, compared with only one-third of noncash payments by card in 2000;
- the combined total number of debit and prepaid card payments was more than double the number of credit card payments in 2012, though it was less than half the number of credit card payments in 2000; and
- the number of checks paid declined more than 50 percent since 2000 (from 41.9 billion to 18.3 billion), while the non-check portion of noncash payments (card and ACH) more than tripled (from 30.5 billion to 104.1 billion)

Exhibit 1: Trends in noncash payments 2000-2012, by number and type of transaction



Credit, debit and prepaid card trends include general-purpose and private-label payments.

In Exhibit 2, the types of card payments are regrouped into general-purpose cards and private-label cards to highlight these trends and to be consistent with descriptions below.

Exhibit 2: Number and growth of noncash payments 2000-2012

| | 2000 | 2003 | 2006 | 2009 | 2012 | CAGR* | |
|-----------------------------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|
| | | | | | | 2000-12 | 2009-12 |
| Total (billions) | 72.4 | 81.4 | 95.2 | 108.1 | 122.4 | 4.5% | 4.2% |
| General-purpose card | 20.6 | 30.8 | 44.3 | 58.4 | 73.9 | 11.2% | 8.2% |
| Credit | 12.3 | 15.2 | 19.0 | 19.5 | 23.8 | 5.6% | 6.8% |
| Debit | 8.3 | 15.6 | 25.0 | 37.5 | 47.0 | 15.6% | 7.7% |
| Prepaid** | 0.0 | 0.0 | 0.3 | 1.3 | 3.1 | | 33.9% |
| Private-label and EBT card | 3.8 | 4.6 | 5.8 | 6.1 | 8.5 | 6.9% | 11.6% |
| Credit | 3.3 | 3.8 | 2.7 | 1.5 | 2.4 | -2.6% | 17.1% |
| Prepaid | | | 1.9 | 2.7 | 3.6 | | 10.8% |
| EBT | 0.5 | 0.8 | 1.1 | 2.0 | 2.5 | 13.6% | 8.1% |
| ACH | 6.1 | 8.8 | 14.6 | 19.1 | 21.7 | 11.1% | 4.4% |
| Checks (paid) | 41.9 | 37.3 | 30.5 | 24.5 | 18.3 | -6.6% | -9.2% |

*CAGR is compound annual growth rate. **The number of general-purpose prepaid card transactions in 2000 and 2003 was negligible. The number of ACH payments in 2012 is revised since the Summary Report. Electronic benefits transfer (EBT) cards are used to disburse funds for various government assistance programs. Figures may not sum because of rounding.

General-purpose cards as defined in this study are issued by depository institutions and processed through broadly accepted card networks that carry a recognizable network brand. Payments and cards associated with certain kinds of selective authorization card programs that are network-branded are included in the general-purpose card group and other types are included as private-label or EBT.⁶ Private-label cards are typically issued by merchants or other businesses and are only for use at locations owned by the issuing business.⁷ Electronic benefit transfer (EBT) cards are a type of prepaid card issued by governments to disburse benefits to specific individuals, and typically can only be used for certain types of purchases. They share some characteristics with general-purpose cards in that they are accepted at more than one merchant, but the merchant must participate in and follow the requirements of the specific card program, such as limiting purchases to specific items. EBT payments are tracked separately.

⁶ General-purpose card payments under this definition include payments using cards that carry a network brand but restrict payment to specific merchant categories.

⁷ Figures include some payments from selective authorization card programs that are designed to be used at a limited set of proximate merchants, such as for use near and around a town, university or mall.

1.1.2 Key Highlights from this Detailed Report

The following key highlights are discussed in greater detail below and are further supplemented by details on the surveys in sections 2 through 4. Section 1.10 contains an overview of the three component surveys and also provides further explanation concerning revisions to the Summary Report released in December 2013.

General-Purpose Card Payments

- There were 775.4 million general-purpose cards in force (meaning issued, activated, and not expired) nationally in 2012. Of this number, 333.6 million were credit cards, 282.8 million were debit cards, and 159.1 million were prepaid cards. Consumers held the majority of general-purpose credit cards—more than 10 times the number held by businesses (305.3 million and 28.3 million, respectively).
- In 2012, slightly more than half of the 775.4 million general-purpose cards in force had purchase activity (meaning they were used to make a purchase or bill payment at least once in a month), with 187.8 million credit cards with purchase activity (56 percent of credit cards in force), 182.5 million debit cards with purchase activity (65 percent of debit cards in force), and 29.4 million prepaid cards with purchase activity (18 percent of prepaid cards in force).
- Among general-purpose cards with purchase activity in 2012, transaction intensity per active card was higher for debit cards, with an average of 23 payments a month, compared with an average of 11 payments a month for general-purpose credit cards and 10 payments a month for general-purpose prepaid cards.
- Debit cards dominated general-purpose card-present transactions in 2012. There were 41.4 billion card-present debit card payments compared with 18.0 billion general-purpose credit card and 2.7 billion general-purpose prepaid card payments. Credit cards were most commonly used for general-purpose card-not present payments, with 5.8 billion transactions compared with 5.5 billion debit card and 0.4 billion general-purpose prepaid card payments.
- There were an estimated 47.1 million general-purpose cards with microchip-enabled security features (chip cards). If the cards are used in combination with merchant terminals that can read the chip, payments made with these cards can be less susceptible to fraud.

Private-Label Card, Electronic Benefit Transfer, and Transportation Payments

- The total number of private-label credit card payments has fluctuated over the years and displayed no clear trend. The number of private-label credit card payments, which led the decline in total credit card payments from 2006 to 2009, grew most quickly from 2009 to 2012, increasing at a 17.1 percent annual rate.
- Private-label credit and prepaid cards are often used as substitutes for general-purpose cards, but they are typically used in very different ways. In 2012, more than half of private-label credit card payments were for amounts greater than \$50, a higher proportion than any other card type studied. On the other hand, private-label prepaid cards tended to be used for smaller-value, frequent purchases, with almost 60 percent of transactions for \$5 or less.
- Most prepaid card payments in 2012 were made with private-label cards or EBT cards. Although the number of private-label prepaid card payments continued to rise from 2006 to 2012, the share of private-label prepaid card payments among all prepaid card payments declined because of the larger increase in general-purpose prepaid card payments.
- The number of private-label prepaid transportation payments exceeded all other prepaid card payments combined in 2012: Payments by prepaid transit cards and far-field radio frequency identification (RFID) transponders for auto tolls had reached a combined 9.9 billion payments.

Payments using Alternative Payment Initiation Methods

- The 2013 Study tracked a variety of payments using alternative payment initiation methods, which usually are settled over ACH or a general-purpose card network, and sometimes even with checks. While national estimates for these methods were not possible, the figures reported provide indicators for developments in the payments system.
- The number of online bill payments reported by major processors, which included those initiated through online banking websites and directly through billers and settled over ACH, exceeded 3 billion in 2012. As noted in the Summary Report, the number of online banking bill payments initiated through depository institutions was estimated to have been almost 2.4 billion, suggesting at least 600 million additional ACH payments through biller websites. While the total number is unknown, it is likely that

many more bills were paid directly to billers through a card-not-present credit, debit, or prepaid card transaction.

- Secure online payments, including methods that prompt users to enter personal identification numbers (PINs) for debit cards into the computer or that redirect users to a trusted Internet payment website to complete the payment, totaled more than 1.8 billion in 2012.
- There were more than 250.6 million mobile payments made using a mobile wallet application and 205.3 million person-to-person or money transfer payments in 2012.

Automated Clearinghouse Payments

- ACH payments continued to grow in traditional consumer and business categories such as payroll, prearranged bill payment, and cash concentration and disbursement. Internet-initiated ACH (WEB) payments have significantly contributed to overall ACH growth.⁸

Wire Transfers

- There were 287.5 million wire transfers—including those sent over large-value funds transfer systems and those made on the books of depository institutions—in 2012, with a value of \$1,116.3 trillion. Consumer senders accounted for just 6 percent of all wire transfers by number and 0.14 percent by value; business customers accounted for the significant majority of both the number (86 percent) and value (74 percent) of all wire transfers. Interbank settlements accounted for approximately 8 percent of the number and 26 percent of the value of all wire transfers.

Check Payments

- More than 90 percent of the decline in total checks from 2009 to 2012 was from the reduction in checks for \$500 or less, and 45 percent was from the reduction in checks for \$50 or less.

⁸ WEB is a type of standard entry classification code (SEC) assigned to ACH payments that are initiated online. SEC codes are defined by NACHA-The Electronic Payments Association. While during the study period WEB payments were confined to transactions in which consumers have provided authorization for a debit to their accounts, the category has since been expanded to include online-initiated ACH credit payments, which can be used to support online person-to-person (P2P) payments.

- Checks written by consumers or to consumers declined much faster than business-to-business checks from 2009 to 2012.

Cash Withdrawals and Deposits

- The economic value of cash withdrawn from ATMs increased, even while the frequency of ATM withdrawals declined: Although the number of ATM cash withdrawals using debit cards and general-purpose prepaid cards dropped slightly, growth in the value of ATM withdrawals continued to exceed inflation over the years. Additionally, while the number of ATM withdrawals (5.8 billion) in 2012 exceeded the number of over-the-counter cash withdrawals (2.1 billion) at depository institution branches, the average value of over-the-counter withdrawals (\$715) exceeded the average value of withdrawals at ATMs (\$118).
- At 1.63 billion transactions in 2012, over-the-counter cash deposit was the most common type of cash deposit, followed by ATM cash deposit, with more than 1 billion transactions.⁹

Payment Accounts

- As of 2012, there were 287.4 million consumer transaction accounts with an average value of \$8,001, while 32.6 million business transaction accounts averaged almost \$62,000. Meanwhile, there were 279.7 million consumer credit card accounts and 28.5 million business credit card accounts. Credit card balances, which included both current spending and revolving credit, averaged approximately \$1,900 for both consumer and business accounts. The proportions of current spending and revolving credit were not measured, and likely differed between consumer and business accounts.

1.2 GENERAL-PURPOSE CARDS

General-purpose card payments are those that are processed over the major credit and debit card networks, and include general-purpose credit card, debit card and general-purpose prepaid card payments.

⁹ While check deposits—a common type of over-the-counter or ATM deposit—were tracked in the study, they were not allocated among these categories.

General-purpose card networks can be classified as either dual-message or single-message networks.

Dual-message network: A payment card network that typically uses separate messages to authorize and clear a transaction. This type of network normally processes signature-authenticated transactions, although some transactions, such as small-value purchases, may not require a signature. In some instances, a dual-message network may use a single message to authorize and clear a given transaction and may require the entry of a PIN for cardholder authentication in that transaction. Dual-message networks were traditionally called signature networks because of the fact that, as noted above, many transactions require a signature as part of the transaction.

Single-message network: A payment card network that uses a single message to authorize and clear a transaction. This type of network normally processes PIN-authenticated transactions, although some transactions, such as small-value purchases, may not require a PIN (PIN-less PIN). Single-message networks were traditionally called PIN networks because most single-message transactions require PIN authentication of the transaction.

General-purpose credit card payments are processed over dual-message networks. Debit card and general-purpose prepaid card payments typically can be processed over either a dual-message network like a credit card, or a single-message network. General-purpose prepaid cards include not only those issued directly to individuals by depository institutions, but also cards issued by depository institutions and associated with programs sponsored by third-party providers and governments.¹⁰

1.2.1 Number of Cards in Force and with Purchase Activity

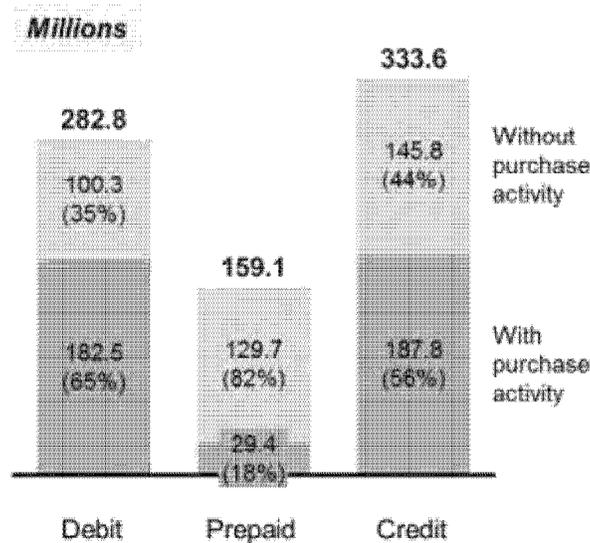
Cards issued by a depository institution, activated by the cardholder, and not expired—meaning the cardholder followed the required steps to make the card usable for its first purchase—are considered to be “in force.” There were 775.4 million general-purpose cards in force in 2012

¹⁰ A variety of banks and non-bank providers sponsor prepaid card programs for general-purpose reloadable use, employer payroll, purchase and employee incentives, health care expenditures, government disbursements, and gifts. For more information, see for example www.nbpc.com/en/What-Are-Prepaid-Cards/Types-of-Cards.aspx.

(Exhibit 3). Most cards in force were credit cards (333.6 million). There were fewer debit cards (282.8 million) or general-purpose prepaid cards in force (159.1 million).

Cards that were used to make at least one purchase or bill payment in a month are called cards with purchase activity, or active cards.¹¹ The number of active cards in 2012 was highest for credit cards (187.8 million), followed by debit cards (182.5 million), and prepaid cards (29.4 million). The percentage of cards in force that were active tells a different story: The percentage of debit cards in force that were active was highest at 65 percent, followed by credit cards at 56 percent, and prepaid cards at 18 percent.

Exhibit 3: Number of general-purpose cards in force in 2012, with or without purchase activity, by card type

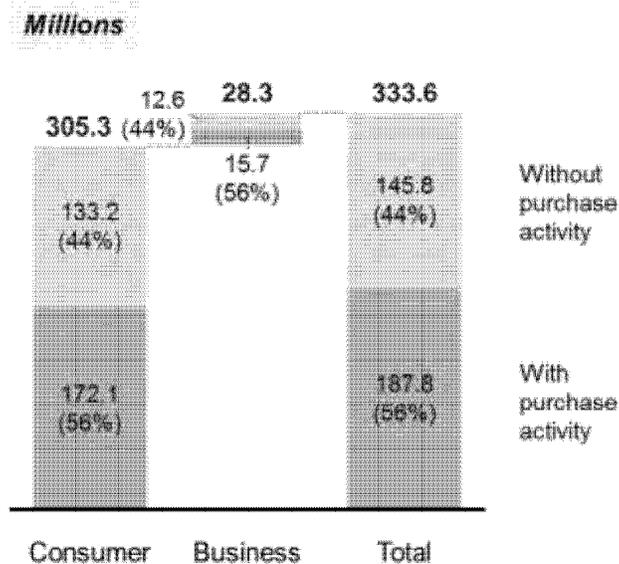


Cards in force are those that are issued, activated, and not expired, and cards with purchase activity are those used to make at least one purchase or bill payment in a month.

The number of general-purpose consumer credit cards in force (305.3 million) in 2012 was more than 10 times the number of business cards in force (28.3 million) (Exhibit 4). The percentage of active general-purpose credit cards was approximately the same for consumers and businesses (56 percent).

¹¹ Non-purchase activity, such as ATM withdrawals, account fees, deposits, and so on was not used to qualify a card as active. ATM withdrawals are discussed in section 1.8.

Exhibit 4: Number of general-purpose credit cards in force in 2012, with or without purchase activity, by cardholder type



Cards in force are those that are issued, activated, and not expired, and cards with purchase activity are those used to make at least one purchase or bill payment in a month.

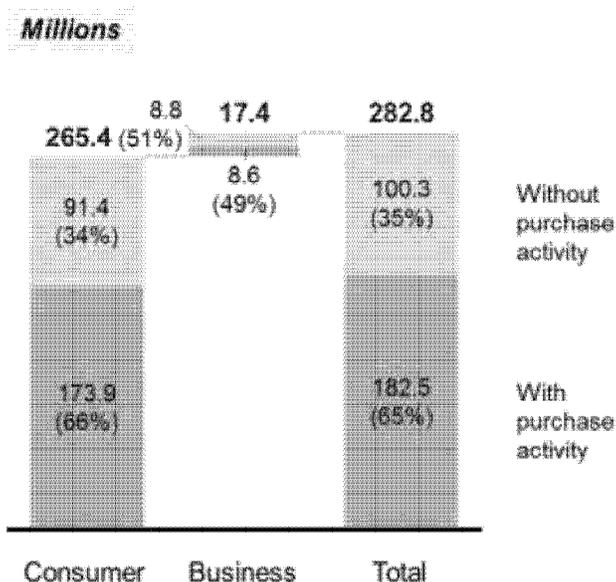
The number of consumer general-purpose credit cards in proportion to the population 18 years of age and older in 2012 was only slightly higher than the proportion of business general-purpose credit cards to the number of businesses. For each consumer 18 and older, there were 1.3 general-purpose credit cards in force and 0.7 card active.¹² In comparison to consumers, there was approximately 1.0 general-purpose credit card in force and 0.6 card active per business.¹³ Of course, individual consumers and businesses may differ considerably from these averages, because some consumers and businesses have multiple credit cards while others have none at all.

¹² While cards may be issued to minors, typically with a cosigner, an individual 18 and older is more likely to have a card than a minor. An unknown percentage of cards are held by minors. According to the U.S. Census Bureau, there were approximately 240 million individuals age 18 and older in the U.S. population in 2012. See <http://quickfacts.census.gov/qfd/states/00000.html>.

¹³ There were approximately 28 million businesses in 2012 according to the Census Bureau. The averages reported here mask some major differences among businesses. Employment is very concentrated in the largest businesses. Most businesses do not have employees other than the owner. Approximately 6 million businesses had at least one employee (that is, firms with payroll). See <https://census.gov/topics/business/small-business.html>.

The number of consumer debit cards in force (265.4 million) in 2012 was more than 15 times the number of business debit cards in force (17.4 million) (Exhibit 5). There were 1.1 debit cards in force per consumer 18 years of age and older, compared with 0.6 debit card per business. The percentage of active debit cards was greater for consumers (66 percent) than for businesses (49 percent). There were 20 times as many active consumer debit cards as active business debit cards.

Exhibit 5: Number of general-purpose debit cards in force in 2012, with or without purchase activity, by cardholder type



Cards in force are those that are issued, activated, and not expired, and cards with purchase activity are those used to make at least one purchase or bill payment in a month. Figures may not sum because of rounding.

Although consumers had 15 percent more general-purpose credit cards in force than debit cards in 2012, the number of consumer general-purpose credit cards with purchase activity (172.1 million) was approximately the same as the number of consumer debit cards with purchase activity (173.9 million). Meanwhile, businesses had 63 percent more general-purpose credit cards in force than debit cards, and the number of business general-purpose credit cards with purchase activity (15.7 million) was much greater than the number of business debit cards with purchase activity (8.6 million). Several factors may contribute to businesses' greater tendency to use credit cards. For example, the typical business owner may be relatively more affluent than the typical consumer, and therefore more likely to qualify for or be able to manage

a credit card account; issuers may be more likely to tailor credit card accounts to business needs; or businesses may be less likely to have an active debit card associated with a business transaction account, preferring to make payments by invoice via checks or ACH.

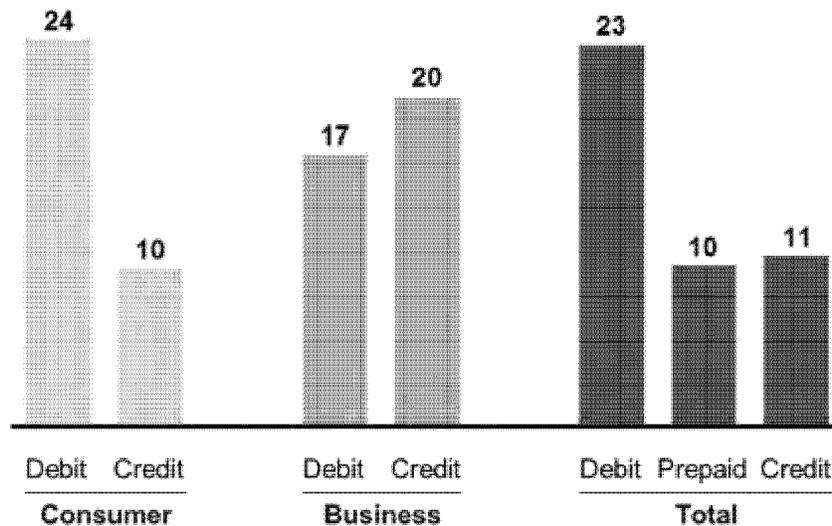
1.2.2 Number of Payments per Active Card

The discussion above about in-force and active cards outlines the extent of both adoption and active use of general-purpose cards. There were more credit cards in force and with purchase activity than debit or general-purpose prepaid cards in 2012, but debit cards had a higher share of cards with purchase activity. The intensity of use, measured by the number of payments a month per active card, provides another view. There was an average of 23 debit card payments a month per active card, compared with 10 payments a month per active general-purpose prepaid card and 11 payments a month per active general-purpose credit card (Exhibit 6). The average value of general-purpose credit card payments was larger (\$93) than the average value of debit card payments (\$39) or general-purpose prepaid card payments (\$34). The high intensity in the use of debit cards combined with the relatively low average value of transactions indicates debit cards were an important substitute for cash and checks for many small-value payments.

The intensity of use for consumer general-purpose cards, which dominated both active debit and active credit cards, are similar to the overall figures for 2012. With 24 payments a month per active debit card and 10 a month per active general-purpose credit card, consumers used debit cards much more frequently than general-purpose credit cards. Businesses, on the other hand, had more similar intensity of use between debit cards (17 a month) and general-purpose credit cards (20 a month). While some consumers pay off their credit card balance at the end of each month, others do not and, instead, use the revolving credit feature available with most credit cards, which allows the balance to be paid over time. Details on the composition of credit card balances were not collected.¹⁴

¹⁴Other studies offer some evidence. In 2010, an estimated 40 percent of households had credit card debt. See Jesse Bricker, Arthur B. Kennickell, Kevin B. Moore, and John Sabelhaus (2012), "Changes in U.S. Family Finances from 2007 to 2010: Evidence from the Survey of Consumer Finances," *Federal Reserve Bulletin*, June 2012, Vol. 98(2), table 13, pp. 61 (www.federalreserve.gov/Pubs/Bulletin/2012/PDF/scf12.pdf). An estimated 70 percent of consumers had a credit card, and 81 percent of those who had a credit card had also used it in 2010. See Kevin Foster, Scott Schuh, and Hanbing Zhang (2013), "The 2010 Survey of Consumer Payment Choice,"

Exhibit 6: Number of payments a month per active general-purpose card in 2012, by cardholder and card type



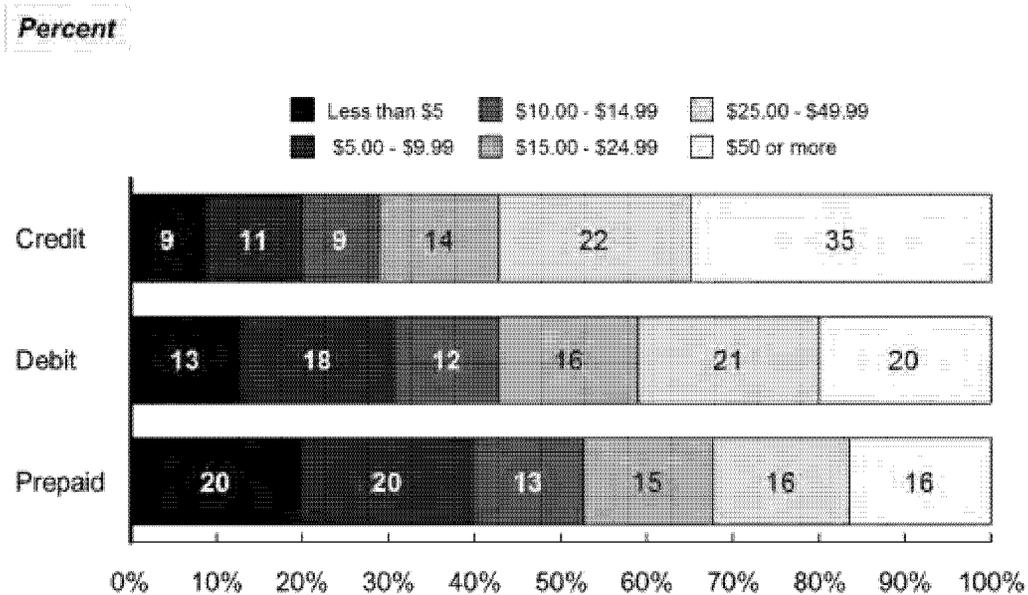
Information about the allocation between business and consumer for general-purpose prepaid cards is not available. Active cards are those used to make at least one purchase or bill payment in a month.

1.2.3 Distributions of General-Purpose Card Transaction Values

The distribution or relative frequency of transactions by value for each general-purpose card type shows that 35 percent of credit card transactions were for payments with a value of \$50 or more in 2012, while only 20 percent of debit card transactions were \$50 or more (Exhibit 7). General-purpose prepaid cards were most likely to be used for small-value payments, with 20 percent of transactions being less than \$5 compared with 13 percent for debit cards and 9 percent for general-purpose credit cards.

Research Data Reports, Federal Reserve Bank of Boston, 13-3 Table 4, Current Adoption of Payment Instruments, and Table 14, Share of Consumers or Adopters Using Payment Instruments (www.bostonfed.org/economic/rdr/2013/rdr1302.pdf).

Exhibit 7: Relative frequency of transaction value ranges in 2012, by general-purpose card type



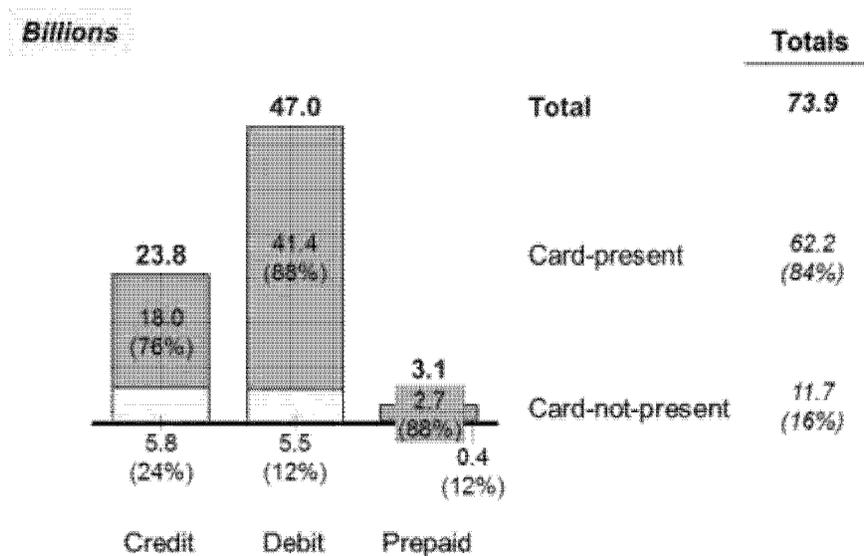
Percentage distribution is within each card type.

1.2.4 Card-Present and Card-Not-Present Payments

General-purpose card payments include transactions at a physical point of sale where the card information is captured electronically by a terminal, as well as transactions where the card account number and related information are provided but the card is not actually shown to the payee or read by any terminal or other equipment.

Payments initiated when the card is read by a terminal are called card-present payments. In 2012, there were far more card-present payments by debit card (41.4 billion) than by general-purpose credit card (18.0 billion) or general-purpose prepaid card (2.7 billion) (Exhibit 8). The total value of general-purpose card-present payments was \$2.7 trillion.

Exhibit 8: Number of card-present and card-not-present payments in 2012, by general-purpose card type



Column sizes vary to reveal absolute scale. Card-not-present payments are shown on the bottom, with the number of payments and percentages printed below the axis. Prepaid card-not-present payments are too small to be visible. Figures may not sum because of rounding.

Payments initiated when the card is not read—called card-not-present payments—include payments made online, through the mail or over the telephone, and automated recurring purchases or bill payments. The total value of general-purpose card-not-present payments reported by the networks was \$1.4 trillion in 2012. The total retail sales classified as e-commerce estimated by the Commerce Department reached \$227 billion in 2012—much lower than card-not-present payments. A substantial part of the value of card-not-present payments clearly included some transaction types, such as bill payments, that are different from the Commerce Department’s estimates.¹⁵

¹⁵ The retail e-commerce estimate is revised since the Summary Report. According to the Department of Commerce’s definition, e-commerce sales/revenues are sales of goods and services where the buyer places an order, or the price and terms of the sale are negotiated over an Internet, mobile device (m-commerce), Extranet, Electronic Data Interchange (EDI) network, electronic mail, or other comparable online system. *Payment may or may not be made online.* See https://www.census.gov/econ/estats/2012_e-stats_report.pdf.

There were almost as many card-not-present payments by debit card (5.5 billion) as by general-purpose credit card (5.8 billion) in 2012, but the percentage of card-not-present payments made with general-purpose credit cards (24 percent) was twice as large as the percentages for debit cards and general-purpose prepaid cards (12 percent). There were only 0.4 billion card-not-present payments by general-purpose prepaid card.

For the first time, the 2013 NPIPS tracked payment activity based on payment initiation and authorization methods, including methods of cardholder authentication. For example, the number of card-present payments initiated with an embedded microchip was tracked, but was found to be very small.¹⁶ The data collected are not sufficient to provide a complete picture of the authentication methods used but reveal some additional information about authentication methods used for debit cards. Of the 41.4 billion non-chip-based debit card-present transactions, 22.2 billion payments were authenticated with a signature, 16.9 billion payments were authenticated with a PIN, and 2.3 billion payments were authenticated using another method. Of the 5.5 billion card-not present debit card transactions, 4.6 billion were authenticated using only static card data, while almost 1.0 billion were so-called PIN-less PIN transactions, meaning they were single-message transactions that were processed without PIN authentication.¹⁷ At least 1.5 billion card-not-present payments—primarily credit card payments—were redirected from an e-commerce website to a secure online payments processor for authentication.¹⁸

1.2.5 Growth in Debit Card Payments

Overall, debit card payments grew from 8.3 billion payments in 2000 to 47.0 billion in 2012, increasing more than 3 billion payments per year, on average, during the period (Exhibit 9). While the rate of growth in debit card payments from 2000 to 2012 averaged 15.6 percent a year, the rate of growth from 2009 to 2012 dropped to 7.7 percent. The rise in debit card payments from 2009 to 2012, however, was also more than 3 billion payments per year. The diminished rate of growth in debit card payments during the latter period is thus not an indicator

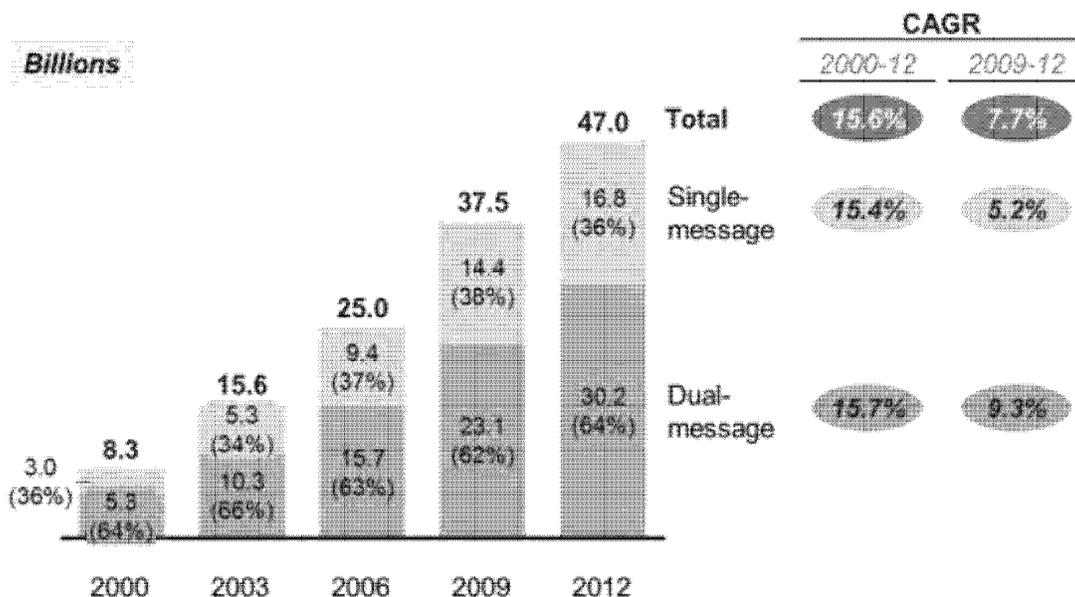
¹⁶ Payments by cards with microchips are discussed in section 1.2.6.3.

¹⁷ Figures do not sum because of rounding. A negligible number of card-not-present transactions were authenticated using a network-sponsored online verification system.

¹⁸ This type of alternative payment initiation method is discussed in sections 1.4 and 3.5.5.

of diminished growth, but rather the result of debit card growth rates being calculated from a far larger base of payments in 2009 (37.5 billion) than in 2000 (8.3 billion).

Exhibit 9: Number of debit card payments 2000-2012, by network type



Single-message networks were traditionally called PIN networks because most single-message transactions require a PIN as part of the transaction. Dual-message networks were traditionally called signature networks because many dual-message transactions require a signature as part of the transaction. CAGR is compound annual growth rate.

As discussed above, debit card networks can be divided into single-message networks and dual-message networks. Of total debit card payments from 2003 to 2009, the share of single-message debit card networks increased from 34 percent to 38 percent, while the share of dual-message networks dropped from 66 percent to 62 percent.¹⁹ Because of the substantially greater growth rate in dual-message networks' transactions from 2009 to 2012 (9.3 percent) compared with the growth rate in single-message transactions (5.2 percent), however, the share of dual-message networks increased to 64 percent (30.2 billion transactions) while the share of single-message networks dropped to 36 percent (16.8 billion transactions).

¹⁹ General-purpose prepaid cards are excluded for a consistent time series.

As discussed in the Summary Report, most debit card growth from 2009 to 2012 was from card-present transactions, which grew 9 billion while card-not-present transactions only grew 0.3 billion. In light of the dominance of debit card-present payments growth, most debit card-present payments growth from 2009 to 2012 was in payments over dual-message networks.

1.2.6 Third-Party Payments Fraud

The 2013 Federal Reserve Payments Study was the first in the triennial series that collected data related to payments fraud. In the 2013 DFIPS, depository institutions were asked to report the number and value of unauthorized third-party fraud transactions. Although some fraud studies track the number of cases—where multiple transactions could be contained in one case—or prevention expenditures and losses, the definitions for this study were designed to measure the number and value of gross transactions processed by depository institutions and later identified to have been unauthorized third-party fraud—meaning someone other than the authorized user of the account or card fraudulently made the transaction. All types of third-party fraud payments are covered regardless of how the depository institution learned of the fraud. Third-party payments fraud estimates from the study were described in the Summary Report, and are further described in section 2 of this report.

The gross amount of unauthorized third-party fraud payments reported does not cover all types of potential fraud, and includes only the amount of fraudulent unauthorized payments that were actually processed. For example, first-party payments fraud, while important, is an account-relationship type of fraud and would typically not be included as unauthorized third-party fraud payments because the card or accountholder is by definition authorized to make payments. So long as a user is authorized, first-party fraud can occur no matter how secure the payment method. As another example, data breaches can be related to payments fraud if data within the system is accessed by a third party and used in a fraudulent way. While data breaches are *not* directly measured, unauthorized third-party fraud transactions that are facilitated by such data breaches *are* included in the estimates. No information was collected, however, that would attribute such transactions to any specific breach or to data breaches in general.

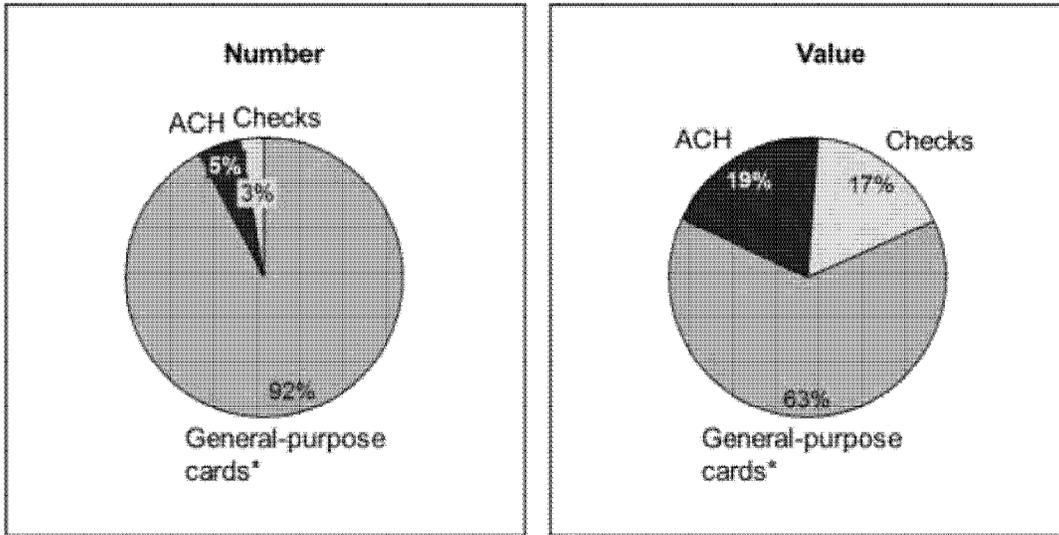
The 2013 DFIPS made no attempt to collect data on any unauthorized transactions that were not fraudulent. For example, some unauthorized payments are unrelated to fraud but can result from clerical errors, accidentally replicated files, or computer glitches.

Different types of payments may involve different loss risks to the various parties involved, including the payer, the payee, and their depository institutions. Payers may face very little risk of loss, so long as they take precautions such as keeping their PIN, checks, and wallet safe; reporting to the issuer if cards are lost or stolen; and monitoring account statements for unauthorized activity. Different payment channels may have different opportunities for fraud, and not every fraud attempt leads to a loss.

1.2.6.1 Comparison of Card Fraud to ACH and Check Fraud

In 2012, general-purpose cards—including general-purpose credit cards, debit cards, and general-purpose prepaid cards—represented 92 percent of the number of unauthorized transactions identified as third-party fraud and 63 percent of the value of these unauthorized transactions (Exhibit 10). The values of unauthorized third-party fraud payments by check (\$1.1 billion) and ACH (\$1.2 billion) were extremely small relative to the total authorized values for check and ACH, respectively.

Exhibit 10: Distribution of unauthorized third-party fraud transactions in 2012 among general-purpose cards, checks, and ACH



*General-purpose cards include credit, debit, and prepaid payments as well as ATM withdrawals. Figures may not sum because of rounding.

1.2.6.2 Unauthorized Third-Party Card Fraud by Transaction Type

Among cards, information on unauthorized third-party fraud was collected for general-purpose credit card transactions, combined debit and general-purpose prepaid card transactions, and, separately, ATM withdrawals made with debit or general-purpose prepaid cards. In 2012, there were 13.7 million fraud transactions by credit card, 14.9 million fraud transactions by debit or general-purpose prepaid card and 1.3 million fraudulent ATM withdrawals.²⁰ By value, there was \$2.3 billion in fraud by credit card, \$1.5 billion in fraud by debit or general-purpose prepaid card, and \$0.3 billion in fraudulent ATM withdrawals. With respect to the total value of unauthorized third-party fraud card payments, card-present, which totaled \$2.4 billion, was greater than card-not-present, which totaled \$1.6 billion.²¹

Within general-purpose cards, details on unauthorized third-party fraud payments allow comparisons of fraud rates by card transaction type (Exhibit 11). For both general-purpose credit cards and debit cards, card-not-present fraud rates by number were approximately 3 times card-present fraud rates in 2012. The card-not-present fraud rate for general-purpose credit cards was 11.4 basis points, the highest fraud rate among all types of unauthorized third-party card fraud transactions measured in the study. That is equivalent to more than 1.1 unauthorized third-party fraud payments for every 1,000 card-not-present general-purpose credit card payments. Within card-present fraud rates by number, unauthorized third-party debit and prepaid fraud transactions (including ATM withdrawals) involving a single-message network, at 0.9 basis point, were less than one-third of the fraud transactions that used a dual-message network (3.1 basis points). The credit card fraud rate by number was the highest among the card-present transactions (3.9 basis points).

Measured by value, card-not-present fraud rates were similar to card-present fraud rates, in contrast to the much higher card-not-present rates by number (Exhibit 12). The rate of card-present dual-message debit and prepaid card fraud by value was 12.4 basis points, the highest among all types of card transactions. For credit cards, the fraud rate by value for card-not-present transactions was higher than for card-present transactions, but the difference was a comparatively small 2.4 basis points. By value, the rate of single-message debit and prepaid

²⁰See the Summary Report table in section 3.3.3.

²¹Both totals include transactions with general-purpose credit, debit, and prepaid cards. Card-present unauthorized third-party fraud payments include ATM withdrawals.

fraud (including ATM withdrawals) was 2.7 basis points, substantially lower than the other fraud rates.

Exhibit 11: Rate of unauthorized third-party fraud transactions (number) in 2012, by type of general-purpose card transaction

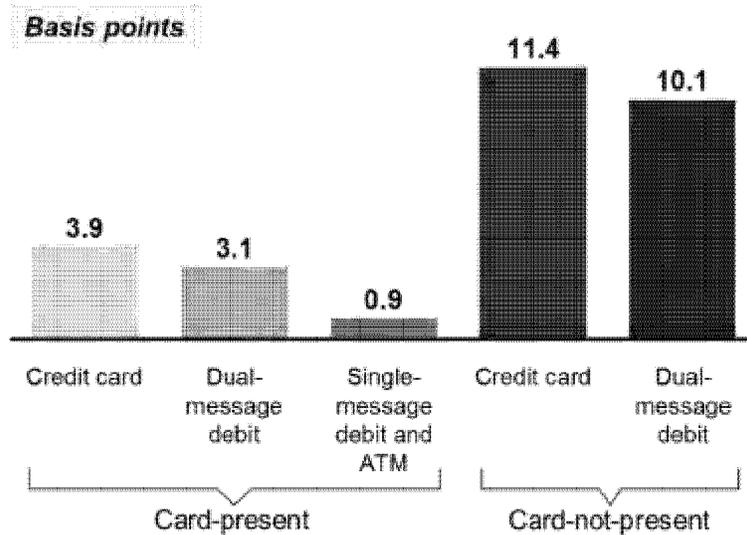
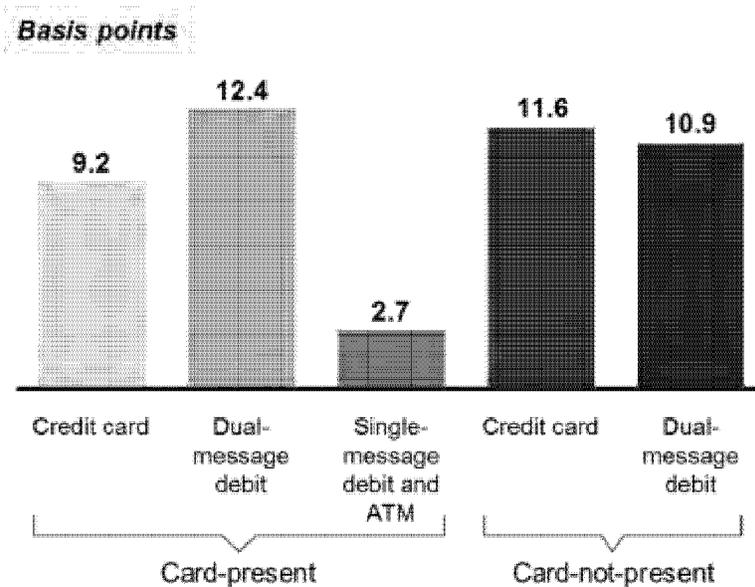


Exhibit 12: Rate of unauthorized third-party fraud transactions (value) in 2012, by type of general-purpose card transaction



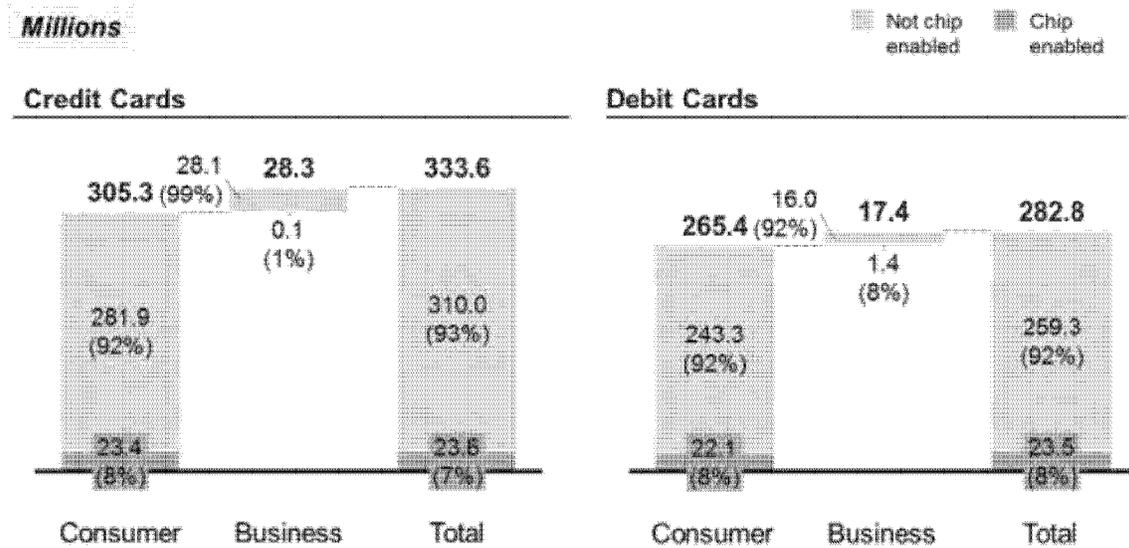
Includes general-purpose cards only. Debit includes prepaid. Basis points are the number or value of unauthorized third-party fraud transactions per 10,000 transactions or \$10,000 spent, respectively. One hundred basis points equals 1 percent.

1.2.6.3 Microchip-Enabled Cards

Microchips embedded in cards offer greater security in card-present transactions because the chip is difficult to counterfeit.²² Chip transactions can be supported by motorized card readers that pull the card in through a slot and make contact with the chip, or by card readers that use near-field communication (NFC), which allows information to be transmitted with a quick touch or wave of the card. Both types are in use in the United States, but the use of NFC is typical at the point of sale because of its convenience, while the motorized card readers are more typical in countries that adopted chip cards earlier.

While some countries have widely adopted such cards, only a small fraction of general-purpose cards in force and issued in the United States use chip technology. As of 2012, 7 percent of general-purpose credit cards in force and 8 percent of debit cards in force had chips (Exhibit 13). The availability of terminals that accept chips is also an important factor in making chip-based payments but was not estimated in the study.

Exhibit 13: Number of general-purpose credit and debit cards in force in 2012, with or without microchips, by cardholder type



²² Payments that use a chip are more secure than payments that use a magnetic stripe because the chip has security features, such as dynamic data and encryption capabilities, that are not possible using a magnetic stripe.

Cards in force are those that are issued, activated, and not expired. Figures may not sum because of rounding.

While the use of chips for payment is relatively new in the United States and has likely been growing, the number of chip-based payments compared with total card payments was very small in 2012. There were approximately 13.4 million chip-based general-purpose credit card transactions, or 74 out of every 100,000 card-present general-purpose credit card transactions in 2012. There were 27.0 million chip-based debit card payments in 2012.²³ Slightly rarer than general-purpose credit cards, 65 out of every 100,000 card-present debit card transactions were chip based. There were an estimated 46,000 chip-based prepaid card payments in 2012. Only 17 out of every 100,000 card-present general-purpose prepaid card payments were chip-based, a considerably lower rate than for credit or debit cards.

Payments using the chip tended to be smaller in value than other card-present payments. The average value for chip-based card-present general-purpose credit card payments was \$47 in 2012, compared with \$68 for overall general-purpose credit card-present payments. At \$14, the average value of chip-based card-present general-purpose debit card payments was less than half that of overall debit card-present payments (\$34), while the average value of chip-based card-present general-purpose prepaid card payments was only \$9, compared with an overall general-purpose prepaid card-present average value of \$30.

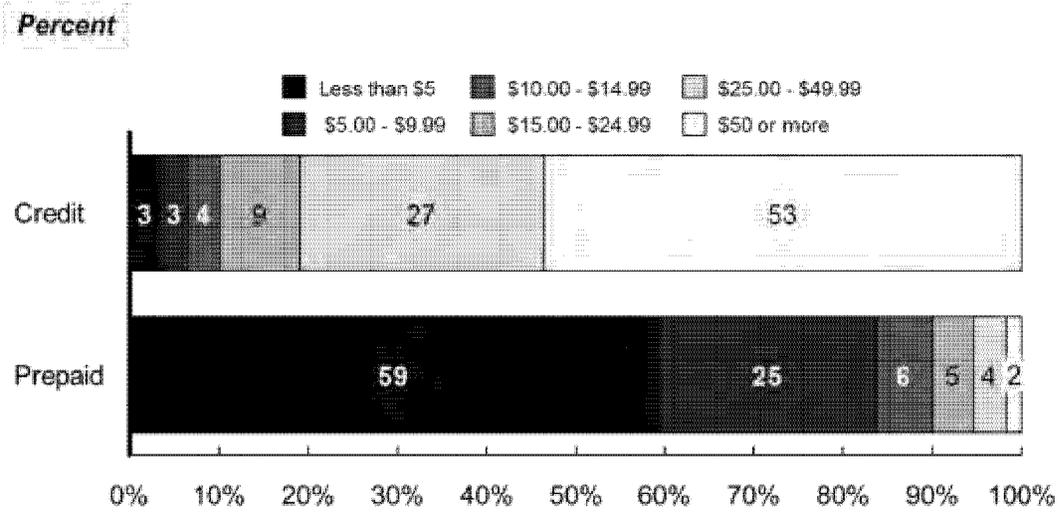
1.3 PRIVATE-LABEL CARDS

1.3.1 Distributions of Private-Label Credit and Prepaid Card Transaction Values

Private-label credit and prepaid cards are often used as substitutes for general-purpose cards, usually because such cards offer incentives to users. More than half of transactions for which private-label credit cards were used had a value of \$50 or more in 2012 (Exhibit 14). Merchants often use store-issued credit cards to provide credit to consumers for larger purchases. On the other hand, private-label prepaid cards tended to be used for much smaller-value, more frequent purchases: Almost 60 percent of private-label prepaid card transactions were for amounts less than \$5.

²³ Estimate is revised based on new information.

Exhibit 14: Relative frequency of transaction value ranges in 2012, by private-label card type

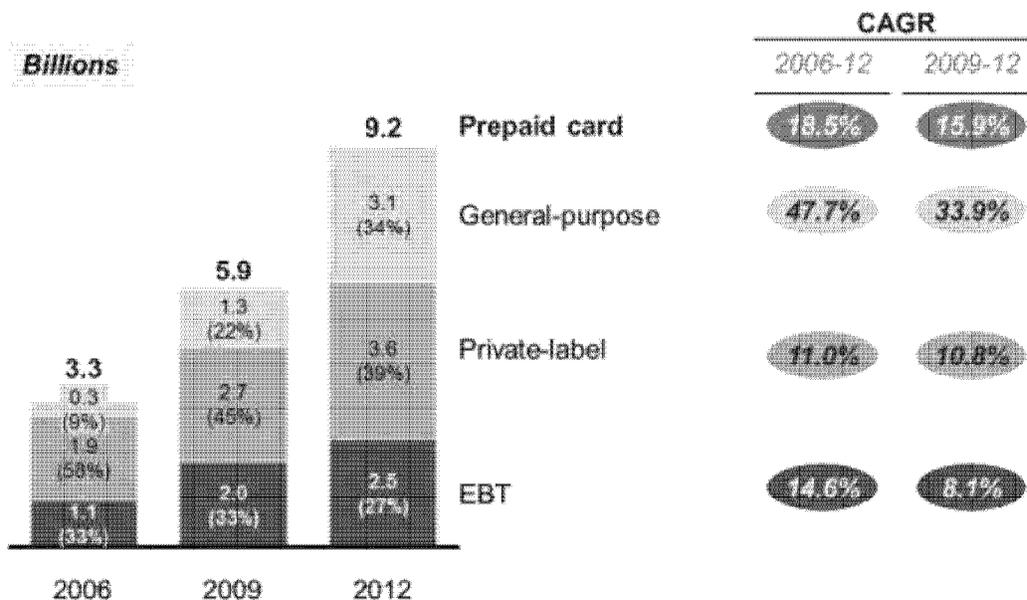


Percentage distribution is within each card type. Figures may not sum because of rounding.

1.3.2 Growth in Prepaid Card Payments

Various types of prepaid cards have been tracked consistently since 2006. Prepaid cards, including private-label (except prepaid transportation), general-purpose, and EBT, collectively increased at the fastest rates among all types of payments from 2006 to 2012 (18.5 percent per year) and from 2009 to 2012 (15.9 percent per year) (Exhibit 15). Over the years, private-label prepaid cards, typically issued by retailers, had the highest number of payments among the three types of prepaid cards.

Exhibit 15: Growth in the number of prepaid card payments 2006-2012, by card type



Excludes payments by private-label prepaid transit cards and far-field RFID toll collections, which are reported below. Figures may not sum because of rounding. CAGR is compound annual growth rate.

EBT payments were grouped with private-label prepaid cards for the Summary Report, but are broken out in this report. EBT programs, sponsored by federal, state, and local governments, are used to disburse funds for a range of government assistance programs, including the Supplemental Nutrition Assistance Program (SNAP), formerly known as the Food Stamp Program. Use of these cards generally involves restrictions on purchases as well as participation only by limited retailers. From 2006 to 2012 EBT payments were growing at a rate of 14.6 percent, although like other prepaid card types, growth rates slowed after 2009.

1.3.3 Private-Label Prepaid Transportation Payments

Private-label prepaid transit card payments and far-field RFID toll collections, collectively called private-label prepaid transportation payments in this study, are processed over specialized private-label payment systems (Exhibit 16). For decades, innovations in automated payments technology have been replacing cash payments at local transit systems (rail and bus) and automobile toll roads and bridges. Many local transit systems have used paper-based magnetic-stripe stored-value tickets that are capable of supporting multiple rides. More recently, these types of systems are being replaced with magnetic-stripe plastic cards and, in

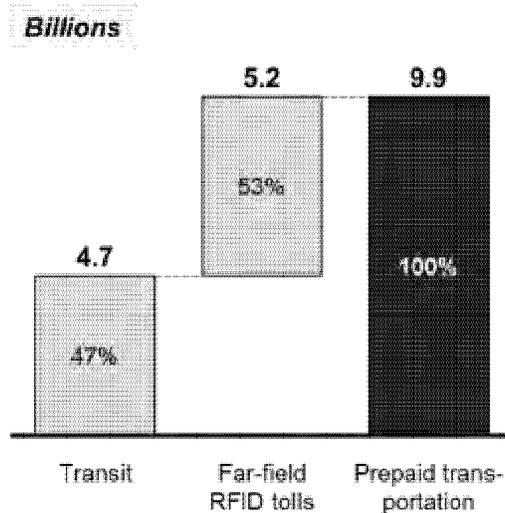
some cases, with chip-based cards. Most toll roads and bridges accept cash payments, and in some cases have expanded acceptance to general-purpose cards. In addition, far-field RFID payments reported here, which generally allow for faster passage around toll collection locations, have grown substantially. Some high occupancy/toll (HOT) lanes, where single-occupancy vehicles can pay for access, only accept payment by far-field RFID.

Exhibit 16: Types of private-label prepaid transportation payments

| | |
|--|---|
| Private-label prepaid transit card payments | Payments by electronic fare cards issued by transportation authorities for use on local public bus and rail transportation systems |
| Far-field radio frequency identification (RFID) transponder toll collections | Payments by a device, usually mounted on a vehicle windshield, that debits a special-purpose account when the vehicle passes through a toll lane at the entrance or exit of a toll road or bridge |

The 2013 NPIPS surveyed major transit organizations and far-field RFID toll-collection processors to understand the scale of such payments. In 2012, the number of private-label prepaid transportation payments totaled at least 9.9 billion, with transit reaching at least 4.7 billion payments and far-field RFID tolls exceeding 5.2 billion (Exhibit 17). The surveys included the largest known firms and processors, but there was no attempt to estimate the number of such payments that were not reported.

Exhibit 17: Number of private-label prepaid transportation payments in 2012



1.4 ALTERNATIVE PAYMENT INITIATION METHODS

Payments using alternative payment initiation methods typically are cleared and settled over the usual card and ACH processing systems and, as a result, adding them to total payments would result in double-counting. Exhibit 18 lists the various types of alternative payment initiation methods examined in this report.

Exhibit 18: Alternative payment initiation methods

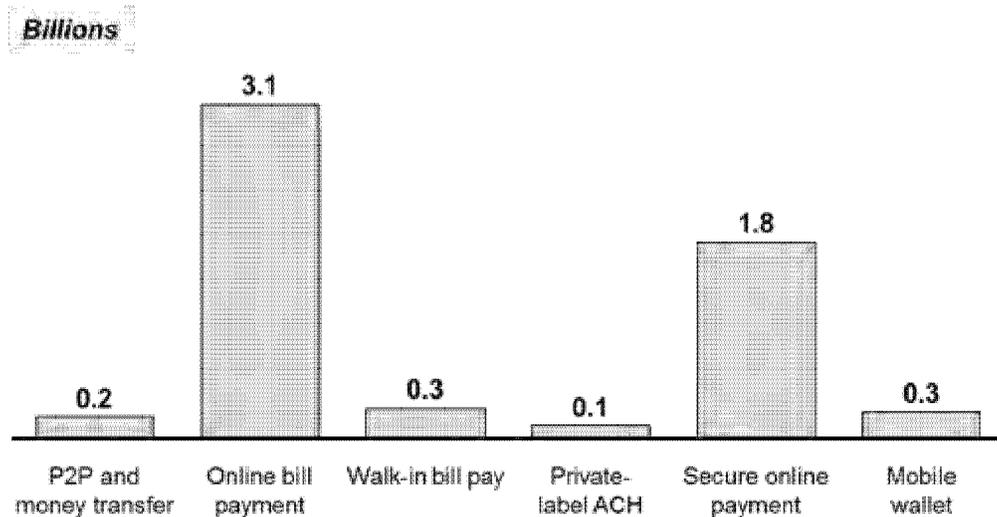
| | |
|---|--|
| Person-to-person (P2P) and money transfer | Products that specialize in transferring funds between two individuals, usually featuring an online or email based system |
| Online bill payment | Bill payments initiated over the Internet via a bank or biller website and processed by bill payment aggregators and consolidators |
| Walk-in bill payment | In-person bill payments made at convenience stores, kiosks, and other locations and processed by large walk-in bill payment aggregators |
| Deferred payment | Online and telephone purchases using an intermediary that allows an immediate purchase with a bill to follow |
| Private-label ACH debit card | Cards, typically issued by merchants, which use point-of-sale debit terminals but route transactions through the ACH system rather than a card network |
| Secure online payment | Enhancements to online purchases that, for example, allow the entry of a PIN at the computer terminal, or redirect the purchaser to allow them to use an existing Internet payment account |
| Mobile wallet | Payments using the cell phone short message service (SMS), a mobile application, a virtual cloud based account, or near field RFID connected to a mobile device |

Online bill payments reported by bill-payment processors, which are settled mostly through ACH, had reached significant volume, at 3.1 billion in number in 2012 (Exhibit 19).²⁴ Other prearranged bill payments not reported here are also processed through ACH. Some processors also offer walk-in bill pay services, for example at convenience stores that enable

²⁴ As noted in the Summary Report, the number of bill payments initiated through depository institution websites is estimated to have been 2.5 billion. While that estimate is taken from a different survey, it is consistent with the figures provided by the processors

consumers to make a payment, usually funded with cash, without traveling to a specific billing office. The number of these payments reached 0.3 billion in 2012. As discussed above, some online bill payments are also processed over card systems.

Exhibit 19: Number of payments using alternative payment initiation methods in 2012, by method type



All figures represent lower bound estimates of the number of payments of each type in 2012.

Secure online payments, which include methods that allow users to enter PINs for debit cards into the computer while making an online purchase, as well as methods that redirect users to an Internet payment account, totaled 1.8 billion in 2012.²⁵ Mobile wallet payments, although still a relatively small portion of payments using alternative payment initiation methods at 0.3 billion, were greater than person-to-person (P2P) and money transfer payments (0.2 billion), which combined relatively small-value Internet P2P with relatively large-value domestic and cross-border remittances sent from domestic accounts.

²⁵ A common type of Internet payment account in the United States would be with an escrow service, such as PayPal, which interposes a third party between the buyer and seller in an e-commerce transaction and ensures the delivery versus payment of the goods or services. See Committee for Payment and Settlement Systems (2012) "Innovations in retail payments: Report of the Working Group on Innovations in Retail Payments," Bank for International Settlements, May 2012 for a definition of Internet payments. (www.bis.org/publ/cpss102.pdf)

The lower-bound estimates of alternative payment initiation methods are discussed in further detail in section 3.5. Estimates from 2009 and 2012 for many of these methods are available in section 3.8.2 and can be compared to get a sense of their growth.

1.5 AUTOMATED CLEARINGHOUSE (ACH)

Based on network volume breakouts, the largest number of ACH payments are categorized as prearranged payment and deposit entries (PPDs), which include direct deposit of payroll (ACH credits, meaning that the payer initiates the payment) and automatic bill payment (ACH debits, meaning that the payee initiates the payment).²⁶ These types of payments are mainly associated with consumers. A major category of business ACH payments are corporate cash concentration and disbursement entries (CCDs), which include ACH debits used to consolidate funds held by one corporation across multiple accounts into one, as well as ACH credits used for business-to-business payments.

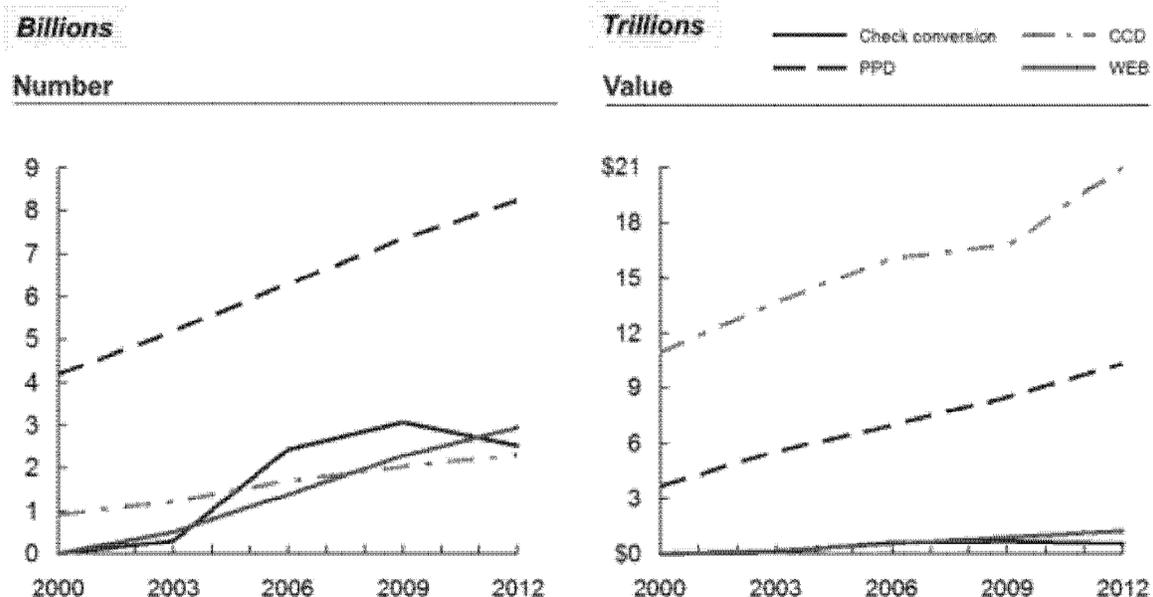
ACH payments continued to grow, although one of the main drivers of growth during the past decade—check conversion—has begun to decline because fewer checks are being written overall.²⁷ Growth in ACH payments is not only because of the sustained growth in major consumer and business categories of payments discussed above (PPDs and CCDs), but also because of the emergence of new types of payments, particularly WEB payments, a category of ACH in which a consumer has authorized a one-time debit to their account over the Internet. Such payments are often initiated by a biller or e-commerce retailer based on a consumer authorization of the payment on their website. As of 2012, WEB payments represented one of the fastest growing categories of ACH payments by number (Exhibit 20). New developments may add to future ACH growth. For example, new ACH rules provide for consumer person-to-person ACH credits to be identified as WEB payments.²⁸

²⁶ Details on categories of ACH payments are reported in section 2.

²⁷ Check conversion categories include ARC, POP, and BOC.

²⁸ The new rules took effect in late March 2013. Rules that govern depository institutions' use of ACH are promulgated by NACHA-The Electronic Payments Association.

Exhibit 20: Trends in selected types of ACH payments 2000-2012, by type



ACH payment types are based on the definitions of the standard entry classification (SEC) codes assigned to the payments (obtained from NACHA-The Electronic Payments Association). Check conversion categories include ARC, POP, and BOC.

Since the Summary Report was released in December 2013, analysis of new data allowing the estimation of a type of ACH payment called an offset entry has led to revised estimates for ACH payments. Data revisions from several large commercial banks also contributed to changes in the total number and value of ACH payments reported in the on-us category.

Offset entries are used internally by some depository institutions to bundle several ACH payments, such as a collection of consumer bill payments to a single payee, into one ACH payment. Processing each offset entry may increase the number of payments in a bundle by one and double the amount of value. Offset entries can be processed in house or over the network. Offset entries represented 7.5 percent of the number and 8.8 percent of the value of ACH payments in 2012. Details on the offset entry estimates are available in section 2.3.1.

In this report, the revised total number of ACH payments for 2012, including offset entries, is estimated to be 21.7 billion, slightly smaller than the previous ACH number estimate in the Summary Report released in December 2013. However, the revised total value of ACH payments in 2012 is estimated to be \$144.1 trillion, almost triple the previous ACH value estimate. The revised average value of an ACH payment is \$6,638 while the revised average

value of an in-house on-us ACH payment is \$21,653 and the average value of a network ACH payment is \$2,202.

A substantial portion of this value can be explained by unusually high ACH on-us values at a handful of very large depository institutions. Previously, the high on-us value was thought to be overstated because these institutions were believed to have included internal account-balancing and settlement transactions, called offset entries, in their reported ACH values.²⁹ Because of this, as with estimates for previous years, the on-us value estimates in the Summary Report release in December 2013 were adjusted to exclude a portion of on-us value thought to be offset entries.³⁰ However, with the additional analysis since December 2013, it is evident that much of the value of on-us ACH payments reported by those large depository institutions is not because of offset entries. Therefore, the revised estimates of the total value of ACH payments in this report do not include any adjustments.³¹

1.6 WIRE TRANSFERS

Approximately 230 million payments—called wires or wire transfers—with a value of around \$964 trillion passed over the U.S. domestic large-value funds transfer systems (that is, CHIPS and Fedwire) in 2012.³² Compared with card, check, or ACH payments, the number of wire transfers is very small but the value is very large. Even though many of these payments are for very large interbank payments, a large fraction of payments are for relatively small dollar amounts. Exhibit 21 shows the estimated value distribution of wire transfers over these large-value funds transfer systems in 2012. Although some of the smaller amounts represent interest payments on overnight loans, many other smaller-value payments represent payments by nonbanks (consumers or businesses).

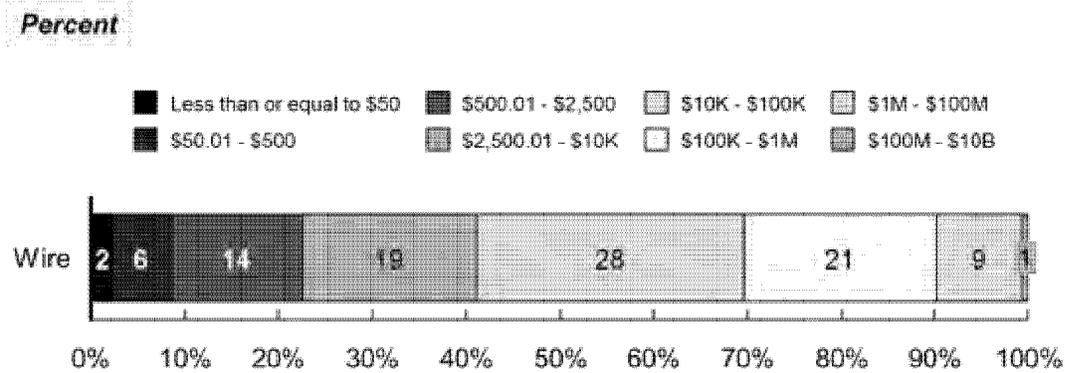
²⁹ See, for example, the discussion of on-us ACH payments in Geoffrey R. Gerdes (2008), "Recent Payment Trends in the United States," Federal Reserve Bulletin, October 2008, Vol. 94, page A96 (www.federalreserve.gov/pubs/bulletin/2008/pdf/payments08.pdf).

³⁰ All past estimates of ACH on-us value were adjusted so that the average value of an in-house on-us payment would be equal to the average value of the ACH payments reported by the operators to NACHA.

³¹ More details and discussion of the ACH data and estimates are in sections 2.3 and 3.4.

³² For statistics on CHIPS payments see www.chips.org/docs/000652.pdf?statistics and for statistics on Fedwire see www.federalreserve.gov/paymentsystems/fedfunds_ann.htm.

Exhibit 21: Relative frequency of network wire transfer value ranges in 2012

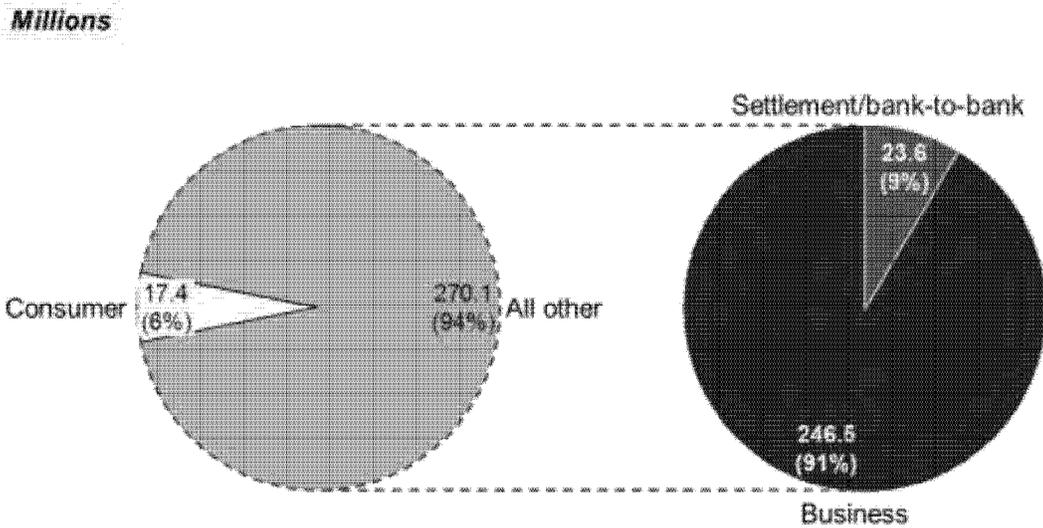


Includes only wire transfers sent over CHIPS and Fedwire. Figures may not sum because of rounding.

In an effort to better understand the use of large-value funds transfer systems the 2013 Study collected information on wire transfers for the first time. There were an estimated total of 287.5 million wires with a value of \$1,116.3 trillion in 2012. The estimated total number of wires was 57.5 million higher than the estimated number that passed over the large-value funds transfer systems in 2012, suggesting that approximately 20 percent of wire transfers were on-us transfers conducted on the books of depository institutions without passing over a large-value transfer system.

By number, approximately 6 percent of wires in 2012 were sent from consumer customer accounts, and the remaining 94 percent were sent from business accounts (including for settlement/bank-to-bank transfers) (Exhibit 22, pie on the left). Of the wires sent from business accounts, 91 percent were from business customer accounts, and 9 percent were for bank-to-bank settlement (pie on the right).

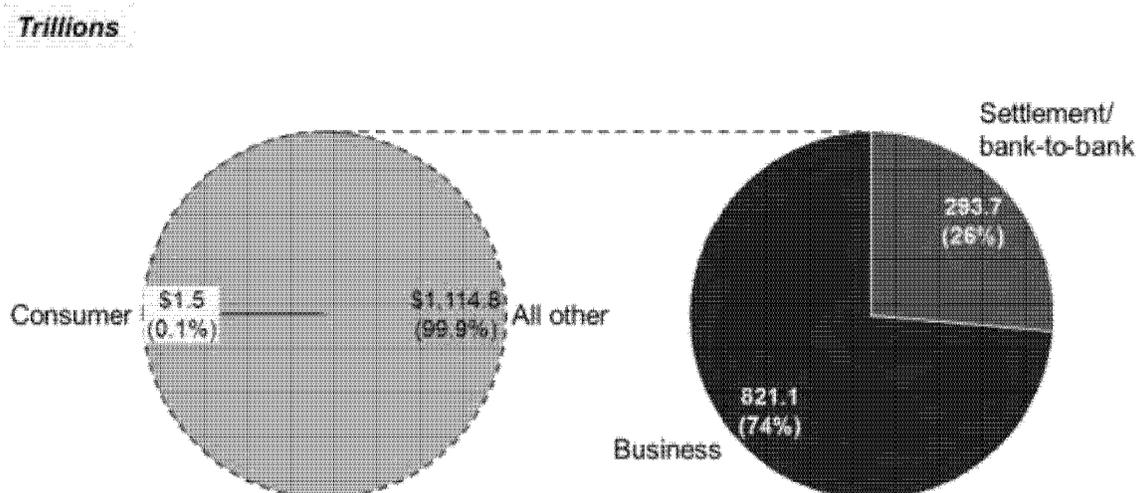
Exhibit 22: Number of wire transfers by accountholder type in 2012



Total wire transfers reported in the survey includes both network volumes (CHIPS and Fedwire) as well as book transfers.

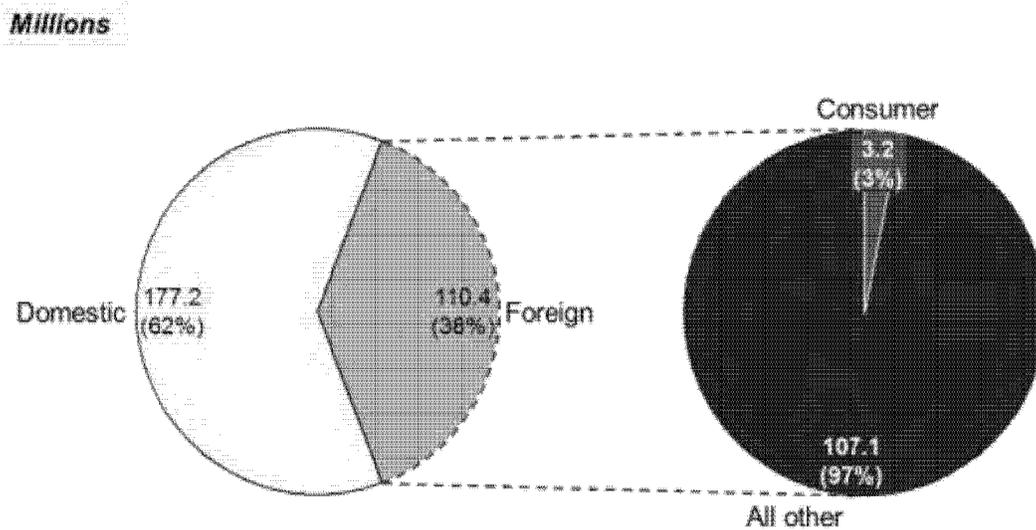
By value, wires from consumer accountholders only represented 0.1 percent of total wire transfer value in 2012 (Exhibit 23). Of the remaining wire transfer value, 74 percent were sent by business accountholders, and 26 percent were for settlement/bank-to-bank transfers.

Exhibit 23: Value of wire transfers by accountholder type in 2012



In terms of payee location, 62 percent of wires in 2012 were sent to domestic payees, and the remaining 38 percent of wires were sent to foreign payees (Exhibit 24). Of the wires sent to foreign payees, 3 percent were originated by consumer accountholders.

Exhibit 24: Number of wire transfers by payee location in 2012



Figures may not sum because of rounding.

1.7 CHECKS

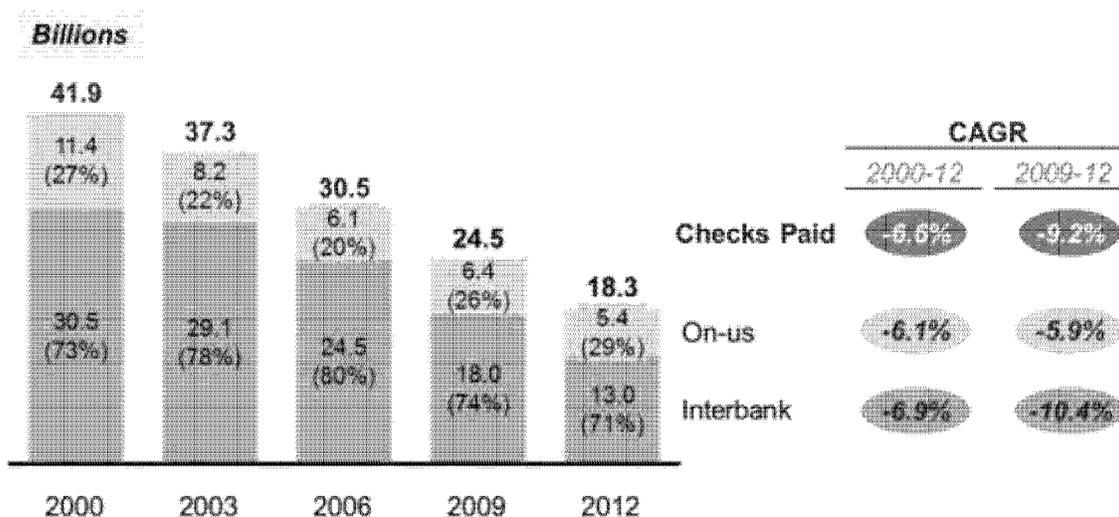
The estimated number of checks paid has declined 6.6 percent per year since 2000, from 41.9 billion in 2000 to 18.3 billion in 2012, or approximately 2 billion checks per year. The rate of decline was greater in the last three years, decreasing 9.2 percent per year since 2009, or slightly more than 2 billion checks per year. The greater rate of decline in recent years was primarily because of the declining base of checks. In fact, the measured decline in checks has been so steady that the decline in total paid checks can be roughly approximated by a straight line from 2000 to 2012.

The number of on-us checks—the portion of checks for which the paying bank and the bank of first deposit are the same depository institution—has declined 6.1 percent per year since 2000, from 11.4 billion in 2000 to 5.4 billion in 2012, or approximately 500 million on-us checks per year from 2000 to 2012 (Exhibit 25). The decline rate was smaller in the last three years, dropping 5.9 percent per year since 2009, or approximately 360 million on-us checks per year.

In the case of on-us checks, therefore, the decline is not well approximated by a straight line. The reduction in the decline rate of on-us checks was likely caused in part by mergers of depository institutions which, all else equal, tended to increase the number of on-us checks with an offsetting decrease in the number of interbank checks.³³

The number of interbank checks has declined 6.9 percent per year since 2000, from 30.5 billion in 2000 to 13.0 billion in 2012, slightly less than 1.5 billion interbank checks per year. The decline in interbank checks was slightly larger than 1.5 billion per year from 2009 to 2012, offsetting the reduction in the decline in on-us checks during the same period. Virtually all interbank checks are now processed as images rather than paper.

Exhibit 25: Trends in on-us and interbank checks paid 2000-2012



Figures may not sum because of rounding. An on-us check is a check paid by the depository institution at which it was first deposited. An interbank check is a check paid at one depository institution but deposited at another.

The CSS, described in detail in section 4 of this report, estimated the proportion of checks in various counterparty and purpose categories from a random sample of checks processed by a

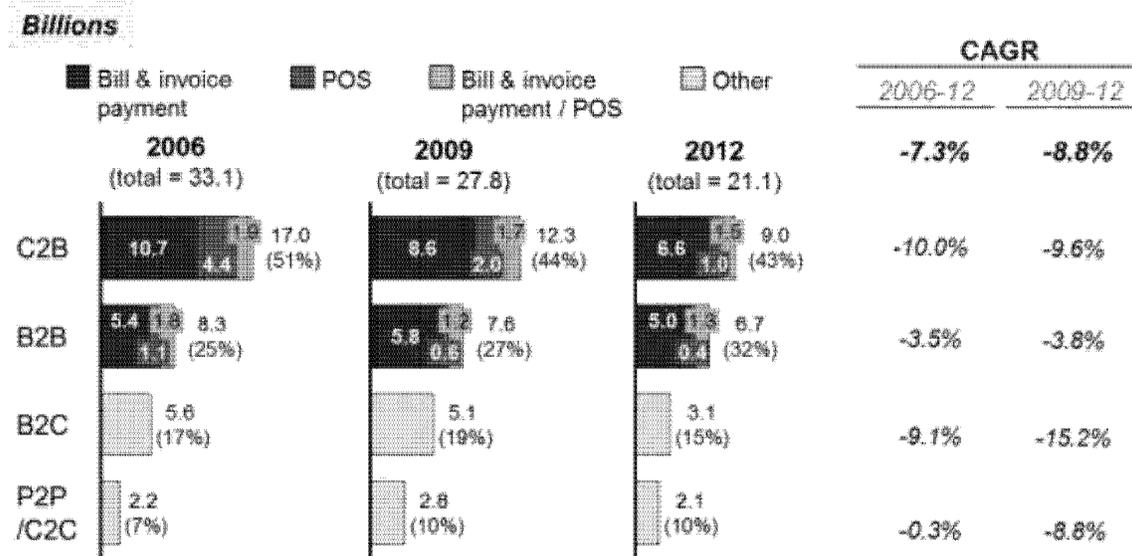
³³ Approximately 85 percent of checks were processed by commercial banks in both 2009 and 2012, but the number of commercial bank holding companies with nonzero transaction deposits declined by more than 300 over the period (a total decline of approximately 5 percent of the number of institutions). Subsequent to a merger, some on-us checks may continue to be processed through a clearinghouse until the operations of the institutions are consolidated.

small number of very large commercial banks. Because many of the sampled checks were interbank checks, they could also have involved any other depository institution in the United States, either as the paying bank or as the collecting bank. The estimated total number of checks written (from the DFIPS survey) was allocated to each category under the assumption that the estimated proportions, detailed in the CSS, represented the true proportions among checks processed by all depository institutions in the United States.

New information came to light during preparation of this report which necessitated an adjustment to the sampling probabilities for the 2009 and 2012 data. The revision mainly affected the number of business-to-business (B2B) checks, which declined less from 2009 to 2012 than previously reported, and the number of checks written by consumers (including both consumer-to-consumer (C2C) and consumer-to-business (C2B) checks), which declined more than previously reported. The 2006 estimates are not revised. Compared with 2006, the 2009 and 2012 data included responding banks that collectively held accounts for a larger portion of consumer customers. Thus, the rise in the number of consumer checks from 2006 to 2009 may be explained in part by the greater number of consumers represented in the check data. Because a consistent set of banks reported in 2009 and 2012, the trend estimates for that period should be more reliable than trend estimates starting from 2006.

The number of checks written, estimated from the 2013 DFIPS, declined from 33.1 billion in 2006 to 21.1 billion in 2012. Newly revised allocations of checks written from CSS show the changes in the number of checks written by payer, payee, and purpose categories (Exhibit 26).

Exhibit 26: Checks written by counterparty 2006-2012



Estimates are based on a large sample of checks from a small number of very large commercial banks. “C” refers to consumers. “B” refers to businesses, nonprofits, or government organizations. The rise in the number of C2C checks from 2006 to 2009 may have, in part, been because of a change in the composition of the sample from 2006 to 2009 (explained in the text). CAGR is compound annual growth rate. Figures may not sum because of rounding.

The number of business-to-consumer (B2C) checks had the fastest decline of 15.2 percent per year since 2009, and had reached 3.1 billion by 2012. The decline in C2B checks, at 9.6 percent annually since 2009, was slower than B2C but faster than the other categories. At 9.0 billion checks, C2B checks remained by far the largest portion of checks written. The decline in C2B check writing reflected, among other things, the replacement of consumer checks by other payment types, such as online bill payments through the ACH or card-based point-of-sale purchases.

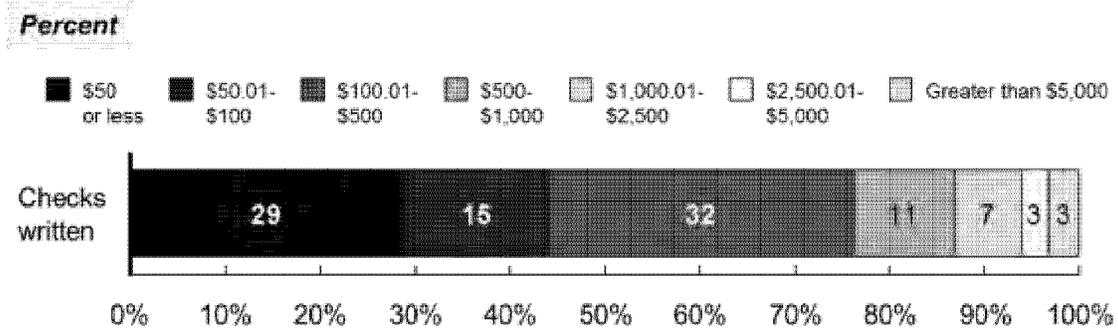
Declining by 3.8 percent per year since 2009, business-to-business (B2B) checks had the slowest decline of any category of checks. At 6.7 billion in 2012, B2B checks were the second largest category of checks. Although businesses have rapidly replaced checks being written to consumers, the same does not hold true with check payments to other businesses.

Consumer-to-consumer (C2C) checks (also sometimes called person-to-person (P2P) checks) have remained the smallest category of checks written over the years and have not shown a consistent decline like other counterparty types, in part because of the change in responding banks from 2006 to 2009 described above. C2C checks dropped from 2.8 billion in 2009 to 2.1

billion in 2012, leading to a slight decline from 2006 to 2012. C2C checks declined 8.8 percent from 2009 to 2012, the same rate as total checks written, suggesting that some alternative C2C payment initiation methods could be taking hold.

In 2012, approximately 76 percent of checks were written for \$500 or less and 29 percent were written for \$50 or less (Exhibit 27).

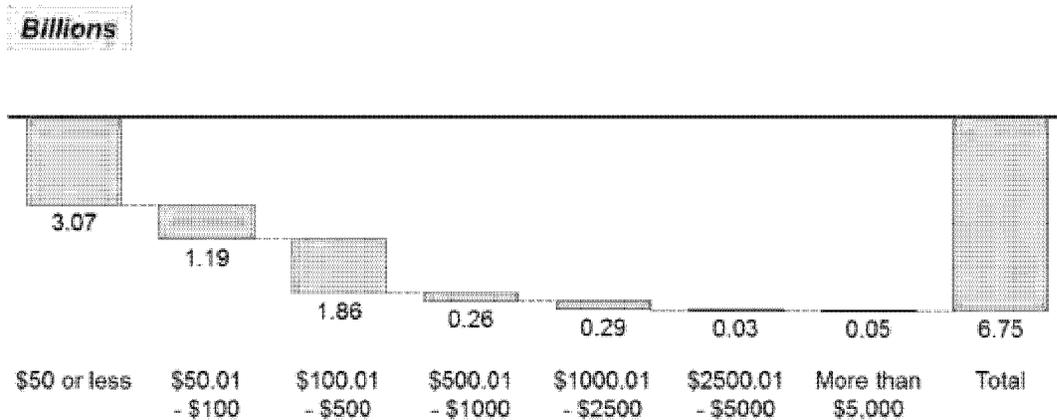
Exhibit 27: Relative frequency of transaction value ranges in 2012, checks written



Estimates are based on a large sample of checks from 11 large commercial banks.

Most of the decline in checks written (6.75 billion) from 2009 to 2012 can be attributed to a decline in checks less than \$50 (3.08 billion), followed by checks between \$100.01-\$500 (1.86 billion) and checks between \$50.01 and \$100 (1.19 billion) (Exhibit 28).

Exhibit 28: Change in transaction value ranges 2009-2012, checks written



Estimates are based on checks sampled from 11 large banks.

Much of the decline in checks written may have been because of the replacement of checks by card payments which are most often C2B payments, and, as shown above, most card payments are for amounts less than \$50.

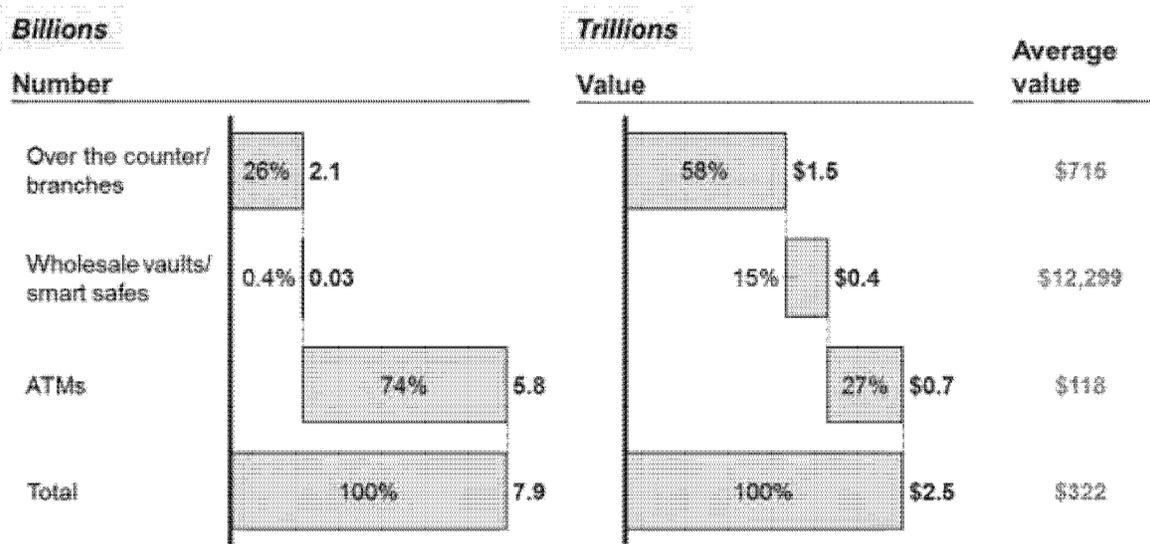
A complete discussion of the counterparty and purpose allocations of checks is available in section 4.3.3 of this report.

1.8 CASH WITHDRAWALS AND DEPOSITS

Although the Federal Reserve has been collecting data on ATM cash withdrawals through the surveys of depository institutions since 2003, the 2013 Study was expanded to collect more-comprehensive information about depository institution customers' domestic cash (currency and coin) withdrawals and deposits that were made over the counter at branches and at wholesale vaults and smart safes. Over-the-counter cash withdrawals and deposits involve the help of a branch teller, either inside the branch or at a drive-up window. In a wholesale vault cash transaction, a business account holder, usually with the aid of an armored courier service, deposits cash received from sales and withdraws cash straps and/or coin rolls for the purpose of making change in retail stores. Smart safes, also referred to as remote currency management terminals (RCMTs) or "cash recyclers," allow businesses to deposit cash on premises as a substitute for visiting a bank branch or a wholesale vault. Some smart safes also allow limited withdrawals.

In 2012, there were 5.8 billion ATM cash withdrawals; more than twice as many as over-the-counter withdrawals at branches (2.1 billion) (Exhibit 29). However, the value of over-the-counter withdrawals at branches was \$1.5 trillion, more than twice as much as the value of ATM withdrawals (\$0.7 trillion). Withdrawals from wholesale vaults/smart safes were smallest by both number and value. The average value of cash withdrawals ranged from \$118 for ATMs to \$715 for over-the-counter cash withdrawals at branches and \$12,299 from wholesale vaults/smart safes.

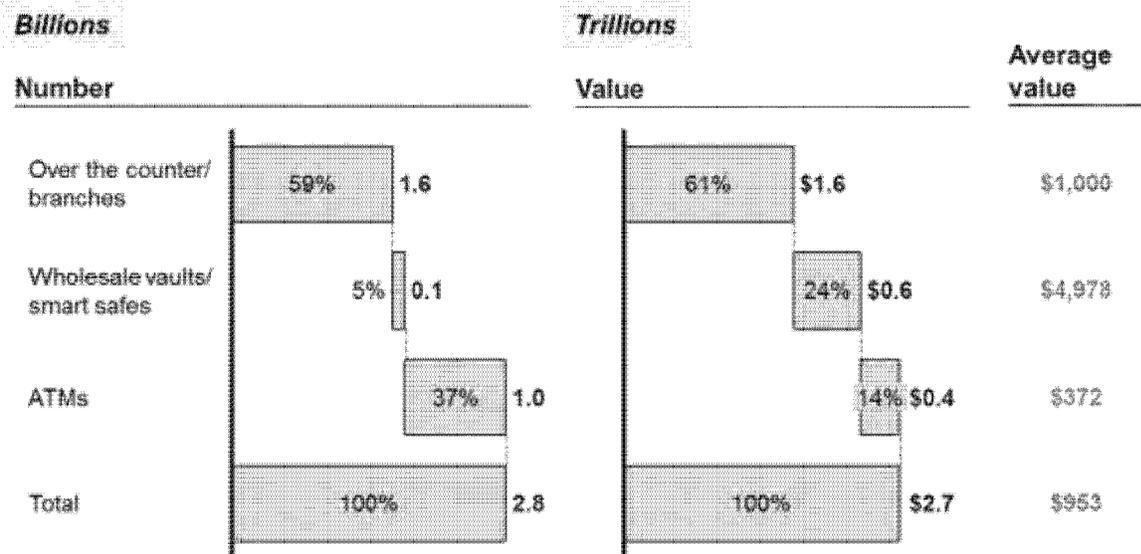
Exhibit 29: Number and value of cash withdrawals at depository institutions in 2012



Includes cash (currency and coin) withdrawals from domestic deposit accounts only. Does not include credit card cash advances (measured separately). May include withdrawals made with checks written for "cash" at the counter. Figures may not sum because of rounding.

On the other hand, the number of cash deposits over the counter at branches (1.6 billion) was greater than the number of deposits at ATMs (1.0 billion) and at wholesale vaults/smart safes (0.1 billion) in 2012 (Exhibit 30).³⁴ By value, cash deposits over-the-counter at branches was also greatest (\$1.6 trillion) followed by wholesale vaults/smart safes (\$0.6 trillion). Over-the-counter deposits averaged \$1,000 while ATM deposits averaged \$372, and deposits at wholesale vaults/smart safes averaged \$4,978.

³⁴ Deposit figures include only currency deposits and not deposits of checks.

Exhibit 30: Number and value of cash deposits at depository institutions in 2012

Includes cash (currency and coin) deposits to domestic deposit accounts only. Check deposits are not included. Figures may not sum because of rounding.

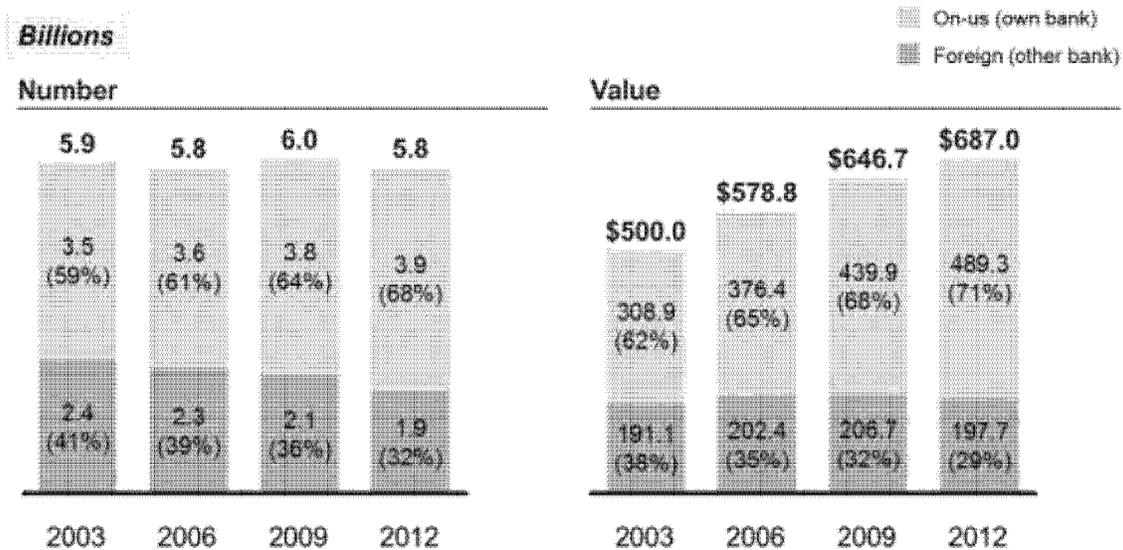
The estimated total domestic cash deposits (\$2.7 trillion) somewhat exceeded domestic cash withdrawals (\$2.5 trillion) in 2012, but given the estimation precision, these figures are not statistically different from each other. By comparison, worldwide U.S. currency in circulation reached more than \$1.1 trillion at the end of 2012, and continued to grow.³⁵ With currency in circulation growing, overall deposits should be less than withdrawals, but as the survey only covers the domestic share, cross-border flows could influence the domestic totals. Although the amount held abroad is difficult to estimate with precision, evidence and analysis suggests that the domestic share of the value of U.S. currency could have ranged between 50 percent (\$550 billion) and one-third (\$367 billion) of the total.³⁶ With that estimated range of total domestic value and with deposits and withdrawals approximately \$2.6 trillion, the average number of times each dollar of domestic cash would have passed through the banking system in 2012 ranged between 4.7 and 7.1.

³⁵ See http://www.federalreserve.gov/faqs/currency_12773.htm.

³⁶ See Ruth Judson (2012) "Crisis and Calm: Demand for U.S. Currency at Home and Abroad from the Fall of the Berlin Wall to 2011," *Board of Governors of the Federal Reserve System, International Finance Discussion Papers, IFDP 1058*, Nov. 2012 (<http://www.federalreserve.gov/pubs/ifdp/2012/1058/ifdp1058.pdf>).

As noted above, ATM cash withdrawals have been tracked since 2003. The overall number of ATM withdrawals from 2003 to 2012 showed no clear upward or downward trend over the period, although the total peaked in 2009 at 6.0 billion—around the end of an economic contraction that began with the financial crisis—and was down slightly in 2012 (5.8 billion) compared with 2003 (5.9 billion) (Exhibit 31).³⁷ The value of ATM cash withdrawals increased from \$500 billion in 2003 to \$685.1 billion in 2012, and the rate of increase (3.59 percent per year) was higher than the rate of inflation over the same period (approximately 2.14 percent per year), implying a real economic increase in value of 1.45 percent per year.³⁸

Exhibit 31: Trends in ATM cash withdrawals 2003-2012, by on-us (own bank) and foreign (other bank)



ATM withdrawal data was not collected for 2000. Figures may not sum because of rounding.

³⁷ The National Bureau of Economic Research (NBER) reports that the business cycle peaked in December 2007, about the time a financial crisis began to emerge, and reached a trough (the end of an economic contraction or recession) in June 2009. See <http://www.nber.org/cycles.html>.

³⁸ Calculations based on the implicit price deflator for U.S. gross domestic product (GDP) available at <http://research.stlouisfed.org/fred2/series/USAGDPDEFAISMEI>.

The number and value of on-us (own bank) ATM withdrawals increased consistently throughout the period, rising from 3.5 billion in number and \$308.9 billion in value in 2003 to 3.9 billion in number and \$489.3 billion in value in 2012. Meanwhile, withdrawals from foreign (other bank) ATMs experienced an offsetting decline as a result. The value of foreign ATM withdrawals increased slightly, but by an amount much less than inflation.

Debit and ATM cards as well as general-purpose prepaid cards are used to withdraw cash from an ATM. The number of debit and ATM cards with ATM withdrawals in 2012 was estimated to be 114.1 million, 68.4 million fewer than the number of debit cards with purchase activity. The number of general-purpose prepaid cards with ATM withdrawals, at 23.5 million, was approximately 5.9 million fewer than those with purchase activity.

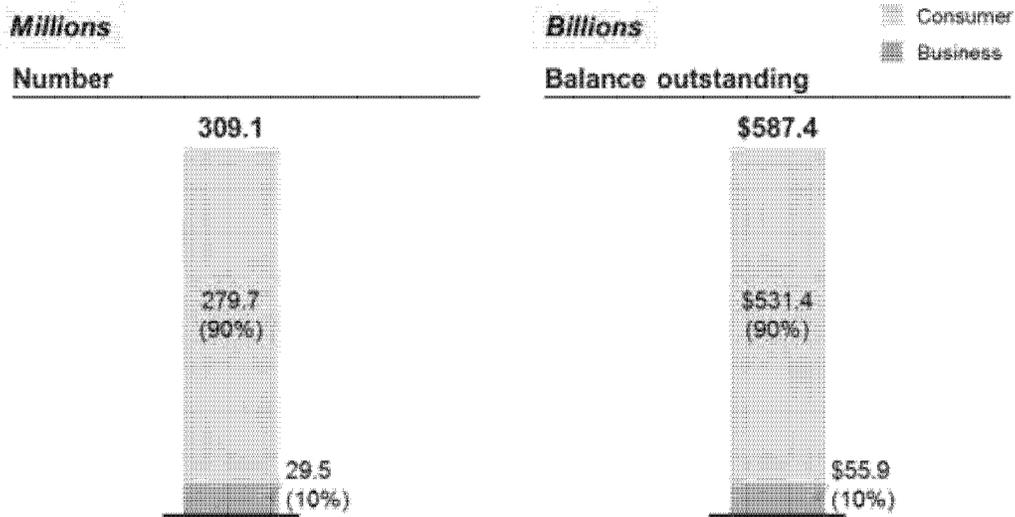
Debit card and general-purpose prepaid card users also have the opportunity to withdraw cash at the point of sale. While the number of ATM withdrawals has been relatively flat since 2003, the number of debit and general-purpose prepaid card transactions at the point of sale involving cash back increased from approximately 0.6 billion in 2003 to approximately 1.5 billion in 2012. Compared with the average value of an ATM cash withdrawal (\$118) in 2012, the average amount of debit and general-purpose prepaid card cash back was small (\$33).

1.9 PAYMENT ACCOUNTS

For the first time, the DFIPS collected information on the number and total balances in consumer and business general-purpose credit card accounts. The survey estimated that there were 309.1 million general-purpose credit card accounts as of 2012, with 279.7 million consumer accounts and 29.5 million business accounts (Exhibit 32). Total balances outstanding of these credit card accounts were estimated to have been \$587.4 billion, with \$531.4 billion outstanding in consumer accounts and \$55.9 billion in business accounts. The average balance outstanding of consumer accounts was \$1,900. The average balance in business accounts was estimated to have been extremely close to that of consumers (\$1,899), but the equivalence of the averages masks considerable underlying diversity in reported averages between consumer and business accounts across depository institution type and size. Average calculations include accounts with a zero balance. Balances include revolving debt and current charges. Although the survey did not ask depository institutions to separately report

these amounts, there could be significant differences between these two types of accountholders.

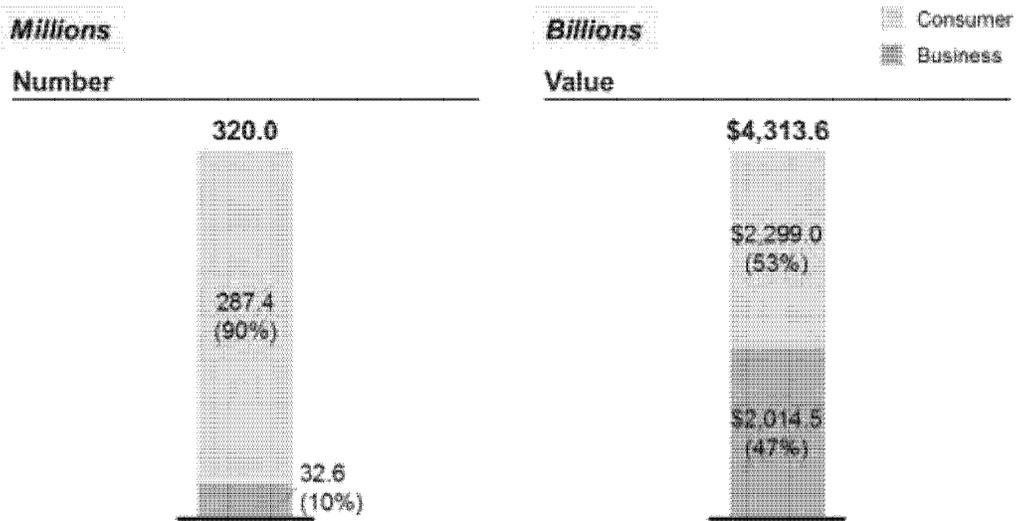
Exhibit 32: Number and balance outstanding of credit card accounts in 2012, by accountholder type



Figures may not sum because of rounding.

At 320 million, the number of transaction deposit accounts in 2012 exceeded general-purpose credit card accounts by approximately 10 million, but at \$4.3 trillion, the total value of transaction deposits far exceeded the value of outstanding credit card balances (Exhibit 33). There were 287.4 million consumer transaction deposit accounts with a total value of \$2.3 trillion, and an average value of \$8,001. The number of business transaction deposit accounts was 32.6 million with a total value of \$2.0 trillion, and an average value of \$61,706.

Exhibit 33: Number and value of transaction deposit accounts in 2012, by accountholder type



Includes deposits of individuals, partnerships, and corporations at commercial banks, savings institutions, and credit unions, and excludes deposits of other banks or foreign governments. Figures may not sum because of rounding.

1.10 MORE INFORMATION ABOUT THE SURVEY DATA

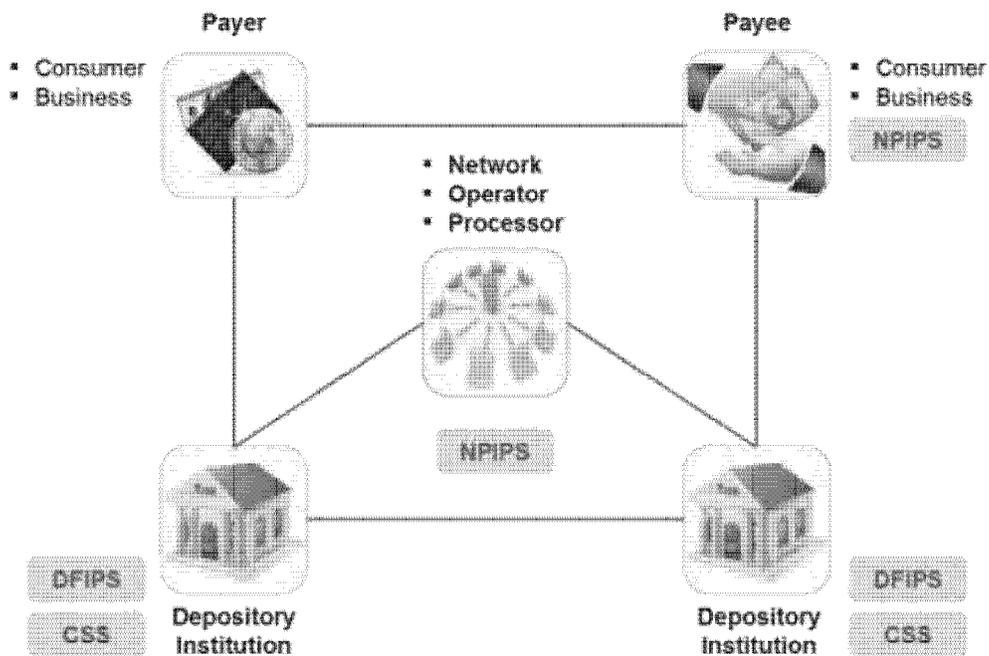
Sections 2 through 4 report information collected from the three individual survey efforts: DFIPS, NPIPS, and CSS. The Summary Report presents one estimate for each type of payment, although in some cases, the volume might be measured in more than one survey. The source of information and the timing, however, of the surveys differ: DFIPS survey forms were sent to a nationally representative, stratified random sample of depository institutions, which hold the transaction deposit accounts or credit card accounts and process checks, ACH, wire transfers, general-purpose cards, and cash for their consumer and business customers. The DFIPS collected data for the month of March 2013, while NPIPS included a set of 15 census-style surveys of networks, processors, and issuers and collected annual data for 2012.³⁹ The CSS

³⁹ Non-depository institutions, such as money market funds, hold funds in depository institutions, sometimes through sweep arrangements, to support payments. Regulations restrict payments from non-transaction accounts to no more than 6 per month. Some depository institutions that issue credit cards but do not hold transaction deposits are also included.

gathered data on individual checks collected and paid by 11 very large commercial banks during 2012.

The point of the payments process at which the survey respondents may have relevant information differs between the DFIPS, NPIPS, and CSS (Exhibit 34). Thus, while some of the data they provide are similar, the figures that the various respondents report are affected by the information available from the business processing systems they use.

Exhibit 34: The Federal Reserve payments surveys and the payments process



The chart depicts the parties that are potentially involved in a payment. Lines depict typical information flows, but flows vary by payment type. NPIPS collects information from payment networks, operators, and processors, as well as business payees that accept private-label payments. DFIPS and CSS collect information about payments processed by depository institutions.

Network operators and processors provided aggregate information in the NPIPS about payments that flowed through their systems. Depository institutions provided aggregate information in the DFIPS about the payments their accountholders made and, in some cases, about the payments their accountholders received. Some private-label payment cards were issued by the payee—for example, department store or oil company credit cards. In such cases, NPIPS also collected data directly from the merchant issuer (business payees in the exhibit).

While efforts are made to understand and, if possible, reconcile differences between estimates from each survey based on relevant information, some natural differences are allowed to remain in the estimates. Estimates for DFIPS, which are annualized based on March 2013 data by multiplying by 12, are not, for example, adjusted to try to reflect the growth of each estimated item between the year of 2012 and the month of March 2013.⁴⁰ Even with this minimalist approach, for estimates of payment types that have a clear overlap between DFIPS and NPIPS—as with general-purpose credit, debit, and prepaid cards—the differences tend to be consistent with the estimated growth rates of each type of payment.

While sampling error, definitional differences, seasonality, and timing are all contributing factors to some differences, when valid estimates are available from both surveys, the NPIPS annual 2012 estimates are presented in the exhibits and tables of the Summary Report and the exhibits of this detailed report. In general, where DFIPS and NPIPS survey estimates overlap they are consistent with each other once these factors are taken into account.

⁴⁰ While annualization by multiplying by 12 is arbitrary, it has the advantage of being simple. Any adjustment for seasonality could not be equally applied to all of the DFIPS estimates because the growth rates of different items are so different. Also, growth rates by item are based on previous survey estimates from three years ago, which may not serve as good estimates for more recent changes.

1.10.1 Revisions

Additional analysis and new information contributed to a variety of revisions outlined in this section.

Checks written by counterparty allocations are revised to reflect an adjustment to a particular bank's internal sampling rates affecting 2006, 2009, and 2012 allocations of checks. With these revisions, the data show that:

- B2B checks were falling slower than any other category, confirming industry assessments that B2B checks have been challenging to replace.
- C2C checks were falling at approximately the same rate as overall.
- The fastest decline was in B2C checks.
- The revised distributions show a substantial increase in consumer checks from 2006 to 2009. Although consumer checks may have risen during that time period, the increase was also, in part, because of the addition of several banks to the 2009 and 2012 sample that have a larger proportion of consumer customers.

New data from the detailed report allowed more accurate estimates of the number and value of in-house on-us ACH.⁴¹ Estimates of the number and value of network ACH payments are unchanged. Because of the change in the in-house on-us estimates, the previously reported estimates of the total number and value of ACH for 2012 have been revised.

The new ACH estimation method creates a break in series in the measurement of total ACH, particularly by value. Therefore, comparison of total ACH volume trends by number will be retained but the value trends will not.

- The total number of ACH payments previously reported has been revised downward slightly to 21.7 billion.
- The new estimate of the value of in-house on-us ACH payments of \$144.1 trillion is approximately triple the size of the previously reported value.

⁴¹ Some on-us ACH is processed through the network operators, and is not included in the estimates of in-house on-us ACH.

- The average value of a network ACH is estimated to have been \$2,202, the overall average value of an ACH in 2012 is now estimated to have been \$6,638.
- The third-party fraud rates by number and value for ACH are revised to reflect the revised number and value figures for ACH.

All unauthorized third-party fraud transaction estimates and, consequently, the fraud rates in the fraud section have changed. While the figures are quantitatively slightly different, the qualitative conclusions have not changed. There are a variety of other revisions including:

- Number of checks written
- Value of general-purpose prepaid card
- Value of checks paid
- Value of returned checks, which also affected the value of checks written
- Value of ATM cash withdrawals
- Transit payments
- Various totals, subtotals, average values, and growth rates affected by the above revisions

2 Depository and Financial Institutions Survey (DFIPS)

2.1 INTRODUCTION

To address the increasing need for information on the U.S. payments system, the 2013 Depository and Financial Institutions Payments Survey (2013 DFIPS), a component of the 2013 Federal Reserve Payments Study (2013 Study), was expanded to include substantially more items than its predecessor, the 2010 Depository Institutions Payments Study (2010 DI Study).⁴² To partially offset the anticipated reporting burden resulting from this expansion, respondents were asked to report information only for the month of March 2013 instead of two months (March and April 2010) as in the 2010 DI Study. When appropriate, the figures reported for the 2013 DFIPS are annualized by multiplying the estimates for March 2013 by 12. For ease of exposition, and for consistency with the 2012 annual data used in the other survey components of the 2013 Study, these annualized estimates will be referred to as estimates for 2012.⁴³

The 2013 DFIPS collected information on volumes of payments and related activities from depository institutions (including credit card banks that do not offer transaction deposit accounts), such as the number and value of various types of noncash payments and cash withdrawals and deposits that posted to customer accounts, alternative payment initiation methods, and unauthorized transactions (third-party fraud) that were processed during the month of March 2013. Noncash payments measured include transactions by credit, debit and prepaid card, automated clearinghouse (ACH), wire transfer, and check. Close to 2,700 surveys were sent to a stratified random sample of commercial banks, savings institutions, credit unions, and credit card banks. Survey data returned by 1,182 institutions were used to construct annualized estimates for 2012.

⁴² For more information on the 2010 Depository Institutions Payment Study (2010 DI Study), see <https://www.frbservices.org/assets/news/research/2010-payments-study-detailed-data.pdf>.

⁴³ Discussion of trends, seasonality, and other timing issues that could create differences between March 2013 and annual 2012 estimates may be found in section 2.9.

The reader may wish to refer to the survey instruments available online and the tables at the end of this section containing aggregate estimates.⁴⁴

2.2 GENERAL-PURPOSE CARDS

The 2013 DFIPS included questions covering general-purpose credit, debit, and prepaid card use and reach.⁴⁵

In addition to card payment volumes, the survey captured the number of accounts that are tied to these cards. Credit cards are used to access revolving and non-revolving (charge) credit accounts; debit cards access transaction accounts (known as checking accounts, NOW accounts, or share draft accounts in the case of credit unions); and prepaid cards access funds in special-purpose, prepaid accounts designed to support various prepaid card programs, some of which have features that resemble a typical transaction account and others of which have features tailored to specific uses.

General-purpose cards are counted several ways—cards in force, cards with purchase activity, and chip enabled (chip) cards.⁴⁶ These measurements also account for the type of network (dual-message or single-message), whether the card was used (card-present), or just the card account number and other data were used (card-not-present) and the type of cardholder (consumer or business).⁴⁷ Most general-purpose card transactions are processed through Visa, MasterCard, American Express, and Discover and several smaller networks, or, in the case of debit and prepaid cards, one of more than a dozen single-message (or PIN) debit card networks. Some card networks process general-purpose credit, debit, and prepaid card payments, while others may process only credit or only debit and prepaid. Debit and prepaid

⁴⁴ Electronic copies of the survey forms are available for download at <https://www.frbservices.org/news/research.html>.

⁴⁵ Different laws, regulations, and card network policies have varying definitions of debit cards and prepaid cards. In its definition of debit cards, the Federal Reserve's Regulation II includes "general-use prepaid cards," which this survey accounts for separately from debit cards, referring to them as general-purpose prepaid cards.

⁴⁶ Payment cards in the U.S. have magnetic stripes on the back containing static card information which is read by card terminals in payment situations where the card is present. Some cards issued in the United States also contain chips. Chip cards retain card information in a microchip embedded in the card, which can be encrypted and can use dynamic data. While not widely adopted, the availability of chip cards and chip terminals is growing. Chip cards and terminals in the United States typically use near-field communication (NFC), allowing a quick touch or wave of the card instead of a swipe of the magnetic stripe.

⁴⁷ Throughout the study, the business (or business/government) category included businesses; federal, state, and local government agencies; and nonprofit organizations.

cash-back transactions and credit cash-advance transactions are also measured in the 2013 DFIPS.

2.2.1 Credit Cards

The 2013 DFIPS included a new section on general-purpose credit cards, which were issued by depository institutions. In order to collect accurate credit card data in the United States, the 2013 DFIPS included depository institutions as well as credit card banks in the population and sample in 2013.⁴⁸ These institutions were asked to report data associated with all secured and unsecured general-purpose (major network) credit cards, and to exclude data associated with private-label cards or with corporate accounts where only an account number, but no card, was issued.

In addition to the number and value of credit card payment transactions, depository institutions reported the number and outstanding balances of credit card accounts they hold; the associated number of credit cards of various types, including cards in force, cards with purchase activity, and chip enabled cards; and the number and value of credit card cash advances. Depository institutions also reported all the above data for consumers and businesses separately.

Because the general-purpose credit card section is new to the 2013 DFIPS, trends are not available to be reported.

2.2.1.1 General-Purpose Credit Card Payments

In 2012, the estimated total number of general-purpose credit card payments (excluding cash advances) equaled 23.7 billion. These transactions summed to a total value of \$2.2 trillion, for an average value of \$92 per transaction. Consumers initiated 84 percent of these payments (19.9 billion) and accounted for 69 percent (\$1.5 trillion) of the total value. Meanwhile, businesses spent the remaining \$0.7 trillion via 3.8 billion transactions. The average value per transaction was \$179 for businesses and \$76 for consumers.

⁴⁸ From a regulatory standpoint credit card banks are considered depository institutions but they do not hold transaction deposit accounts.

2.2.1.2 General-Purpose Credit Card Cash Advances

In 2013, the DFIPS also began measuring credit card cash advances, an option allowing cardholders to withdraw or transfer cash up to a prescribed limit from an ATM or depository institution. A total of 88.6 million credit card cash-advance transactions in 2012 generated \$71.1 billion in cash-advance value. Consumer credit card cash advances made up the vast majority of these advances - 94 percent of the total number and 95 percent of the total value. The remaining 4.9 million transactions were cash advances by businesses.

CONSUMER CASH ADVANCES

Approximately 65.3 million, equating to 78 percent, of consumer credit card cash advances in 2012 were provided through ATM or over-the-counter withdrawals, which averaged \$260 per transaction. These withdrawals comprised 25 percent (\$16.9 billion) of the total consumer credit card cash-advance value.

Convenience checks and balance transfers allow accountholders to transfer prescribed amounts (such as outstanding balances) from their credit or charge card to a payee. In a balance transfer, for instance, the accountholder transfers the balance from one card to another. Convenience checks may be used for balance transfers to obtain cash advances or to pay for a variety of goods or services.⁴⁹ In 2012, approximately 22 percent (18.4 million) of consumer credit card cash advances were completed via convenience checks or balance transfers. With an average value of \$2,747, these transactions represented 75 percent (\$50.5 billion) of the total consumer credit card cash-advance value.

BUSINESS CASH ADVANCES

Business cash advances often involve the use of employee travel cards, but also can involve the use of purchase cards. By number, business cash advances also favored direct withdrawals of cash over convenience checks and balance transfers. Approximately 14 percent (0.7 million) of business credit card cash advances in 2012 were initiated via convenience checks or balance transfers. Business balance transfers were likely driven by small business activities as most large corporation card accounts do not provide for revolving balances.

⁴⁹ Convenience checks are usually made via a "payable through" check, meaning that the check is paid by a different bank than the credit card issuing bank, which holds an account at a correspondent bank (a different depository institution) for this purpose. In that case, the correspondent bank is the paying bank and such checks are included in total checks reported by that correspondent.

The remaining 86 percent (4.2 million) of business cash advances were completed through ATM or over-the-counter withdrawals. At \$401, the average value per ATM/over-the-counter withdrawal for businesses in 2012 was 54 percent higher than that for consumers. Meanwhile, business convenience checks or balance transfers had, on average, 7 percent more value (\$2,940) than those for consumers.

2.2.1.3 General-Purpose Credit Card Accounts

The estimated number of general-purpose credit card accounts in 2012 was 309.1 million, with total outstanding balances of \$0.6 trillion.⁵⁰ The average outstanding balance in these accounts was \$1,900. The outstanding balances reflect both borrowing and spending—that is, the totals include both revolving credit and current charges. Some consumers use the revolving credit feature of their credit cards, meaning they maintain a balance from period to period rather than paying the full amount of spending during the period. Many consumers pay off their balance at the end of each period.⁵¹ Consumer credit card accounts in 2012 made up 90 percent (279.7 million) of total U.S. credit card accounts and approximately 90 percent (\$0.5 trillion) of total outstanding balances. The average outstanding balance per consumer account was \$1,900. Business credit card accounts made up the remaining accounts, with an average outstanding balance of \$1,899. Because the typical business credit card account is essentially a “charge account,” meaning that current charges must be paid at the end of the statement period, a greater portion of outstanding balances for business accounts are associated with current spending rather than revolving debt as compared with consumer accounts.

2.2.1.4 Number of General-Purpose Credit Cards

In addition to the number of general-purpose credit card accounts, the 2013 DFIPS also measured the number of cards tied to these accounts. Close to 333.6 million credit cards were estimated to have been in force in 2012. Cards in force are those issued by the depository institution, activated by at least one cardholder, and unexpired. A little more than half (187.8

⁵⁰ These figures included both unsecured and secured credit card accounts in the United States. A portion of these accounts may not have an activated card associated with them if the cardholder has never activated the card or allowed their card to expire. In both cases, the accountholder might be paying down the balance on the account or they might maintain a zero balance.

⁵¹ The 2013 DFIPS did not collect information about the proportion of accounts in these different ways, but other evidence supports these assertions (e.g., the Board’s Survey of Household Economics and Decision-making (forthcoming) estimates that 57 percent of households consistently paid off their credit card balances over the 12 months prior to the survey).

million) of the credit cards in force had purchase activity (that is, made at least one purchase or bill payment in a month). With 305.3 million general-purpose credit cards, consumers controlled the majority (92 percent) of credit cards in force. The rest of the credit cards in force (28.3 million, or 8 percent) were associated with business accounts.

Consumer credit card accounts had an average of 1.1 cards in force, while businesses had an average of close to 1.0 card in force. Chip cards made up only 7 percent (23.6 million) of total credit cards in force.

Cards that were used to make at least one purchase or bill payment in a month are called cards with purchase activity or active cards. Purchase activity included card-present transactions such as point-of-sale (POS) purchases and card-not-present transactions such as bill pay, but not account activity such as interest charges or fees initiated by the depository institution. In 2012, slightly more than half (56 percent) of both consumer and business credit cards in force were cards with purchase activity. Cards issued by savings institutions posted the highest portion of card activity, with 81 percent of cards in force being active. Only 56 percent of cards in force issued by commercial banks had purchase activity during the same period—the lowest among the three depository institution types. Meanwhile 61 percent of credit union cards in force had purchase activity.

Consumer credit cards with purchase activity averaged 10 transactions per month. Active business cards, on the other hand, averaged 20 transactions per month. Consumers with cards issued by credit unions used their cards slightly less often than consumers at commercial banks (8 and 10 transactions per month, respectively), and the average credit card transaction value of credit union consumer cardholders (\$68) was slightly less than that of commercial bank cardholders (\$76). Meanwhile savings institution consumer cardholders used their cards least frequently (6 transactions per month) and spent \$70 per transaction.

2.2.2 Debit and Prepaid Cards

The 2013 DFIPS collected combined as well as separate debit and general-purpose prepaid card transactions and, for the first time, also separately collected general-purpose debit and prepaid card cash-back transactions (point-of-sale transactions that included an amount of cash

given back to the cardholder).⁵² Because previous studies collected combined debit and prepaid card cash-back transactions, the combined trend of debit and prepaid card cash-back activity has been reported in this section. Meanwhile, depository institutions reported the number and value of transaction deposit accounts and prepaid card program accounts, as well as the associated number of general-purpose debit and prepaid cards of various types, including cards in force, cards with purchase activity, and chip enabled cards.

2.2.2.1 General-Purpose Debit and Prepaid Card Payments

In 2012, general-purpose debit and prepaid card transactions totaled 54.7 billion in number and \$2.1 trillion in value. These transactions included debit and prepaid card transactions at the point of sale as well as card-not-present transactions on the telephone or Internet. The average value per transaction, including any cash-back amount, was \$39.

General-purpose debit and prepaid card transactions were also allocated by the type of network—signature or PIN.⁵³ All debit and prepaid card transactions processed over a signature (dual-message) payment card network were classified as signature transactions. In 2012, just over 63 percent (34.7 billion) of these payments were signature transactions with an average value of \$38 per transaction. PIN transactions made up the rest of the debit and prepaid card transactions. In addition to the card transactions processed over a PIN (single-message) payment card network, “PIN-less” bill payments settled through a regional debit card network were also classified as PIN transactions. In 2012, PIN transactions constituted 36 percent (20.0 billion) of the total and posted an average value of \$42 per transaction.

2.2.2.2 General-Purpose Debit and Prepaid Card Cash Back

Approximately 2.7 percent of combined debit card and prepaid card transactions involved cash back in 2012. This percentage has increase over time: The percentage of cash back in 2009 was 2.3 percent. The proportion of cash-back transactions differs considerably between debit and prepaid cards, as discussed below.

⁵² The 2013 DFIPS is the first iteration of the study in which prepaid card estimates are reported in addition to debit cards associated with traditional transaction accounts. The 2010 Depository Institutions Payments Study (DI Study) collected information on prepaid cards, but separate estimates for prepaid card volumes were not produced.

⁵³ As discussed in the overview section of this report, dual-message networks are also called signature networks and single-message networks are also called PIN networks. The survey forms referred to these types of networks as Signature and PIN networks.

Although cash-back activity was significant in 2012, it was substantially smaller than ATM-withdrawal activity: The total number (1,455.0 million) and value (\$47.4 billion) of cash back at the point of sale constituted 25 percent of the number and only 7 percent of the value of cash withdrawn at ATMs. From 2009 to 2012, general-purpose debit and prepaid card cash-back transactions increased 12.0 percent by number and 10.4 percent by value per year.

2.2.2.3 Debit Cards

In addition to the number and value of general-purpose debit card payment transactions, depository institutions reported the number and value of transaction deposit accounts associated with debit cards (as well as checks and ACH payments), and the associated number of debit cards of various types. Depository institutions also reported the number of debit cards and the number and value of debit card transactions for consumer and business separately.

2.2.2.3.1 General-Purpose Debit Card Payments

Of the 51.2 billion debit card transactions in 2012, approximately 97 percent (49.4 billion) were made by consumers, while the value of consumer debit card transactions accounted for approximately 92 percent (\$1.9 trillion) of the \$2.0 trillion total value. The average value per consumer debit card transaction was \$38, slightly less than the overall debit card average (\$40).

Businesses accounted for the remaining 3 percent (1.7 billion) of the general-purpose debit card transactions with 8 percent (\$0.2 trillion) of the total value. The average value per business debit card transaction was \$89.

2.2.2.3.2 General-Purpose Debit Card Cash Back

Cash back held a relatively small share of debit card transactions as a whole. In 2012, only 2.7 percent (1,404.3 million) of debit card transactions included cash back. With a total value just surpassing \$46.4 billion, the average amount of cash given back to the cardholder from these transactions was \$33.

Credit union members had the highest rate of debit card cash-back activity at 4.3 percent of total debit card transactions in 2012. Cash-back transaction is a convenient alternative to ATM cash withdrawal and credit union cardholders may have fewer ways to access fee-free ATMs compared to their counterparts at savings institutions and commercial banks. Non-credit union accountholders initiated cash-back transactions only 2.4 percent of the time.

2.2.2.3.3 Number of General-Purpose Debit Cards

The total number of general-purpose debit cards in force was estimated to be 282.8 million in 2012. Of these 282.8 million cards, approximately 65 percent (182.5 million) had purchase activity. Average value of spending per card in 2012 was estimated to be \$11,215. The remaining 35 percent of cards (100.3 million) did not have purchase activity; they were either idle or used only for non-purchase activity such as ATM access.

Consumers held 94 percent (265.4 million) of the total debit cards in force in 2012. Because of their extremely high share of debit cards, consumer cards largely reflected the overall figures for debit cards. Approximately 34 percent (91.4 million) of consumer debit cards in force did not have purchase activity. The estimated average spending per consumer debit card was nearly \$10,885 in 2012, slightly lower than the overall average debit card 2012 spending which included business payments. Consumer cardholders at savings institutions had the highest average spending per card in 2012—approximately \$13,294—compared to \$10,853 for commercial bank and \$10,487 for credit union consumer cardholders.

There were 17.4 million business debit cards in force in 2012, which accounted for 6 percent of all general-purpose debit cards. Less than half of them (8.6 million) had purchase activity. The average spending per business debit card was approximately \$17,908 for the entire year, substantially higher than the consumer average.

In 2012, both consumer and business debit cards in force had a share of 8 percent with chips.

2.2.2.4 General-Purpose Prepaid Cards

In addition to the number and value of general-purpose prepaid card transactions, the 2013 DFIPS included the number and outstanding funds value of prepaid card program accounts, the associated number of prepaid cards, and the number and value of cash-back transactions. For the number and value of prepaid card program accounts and the associated number of prepaid cards, depository institutions also reported the portion that they managed themselves separately from the portion that were managed by a third party.⁵⁴

2.2.2.4.1 General-Purpose Prepaid Card Payments

⁵⁴ In addition to prepaid cards managed by issuers, many prepaid cards are based on programs managed by a third party. Major examples of cards that are managed by a third party include the U.S. Department of the Treasury's Direct Express program, which uses a non-depository institution to manage the program, as well as a depository institution to sponsor network access. Other examples include cards with brand names, like Green Dot or Net Spend, and payroll cards sponsored by various employers.

General-purpose prepaid card program accounts—including rebate or gift cards, payroll cards, and electronic benefit transfer (EBT) cards—totaled 236.3 million in 2012. From these accounts, 159.1 million prepaid cards were activated and unexpired, and 29.4 million of these prepaid cards showed purchase activity. Purchase activity on prepaid cards (18 percent) was considerably lower than that on debit cards (65 percent) in 2012. This is likely because of the fact that many prepaid cards were used as cash access devices or were marketed in ways (that is, gift cards) that drive infrequent usage.

General-purpose prepaid cards with purchase activity accounted for 3.5 billion transactions in 2012. The average value per general-purpose prepaid card transaction was \$29, totaling approximately \$0.10 trillion of total value in 2012. Among credit unions, the average value per general-purpose prepaid card transaction for credit union cardholders was notably large at \$62.

2.2.2.4.2 General-Purpose Prepaid Card Cash Back

General-purpose prepaid cards were used to receive cash back at the point of sale 50.7 million times in 2012. With a total value of \$1.0 billion, the average cash received during these transactions was \$19. Prepaid card cash back in 2012 was 1.5 percent in number and 1.0 percent in value of total general-purpose prepaid card transactions.

2.2.2.4.3 Number of General-Purpose Prepaid Cards

In 2012, the total number of general-purpose prepaid cards in force was estimated to be 159.1 million, out of which approximately 96 percent (152.6 million) was held at commercial banks. Because of their extremely high share of general-purpose prepaid cards, prepaid cards at commercial banks largely reflected the overall figures for prepaid cards.

Approximately 59 percent of general-purpose prepaid cards in force in 2012 were managed by a third-party processor rather than the issuer of the card. This is mainly because approximately 62 percent of prepaid cards at commercial banks were managed by a third party. Credit unions were much less likely to sponsor a third-party program manager, with only 26 percent of their prepaid cards in force being managed by a third party, while savings institutions (at 1 percent of cards being managed by a third party) managed nearly all of the cards they had issued.

2.3 AUTOMATED CLEARINGHOUSE (ACH)

As in previous studies, the 2013 DFIPS measured ACH payments for the various channels through which these payments are cleared. These channels include the following:

- **Network** –ACH payments that are cleared through the financial network by operators (e.g., Federal Reserve, Electronic Payments Network). These transactions typically take place between two different depository institutions (called depository financial institutions, or DFIs, in NACHA rules). However, there are some instances where “on-us” transactions from a single depository institution—those between two accountholders of the same institution—are cleared over the network. In this scenario, the originating depository financial institution (ODFI), which is also the receiving depository financial institution (RDFI), makes the decision to send all of its origination volume through the network and have the operator segregate out on-us volume for settlement.
- **Direct exchange** –ACH payments cleared directly between two different depository institutions (one ODFI and one RDFI) without a network operator in between. Based the survey estimates, this type of arrangement is unusual and volumes are negligible.
- **In-house on-us** –Transactions processed internally by the same depository institution (that is, the ODFI is also the RDFI). In-house on-us payments are not cleared by a network operator.

OFFSET ENTRIES

Offset entries are a valid method of processing ACH payments, but tend to “double count” the value of ACH payments. Offset transactions are ACH entries used by some ODFIs to affect internal settlement so that the ODFI’s general ledger remains in balance. The ODFI may, for instance, choose to originate offset entries if it receives “unbalanced” files from originators. Alternatively, it might choose a balancing method that does not involve the creation of an offsetting ACH entry, such as an internal accounting transfer (book transfer) to accomplish the same purpose. In cases where the originator sends a “balanced” file, the ACH offset entry is already included in the file for processing at the ODFI.

For further clarification, consider the case of an unbalanced file. Suppose an ODFI originates payroll for a business client (the originator) who has a biweekly payroll of \$100,000 for its 100 employees. The ODFI will process 100 ACH credit entries, averaging \$1,000 each. In this case, however, the originator does not send a balanced file, so in order to fund these payments the ODFI originates a single offsetting \$100,000 debit entry to draw the funds from the

business's deposit account. All told, the ODFI has originated 101 ACH entries for a total of \$200,000. The offset debit entry inflated the number of payments by one entry (just 1 percent), but it doubled the dollar amount. Offset entries, by their very definition, are on-us transactions. Depending on how the ODFI processes on-us transactions, these offset entries might be processed over the network. More typically, however, they are processed in-house.

Previous iterations of the study have requested that responding institutions exclude offset entries from their volumes, and to indicate whether or not they use offset entries. The 2013 DFIPS is the first version of the survey to request a separate allocation of total ACH payments for offset entry volumes. We believe that this approach has increased the accuracy of our estimates of ACH value compared with previous iterations.

These new data allow the exclusion of offset entries from on-us transactions resulting in, for the first time, directly estimated ACH on-us value. Previous estimates of on-us ACH value were based on the assumption that the average value of on-us ACH was equal to the average value of network ACH. These new ACH value estimates represent a revision to the 2012 estimates reported in the Summary Report from December 2013, and a break in series for trends in the value of ACH reported in past studies. While trend comparisons are still possible for ACH, by number, and for network ACH by number and by value, *trend comparisons with previous study iterations are not valid for on-us and total ACH value.*

2.3.1 ACH Payments

Excluding offsets, there were 20.0 billion ACH payments that totaled \$134.5 trillion in 2012. The total number of ACH transactions declined 2.8 percent per year from 2009 to 2012, while their value increased 4.2 percent per year during that same time. In 2009, there were 21.8 billion payments totaling \$119.0 trillion. As discussed in the introduction to this section, the 2009 estimate for total ACH value is not comparable with the 2012 estimate, but is not revised.

The new estimated average ACH payment excluding offsets was \$6,733 per entry, \$1,268 larger than the 2009 estimated average of \$5,465. The value of the 2009 average is now assumed to be larger, but is unknown.

In 2012, nearly 78 percent of all ACH payments excluding offsets were cleared over the network using one of two network operators and just over 0.1 percent of ACH payments were exchanged directly between the ODFI and RDFI without the use of a network operator. The

remaining 22 percent of ACH payments were on-us payments processed in-house at the ODFI (which was also the RDFI).

2.3.1.1 ACH Credit Payments

Excluding offsets, there were 7.5 billion ACH credit payments in 2012 totaling \$67.6 trillion. ACH credit payments accounted for 37 percent of the total ACH payments and 50 percent of their value. Of these 7.5 billion ACH credit payments, 78 percent were cleared through a network operator while 22 percent were in-house, on-us payments. Only a small fraction of ACH credit payments—0.1 percent—were direct exchange entries.

2.3.1.2 ACH Debit Payments

In 2012, there were 12.5 billion ACH debits excluding offset entries in the United States. These payments amounted to \$66.9 trillion. Compared to the 13.7 billion ACH debit payments worth \$57.1 trillion in 2009, the 2012 estimates represented a 3.1 percent decline per year in number and a 5.4 percent increase per year in value from 2009 to 2012.

The number of ACH debit payments excluding offsets constituted 63 percent of total ACH payments in 2012. By value, ACH debit payments represented almost 50 percent of the total ACH estimates.

Excluding offset entries, 77 percent (9.7 billion) ACH debit payments were cleared over the network—either by the Federal Reserve or EPN. Only a small fraction (0.2 percent) was exchanged directly between the ODFI and RDFI. The remaining 2.8 billion ACH debit payments were on-us and cleared solely within the ODFI.

2.3.1.3 ACH On-Us Payments

On-us payments are those between to accountholders at the same institution. The 2013 DFIPS measured on-us payments cleared by the ODFI without a network operator. These are referred to as in-house on-us payments. The 2013 DFIPS, however, did not measure total on-us ACH payments as some on-us payments may be cleared using a network operator. These network on-us payments were included in network volumes reported earlier and are not discretely measured.

Excluding offset entries, the total number of in-house on-us ACH payments decreased from 5.0 billion payments in 2009 to 4.4 billion payments in 2012—a 4.0 percent decrease per year. The

value of in-house on-us payments increased during the period, from \$84.9 trillion in 2009 to \$98.6 trillion in 2012—a 5.1 percent increase per year.

2.4 WIRE TRANSFERS

Wire transfers include payments made using the two large-value funds transfer systems: 1) CHIPS, operated by The Clearing House, and 2) Fedwire, operated by the Federal Reserve Banks. In addition to wires over these systems, some wires are on-us, meaning they are settled on the books of a depository institution or through a correspondent bank without passing over these systems. The 2013 DFIPS included another new section on overall wire transfers originated from accounts at U.S.-domiciled depository institutions, separated into consumer and business wire transfers, as well as separated into wire transfers to a domestic payee (another U.S. bank accountholder) or a foreign payee (foreign bank accountholder). The survey also asked institutions to separate business wire transfers between those initiated for the purpose of the banks' own interbank settlement needs and wire transfers for business customer needs.

2.4.1 Total Wire Transfers

There were 287.5 million wire transfer transactions, totaling \$1,116.3 trillion in value, in 2012.⁵⁵ This total value of wire transfers far exceeded every other payment instrument that was measured in the 2013 Study in terms of dollar value, followed by total ACH payment transactions at a value of \$134.5 trillion (excluding offset entries). In terms of number of payments, wire transfers were the least used of the broadly defined payment instruments measured by the survey.

On average, wire payments were approximately \$3.9 million in 2012.

2.4.1.1 Consumer Wire Transfers

Consumer-originated wires summed to 6 percent (17.4 million) of the total wire transfers in 2012, accounting for 0.1 percent (\$1.5 trillion) of the total value. The average value for these transactions was \$88,112—or 2.3 percent of the average value for all wire transfers.

⁵⁵ Based on the difference between the estimated total number and value of wires and the number and value known to have been processed over the large-value funds transfer systems, roughly 20 percent of wires by number and 14 percent by value were estimated to have been settled outside of the large-value funds transfer systems.

2.4.1.2 Settlement/Bank Business Wire Transfers

The wire transfers for a depository institution's own account consisted of 23.6 million transfers and \$293.7 trillion in value in 2012. At \$12.4 million per transaction, these settlement/bank business wire transfers held the highest average value of any wire transfer type measured in this study. This measure included all wires originated by depository institutions settling bank positions in, for example, the overnight lending market, or for the purpose of paying vendors. These 23.6 million settlement/bank business transfers constituted 8 percent of the total number and 26 percent of the total value for wire transfers made across U.S. networks in 2012.

2.4.1.3 Other Business Wire Transfers

The remaining business-originated wires represented 86 percent (246.5 million) of the total wire transfers in 2012. They accounted for approximately 74 percent (\$821.1 trillion) of the total value, with an average size of just over \$3.3 million per transfer.

2.4.1.4 Wire Transfers by Payer Type

The estimated ratio of settlement/bank business to consumer wires in 2012 was approximately 4:3, while the ratio of other business to settlement/bank business wires was approximately 10:1. Meanwhile, for every dollar wired for U.S. consumers, \$191 was wired for settlement/bank businesses and \$535 for other businesses. Correspondingly, by value, the ratio of other business-to-settlement/bank business was approximately 3:1, which implied that the total value of wires for settlement/bank businesses was approximately one third of the total value of wires for other businesses.

2.4.1.5 Wire transfers by Payee Location

The 2013 DFIPS also measured wire transfers sent to domestic and foreign payees separately. Wires sent to domestic payees (or domestic recipients) were defined to be wire transfers originated from accounts at depository institutions in the United States to another account in the United States. Wires sent to foreign payees (or foreign recipients) were defined as wire transfers originated from accounts at depository institutions in the United States to an account outside the United States. In 2012, 38 percent of all wire transfer originations were to foreign payees. These transfers accounted for 39 percent of the total transferred value. Foreign-payee wire transfers were further disaggregated by their source of origination. Consumer-originated foreign transfers made up 3 percent of all foreign-payee wire transfers by number but merely 0.1 percent by value.

2.5 CHECKS

Data from the 2013 DFIPS affirmed the historical decline in checks, and also showed that the checks still in circulation continue to gain efficiencies, especially in interbank clearing where the process had become virtually 100 percent electronic. The number of checks deposited directly by depository institution customers as images (via mobile device or scanner) also continued to grow. For the first time, the 2013 DFIPS estimated the number and value of image-deposited checks by type of depositors (consumer versus business) and by image-capturing device (mobile device versus other device, such as a scanner).

2.5.1 Checks Paid

The number of checks paid in 2012 amounted to 18.3 billion. This figure accounted for all negotiable instruments drawn on depository institutions including traveler's check and money orders, but excluded courtesy checks from credit card accounts. The checks-paid instrument included checks cleared via image exchange, but excluded checks converted to ACH (that is, ARC, POP, BOC transactions).

From 2009 to 2012, the total number of checks paid declined at an annual rate of 9.2 percent. The steepest decline occurred at savings institutions followed by credit unions, where total checks paid dropped 17.1 percent and 10.2 percent per year, respectively, during the period. Commercial banks experienced the smallest decline at 8.6 percent per year. While the 2013 DFIPS did not measure consumer and business checks separately, the more rapid decline at savings institutions and credit unions, which had larger proportions of consumer transaction deposit accounts (91 percent and 98 percent, respectively, compared to commercial banks at 87 percent), suggests that consumers transitioned to check alternatives more quickly than their business counterparts.

The total value paid through checks also declined. In 2012, \$25.9 trillion were paid through checks, compared to \$31.6 trillion in 2009. This represented an annual decline of 6.5 percent from 2009 to 2012. The average value per paid check, however, increased from \$1,291 in 2009 to \$1,410 in 2012, a 3.0 percent increase per year. This growth can be attributed to overall economic growth during the period and not just an increasing share of business checks (see the CSS).

2.5.1.1 Interbank Checks Paid

The 2013 DFIPS measured two types of checks paid: interbank and on-us checks. Interbank checks are checks that involve two or more depository institutions to clear. Approximately 13.0 billion (71 percent) of all checks paid in 2012 were interbank checks. These checks accounted for \$16.5 trillion, or 64 percent of the total check value paid. Consistent with the decreasing number of all checks paid, the number of interbank checks paid fell by an annual rate of 10.4 percent from 2009 to 2012.

2.5.1.2 On-Us Checks Paid

When two accountholders from the same depository institution write checks to one another, the cleared checks are considered on-us checks. In 2012, 5.4 billion on-us checks were paid—a 5.9 percent annual decline from 2009. Approximately 29 percent of all checks paid in 2012 were on-us, a 3 percentage point increase over 2009, when the on-us rate was 26 percent. Credit unions and commercial banks saw the largest increases of on-us checks paid relative to interbank checks paid. Nearly one in three checks paid (32 percent) at commercial banks were on-us (compared with 29 percent in 2009), while at credit unions, 10 percent were on-us in 2012 (compared with 7 percent in 2009). The increased rate of on-us checks paid at these types of institutions suggests an increase in market share for commercial banks and credit unions. For commercial banks, this may be a result of consolidation in the market, while for credit unions, it may be a result of consumers seeking credit unions for lower fees and reduced or no-minimum-balance requirements. Savings institutions experienced a smaller increase in the percentage of on-us checks paid—17 percent in 2012 compared with 15 percent in 2009.

The total value of on-us checks also declined, at an annual rate of 5.0 percent from 2009 to 2012. In 2012, \$9.4 trillion on-us checks were paid versus \$11.0 trillion in 2009.

2.5.2 Deposited Checks

The number of checks deposited at depository institutions, including paper and image checks, totaled 24.7 billion in 2012. This number represents an annual decline of 6.8 percent from 2009. The value of these deposited checks also fell, at a rate of 4.7 percent per year from \$37.5 trillion in 2009 to \$32.4 trillion in 2012.

The total number of checks deposited in 2012 (24.7 billion) was 6.4 billion more than the total number of checks paid (18.3 billion) reported above. The relationship between checks paid and checks deposited is complicated by several factors:

- **Checks deposited more than once.** Some depository institutions, for example, enter into a correspondent banking relationship with another depository institution. Under this arrangement, the bank of first deposit re-deposits the check at the processing depository institution for clearing. In this example, one check accounts for two check deposits. Excluding correspondent check deposits, the number of checks deposited by consumers and businesses in 2012 totaled 19.3 billion—still 1.0 billion more than the number of checks paid (18.3 billion) previously reported. This difference is due, in part, to measurement issues, as well as the definitional reasons listed below:
 - **Checks drawn on foreign accounts that are deposited in the United States.** These checks would be counted as checks deposited but not checks paid.
 - **Checks drawn on U.S.-domiciled accounts that are deposited at foreign depository institutions.** These checks would be counted as checks paid but not checks deposited.

2.5.2.1 Image Check Deposits

In 2012, 35 percent (8.8 billion) of checks and 33 percent (\$10.7 billion) of check value entered the financial system through accountholder-initiated image deposits. These deposits included consumer, business, and correspondent image transmissions made via mobile phones or desktop scanners. They did not include checks deposited as paper but subsequently converted to images, such as branch or ATM-capture deposits. At \$1,221 per check, the average value of these image deposits is less than the average value of all deposited checks (\$1,312).

From 2009 to 2012, the number of image check deposits declined 2.4 percent per year. However, the overall share of checks deposited as images increased 4 percentage points, from 31 percent in 2009 to 35 percent in 2012.

2.5.2.1.1 Image Check Deposits by Depositor

Image checks captured by consumers in 2012 accounted for only 3 percent (0.2 billion, \$0.3 trillion) of both the number and value of all image check deposits. Meanwhile, business-deposited image checks accounted for 36 percent (3.2 billion) of the number and 48 percent (\$5.1 trillion) of the value of all image check deposits. Correspondent-deposited image checks—checks truncated at an unaffiliated depository institution and deposited at another bank for clearing—accounted for remaining 61 percent (5.3 billion) of the number and 49 percent (\$5.2 trillion) of the value of all image check deposits. Meanwhile, these 5.3 billion

correspondent deposited image checks accounted for almost all (99 percent) of correspondent checks deposited in 2012.

2.5.2.1.1.1 Consumer Image Check Deposits by Capture Device

Of the 0.2 billion image checks deposited by consumers in 2012, 58 percent (0.1 billion) used a mobile device to capture and deposit the check image. These mobile-captured images accounted for 39 percent (\$0.1 trillion) of the total image check value by consumers (\$0.3 trillion). The remaining 42 percent of consumer image checks (0.1 billion) were deposited by other means including desktop scanners. These alternative methods made up \$0.2 trillion or 61 percent of the total image check value by consumers.

On average, consumer mobile-deposited image checks are lower in value (\$1000) than checks deposited by consumers through other means of image capture (\$2,161). Mobile deposits might have lower average value because of dollar limits set by the depositing depository institutions, stricter risk holds on mobile deposits, and demographic biases (e.g., younger, lower income depositors). In addition, deposits captured by devices other than mobile may include small businesses, which typically deposit higher-value checks.

2.5.2.2 Paper Check Deposits

In 2012, 15.9 billion paper check deposits totaled \$21.7 trillion in value. These paper checks were received through various deposit channels such as branches, lockboxes, and ATMs. From 2009 to 2012, paper checks deposited decreased 9.0 percent per year by number and 5.7 percent per year by value. In 2012, approximately 65 percent of checks were deposited as paper compared with 69 percent in 2009.

Consumer and business paper check deposits together made up the majority (99.8 percent) of paper check deposits in 2012. Only 0.04 billion (0.2 percent) were classified as correspondent checks. From 2009 to 2012, the number of correspondent paper checks declined 58.9 percent per year.

2.5.3 Checks Returned Unpaid

In 2012, nearly 66.4 million checks were returned unpaid. Checks are returned unpaid by the payer bank for a host of reasons, but most likely because the payers did not have sufficient funds in their accounts (that is, non-sufficient funds, or NSF). Other reasons might include a lack of a signature or because a positive-pay customer refused to pay an item not on its issued

file. Check images received by the payer bank failing to pass the quality or usability analysis were not counted as checks returned unpaid.

The number of checks returned unpaid declined 19.4 percent per year between 2009 and 2012, much faster than total checks paid which decreased at 9.2 percent per year. As a result, the overall rate at which checks were returned unpaid decreased from 0.5 percent in 2009 to 0.4 percent in 2012. The total value of checks returned unpaid also declined. In 2009, only 0.4 percent (\$126.9 billion) of the total value of checks paid was from checks returned unpaid. By 2012, however, the unpaid amount decreased to \$83.1 billion which accounted for 0.3 percent of the total value of checks paid in 2012.

2.5.3.1 Interbank Checks Returned Unpaid

Returned checks occurred most frequently between accountholders at different depository institutions. In 2012, interbank checks accounted for 86 percent (57.2 million) of the checks returned unpaid and 84 percent (\$70.0 billion) of their value. The average value of these unpaid interbank checks amounted to just above \$1,224.

2.5.3.2 On-Ups Checks Returned Unpaid

The remaining 14 percent of checks returned unpaid in 2012 were the check returns between accountholders of the same depository institution. There were 9.1 million on-us check returns, accounting for \$13.1 billion (16 percent) of total unpaid value. With an average value of \$1,432, the average on-us check return was 17 percent more than the average interbank check return.

The overall rate of returns in 2012 for on-us checks was 0.2 percent compared to 0.4 percent for interbank checks. One potential reason for the lower returns rate for on-us checks is the ability of the paying bank to check for funds availability at the teller line for an on-us check. If the payer does not have funds to cover the amount of the check, the check is simply handed back to the depositor and the clearing process is not attempted.

2.6 CASH WITHDRAWALS AND DEPOSITS

The 2013 DFIPS collected information on ATM cash withdrawals, as in past iterations; however, the survey was expanded considerably for 2013 by collecting the number and value of cash withdrawals and cash deposits made through a comprehensive list of channels. Aside from ATM cash withdrawals, the estimates for cash withdrawals from other channels as well as cash

deposits were included in the 2013 Study for the first time and, therefore, do not reveal trends. They may be tracked by future iterations of the study for that purpose.

2.6.1 Cash Withdrawals

The 2013 DFIPS estimated the number and value of cash withdrawals initiated through a variety of channels in 2012. Cash withdrawals by businesses included withdrawals made over the counter at branches, wholesale vaults, or remote currency management terminals. Consumer-initiated cash withdrawals included those made over the counter at branches or at ATMs. In total, there were 7.9 billion cash withdrawals in 2012 with a value of \$2.5 trillion. Withdrawals at commercial banks accounted for the vast majority of these transactions—approximately 73 percent by number and 81 percent by value.

2.6.1.1 Over-the-Counter Cash Withdrawals

Over-the-counter cash withdrawals include cases where a consumer or business accountholder makes cash withdrawals with the help of a branch teller, either walk-in or at drive-up window. In 2012, there were 2.1 billion over-the-counter cash withdrawals with a value of \$1.5 trillion. Likely due to the fact that they almost exclusively cater to consumers, credit unions issued a larger share of over-the-counter cash relative to the number of transaction deposit accounts they held: 22 percent of all over-the-counter cash withdrawals were made at credit unions even though credit unions held only 20 percent of U.S. transaction deposit accounts in 2012.

2.6.1.2 ATM Cash Withdrawals

In 2012, there were 5.8 billion ATM withdrawals totaling \$687.0 billion in value. The number of ATM withdrawals decreased 0.9 percent per year from 2009 to 2012. During the same period, the total dollar value of ATM withdrawals increased 2.0 percent, and the average value per withdrawal increased from \$108 in 2009 to \$118 in 2012.

The 2013 DFIPS also captured ATM cash withdrawals made by cardholders from ATMs operated by their depository institutions (that is, on-us ATM cash withdrawals) and withdrawals made from ATMs operated by institutions other than the cardholder's (foreign ATM cash withdrawals). In 2012, 68 percent of ATM cash withdrawals were on-us, an increase from 2009 when only 64 percent of all ATM withdrawals were on-us. In terms of dollar value, 71 percent of total ATM cash withdrawals were on-us in 2012.

The ATM cash withdrawals were also measured by the type of account from which the cash was withdrawn. In 2012, approximately 3 percent of ATM withdrawals were initiated by prepaid card accounts. The remaining 97 percent of ATM cash withdrawals came from all other types of accounts, such as transaction deposit accounts (e.g., checking and savings accounts) and credit card accounts.

2.6.1.3 Wholesale Vault Cash Withdrawals

In the case of a wholesale vault cash withdrawal, a business account holder, usually with the aid of an armored courier service, withdraws cash straps and/or coin rolls for the purpose of making change in retail stores. In this case, the courier often picks up cash and coin for deposit as well. The wholesale vault withdrawals measured in the 2013 DFIPS did not include transfers of cash related to bank business, such as replenishing a branch's cash supply. The 2012 estimates did include cash withdrawals made at remote currency management terminals (RCMTs). The number of cash withdrawals at wholesale vault (including withdrawals at RCMTs) in the United States in 2012 was 31.4 million while the value was estimated to be \$385.8 billion. These wholesale vault cash withdrawals accounted for only 0.4 percent of all cash withdrawals by number but 15 percent by value.

2.6.1.4 Remote Currency Management Terminal Cash Withdrawals

Remote currency management terminals (RCMTs), that is "smart safes" and "cash recyclers", allow businesses to deposit cash as a substitute for visiting a bank branch or a wholesale vault. Typically deployed by a depository institution at restaurants, gas stations, and convenience stores, some of these terminals also offer the ability to withdraw cash. The number and value of cash withdrawals at RCMTs collected for March 2013 was not of sufficient quality to produce standalone annual estimates—they were included in the 2012 estimates for wholesale vault cash withdrawals.

2.6.2 Cash Deposits

In 2012, an estimated 2.8 billion cash deposits were made with a value of approximately \$2.7 trillion to U.S. depository institutions.⁵⁶ The average value for all cash deposits was \$953.

⁵⁶ During 2012, about \$2.5 trillion in cash was withdrawn, which was roughly 4 percent less than the total value of cash deposits, but the difference was not significantly different. This difference may be attributed to several factors including: (1) these annual estimates were based on one month of data (March 2013) where the lag

Cash deposits in 2012 were made less frequently at labor-intensive channels (branches and cash vaults) than at automated channels (that is, ATMs).

2.6.2.1 Over-the-Counter Cash Deposits

Over-the-counter cash deposits include all in-person cash deposits to a consumer or business bank account at branch locations. Being the leading method for cash deposits, over-the-counter cash deposits accounted for 59 percent (1.6 billion) of the total number of cash deposits and 61 percent (\$1.6 trillion) of the total value of cash deposits in 2012. The average value for over-the-counter cash deposits was \$1,000 per deposit.

2.6.2.2 ATM Cash Deposits

In 2012, there were approximately 1.0 billion cash deposits at ATMs with a total value of \$381.2 billion. Out of these 1.0 billion cash deposits, 98 percent was made at fee-free or on-us ATMs with a value of \$376.5 billion, which accounted for almost 99 percent of the total value of ATM cash deposits. The remaining part of ATM cash deposits (15.9 million) were made at foreign ATMs (that is, cash deposits made at ATMs owned by another depository institution other than the accountholder's). The average value of foreign ATM cash deposits (\$298) was lower than that of on-us ATM cash deposits (\$374).

2.6.2.3 Wholesale Vault Cash Deposits

In 2012, wholesale vault cash deposits—business transactions usually conducted with the aid of an armored courier service—constituted just 5 percent (128.9 million) of the total number of cash deposits; however, they accounted for 24 percent (\$641.7 billion) of the total value. As with wholesale vault cash withdrawals, the 2012 estimates for wholesale vault cash deposits included cash deposits made at RCMTs. At \$4,978 per deposit, the average value of wholesale vault cash deposits was approximately 5 and 13 times that of over-the-counter (\$1,000) and ATM (\$372) cash deposits, respectively.

between customers withdrawing and depositing cash could be substantial, and (2) the greater value of cash deposits versus cash withdrawals could reflect inflows of cash stock from outside the country as currency can be withdrawn overseas and deposited domestically, or (3) sampling error or errors in figures reported by respondents.

2.6.2.4 Remote Currency Management Terminal Cash Deposits

The 2013 DFIPS attempted to measure the cash deposits at RCMTs in 2012. As with RCMT cash withdrawal data, the reported number and value of cash deposits at RCMTs for March 2013 was not of sufficient quality to produce standalone annual estimates—they were combined with the 2012 estimates for wholesale vault cash deposits.

2.7 ALTERNATIVE PAYMENT INITIATION METHODS AT DEPOSITORY INSTITUTIONS

The 2013 DFIPS was also expanded to measure alternative payments as these payments are becoming more familiar to U.S. households. For 2013, alternative payments included online and mobile bill payment transactions as well as online and mobile person-to-person transfers. In the 2013 DFIPS, “online channel” captured only bill payment transactions or person-to-person transfers conducted on the website of the accountholder’s depository institution via a web browser. Likewise, “mobile channel” captured only payments that were conducted via SMS/text message or the mobile banking application provided by the accountholder’s depository institution.

Particularly evident in this year’s study, the decline of checks was partly attributed to customers’ replacement of check writing with alternative bill payment methods. One alternative to check writing was direct payment to the biller through ACH transactions or via general-purpose cards.⁵⁷ Another popular alternative, online or mobile bill payments, was estimated to have 2.5 billion transactions in 2012. Online or mobile person-to-person transfers, yet another popular alternative offered by depository institutions, totaled 138.0 million transactions in 2012.

2.7.1 Online or Mobile Bill Payments

Online bill payments are bill payments initiated by accountholders on their depository institution’s website through a web browser. Mobile bill payments, on the other hand, are bill payments initiated through a mobile application or SMS/text message.⁵⁸ Bill payments made on a mobile device via a web browser are classified as online—not mobile—bill payments.

⁵⁷ While these alternative methods are believed to have been significant, volumes are unknown and not captured in the 2013 DFIPS.

⁵⁸ Online and mobile bill payments excluded bill payments made through the biller’s website and a mobile application.

In 2012, there were 2.5 billion online or mobile bill payments initiated by accountholders. The vast majority (93 percent) of these bill payments were initiated through a web browser. The remaining 7 percent of these bill payments were initiated through either a mobile application on an accountholder's smartphone or tablet or via an SMS/text message. The largest share of the total online or mobile bill payments in 2012—81 percent by number and 95 percent by value—were made by accountholders at commercial banks, even though commercial banks accounted for only 73 percent of consumer transaction deposit accounts in the United States.

2.7.2 Online or Mobile Person-to-Person Transfers

Although well below the volume levels of online or mobile bill payments, online or mobile person-to-person (P2P) transfers now constitute a noticeable share of the payments landscape. Like online or mobile bill payments, P2P transfers are financial transactions initiated by customers through web browsers (including mobile web browsers), mobile applications, or SMS/text messages. Unlike online or mobile bill payments, P2P transfers facilitate payments strictly between persons.

In 2012, online or mobile P2P transfers totaled close to 138.0 million payments. While structurally similar to online or mobile bill payments, P2P transfers accounted only approximately 5.4 percent of the 2.5 billion online or mobile bill payments. The average value of \$348 per P2P transfer was also much lower compared to that of online or mobile bill payments (\$1,370).

At 68 percent of all P2P transfers, browser-initiated transfer was the most common P2P-initiation method in 2012, followed by mobile applications at 32 percent. SMS-initiated payments, which made up the remainder, accounted for less than 1 percent of total P2P transfers.

In 2012, customers tended to use web browsers for P2P transfers of higher value. The average value of browser-initiated transfers was \$359, compared with \$326 for those initiated through mobile applications.

2.8 THIRD-PARTY PAYMENTS FRAUD

For the first time, the 2013 DFIPS attempted to estimate unauthorized transactions (third-party payments fraud) made within the United States in 2012. The survey asked the depository

institutions to report third-party payments fraud in the form of the number and value of unauthorized transactions across several payment types, including check; ACH; debit and prepaid card; credit card; and ATM cash withdrawals. Third-party payments fraud were limited to unauthorized third-party fraud payments, or fraud in which an accountholder's payment credentials or form factor were compromised by an unauthorized external party. Because this year marks the first time fraud data has been collected, trends are not available to be reported.

2.8.1 Unauthorized Check Payments

Of the 18.3 billion checks paid in 2012, slightly under 0.9 million were unauthorized third-party fraud payments. By number, the fraud rate for check payments in 2012 was 0.47 basis points (0.47 unauthorized transactions per 10,000 transactions). These 0.9 million checks included those that were not authorized by accountholders during the period before recoveries. It did not count fraud prevented before a loss was incurred, fraudulent checks deposited at the institution, fraud committed by the institutions' accountholders (first-party fraud), or checks authorized by a valid accountholder as part of a scam. As defined by these constraints, the total unauthorized check value amounted to \$1.1 billion, with an average value of \$1,272 per unauthorized check payment.

2.8.2 Unauthorized ACH Credits

In the 2013 DFIPS, unauthorized ACH credits included only ACH transactions originated from depository institutions but were not authorized by a valid accountholder before any recoveries or chargebacks. In 2012, there were over 0.5 million unauthorized ACH credit payments (worth \$393.3 million) that were originated from U.S. depository institutions. By number, the fraud rate for ACH credits in 2012 was 0.62 basis points.⁵⁹ Meanwhile, the average value of these unauthorized transactions was \$755.

2.8.3 Unauthorized ACH Debits

There were more than twice as many unauthorized ACH debit payments as there were unauthorized ACH credit payments in 2012. Here, 1.2 million unauthorized ACH debit

⁵⁹Calculation based on total ACH credits including offset entries. If calculated using ACH credits excluding offsets the rate would be 0.70 basis points.

payments (69 percent of all ACH fraud) accounted for \$837.5 million. By number, the fraud rate for ACH debits was 0.87 basis points.⁶⁰ At \$727 per transaction, the average value of these unauthorized ACH debits was slightly lower than the average unauthorized ACH credit value—an indication that the fraud targets may be consumers.

2.8.4 Unauthorized Debit and Prepaid Card Transactions

Unauthorized debit and prepaid card transactions include third-party fraud payments over a dual-message (signature) or single-message (PIN) network before any recoveries or chargebacks. They excluded first-party fraud, credit card fraud, fraud prevented before a loss was incurred, fraudulent ATM withdrawals, or debit and prepaid card transactions authorized by valid cardholders as part of a misunderstanding or scam. Approximately 14.9 million unauthorized debit and prepaid card transactions accounting for \$1.5 billion took place in 2012. The average value of these transactions was \$104, much larger than the average value of an authorized debit or prepaid card transaction (\$39). By number, the fraud rate for debit and prepaid card transactions was 2.72 basis points.

2.8.4.1 Unauthorized Dual-Message Debit and Prepaid Transactions

Unauthorized debit and prepaid signature transactions in 2012 included third-party fraudulent transactions over a dual-message debit card network before any recoveries or chargebacks. The estimated 14.0 million of these transactions accounted for 94 percent of all debit and prepaid card fraud instances. These transactions totaled \$1.4 billion in value for an average value of \$101 per transaction. In 57 percent (8.0 million) of these fraudulent signature cases, the unauthorized card was present—either in its original instantiation or as an exact copy. In card-present transactions, the average fraudulent payment amounted to \$120. For the 6.0 million transactions where the unauthorized card was not present, the average transaction value fell to \$76. By number, the fraud rate for debit and prepaid signature transactions in 2012 was approximately 4.04 basis points.

⁶⁰ Calculation based on total ACH debits including offset entries. If calculated excluding offsets the rate would be 0.92 basis points.

2.8.4.2 Unauthorized Single-Message Debit and Prepaid Transactions

A small remainder of unauthorized debit and prepaid card transactions (0.8 million) took place over PIN (single-message) debit card networks. By definition, the card (or a duplicate of the card) was present in all these instances. These fraudulent PIN transactions totaled \$124.1 million in value and averaged \$148 per transaction in 2012. By number, the fraud rate for debit and prepaid PIN transactions in 2012 was 0.42 basis points—a rate that was much lower than that of unauthorized debit and prepaid signature transactions.

2.8.5 Unauthorized Credit Card Transactions

There were just over 13.7 million unauthorized credit card transactions in 2012 which had a total value of \$2.3 billion in fraudulent charges. These transactions included all unauthorized credit card and charge card transactions before any recoveries or chargebacks. They also included all unauthorized cash advances. By number, credit card transactions in 2012 had a fraud rate higher than any other payment method captured in the 2013 DFIPS with 5.76 basis points.

The survey further divided unauthorized credit card activity into card-present versus card-not-present transactions. Approximately 52 percent of the unauthorized credit card transactions were card-present, meaning the credit card was present at the point of sale. The other half (48 percent) were card-not-present transactions, which were initiated via Internet, mail-order, or telephone.

2.8.6 Unauthorized ATM Cash Withdrawals

Unauthorized ATM cash withdrawals included ATM cash withdrawals which were not authorized by valid accountholders and were made against the accounts of U.S. depository institutions from any ATM. In 2012, there were 1.3 million unauthorized ATM cash withdrawals totaling \$256.3 million. The average unauthorized ATM cash withdrawal (\$199) was significantly higher than the average authorized ATM cash withdrawal (\$118). By number, the fraud rate for ATM cash withdrawals in 2012 was 2.21 basis points.

2.9 METHODOLOGY

The 2013 DFIPS estimates were based on data reported by a stratified random sample of depository institutions. For sampling and estimation, institutions were stratified by both type and

size. The samples were used to create population estimates of the number and value of payments for the size-type strata using a statistical technique called ratio estimation.

2.9.1 Sampling

The respondents selected were sampled from the population of insured depository institutions in the United States, including credit card banks.⁶¹ The population included commercial banks, state-chartered and federally chartered savings institutions, and credit unions. Domestic branches of foreign-owned banks were not sampled.

Most public checkable deposits (defined in section 2.9.1.1) are held by a relatively small number of very large depository institutions. As a result, the most efficient sampling method is to assign a higher sampling probability to the largest depository institutions. The largest depository institutions, therefore, were sampled with 100 percent probability. That approach resulted in a census of the largest depository institutions and random samples of the remaining ones. The probability of an institution being sampled decreased with size.

The largest depository institutions within each institution type, as well as others likely to substantially affect estimate precision, were designated “high-priority” institutions. Extraordinary efforts were made to maximize the completeness and quality of responses from these institutions. In addition to the effort on the largest institutions, enough high-quality responses from depository institutions of all sizes and types were obtained to ensure that the results are representative of the entire population of depository institutions.

2.9.1.1 Sample Design

The population of depository institutions (the sample frame) was stratified before sampling, first by type of depository institution and then by size. There were three primary strata (by type of institution) in the original design:

1. Commercial banks (CMB)
2. Savings institutions (SVG)
3. Credit unions (CUS)

⁶¹ From a regulatory standpoint credit card banks are depository institutions but they do not offer transaction deposit accounts.

These categories were chosen because members of each type classification tend to share similar characteristics. Grouping them in this way improves the precision of the estimates.

Stratification of depository institutions within types was carried out on the basis of the sum of public checkable deposits (PCD) and deposits held in money market deposit accounts (MMDAs), both of which are available for all insured depository institutions in the United States.⁶² In general, PCD includes transaction deposits of individuals, partnerships, and corporations, but does not include deposits of the federal government or other depository institutions. Most payments and cash withdrawals are made from PCD. Payments and withdrawals can also be made from other accounts, such as MMDAs.

2.9.1.2 Sample Frame

The frame was constructed from reports filed with the Federal Reserve by depository institutions and holding companies. The frame represented the population of insured depository institutions in the United States with nonzero PCD + MMDA deposits. Prior to stratification, depository institutions were grouped with their holding company, if applicable, using the most current ownership information, and PCD + MMDA deposits for the holding company were defined as the sum of the PCD + MMDA deposits for the depository institutions it owned. The sampling unit, therefore, was the depository institution at its highest institutional level (that is, top holding company).⁶³

For estimation, the frame was defined as the entire population of depository institutions with PCD + MMDA deposits greater than zero.⁶⁴ For sampling, however, depository institutions with PCD + MMDA deposits less than \$1 million were not sampled because of their very small size. The depository institutions excluded from sampling represented a negligible share of PCD + MMDA deposits.

Estimates for depository institutions excluded from sampling were produced using the ratios from the smallest stratum of depository institutions within each type for which a sample was

⁶² Prior studies used PCD alone as the size stratification variable. Studies conducted by Gerdes, Liu, and Parke (2009) and Gerdes and Liu (2010) showed that the standard error of estimates could be reduced by using the sum of PCD and MMDA instead. These reports are available from the authors upon request. Please send requests by e-mail to Geoffrey Gerdes (Geoffrey.gerdes@frb.gov) or May Liu (may.x.liu@frb.gov).

⁶³ Depository institutions reported data for their entire consolidated organization.

⁶⁴ Depository institutions with no transaction deposits do not account for a significant number of payments.

obtained. The preliminary frame consisted of 13,461 depository institutions. These institutions were stratified by type and then by size within each type, for a total of 22 strata.

2.9.1.3 Sample Size and Allocation

Like prior depository institutions surveys, a sample size of 2,700 institutions was chosen. The sample size was based on the desired margin of error of less than +/-5 percent, for a 95 percent level of confidence for the estimate of the total number of checks.

Allocation of the sample to strata was based on a version of Neyman allocation, which approximates the allocation that minimizes the standard error of the total estimate. Within each type, the allocation method included "certainty strata," where very large depository institutions represent only themselves, which considerably reduces the estimated standard errors. Exhibit 35 shows the number of institutions in each stratum of the frame and the sample.

Exhibit 35: Original Sample Frame Details

| Institution Type | Size Stratum | PCD+MMDA upper bound (thousands) | PCD+MMDA lower bound (thousands) | In Frame (N) | Sampled (n) |
|-----------------------|------------------|----------------------------------|----------------------------------|---------------|--------------|
| Commercial Banks | 0 | \$5,000 | \$0 | 116 | 3* |
| | 1 | \$41,450 | \$5,000 | 1,879 | 203 |
| | 2 | \$102,240 | \$41,450 | 1,783 | 333 |
| | 3 | \$199,350 | \$102,240 | 920 | 262 |
| | 4 | \$418,000 | \$199,350 | 436 | 297 |
| | 5 | \$965,000 | \$418,000 | 216 | 216 |
| | 6 | \$3,100,000 | \$965,000 | 135 | 135 |
| | 7 | max | \$3,100,000 | 88 | 88 |
| | <i>Subtotal:</i> | | | 5,573 | 1,534 |
| Savings Institutions | 0 | \$5,000 | \$0 | 94 | 0 |
| | 1 | \$74,173 | \$5,000 | 439 | 82 |
| | 2 | \$212,010 | \$74,173 | 245 | 92 |
| | 3 | \$620,424 | \$212,010 | 102 | 102 |
| | 4 | \$8,820,800 | \$620,424 | 51 | 51 |
| | 5 | max | \$8,820,800 | 6 | 6 |
| | <i>Subtotal:</i> | | | 937 | 333 |
| Credit Unions | 0 | \$1,000 | \$0 | 2,674 | 0 |
| | 1 | \$15,548 | \$1,000 | 2,365 | 145 |
| | 2 | \$49,728 | \$15,548 | 924 | 133 |
| | 3 | \$122,688 | \$49,728 | 454 | 139 |
| | 4 | \$253,878 | \$122,688 | 278 | 158 |
| | 5 | \$549,620 | \$253,878 | 152 | 151 |
| | 6 | \$2,699,744 | \$549,620 | 98 | 98 |
| | 7 | max | \$2,699,744 | 6 | 6 |
| | <i>Subtotal:</i> | | | 6,951 | 830 |
| Overall Total: | | | | 13,461 | 2,697 |

*Includes institutions that were sampled with certainty because they are anomalous rather than because of their size.

2.9.1.4 High-Priority Institutions

Depository institutions within each type stratum with the highest PCD + MMDA deposits (that is, largest in size) were designated high-priority respondents. The largest depository institutions were expected to account for a high percentage of the figures being estimated. Additional effort was made to ensure the participation of high-priority institutions, which helped increase the precision of the aggregate estimates.

2.9.2 Imputation and Estimation

Data were collected for March 2013. For estimation purposes, a new frame concurrent with that period was constructed using PCD and MMDA deposits from reports filed with the Federal Reserve as of March 31, 2013. The population and sample were reallocated to strata according to the revised data. Exhibit 36 illustrates the final sample frame.

Exhibit 36: Final Sample Frame Detail

| Institution Type | Size Stratum | PCD+MMDA upper bound (thousands) | PCD+MMDA lower bound (thousands) | In Frame (N) | Sampled (n) |
|-----------------------|------------------|----------------------------------|----------------------------------|---------------|--------------|
| Commercial Banks | 0 | \$5,000 | \$0 | 108 | 4* |
| | 1 | \$41,450 | \$5,000 | 1,752 | 189 |
| | 2 | \$102,240 | \$41,450 | 1,768 | 321 |
| | 3 | \$199,350 | \$102,240 | 990 | 267 |
| | 4 | \$418,000 | \$199,350 | 467 | 296 |
| | 5 | \$965,000 | \$418,000 | 225 | 214 |
| | 6 | \$20,000,000 | \$965,000 | 209 | 209 |
| | 7 | max | \$20,000,000 | 31 | 31 |
| | <i>Subtotal:</i> | | | 5,550 | 1,527 |
| Savings Institutions | 0 | \$5,000 | \$0 | 93 | 0 |
| | 1 | \$74,173 | \$5,000 | 426 | 81 |
| | 2 | \$212,010 | \$74,173 | 241 | 83 |
| | 3 | \$620,424 | \$212,010 | 110 | 105 |
| | 4 | \$8,820,800 | \$620,424 | 50 | 50 |
| | 5 | max | \$8,820,800 | 6 | 6 |
| | <i>Subtotal:</i> | | | 926 | 325 |
| Credit Unions | 0 | \$1,000 | \$0 | 2,582 | 1* |
| | 1 | \$15,548 | \$1,000 | 2,344 | 140 |
| | 2 | \$49,728 | \$15,548 | 931 | 129 |
| | 3 | \$122,688 | \$49,728 | 478 | 134 |
| | 4 | \$253,878 | \$122,688 | 281 | 160 |
| | 5 | \$549,620 | \$253,878 | 165 | 154 |
| | 6 | \$2,699,744 | \$549,620 | 104 | 104 |
| | 7 | max | \$2,699,744 | 6 | 6 |
| | <i>Subtotal:</i> | | | 6,891 | 827 |
| Overall Total: | | | | 13,367 | 2,679 |

*Includes institutions sampled because they were sampled with certainty because they are anomalous, or because their PCD+MMDA fell below the sampling threshold.

Some of the analysis required complete data for every included respondent. For example, estimated subcategories of various payment types needed to add up to totals. Since some responses contained missing data, numbers and values were imputed using a linear regression

technique that provided estimated responses for all missing data, subject to logical constraints, and based on related data from other depository institutions of similar type and size.

2.9.3 Reference Period

The reference period was March 2013. March was chosen because is believed to be sufficiently representative for checks and does not have an unusual number of processing days. A two-month reference period, March and April, was used in prior studies. For the 2013 DFIPS, a one-month reference period was selected to reduce respondent burden while still producing statistically significant results.

The research plan called for annual estimates. Monthly Federal Reserve check processing data show that the use of a multiplication factor of twelve (12) to annualize March data is reasonably accurate. For simplicity, the factor was used to annualize the one-month data for all transaction types.

2.9.4 Survey Instruments

Copies of the survey instruments, referred to as the Long Form and the Short Form are available online.⁶⁵

In addition to measuring the number and value of the payment types and cash withdrawal transactions during March 2013, the survey included a section labeled as the Institution Profile that listed all affiliates (if any) held by the sampled depository institution. The purpose of the Institution Profile section was to allow respondents to indicate whether any particular affiliate had been excluded from the institution's response, and in which survey section(s) that affiliate's data were excluded. Because the design variable of the study, PCD + MMDA deposits, was a measure of each institution's size, it was important that the size of each institution in the sample correspond to the number of transactions reported. If data reported reflected activity from only half of a bank holding company's subsidiaries, for example, the PCD + MMDA deposits variable would need to be adjusted accordingly. Otherwise, the depository institution would appear to have a relatively low number of transactions for an institution of its size.

⁶⁵ Electronic copies of the survey forms are available for download at <https://www.frbservices.org/news/research.html>.

The survey was mailed to respondents in hard copy with a postage-paid business reply envelope enclosed. Respondents were encouraged to respond either by returning the survey in the business reply envelope, faxing the survey to a designated toll-free number, or entering totals securely online at www.paymentsstudy.com.

In all correspondence, respondents were encouraged to respond online at www.paymentsstudy.com. Site access was secured by a unique ID and password for each institution. The ID and password were printed on each letter the institution received and in the header of each page of the hard-copy survey. The website included an online version of the survey as well as a downloadable PDF (portable document format).

2.9.5 Survey Recruitment and Participation

Sampled depository institutions were asked to confirm their participation (during a recruitment phase) and then to report transaction totals for the one-month reference period. The recruitment phase served to identify the individual(s) who would report data for the survey and encouraged organizational buy-in. The process of recruitment and participation unfolded over many months through multiple mailings, follow-up calls and e-mails as needed, and ultimately receipt of data from the respondent.

2.9.5.1 Contact List Development and Recruitment

After generating the sample, the project team identified two contacts at each institution. Accuity's *Databank* served as the default list for contact names, addresses, phone numbers, etc. McKinsey supplemented the default list with information from the firm's own database of industry contacts. This was done for high-priority respondents. In cases where McKinsey did not have contact information for a high-priority respondent, the institution was called and the appropriate contacts identified.

The two contacts were designated as primary and secondary. The primary contact was typically more senior in title than the secondary contact. The initial recruitment mailing, conducted in January 2013, was sent to the primary contact and included a preview copy of the survey. Consistent with past study recruiting communications, a letter from the Vice Chair of the Federal Reserve Board was also included as part of the consultant's initial recruitment packet.

If the primary contact did not respond within 14 business days, a second mailing was sent, this time to the secondary contact. If the secondary contact did not reply within 10 business days,

McKinsey or its subcontractor, Lieberman Research Group (Lieberman), followed up by calling each contact to confirm receipt of the mailing.

To supplement the initial recruiting effort, and achieve response rates comparable to previous iterations, the Federal Reserve project team took additional steps in sending a series of emails to depository institutions in May 2013 in conjunction with ongoing consultant telephone recruitment communications.

Depository institutions that had not been successfully recruited by May 2013 were segmented into three categories, receiving the following treatments:

Non-responders, defined as depository institutions that had registered, but not yet submitted a survey response

- Received two reminder emails regarding the submission deadline.
- Subsequently received a consultant mailing containing the DFIPS short form survey instrument.

Non-communicators, defined as depository institutions that had not registered

- Received a single reminder email regarding the submission deadline.
- Subsequently received a consultant mailing containing the DFIPS short form survey instrument.

Refusers, defined as depository institutions that had communicated their desire not to participate

- Received a mailing containing the DFIPS short form survey instrument with a cover letter and no other follow up communication.

2.9.5.2 Registration

The initial recruitment materials included a request that the primary contact return a *Respondent Registration Form* to identify the appropriate individual to coordinate response to the study. A copy of the form can be found in the appendix. The *Registration Form* encouraged a depository institution to select a single individual who would coordinate the institution's response. Alternatively, a depository institution could indicate a different individual for each section of the survey.

Exhibit 37 indicates the number of institutions that registered for the study by mode of registration.

Exhibit 37: Distribution of Registrations by Mode

| | Web Site | Phone | Mail | Fax | Total |
|----------------------|-----------------|--------------|-------------|------------|--------------|
| Commercial Banks | 580 | 275 | 32 | 32 | 919 |
| Savings Institutions | 149 | 50 | 7 | 5 | 211 |
| Credit Unions | 289 | 107 | 18 | 19 | 433 |
| Total | 1,018 | 432 | 57 | 56 | 1,563 |

2.9.5.3 Respondent Training

McKinsey invited registered depository institutions to participate in webinars to review and discuss the survey instrument. The webinars were intended to improve the quality of reporting by enhancing respondents' understanding of what was being measured. Six two-hour webinars were conducted during the formal data-collection phase of the study. These webinars were held from February through April, with two webinars being held each month. In all, 675 individuals representing 552 institutions participated in the survey review webinars.

Sampled institutions were invited to participate in any webinar of their choosing, and participation was free. During each webinar, McKinsey explained in detail each data element being measured by the survey and fielded questions from participants regarding the study via web-based chat. After the conclusion of each webinar, questions and answers were e-mailed to webinar participants and posted on the study's website on a frequently asked questions (FAQ) page.

Exhibit 38: Response Rate by Institution Type and Stratum

| Institution Type | Size Stratum | In Frame (N) | Sampled (n) | Responses | Rate of Response |
|-----------------------|------------------|---------------|--------------|--------------|------------------|
| Commercial Banks | 0 | 103 | 1* | | |
| | 1 | 1,751 | 189 | 63 | 33% |
| | 2 | 1,767 | 320 | 117 | 37% |
| | 3 | 990 | 267 | 109 | 41% |
| | 4 | 465 | 294 | 150 | 51% |
| | 5 | 224 | 213 | 108 | 51% |
| | 6 | 205 | 205 | 113 | 55% |
| | 7 | 24 | 24 | 24 | 100% |
| | 9** | 10 | 10 | 10 | 100% |
| | <i>Subtotal:</i> | 5,539 | 1,523 | 694 | 46% |
| Savings Institutions | 0 | 93 | 0 | | |
| | 1 | 426 | 81 | 37 | 46% |
| | 2 | 241 | 85 | 42 | 49% |
| | 3 | 109 | 106 | 54 | 51% |
| | 4 | 47 | 47 | 29 | 62% |
| | 5 | 5 | 5 | 5 | 100% |
| | <i>Subtotal:</i> | 921 | 324 | 167 | 52% |
| Credit Unions | 0 | 2,582 | 1* | | |
| | 1 | 2,344 | 140 | 30 | 21% |
| | 2 | 931 | 129 | 33 | 26% |
| | 3 | 478 | 134 | 39 | 29% |
| | 4 | 281 | 160 | 77 | 48% |
| | 5 | 165 | 154 | 74 | 48% |
| | 6 | 104 | 104 | 64 | 62% |
| | 7 | 6 | 6 | 6 | 100% |
| | <i>Subtotal:</i> | 6,891 | 828 | 323 | 39% |
| Overall Total: | | 13,351 | 2,675 | 1,184 | 44% |

*The PCD+MMDA of these institutions fell below the sampling threshold. **Anomalous institutions.

2.9.5.4 Survey Response

Of the 1,563 depository institutions that registered to participate in the study, a total of 1,182 institutions provided survey data. Out of the 2,700 depository institutions in the final sample, this represents a 44 percent rate of response (Exhibit 38).⁶⁶ The lowest stratum-level response rate, at 21 percent, was for the smallest credit unions. Participation was highest among the largest depository institutions. All of the 21 largest commercial banks participated. The high

⁶⁶ Prior depository institution studies' response rates ranged from 54 to 56 percent.

concentration of payments among the largest commercial banks allowed the 2013 DFIPS to count a large number of payments rather than estimate their totals through statistical estimation.

2.9.6 Data Collection and Data Management

Responses were received through any of the four modes: mail, fax, e-mail, or online. Responses received by mail or fax were logged and processed through a manual data entry system by Lieberman. Responses received online were put into a mirror copy of the master database as respondents saved data when they entered online. Data from all modes were integrated in a master database maintained by Lieberman.

Lieberman distributed the current copy of the master dataset on a weekly basis to team members from the Federal Reserve and McKinsey. In this way, team members synchronized their copies of the data while maintaining a central, master copy of the database. Lieberman backed up the database daily to provide redundancy and as an ongoing record of point-in-time data.

Lieberman also implemented a software program to track changes and edits to the database, including the source of the change, the content of the record before the change, and the date and time of the change.

2.9.7 Data Editing

In collaboration with Federal Reserve team members, McKinsey worked to improve the quality of survey data. Data editing, as this process was called, involved testing the reasonableness of each respondent's data to identify potential reporting errors, following up with respondents as necessary, and either revising or confirming the accuracy of submitted data.

2.9.7.1 Outlier Identification

Outliers—data outside the expected range of responses—were identified in numerous ways. Some outliers were identified with respect to the sample as a whole. Others were identified within a particular stratum.

McKinsey focused on identifying outliers in distributions that included the entire sample. For example, staff members calculated each respondent's average value of paid checks (that is, total value/total number). Responses greater than two standard deviations (assuming a normal

distribution) from the mean of these average values were flagged for follow up. Example statistics used to test the reasonableness of a response included the following:

1. Average value per transaction
2. Transaction number per deposit liabilities (that is, size of the institution)
3. Percentage of total transactions that are on-us (that is, intra-depository institution payments)
4. Ratio of returned checks to total checks

McKinsey also identified any logical errors in reported data. For example, cases where the sum of subsets did not equal totals were flagged for follow up.

Federal Reserve team members focused on identifying outliers using various techniques, such as reviewing data that made substantial contributions to standard errors.

McKinsey maintained a central database to identify outlier responses and tracking data edits and confirmations.

2.9.7.2 Tracking Outliers and Revisions

Managing the data-editing process required the project team to coordinate a regularly updated list of outlier responses and the status of revisions to those outliers. This included tracking current outliers as well as those already “resolved.” An outlier response might be resolved in a number of ways based on follow-up dialogue with respondents. A relational database was used to track the status of individual outlier responses throughout the data editing process. Additional details about outlier responses were tracked through detailed annotations. If an outlier response had not been revised before the estimation process began, the project team would review the disposition and any annotations about the outlier to determine whether to use the data or not in the estimation.

2.10 TABULAR RESULTS

*In the tables that follow, CI stands for confidence interval. The reported confidence intervals are preliminary and do not account for errors associated with the imputations. Additional analyses of the survey data are being conducted and may be available at a future date.

2.10.1 All Depository Institutions

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | 2009-2012 CAGR (%) | | |
|---|------|-----|-------|--------|------|-------|------------------|---------|------------------|---------|-----------------------|-------|-------|
| | Num | Val | Num | Val | Avg | Num | Num CI* (+/-) | Val | Val CI* (+/-) | Avg | Avg CI* (+/-) | Num | Val |
| Payment accounts | | | | | | | | | | | | | |
| All transaction deposit accts | MM | BN | | | | 320.0 | 8.8 | 4,313.6 | 132.7 | 13,480 | 404 | | |
| Consumer transaction deposit accts | MM | BN | | | | 287.4 | 8.2 | 2,299.0 | 50.6 | 8,001 | 189 | | |
| Business transaction deposit accts | MM | BN | | | | 32.6 | 10 | 2,014.5 | 10.1 | 6,170.6 | 3,107 | | |
| All prepaid card accts | MM | BN | | | | 236.3 | 4.1 | 8.34 | 0.22 | 35 | 1 | | |
| Prepaid card accts managed by DI | MM | BN | | | | 119.4 | 4.1 | 7.38 | 0.22 | 62 | 1 | | |
| Prepaid card accts managed by third party | MM | BN | | | | 116.9 | 0.5 | 0.95 | 0.01 | 8 | 0 | | |
| Credit card accts | MM | BN | | | | 309.1 | 8.6 | 587.37 | 13.36 | 1,900 | 19 | | |
| Consumer credit card accts | MM | BN | | | | 279.7 | 7.2 | 531.44 | 12.06 | 1,900 | 13 | | |
| Business/government credit card accts | MM | BN | | | | 29.5 | 2.7 | 55.93 | 1.41 | 1,899 | 149 | | |
| Checks | | | | | | | | | | | | | |
| Checks (Paid) | BN | TR | 24.5 | 3161 | 1291 | 18.3 | 0.6 | 25.85 | 163 | 1,410 | 66 | -9.2 | -6.5 |
| Interbank paid checks | BN | TR | 18.0 | 20.65 | 1145 | 13.0 | 0.5 | 16.45 | 0.89 | 1,268 | 37 | -10.4 | -7.3 |
| Inclearings | BN | TR | 17.5 | 19.95 | 1141 | 12.4 | 0.5 | 15.78 | 0.88 | 1,268 | 38 | -10.7 | -7.5 |
| Checks drawn on FIs | BN | TR | 17.1 | 19.61 | 1144 | 12.2 | 0.5 | 15.56 | 0.88 | 1,274 | 38 | -10.7 | -7.4 |
| U.S. treasury checks | BN | TR | 0.2 | 0.31 | 1545 | 0.1 | | 0.20 | | 1,645 | | -15.7 | -13.9 |
| Postal money orders | BN | TR | 0.1 | 0.02 | 183 | 0.1 | | 0.02 | | 204 | | -6.2 | -2.9 |
| On-us correspondent checks | BN | TR | 0.6 | 0.70 | 1240 | 0.5 | 0.0 | 0.67 | 0.03 | 1,260 | 15 | -2.0 | -1.5 |
| On-us paid checks | BN | TR | 6.4 | 10.96 | 1702 | 5.4 | 0.3 | 9.40 | 1.13 | 1,753 | 188 | -5.9 | -5.0 |
| Deposited checks | BN | TR | 30.6 | 37.47 | 1226 | 24.7 | 0.6 | 32.42 | 0.89 | 1,312 | 23 | -6.8 | -4.7 |
| Image deposited checks | BN | TR | 9.4 | 11.60 | 1233 | 8.8 | 0.2 | 10.69 | 0.35 | 1,221 | 25 | -2.4 | -2.7 |
| Consumer and business image deposited checks | BN | TR | 3.0 | 4.11 | 1354 | 3.4 | 0.1 | 5.44 | 0.24 | 1,595 | 60 | 4.0 | 9.8 |
| Consumer image deposited checks | BN | TR | | | | 0.2 | 0.0 | 0.33 | 0.03 | 1,489 | 161 | | |
| Consumer image deposited checks via mobile | BN | TR | | | | 0.1 | 0.0 | 0.13 | 0.01 | 1,000 | 104 | | |
| Consumer image deposited checks via other methods | BN | TR | | | | 0.1 | 0.0 | 0.20 | 0.02 | 2,161 | 392 | | |
| Business/government image deposited checks | BN | TR | | | | 3.2 | 0.1 | 5.11 | 0.24 | 1,602 | 63 | | |
| Correspondent image deposited checks | BN | TR | 6.4 | 7.49 | 1175 | 5.3 | 0.2 | 5.25 | 0.19 | 982 | 7 | -5.7 | -11.2 |
| Paper deposited checks | BN | TR | 21.2 | 25.89 | 1223 | 15.9 | 0.5 | 21.73 | 0.69 | 1,363 | 30 | -9.0 | -5.7 |
| Consumer and business paper deposited checks | BN | TR | 20.6 | 25.17 | 1220 | 15.9 | 0.5 | 21.64 | 0.69 | 1,360 | 30 | -8.3 | -4.9 |
| Correspondent paper deposited checks | BN | TR | 0.5 | 0.72 | 1329 | 0.0 | 0.0 | 0.09 | 0.00 | 2,283 | 277 | -58.9 | -50.8 |
| Returned checks | MM | BN | 126.8 | 126.93 | 1001 | 66.4 | 6.9 | 83.10 | 2.79 | 1,252 | 116 | -19.4 | -13.2 |
| Interbank returned checks | MM | BN | 117.4 | 114.17 | 970 | 57.2 | 6.6 | 70.05 | 2.50 | 1,224 | 130 | -18.9 | -12.4 |
| Paper interbank returned checks | MM | BN | 112 | 111.7 | 994 | 2.7 | 1.1 | 4.01 | 1.03 | 1,467 | 591 | -37.5 | -28.9 |
| Image interbank returned checks | MM | BN | 96.6 | 93.00 | 962 | 54.5 | 6.7 | 66.04 | 2.42 | 1,211 | 137 | -17.4 | -10.8 |
| On-us returned checks | MM | BN | 19.4 | 22.78 | 1174 | 9.1 | 0.9 | 13.05 | 0.83 | 1,432 | 109 | -22.3 | -16.9 |

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | | 2009-2012 CAGR (%) | |
|---|------|-----|-------|--------|--------|-------|------------------|--------|------------------|------------|------------------|-----------------------|-------|
| | Num | Val | Num | Val | Avg | Num | Num CI* (+/-) | Val | Val CI* (+/-) | Avg | Avg CI* (+/-) | Num | Val |
| | | | | | | | | | | | | | |
| ACH | | | | | | | | | | | | | |
| Network ACH credit payments (cleared via FED and EPN) | BN | TR | 6.4 | 19.57 | 3,066 | 6.5 | 0.5 | 2199 | 0.68 | 3,358 | 187 | 0.9 | 4.0 |
| Offset ACH credits | BN | TR | | | | 0.7 | 0.3 | 2.58 | 0.62 | 3,684 | 1,148 | | |
| Other ACH credits | BN | TR | | | | 5.8 | 0.3 | 19.41 | 0.25 | 3,319 | 129 | | |
| Network ACH debit payments (cleared via FED and EPN) | BN | TR | 10.2 | 14.06 | 1,381 | 10.1 | 0.5 | 17.98 | 0.39 | 1,786 | 73 | -0.4 | 8.5 |
| Offset ACH debits | BN | TR | | | | 0.4 | 0.1 | 159 | 0.26 | 3,940 | 558 | | |
| Other ACH debits | BN | TR | | | | 9.7 | 0.5 | 16.39 | 0.30 | 1,696 | 73 | | |
| Direct exchange ACH credit payments | MM | BN | 126.9 | 378.55 | 2,984 | 5.4 | 6.6 | 9.83 | 13.41 | 1,812 | 299 | -65.0 | -70.4 |
| Direct exchange ACH debit payments | MM | BN | 75.2 | 32.07 | 427 | 219 | 12.2 | 12.74 | 8.49 | 581 | 73 | -33.7 | -26.5 |
| In-house on-us credit payments | BN | TR | 15 | 4195 | 27,251 | 18 | 0.0 | 54.77 | 0.41 | 29,663 | 620 | 6.2 | 9.3 |
| In-house on-us offset ACH credits | BN | TR | | | | 0.2 | 0.0 | 6.61 | 0.24 | 29,452 | 1,246 | | |
| Other in-house on-us ACH credits | BN | TR | | | | 16 | 0.0 | 48.16 | 0.19 | 29,693 | 738 | | |
| In-house on-us debit payments | BN | TR | 3.5 | 42.96 | 12,389 | 3.1 | 0.1 | 52.40 | 0.38 | 16,886 | 630 | -3.6 | 6.8 |
| In-house on-us offset ACH debits | BN | TR | | | | 0.3 | 0.0 | 193 | 0.24 | 6,555 | 775 | | |
| Other in-house on-us ACH debits | BN | TR | | | | 2.8 | 0.1 | 50.47 | 0.18 | 17,972 | 730 | | |
| Wire | | | | | | | | | | | | | |
| All wire payments | MM | TR | | | | 287.5 | 4.5 | 116.29 | 2.57 | 3,882,258 | 55,334 | | |
| Consumer wires | MM | TR | | | | 17.4 | 15 | 154 | 0.12 | 88,112 | 9,664 | | |
| Other wires | MM | TR | | | | 270.1 | 3.9 | 114.76 | 2.56 | 4,127,135 | 53,403 | | |
| Settlement/bank business wires | MM | TR | | | | 23.6 | 0.3 | 293.69 | 0.79 | 12,438,821 | 155,695 | | |
| Other business/government wires | MM | TR | | | | 246.5 | 3.8 | 82,107 | 2.02 | 3,330,999 | 47,372 | | |
| Domestic (U.S.) wire payee | MM | TR | | | | 177.2 | 3.9 | 677.10 | 2.54 | 3,821,804 | 75,752 | | |
| Foreign wire payee | MM | TR | | | | 110.4 | 10 | 439.20 | 0.18 | 3,979,298 | 36,838 | | |
| Consumer-originated foreign wires | MM | TR | | | | 3.2 | 0.5 | 0.49 | 0.01 | 151,087 | 20,887 | | |
| Other foreign wires | MM | TR | | | | 107.1 | 0.9 | 438.71 | 0.18 | 4,094,769 | 31,908 | | |

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | 2009-2012 CAGR (%) | | |
|---|------|-----|--------|-------|-----|--------|------------------|-------|------------------|-----|-----------------------|------|------|
| | Num | Val | Num | Val | Avg | Num | Num CI* (+/-) | Val | Val CI* (+/-) | Avg | Avg CI* (+/-) | Num | Val |
| | | | | | | | | | | | | | |
| Debit and Prepaid Cards | | | | | | | | | | | | | |
| All debit cards in force | M | M | | | | 282.8 | | 7.8 | | | | | |
| Consumer debit cards in force | M | M | | | | 265.4 | | 7.5 | | | | | |
| Business debit cards in force | M | M | | | | 17.4 | | 0.5 | | | | | |
| All debit cards with purchase activity | M | M | | | | 182.5 | | 5.3 | | | | | |
| Consumer debit cards with purchase activity | M | M | | | | 173.9 | | 5.0 | | | | | |
| Business debit cards with purchase activity | M | M | | | | 8.6 | | 0.3 | | | | | |
| All debit cards that are chip enabled | M | M | | | | 23.5 | | 0.1 | | | | | |
| Consumer debit cards that are chip enabled | M | M | | | | 22.1 | | 0.1 | | | | | |
| Business debit cards that are chip enabled | M | M | | | | 1.4 | | 0.0 | | | | | |
| All prepaid cards in force | M | M | | | | 159.1 | | 6.5 | | | | | |
| Prepaid cards in force managed by DI | M | M | | | | 64.8 | | 6.5 | | | | | |
| Prepaid cards in force managed by third party | M | M | | | | 94.3 | | 0.5 | | | | | |
| All prepaid cards with purchase activity | M | M | | | | 29.4 | | 4.0 | | | | | |
| Prepaid cards with purchase activity managed by DI | M | M | | | | 21.3 | | 4.0 | | | | | |
| Prepaid cards with purchase activity managed by third party | M | M | | | | 8.1 | | 0.2 | | | | | |
| All prepaid cards that are chip enabled | M | M | | | | 0.0 | | 0.0 | | | | | |
| Prepaid cards that are chip enabled managed by DI | M | M | | | | 0.0 | | 0.0 | | | | | |
| Prepaid cards that are chip enabled managed by third party | M | M | | | | 0.0 | | 0.0 | | | | | |
| Total debit and prepaid card | BN | TR | 45.0 | 174 | 39 | 54.7 | 15 | 2.15 | 0.06 | 39 | 0 | 6.7 | 7.3 |
| Signature (dual-message) transactions | BN | TR | 28.8 | 108 | 37 | 34.7 | 11 | 1.32 | 0.04 | 38 | 0 | 6.3 | 6.9 |
| PIN (single-message) transactions | BN | TR | 16.2 | 0.66 | 41 | 20.0 | 0.5 | 0.83 | 0.02 | 42 | 0 | 7.2 | 7.8 |
| Debit card transactions | BN | TR | | | | 512 | 15 | 2.05 | 0.06 | 40 | 0 | | |
| Consumer debit transactions | BN | TR | | | | 49.4 | 14 | 1.89 | 0.05 | 38 | 0 | | |
| Business/government debit transactions | BN | TR | | | | 1.7 | 0.1 | 0.15 | 0.01 | 89 | 3 | | |
| Prepaid card transactions | BN | TR | | | | 3.5 | 0.3 | 0.10 | 0.01 | 29 | 2 | | |
| Total cash-back transactions | M | BN | 1036.0 | 35.22 | 34 | 1455.0 | 173.6 | 47.39 | 2.39 | 33 | 4 | 12.0 | 10.4 |
| Debit card cash-back transactions | M | BN | | | | 1404.3 | 173.7 | 46.42 | 2.39 | 33 | 4 | | |
| Prepaid card cash-back transactions | M | BN | | | | 50.7 | 19.8 | 0.98 | 0.09 | 19 | 6 | | |

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | 2009-2012 CAGR (%) | | |
|---|------|-----|------|-----|-----|-------|------------------|-------|------------------|-------|-----------------------|-----|-----|
| | Num | Val | Num | Val | Avg | Num | Num CI* (+/-) | Val | Val CI* (+/-) | Avg | Avg CI* (+/-) | Num | Val |
| | | | | | | | | | | | | | |
| Credit Cards | | | | | | | | | | | | | |
| All credit cards in force | M | M | | | | 333.6 | 10.6 | | | | | | |
| Consumer credit cards in force | M | M | | | | 305.3 | 9.0 | | | | | | |
| Business credit cards in force | M | M | | | | 28.3 | 3.0 | | | | | | |
| All credit cards with purchase activity | M | M | | | | 187.8 | 4.4 | | | | | | |
| Consumer credit cards with purchase activity | M | M | | | | 172.1 | 3.8 | | | | | | |
| Business credit cards with purchase activity | M | M | | | | 15.7 | 0.7 | | | | | | |
| All credit cards that are chip enabled | M | M | | | | 23.6 | 11 | | | | | | |
| Consumer credit cards that are chip enabled | M | M | | | | 23.4 | 11 | | | | | | |
| Business credit cards that are chip enabled | M | M | | | | 0.1 | 0.0 | | | | | | |
| Total credit card transactions | BN | TR | | | | 23.7 | 0.4 | 2.19 | 0.04 | 92 | 1 | | |
| Consumer credit card transactions | BN | TR | | | | 19.9 | 0.3 | 1.51 | 0.02 | 76 | 0 | | |
| Business/government credit card transactions | BN | TR | | | | 3.8 | 0.1 | 0.68 | 0.02 | 179 | 4 | | |
| Cash advances | M | M | BN | | | 88.6 | 2.9 | 71.14 | 2.30 | 803 | 23 | | |
| Consumer cash advances | M | M | BN | | | 83.7 | 2.8 | 67.43 | 2.28 | 806 | 23 | | |
| Consumer convenience checks and balance transfers | M | M | BN | | | 18.4 | 0.9 | 50.48 | 2.04 | 2,747 | 52 | | |
| Consumer ATM withdrawals and over-the-counter withdrawals from credit card accts | M | M | BN | | | 65.3 | 2.4 | 16.95 | 0.61 | 260 | 7 | | |
| Business/government cash advances | M | M | BN | | | 4.9 | 0.2 | 3.71 | 0.04 | 754 | 28 | | |
| Business/government convenience checks and balance transfers | M | M | BN | | | 0.7 | 0.0 | 2.01 | 0.02 | 2,940 | 29 | | |
| Business/government ATM withdrawals and over-the-counter withdrawals from credit card accts | M | M | BN | | | 4.2 | 0.2 | 1.70 | 0.03 | 401 | 16 | | |

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | 2009-2012 CAGR (%) | | |
|---|-------|---------|--------|-----|-----|----------|------------------|----------|------------------|--------|-----------------------|------|-----|
| | Num | Val | Num | Val | Avg | Num | Num CI* (+/-) | Val | Val CI* (+/-) | Avg | Avg CI* (+/-) | Num | Val |
| | | | | | | | | | | | | | |
| Cash | | | | | | | | | | | | | |
| Debit cards with ATM withdrawals | MM | | | | | 114.1 | 3.4 | | | | | | |
| Prepaid cards with ATM withdrawals | MM | | | | | 23.5 | 2.9 | | | | | | |
| Over-the-counter cash withdrawals | MM BN | | | | | 2,055.6 | 910 | 1,468.86 | 50.50 | 715 | 26 | | |
| Cash orders at wholesale vaults | MM BN | | | | | 314 | 0.7 | 385.84 | 10.01 | 12,299 | 722 | | |
| ATM withdrawals | MM BN | 5,966.7 | 646.67 | 108 | | 5,804.4 | 289.6 | 687.03 | 18.19 | 118 | 5 | -0.9 | 2.0 |
| On-us ATM withdrawals | MM BN | 3,826.5 | 439.92 | 16 | | 3,948.4 | 183.3 | 489.29 | 11.73 | 124 | 5 | 1.1 | 3.6 |
| "Foreign" ATM withdrawals | MM BN | 2,140.2 | 206.75 | 97 | | 1,856.0 | 135.2 | 197.74 | 8.84 | 107 | 7 | -4.6 | -15 |
| ATM withdrawals from transaction deposit accts | MM BN | | | | | 5,603.6 | 289.3 | 654.33 | 17.99 | 117 | 5 | | |
| ATM withdrawals from prepaid card accts | MM BN | | | | | 200.8 | 17.1 | 32.70 | 2.86 | 163 | 9 | | |
| Over-the-counter deposits | MM BN | | | | | 1,628.3 | 68.4 | 1,628.23 | 82.07 | 1,000 | 45 | | |
| Wholesale vault deposits | MM BN | | | | | 128.9 | 3.2 | 641.72 | 17.66 | 4,978 | 192 | | |
| ATM deposits | MM BN | | | | | 1,023.4 | 7.1 | 381.19 | 2.87 | 372 | 2 | | |
| On-us ATM deposits | MM BN | | | | | 1,007.5 | 7.0 | 376.45 | 2.64 | 374 | 2 | | |
| "Foreign" ATM deposits | MM BN | | | | | 15.9 | 12 | 4.74 | 0.93 | 298 | 47 | | |
| Selected Payment Initiation Channels | | | | | | | | | | | | | |
| Total online or mobile bill payments | MM BN | | | | | 2,547.8 | 44.1 | 3,491.34 | 15.86 | 1,370 | 18 | | |
| Bill payments via a web browser | MM BN | | | | | 2,378.5 | 43.7 | 3,456.18 | 15.77 | 1,453 | 21 | | |
| Bill payments via a mobile app or text message | MM BN | | | | | 169.3 | 16 | 35.15 | 0.66 | 208 | 3 | | |
| Total online or mobile P2P transfers | MM BN | | | | | 138.0 | 7.0 | 47.96 | 4.83 | 348 | 25 | | |
| P2P transfers via a web browser | MM BN | | | | | 94.1 | 6.7 | 33.75 | 4.06 | 359 | 30 | | |
| P2P transfers via a mobile app | MM BN | | | | | 43.5 | 0.8 | 14.20 | 0.98 | 326 | 21 | | |
| P2P transfers via text message | MM BN | | | | | 0.4 | 0.3 | 0.00 | 0.00 | 0 | 1 | | |
| Third-party Payment Fraud | | | | | | | | | | | | | |
| Unauthorized check payments | K MM | | | | | 866.8 | 34.9 | 1,102.50 | 32.66 | 1,272 | 55 | | |
| Unauthorized ACH credits | K MM | | | | | 521.0 | 3.5 | 393.28 | 3.63 | 755 | 7 | | |
| Unauthorized ACH debits | K MM | | | | | 1,151.5 | 45.7 | 837.53 | 16.137 | 727 | 142 | | |
| Unauthorized debit and prepaid card transactions | K MM | | | | | 14,857.7 | 327.1 | 1,546.43 | 3.147 | 104 | 1 | | |
| Unauthorized debit and prepaid signature (dual-message) transactions | K MM | | | | | 14,021.8 | 313.4 | 1,422.33 | 30.46 | 101 | 1 | | |
| Unauthorized debit and prepaid card-present transactions | K MM | | | | | 8,047.1 | 139.0 | 967.97 | 18.95 | 120 | 1 | | |
| Unauthorized debit and prepaid card-not-present transactions | K MM | | | | | 5,974.7 | 217.3 | 454.36 | 16.89 | 76 | 2 | | |
| Unauthorized debit and prepaid PIN (single-message) transactions | K MM | | | | | 835.9 | 36.4 | 124.10 | 4.32 | 148 | 4 | | |
| Unauthorized credit card | K MM | | | | | 13,654.4 | 103.4 | 2,256.21 | 22.78 | 165 | 1 | | |
| Unauthorized credit card-present transactions | K MM | | | | | 7,061.7 | 50.7 | 1,123.01 | 13.64 | 159 | 1 | | |
| Unauthorized credit card-not-present transactions | K MM | | | | | 6,592.7 | 62.0 | 1,133.20 | 13.21 | 172 | 2 | | |
| Unauthorized ATM withdrawals | K MM | | | | | 1,285.4 | 18.7 | 256.33 | 5.15 | 199 | 2 | | |

2.10.2 Commercial Banks

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | 2009-2012 CAGR (%) | | |
|---|------|-----|------|--------|-------|-------|------------------|---------|------------------|--------|-----------------------|-------|-------|
| | Num | Val | Num | Val | Avg | Num | Num CI* (+/-) | Val | Val CI* (+/-) | Avg | Avg CI* (+/-) | Num | Val |
| Payment accounts | | | | | | | | | | | | | |
| All transaction deposit accts | MM | BN | | | | 239.0 | 7.5 | 3,944.6 | 129.6 | 16,501 | 535 | | |
| Consumer transaction deposit accts | MM | BN | | | | 209.2 | 6.9 | 1,988.0 | 43.7 | 9,505 | 248 | | |
| Business transaction deposit accts | MM | BN | | | | 29.9 | 10 | 1,956.6 | 109.8 | 65,458 | 3,377 | | |
| All prepaid card accts | MM | BN | | | | 229.1 | 12 | 8.10 | 0.06 | 35 | 0 | | |
| Prepaid card accts managed by DI | MM | BN | | | | 112.6 | 11 | 7.17 | 0.06 | 64 | 0 | | |
| Prepaid card accts managed by third party | MM | BN | | | | 116.5 | 0.4 | 0.94 | 0.01 | 8 | 0 | | |
| Credit card accts | MM | BN | | | | 283.9 | 8.4 | 522.96 | 12.72 | 1,842 | 18 | | |
| Consumer credit card accts | MM | BN | | | | 254.7 | 6.9 | 467.28 | 1139 | 1,835 | 11 | | |
| Business/government credit card accts | MM | BN | | | | 29.3 | 2.7 | 55.68 | 140 | 1,903 | 151 | | |
| Checks | | | | | | | | | | | | | |
| Checks (Paid) | BN | TR | 20.7 | 29.22 | 1412 | 15.8 | 0.6 | 24.01 | 163 | 1,518 | 75 | -8.6 | -6.3 |
| Interbank paid checks | BN | TR | 14.6 | 18.58 | 1272 | 10.7 | 0.5 | 14.85 | 0.88 | 1,383 | 41 | -9.8 | -7.2 |
| Inclearings | BN | TR | 14.0 | 17.88 | 1273 | 10.2 | 0.5 | 14.18 | 0.88 | 1,390 | 43 | -10.1 | -7.4 |
| Checks drawn on FIs | BN | TR | 14.0 | 17.88 | 1273 | 10.2 | 0.5 | 14.18 | 0.88 | 1,390 | 43 | -10.1 | -7.4 |
| U.S. treasury checks | BN | TR | | | | | | | | | | | |
| Postal money orders | BN | TR | | | | | | | | | | | |
| On-us correspondent checks | BN | TR | 0.6 | 0.70 | 1240 | 0.5 | 0.0 | 0.67 | 0.03 | 1,259 | 15 | -2.1 | -1.6 |
| On-us paid checks | BN | TR | 6.1 | 10.64 | 1750 | 5.1 | 0.3 | 9.16 | 1.12 | 1,801 | 198 | -5.8 | -4.9 |
| Deposited checks | BN | TR | 28.4 | 35.56 | 1253 | 23.1 | 0.6 | 30.77 | 0.88 | 1,334 | 24 | -6.7 | -4.7 |
| Image deposited checks | BN | TR | 9.3 | 11.45 | 1234 | 8.6 | 0.2 | 10.42 | 0.34 | 1,219 | 24 | -2.7 | -3.1 |
| Consumer and business image deposited checks | BN | TR | 2.9 | 3.98 | 1362 | 3.3 | 0.1 | 5.23 | 0.23 | 1,602 | 61 | 3.7 | 9.5 |
| Consumer image deposited checks | BN | TR | | | | 0.2 | 0.0 | 0.31 | 0.03 | 1,793 | 111 | | |
| Consumer image deposited checks via mobile | BN | TR | | | | 0.1 | 0.0 | 0.12 | 0.01 | 1,168 | 15 | | |
| Consumer image deposited checks via other methods | BN | TR | | | | 0.1 | 0.0 | 0.19 | 0.02 | 2,694 | 247 | | |
| Business/government image deposited checks | BN | TR | | | | 3.1 | 0.1 | 4.91 | 0.23 | 1,592 | 63 | | |
| Correspondent image deposited checks | BN | TR | 6.3 | 7.46 | 176 | 5.3 | 0.2 | 5.20 | 0.19 | 982 | 7 | -5.9 | -11.4 |
| Paper deposited checks | BN | TR | 19.1 | 24.11 | 1263 | 14.5 | 0.5 | 20.35 | 0.68 | 1,402 | 33 | -8.7 | -5.5 |
| Consumer and business paper deposited checks | BN | TR | 18.6 | 23.40 | 1261 | 14.5 | 0.5 | 20.26 | 0.68 | 1,400 | 33 | -8.0 | -4.7 |
| Correspondent paper deposited checks | BN | TR | 0.5 | 0.71 | 1331 | 0.0 | 0.0 | 0.09 | 0.00 | 2,293 | 279 | -58.9 | -50.7 |
| Returned checks | MM | BN | 97.8 | 114.39 | 1169 | 54.2 | 6.9 | 74.56 | 2.38 | 1,377 | 155 | -17.9 | -13.3 |
| Interbank returned checks | MM | BN | 80.1 | 92.59 | 1166 | 45.7 | 6.6 | 62.10 | 2.04 | 1,358 | 178 | -17.0 | -12.5 |
| Paper interbank returned checks | MM | BN | 4.1 | 9.94 | 2,442 | 15 | 0.5 | 3.63 | 102 | 2,349 | 497 | -27.6 | -28.5 |
| Image interbank returned checks | MM | BN | 76.0 | 82.64 | 1087 | 44.2 | 6.6 | 58.48 | 195 | 1,324 | 180 | -16.5 | -10.9 |
| On-us returned checks | MM | BN | 17.8 | 21.82 | 1229 | 8.4 | 0.9 | 12.45 | 0.82 | 1,476 | 120 | -22.0 | -17.1 |

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | | 2009-2012 CAGR (%) | | | |
|---|------|-----|-------|--------|--------|-------|---------|--------|-------|------------|---------|-----------------------|---------|-----|-----|
| | Num | Val | Num | Val | Avg | Num | Num CI* | | Val | Val CI* | | Avg | Avg CI* | Num | Val |
| | | | | | | | (+/-) | (+/-) | | (+/-) | (+/-) | | | | |
| ACH | | | | | | | | | | | | | | | |
| Network ACH credit payments (cleared via FED and EPN) | BN | TR | 6.2 | 19.24 | 3,111 | 6.2 | 0.4 | 2175 | 0.68 | 3,523 | 127 | -0.1 | 4.2 | | |
| Offset ACH credits | BN | TR | | | | 0.5 | 0.3 | 2.54 | 0.62 | 4,758 | 1,097 | | | | |
| Other ACH credits | BN | TR | | | | 5.6 | 0.3 | 19.21 | 0.24 | 3,406 | 125 | | | | |
| Network ACH debit payments (cleared via FED and EPN) | BN | TR | 7.5 | 12.77 | 1,695 | 7.6 | 0.5 | 16.66 | 0.37 | 2,179 | 113 | 0.5 | 9.3 | | |
| Offset ACH debits | BN | TR | | | | 0.4 | 0.1 | 150 | 0.26 | 4,263 | 625 | | | | |
| Other ACH debits | BN | TR | | | | 7.3 | 0.5 | 15.17 | 0.27 | 2,078 | 114 | | | | |
| Direct exchange ACH credit payments | MM | BN | 126.2 | 378.10 | 2,997 | 5.1 | 6.6 | 9.47 | 13.40 | 1,856 | 266 | -65.7 | -70.7 | | |
| Direct exchange ACH debit payments | MM | BN | 14.7 | 18.99 | 1,295 | 218 | 12.2 | 12.61 | 8.49 | 578 | 75 | 14.1 | -12.8 | | |
| In-house on-us credit payments | BN | TR | 14 | 4150 | 29,285 | 17 | 0.0 | 54.64 | 0.41 | 31,691 | 701 | 6.8 | 9.6 | | |
| In-house on-us offset ACH credits | BN | TR | | | | 0.1 | 0.0 | 6.52 | 0.24 | 54,918 | 2,886 | | | | |
| Other in-house on-us ACH credits | BN | TR | | | | 16 | 0.0 | 48.12 | 0.19 | 29,973 | 745 | | | | |
| In-house on-us debit payments | BN | TR | 3.2 | 42.33 | 13,373 | 2.9 | 0.1 | 52.30 | 0.38 | 18,204 | 732 | -3.2 | 7.3 | | |
| In-house on-us offset ACH debits | BN | TR | | | | 0.1 | 0.0 | 188 | 0.24 | 23,495 | 3,240 | | | | |
| Other in-house on-us ACH debits | BN | TR | | | | 2.8 | 0.1 | 50.42 | 0.17 | 18,053 | 737 | | | | |
| Wire | | | | | | | | | | | | | | | |
| All wire payments | MM | TR | | | | 278.5 | 3.7 | 118.77 | 2.42 | 3,999,464 | 49,426 | | | | |
| Consumer wires | MM | TR | | | | 12.8 | 0.9 | 110 | 0.11 | 85,536 | 9,902 | | | | |
| Other wires | MM | TR | | | | 265.7 | 3.3 | 112.67 | 2.41 | 4,188,177 | 47,053 | | | | |
| Settlement/bank business wires | MM | TR | | | | 22.2 | 0.3 | 292.62 | 0.78 | 13,190,503 | 158,309 | | | | |
| Other business/government wires | MM | TR | | | | 243.5 | 3.3 | 820.05 | 1.85 | 3,367,966 | 41,860 | | | | |
| Domestic (U.S.) wire payee | MM | TR | | | | 169.2 | 3.1 | 674.60 | 2.39 | 3,986,755 | 65,298 | | | | |
| Foreign wire payee | MM | TR | | | | 109.3 | 0.9 | 439.17 | 0.18 | 4,019,145 | 33,948 | | | | |
| Consumer-originated foreign wires | MM | TR | | | | 2.4 | 0.2 | 0.48 | 0.00 | 198,496 | 13,891 | | | | |
| Other foreign wires | MM | TR | | | | 106.9 | 0.9 | 438.69 | 0.18 | 4,105,533 | 32,018 | | | | |

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | 2009-2012 CAGR (%) | | |
|---|------|-----|-------|-------|-----|-------|------------------|-------|------------------|-----|-----------------------|-----|-----|
| | Num | Val | Num | Val | Avg | Num | Num CI* (+/-) | Val | Val CI* (+/-) | Avg | Avg CI* (+/-) | Num | Val |
| | | | | | | | | | | | | | |
| Debit and Prepaid Cards | | | | | | | | | | | | | |
| All debit cards in force | M | M | | | | 218.3 | 7.0 | | | | | | |
| Consumer debit cards in force | M | M | | | | 202.0 | 6.6 | | | | | | |
| Business debit cards in force | M | M | | | | 16.2 | 0.5 | | | | | | |
| All debit cards with purchase activity | M | M | | | | 138.1 | 4.7 | | | | | | |
| Consumer debit cards with purchase activity | M | M | | | | 130.4 | 4.5 | | | | | | |
| Business debit cards with purchase activity | M | M | | | | 7.7 | 0.3 | | | | | | |
| All debit cards that are chip enabled | M | M | | | | 22.4 | 0.1 | | | | | | |
| Consumer debit cards that are chip enabled | M | M | | | | 210 | 0.1 | | | | | | |
| Business debit cards that are chip enabled | M | M | | | | 14 | 0.0 | | | | | | |
| All prepaid cards in force | M | M | | | | 152.6 | 3.5 | | | | | | |
| Prepaid cards in force managed by DI | M | M | | | | 58.7 | 3.5 | | | | | | |
| Prepaid cards in force managed by third party | M | M | | | | 93.9 | 0.5 | | | | | | |
| All prepaid cards with purchase activity | M | M | | | | 26.0 | 12 | | | | | | |
| Prepaid cards with purchase activity managed by DI | M | M | | | | 18.2 | 11 | | | | | | |
| Prepaid cards with purchase activity managed by third party | M | M | | | | 7.8 | 0.2 | | | | | | |
| All prepaid cards that are chip enabled | M | M | | | | 0.0 | 0.0 | | | | | | |
| Prepaid cards that are chip enabled managed by DI | M | M | | | | 0.0 | 0.0 | | | | | | |
| Prepaid cards that are chip enabled managed by third party | M | M | | | | 0.0 | 0.0 | | | | | | |
| Total debit and prepaid card | BN | TR | 34.4 | 134 | 39 | 417 | 13 | 165 | 0.05 | 39 | 0 | 6.7 | 7.0 |
| Signature (dual-message) transactions | BN | TR | 218 | 0.84 | 38 | 26.1 | 0.9 | 101 | 0.04 | 39 | 0 | 6.1 | 6.4 |
| PIN (single-message) transactions | BN | TR | 12.6 | 0.51 | 40 | 15.7 | 0.4 | 0.64 | 0.02 | 41 | 0 | 7.7 | 8.1 |
| Debit card transactions | BN | TR | | | | 38.4 | 13 | 156 | 0.05 | 41 | 0 | | |
| Consumer debit transactions | BN | TR | | | | 36.8 | 13 | 141 | 0.05 | 38 | 0 | | |
| Business/government debit transactions | BN | TR | | | | 16 | 0.1 | 0.15 | 0.01 | 90 | 3 | | |
| Prepaid card transactions | BN | TR | | | | 3.3 | 0.1 | 0.09 | 0.00 | 28 | 1 | | |
| Total cash-back transactions | M | BN | 797.8 | 25.98 | 33 | 927.5 | 24.2 | 36.17 | 196 | 39 | 1 | 5.1 | 117 |
| Debit card cash-back transactions | M | BN | | | | 903.0 | 24.2 | 35.30 | 196 | 39 | 1 | | |
| Prepaid card cash-back transactions | M | BN | | | | 24.5 | 0.5 | 0.87 | 0.02 | 36 | 1 | | |

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | 2009-2012 CAGR (%) | | |
|---|------|-----|------|-----|-----|-------|---------|-------|---------|-------|-----------------------|-----|-----|
| | Num | Val | Num | Val | Avg | Num | Num CI* | Val | Val CI* | Avg | Avg CI* | Num | Val |
| | | | | | | | (+/-) | | (+/-) | | (+/-) | | |
| Credit Cards | | | | | | | | | | | | | |
| All credit cards in force | M | M | | | | 31.9 | 10.5 | | | | | | |
| Consumer credit cards in force | M | M | | | | 285.8 | 8.8 | | | | | | |
| Business credit cards in force | M | M | | | | 28.1 | 3.0 | | | | | | |
| All credit cards with purchase activity | M | M | | | | 175.6 | 4.3 | | | | | | |
| Consumer credit cards with purchase activity | M | M | | | | 160.0 | 3.7 | | | | | | |
| Business credit cards with purchase activity | M | M | | | | 15.6 | 0.7 | | | | | | |
| All credit cards that are chip enabled | M | M | | | | 23.5 | 11 | | | | | | |
| Consumer credit cards that are chip enabled | M | M | | | | 23.4 | 11 | | | | | | |
| Business credit cards that are chip enabled | M | M | | | | 0.1 | 0.0 | | | | | | |
| Total credit card transactions | BN | TR | | | | 22.0 | 0.4 | 2.07 | 0.04 | 94 | 1 | | |
| Consumer credit card transactions | BN | TR | | | | 18.7 | 0.3 | 1.43 | 0.02 | 76 | 0 | | |
| Business/government credit card transactions | BN | TR | | | | 3.3 | 0.1 | 0.64 | 0.02 | 196 | 5 | | |
| Cash advances | M | M | BN | | | 75.5 | 16 | 64.05 | 2.13 | 848 | 16 | | |
| Consumer cash advances | M | M | BN | | | 70.7 | 16 | 60.38 | 2.11 | 854 | 17 | | |
| Consumer convenience checks and balance transfers | M | M | BN | | | 16.9 | 0.8 | 46.78 | 1.97 | 2,762 | 40 | | |
| Consumer ATM withdrawals and over-the-counter withdrawals from credit card accts | M | M | BN | | | 53.8 | 10 | 13.60 | 0.29 | 253 | 2 | | |
| Business/government cash advances | M | M | BN | | | 4.8 | 0.1 | 3.67 | 0.04 | 764 | 5 | | |
| Business/government convenience checks and balance transfers | M | M | BN | | | 0.7 | 0.0 | 2.00 | 0.02 | 2,932 | 25 | | |
| Business/government ATM withdrawals and over-the-counter withdrawals from credit card accts | M | M | BN | | | 4.1 | 0.1 | 1.67 | 0.03 | 405 | 4 | | |

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | 2009-2012 CAGR (%) | | |
|---|-------|---------|--------|-----|-----|----------|------------------|----------|------------------|--------|-----------------------|------|-----|
| | Num | Val | Num | Val | Avg | Num | Num CI* (+/-) | Val | Val CI* (+/-) | Avg | Avg CI* (+/-) | Num | Val |
| | | | | | | | | | | | | | |
| Cash | | | | | | | | | | | | | |
| Debit cards with ATM withdrawals | MM | | | | | 816 | 3.1 | | | | | | |
| Prepaid cards with ATM withdrawals | MM | | | | | 213 | 0.2 | | | | | | |
| Over-the-counter cash withdrawals | MM BN | | | | | 1,476.5 | 53.9 | 1,139.19 | 4148 | 772 | 23 | | |
| Cash orders at wholesale vaults | MM BN | | | | | 311 | 0.6 | 376.62 | 9.25 | 12,098 | 687 | | |
| ATM withdrawals | MM BN | 4,234.6 | 478.48 | 113 | | 4,291.9 | 168.6 | 539.22 | 16.24 | 126 | 3 | 0.4 | 4.1 |
| On-us ATM withdrawals | MM BN | 3,030.2 | 360.93 | 119 | | 3,118.9 | 129.6 | 406.94 | 10.14 | 130 | 4 | 10 | 4.1 |
| "Foreign" ATM withdrawals | MM BN | 1,204.3 | 117.55 | 98 | | 1,173.0 | 65.2 | 132.28 | 7.45 | 113 | 3 | -0.9 | 4.0 |
| ATM withdrawals from transaction deposit accts | MM BN | | | | | 4,109.1 | 168.5 | 509.11 | 16.22 | 124 | 3 | | |
| ATM withdrawals from prepaid card accts | MM BN | | | | | 182.8 | 4.6 | 30.11 | 0.39 | 165 | 3 | | |
| Over-the-counter deposits | MM BN | | | | | 1,258.1 | 60.7 | 1,329.43 | 75.74 | 1,057 | 55 | | |
| Wholesale vault deposits | MM BN | | | | | 128.3 | 3.2 | 638.82 | 17.60 | 4,979 | 191 | | |
| ATM deposits | MM BN | | | | | 958.0 | 3.1 | 352.84 | 105 | 368 | 1 | | |
| On-us ATM deposits | MM BN | | | | | 947.1 | 3.0 | 351.95 | 101 | 372 | 1 | | |
| "Foreign" ATM deposits | MM BN | | | | | 10.9 | 0.2 | 0.89 | 0.14 | 81 | 12 | | |
| Selected Payment Initiation Channels | | | | | | | | | | | | | |
| Total online or mobile bill payments | MM BN | | | | | 2,062.0 | 38.4 | 3,329.40 | 14.22 | 1,616 | 24 | | |
| Bill payments via a web browser | MM BN | | | | | 1,898.3 | 38.0 | 3,296.22 | 14.14 | 1,736 | 28 | | |
| Bill payments via a mobile app or text message | MM BN | | | | | 163.7 | 12 | 33.18 | 0.31 | 203 | 1 | | |
| Total online or mobile P2P transfers | MM BN | | | | | 116.6 | 16 | 37.28 | 2.19 | 320 | 18 | | |
| P2P transfers via a web browser | MM BN | | | | | 75.5 | 14 | 25.21 | 2.19 | 334 | 28 | | |
| P2P transfers via a mobile app | MM BN | | | | | 412 | 0.2 | 12.07 | 0.00 | 293 | 1 | | |
| P2P transfers via text message | MM BN | | | | | 0.0 | 0.0 | 0.00 | 0.00 | 0 | 0 | | |
| Third-party Payment Fraud | | | | | | | | | | | | | |
| Unauthorized check payments | K MM | | | | | 785.1 | 33.6 | 1,034.16 | 31.14 | 1,317 | 61 | | |
| Unauthorized ACH credits | K MM | | | | | 517.0 | 2.9 | 388.49 | 3.45 | 751 | 7 | | |
| Unauthorized ACH debits | K MM | | | | | 930.7 | 415 | 751.33 | 16106 | 807 | 176 | | |
| Unauthorized debit and prepaid card transactions | K MM | | | | | 13,030.6 | 296.3 | 13,127.6 | 25.27 | 101 | 1 | | |
| Unauthorized debit and prepaid signature (dual-message) transactions | K MM | | | | | 12,260.5 | 282.8 | 1,202.85 | 24.51 | 98 | 1 | | |
| Unauthorized debit and prepaid card-present transactions | K MM | | | | | 7,148.3 | 116.1 | 833.05 | 12.93 | 117 | 1 | | |
| Unauthorized debit and prepaid card-not-present transactions | K MM | | | | | 5,112.2 | 202.2 | 369.80 | 16.22 | 72 | 2 | | |
| Unauthorized debit and prepaid PIN (single-message) transactions | K MM | | | | | 770.1 | 30.6 | 109.91 | 2.63 | 143 | 4 | | |
| Unauthorized credit card | K MM | | | | | 13,134.9 | 75.4 | 2,159.26 | 17.89 | 164 | 1 | | |
| Unauthorized credit card-present transactions | K MM | | | | | 6,812.1 | 32.5 | 1,061.58 | 7.47 | 166 | 0 | | |
| Unauthorized credit card-not-present transactions | K MM | | | | | 6,322.8 | 44.5 | 1,097.68 | 12.63 | 174 | 2 | | |
| Unauthorized ATM withdrawals | K MM | | | | | 1212.6 | 14.1 | 239.08 | 3.40 | 197 | 1 | | |

2.10.3 Savings Institutions

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | 2009-2012 CAGR (%) | | |
|---|------|-----|------|------|-------|------|------------------|-------|------------------|--------|-----------------------|-------|-------|
| | Num | Val | Num | Val | Avg | Num | Num CI* (+/-) | Val | Val CI* (+/-) | Avg | Avg CI* (+/-) | Num | Val |
| Payment accounts | | | | | | | | | | | | | |
| All transaction deposit accts | MM | BN | | | | 18.1 | 2.1 | 146.1 | 18.1 | 8,090 | 607 | | |
| Consumer transaction deposit accts | MM | BN | | | | 16.4 | 19 | 97.4 | 13.1 | 5,928 | 527 | | |
| Business transaction deposit accts | MM | BN | | | | 16 | 0.3 | 48.7 | 7.8 | 29,820 | 3,431 | | |
| All prepaid card accts | MM | BN | | | | 4.1 | 3.9 | 0.14 | 0.21 | 34 | 34 | | |
| Prepaid card accts managed by DI | MM | BN | | | | 4.0 | 3.9 | 0.14 | 0.21 | 34 | 34 | | |
| Prepaid card accts managed by third party | MM | BN | | | | 0.1 | 0.1 | 0.00 | 0.00 | 48 | 31 | | |
| Credit card accts | MM | BN | | | | 7.3 | 18 | 23.68 | 3.04 | 3,234 | 378 | | |
| Consumer credit card accts | MM | BN | | | | 7.2 | 17 | 23.55 | 2.89 | 3,260 | 365 | | |
| Business/government credit card accts | MM | BN | | | | 0.1 | 0.1 | 0.13 | 0.15 | 1,337 | 195 | | |
| Checks | | | | | | | | | | | | | |
| Checks (Paid) | BN | TR | 13 | 131 | 973 | 0.8 | 0.1 | 0.97 | 0.12 | 1,264 | 102 | -17.1 | -9.6 |
| Interbank paid checks | BN | TR | 11 | 108 | 941 | 0.6 | 0.1 | 0.79 | 0.11 | 1,253 | 116 | -17.9 | -9.7 |
| Inclearings | BN | TR | 11 | 108 | 941 | 0.6 | 0.1 | 0.79 | 0.11 | 1,253 | 116 | -17.9 | -9.7 |
| Checks drawn on FIs | BN | TR | 11 | 108 | 941 | 0.6 | 0.1 | 0.79 | 0.11 | 1,253 | 116 | -17.9 | -9.7 |
| U.S. treasury checks | BN | TR | | | | | | | | | | | |
| Postal money orders | BN | TR | | | | | | | | | | | |
| On-us correspondent checks | BN | TR | 0.0 | 0.00 | 2,872 | 0.0 | 0.0 | 0.00 | 0.00 | 1,628 | 325 | 412 | 52.9 |
| On-us paid checks | BN | TR | 0.2 | 0.23 | 2,243 | 0.1 | 0.0 | 0.17 | 0.03 | 1,318 | 153 | -12.8 | -9.1 |
| Deposited checks | BN | TR | 11 | 111 | 2,049 | 0.7 | 0.1 | 0.90 | 0.11 | 1,319 | 120 | -13.7 | -6.6 |
| Image deposited checks | BN | TR | 0.1 | 0.13 | 2,795 | 0.1 | 0.1 | 0.25 | 0.07 | 1,645 | 461 | 18.2 | 24.3 |
| Consumer and business image deposited checks | BN | TR | 0.1 | 0.10 | 3,283 | 0.1 | 0.0 | 0.19 | 0.05 | 2,035 | 468 | 13.5 | 23.9 |
| Consumer image deposited checks | BN | TR | | | | 0.0 | 0.0 | 0.00 | 0.00 | 651 | 190 | | |
| Consumer image deposited checks via mobile | BN | TR | | | | 0.0 | 0.0 | 0.00 | 0.00 | 401 | 102 | | |
| Consumer image deposited checks via other methods | BN | TR | | | | 0.0 | 0.0 | 0.00 | 0.00 | 1,687 | 418 | | |
| Business/government image deposited checks | BN | TR | | | | 0.1 | 0.0 | 0.19 | 0.05 | 2,119 | 497 | | |
| Correspondent image deposited checks | BN | TR | 0.0 | 0.03 | 2,948 | 0.1 | 0.1 | 0.05 | 0.06 | 959 | 38 | 28.6 | 25.9 |
| Paper deposited checks | BN | TR | 10 | 0.98 | 1,979 | 0.5 | 0.1 | 0.65 | 0.08 | 1,228 | 114 | -18.1 | -12.5 |
| Consumer and business paper deposited checks | BN | TR | 10 | 0.98 | 1,979 | 0.5 | 0.1 | 0.65 | 0.08 | 1,228 | 114 | -18.0 | -12.5 |
| Correspondent paper deposited checks | BN | TR | 0.0 | 0.00 | 1,946 | 0.0 | 0.0 | 0.00 | 0.00 | 596 | 93 | -54.8 | -62.0 |
| Returned checks | MM | BN | 6.2 | 5.71 | 1,820 | 2.6 | 0.3 | 2.63 | 0.36 | 999 | 95 | -25.0 | -22.8 |
| Interbank returned checks | MM | BN | 5.8 | 5.17 | 1,779 | 2.3 | 0.3 | 2.32 | 0.32 | 999 | 101 | -26.2 | -23.4 |
| Paper interbank returned checks | MM | BN | 0.6 | 0.80 | 2,611 | 0.0 | 0.0 | 0.03 | 0.02 | 843 | 423 | -63.7 | -68.4 |
| Image interbank returned checks | MM | BN | 5.6 | 4.36 | 1,489 | 2.3 | 0.3 | 2.30 | 0.32 | 1,001 | 101 | -25.7 | -19.2 |
| On-us returned checks | MM | BN | 0.4 | 0.55 | 2,380 | 0.3 | 0.1 | 0.30 | 0.08 | 999 | 192 | -11.8 | -18.0 |

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | | 2009-2012 CAGR (%) | |
|---|------|-----|------|------|--------|------|------------------|------|------------------|---------|------------------|-----------------------|-------|
| | Num | Val | Num | Val | Avg | Num | Num CI* (+/-) | Val | Val CI* (+/-) | Avg | Avg CI* (+/-) | Num | Val |
| | | | | | | | | | | | | | |
| ACH | | | | | | | | | | | | | |
| Network ACH credit payments (cleared via FED and EPN) | BN | TR | 0.1 | 0.24 | 3,635 | 0.3 | 0.3 | 0.17 | 0.04 | 590 | 620 | 35.0 | -118 |
| Offset ACH credits | BN | TR | | | | 0.1 | 0.2 | 0.02 | 0.01 | 128 | 198 | | |
| Other ACH credits | BN | TR | | | | 0.1 | 0.1 | 0.15 | 0.04 | 1,006 | 675 | | |
| Network ACH debit payments (cleared via FED and EPN) | BN | TR | 0.9 | 0.69 | 1,563 | 0.6 | 0.1 | 0.59 | 0.12 | 970 | 181 | -113 | -5.4 |
| Offset ACH debits | BN | TR | | | | 0.0 | 0.0 | 0.06 | 0.02 | 6,481 | 3,692 | | |
| Other ACH debits | BN | TR | | | | 0.6 | 0.1 | 0.53 | 0.10 | 889 | 158 | | |
| Direct exchange ACH credit payments | MM | BN | 0.2 | 0.07 | 865 | 0.3 | 0.4 | 0.36 | 0.44 | 1,109 | 16 | 213 | 75.2 |
| Direct exchange ACH debit payments | MM | BN | 4.7 | 0.01 | 9 | 0.1 | 0.1 | 0.12 | 0.14 | 1,093 | 23 | -710 | 136.4 |
| In-house on-us credit payments | BN | TR | 0.1 | 0.44 | 11,360 | 0.1 | 0.0 | 0.10 | 0.03 | 923 | 229 | -2.5 | -39.1 |
| In-house on-us offset ACH credits | BN | TR | | | | 0.1 | 0.0 | 0.07 | 0.02 | 658 | 178 | | |
| Other in-house on-us ACH credits | BN | TR | | | | 0.0 | 0.0 | 0.03 | 0.02 | 4,291 | 1,208 | | |
| In-house on-us debit payments | BN | TR | 0.3 | 0.62 | 8,018 | 0.2 | 0.0 | 0.10 | 0.03 | 460 | 132 | -9.9 | -45.9 |
| In-house on-us offset ACH debits | BN | TR | | | | 0.2 | 0.0 | 0.06 | 0.02 | 266 | 88 | | |
| Other in-house on-us ACH debits | BN | TR | | | | 0.0 | 0.0 | 0.04 | 0.02 | 1,133 | 5,073 | | |
| Wire | | | | | | | | | | | | | |
| All wire payments | MM | TR | | | | 5.2 | 2.3 | 184 | 0.85 | 357,012 | 81,269 | | |
| Consumer wires | MM | TR | | | | 16 | 11 | 0.34 | 0.01 | 205,507 | 137,672 | | |
| Other wires | MM | TR | | | | 3.5 | 2.0 | 150 | 0.85 | 428,083 | 73,172 | | |
| Settlement/bank business wires | MM | TR | | | | 0.8 | 0.1 | 0.58 | 0.15 | 757,435 | 130,072 | | |
| Other business/government wires | MM | TR | | | | 2.8 | 2.0 | 0.93 | 0.81 | 337,078 | 90,878 | | |
| Domestic (U.S.) wire payee | MM | TR | | | | 4.8 | 2.3 | 182 | 0.85 | 377,397 | 89,691 | | |
| Foreign wire payee | MM | TR | | | | 0.3 | 0.1 | 0.02 | 0.01 | 67,454 | 22,020 | | |
| Consumer-originated foreign wires | MM | TR | | | | 0.1 | 0.0 | 0.00 | 0.00 | 42,486 | 21,952 | | |
| Other foreign wires | MM | TR | | | | 0.2 | 0.0 | 0.02 | 0.01 | 80,300 | 28,569 | | |

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | 2009-2012 CAGR (%) | | |
|---|------|-----|------|------|-----|------|------------------|------|------------------|-----|-----------------------|------|-----|
| | Num | Val | Num | Val | Avg | Num | Num CI* (+/-) | Val | Val CI* (+/-) | Avg | Avg CI* (+/-) | Num | Val |
| | | | | | | | | | | | | | |
| Debit and Prepaid Cards | | | | | | | | | | | | | |
| All debit cards in force | M | M | | | | 17 | 17 | | | | | | |
| Consumer debit cards in force | M | M | | | | 10 | 16 | | | | | | |
| Business debit cards in force | M | M | | | | 0.7 | 0.1 | | | | | | |
| All debit cards with purchase activity | M | M | | | | 8.1 | 10 | | | | | | |
| Consumer debit cards with purchase activity | M | M | | | | 7.7 | 10 | | | | | | |
| Business debit cards with purchase activity | M | M | | | | 0.4 | 0.1 | | | | | | |
| All debit cards that are chip enabled | M | M | | | | 0.0 | 0.0 | | | | | | |
| Consumer debit cards that are chip enabled | M | M | | | | 0.0 | 0.0 | | | | | | |
| Business debit cards that are chip enabled | M | M | | | | 0.0 | 0.0 | | | | | | |
| All prepaid cards in force | M | M | | | | 5.2 | 5.4 | | | | | | |
| Prepaid cards in force managed by DI | M | M | | | | 5.1 | 5.4 | | | | | | |
| Prepaid cards in force managed by third party | M | M | | | | 0.1 | 0.1 | | | | | | |
| All prepaid cards with purchase activity | M | M | | | | 2.9 | 3.8 | | | | | | |
| Prepaid cards with purchase activity managed by DI | M | M | | | | 2.9 | 3.8 | | | | | | |
| Prepaid cards with purchase activity managed by third party | M | M | | | | 0.1 | 0.1 | | | | | | |
| All prepaid cards that are chip enabled | M | M | | | | 0.0 | 0.0 | | | | | | |
| Prepaid cards that are chip enabled managed by DI | M | M | | | | 0.0 | 0.0 | | | | | | |
| Prepaid cards that are chip enabled managed by third party | M | M | | | | 0.0 | 0.0 | | | | | | |
| Total debit and prepaid card | BN | TR | 2.6 | 0.10 | 39 | 2.8 | 0.4 | 0.11 | 0.02 | 41 | 1 | 2.5 | 4.0 |
| Signature (dual-message) transactions | BN | TR | 18 | 0.07 | 73 | 19 | 0.3 | 0.08 | 0.01 | 40 | 2 | 16 | 4.9 |
| PIN (single-message) transactions | BN | TR | 0.8 | 0.04 | 87 | 0.9 | 0.1 | 0.04 | 0.01 | 41 | 3 | 4.6 | 2.3 |
| Debit card transactions | BN | TR | | | | 2.6 | 0.3 | 0.11 | 0.01 | 40 | 1 | | |
| Consumer debit transactions | BN | TR | | | | 2.6 | 0.3 | 0.10 | 0.01 | 39 | 2 | | |
| Business/government debit transactions | BN | TR | | | | 0.0 | 0.0 | 0.00 | 0.00 | 91 | 8 | | |
| Prepaid card transactions | BN | TR | | | | 0.2 | 0.3 | 0.01 | 0.01 | 42 | 3 | | |
| Total cash-back transactions | M | BN | 72.6 | 2.21 | 61 | 66.5 | 3.8 | 2.73 | 0.18 | 41 | 2 | -2.9 | 7.3 |
| Debit card cash-back transactions | M | BN | | | | 66.5 | 3.8 | 2.73 | 0.18 | 41 | 2 | | |
| Prepaid card cash-back transactions | M | BN | | | | 0.0 | 0.0 | 0.00 | 0.01 | 995 | 1,349 | | |

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | 2009-2012 CAGR (%) | | |
|---|------|-----|------|-----|-----|------|------------------|------|------------------|-------|-----------------------|-----|-----|
| | Num | Val | Num | Val | Avg | Num | Num CI* (+/-) | Val | Val CI* (+/-) | Avg | Avg CI* (+/-) | Num | Val |
| | | | | | | | | | | | | | |
| Credit Cards | | | | | | | | | | | | | |
| All credit cards in force | MM | | | | | 14 | 13 | | | | | | |
| Consumer credit cards in force | MM | | | | | 13 | 13 | | | | | | |
| Business credit cards in force | MM | | | | | 0.1 | 0.1 | | | | | | |
| All credit cards with purchase activity | MM | | | | | 11 | 11 | | | | | | |
| Consumer credit cards with purchase activity | MM | | | | | 10 | 10 | | | | | | |
| Business credit cards with purchase activity | MM | | | | | 0.1 | 0.1 | | | | | | |
| All credit cards that are chip enabled | MM | | | | | 0.0 | 0.0 | | | | | | |
| Consumer credit cards that are chip enabled | MM | | | | | 0.0 | 0.0 | | | | | | |
| Business credit cards that are chip enabled | MM | | | | | 0.0 | 0.0 | | | | | | |
| Total credit card transactions | BN | TR | | | | 0.6 | 0.1 | 0.04 | 0.01 | 72 | 1 | | |
| Consumer credit card transactions | BN | TR | | | | 0.1 | 0.1 | 0.01 | 0.01 | 70 | 5 | | |
| Business/government credit card transactions | BN | TR | | | | 0.5 | 0.0 | 0.04 | 0.00 | 72 | 0 | | |
| Cash advances | MM | BN | | | | 0.3 | 0.3 | 0.42 | 0.44 | 1,275 | 137 | | |
| Consumer cash advances | MM | BN | | | | 0.3 | 0.3 | 0.41 | 0.44 | 1,292 | 137 | | |
| Consumer convenience checks and balance transfers | MM | BN | | | | 0.1 | 0.1 | 0.35 | 0.39 | 2,956 | 244 | | |
| Consumer ATM withdrawals and over-the-counter withdrawals from credit card accts | MM | BN | | | | 0.2 | 0.2 | 0.06 | 0.06 | 291 | 24 | | |
| Business/government cash advances | MM | BN | | | | 0.0 | 0.0 | 0.01 | 0.00 | 765 | 127 | | |
| Business/government convenience checks and balance transfers | MM | BN | | | | 0.0 | 0.0 | 0.00 | 0.00 | 1,973 | 2,046 | | |
| Business/government ATM withdrawals and over-the-counter withdrawals from credit card accts | MM | BN | | | | 0.0 | 0.0 | 0.01 | 0.00 | 725 | 128 | | |

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | 2009-2012 CAGR (%) | | |
|---|------|-----|-------|-------|-----|-------|------------------|--------|------------------|-------|-----------------------|-------|-------|
| | Num | Val | Num | Val | Avg | Num | Num C1* (+/-) | Val | Val C1* (+/-) | Avg | Avg C1* (+/-) | Num | Val |
| | | | | | | | | | | | | | |
| Cash | | | | | | | | | | | | | |
| Debit cards with ATM withdrawals | MM | | | | | 6.1 | 0.8 | | | | | | |
| Prepaid cards with ATM withdrawals | MM | | | | | 2.2 | 2.9 | | | | | | |
| Over-the-counter cash withdrawals | MM | BN | | | | 1319 | 22.8 | 104.90 | 16.65 | 795 | 90 | | |
| Cash orders at wholesale vaults | MM | BN | | | | 0.0 | 0.0 | 0.70 | 0.50 | 21825 | 10,950 | | |
| ATM withdrawals | MM | BN | 345.3 | 35.95 | 200 | 275.5 | 34.6 | 33.03 | 3.89 | 120 | 5 | -7.3 | -2.8 |
| On-us ATM withdrawals | MM | BN | 169.1 | 18.24 | 210 | 200.3 | 20.2 | 23.97 | 2.13 | 120 | 4 | 5.8 | 9.5 |
| "Foreign" ATM withdrawals | MM | BN | 176.2 | 17.71 | 190 | 75.2 | 19.2 | 9.06 | 2.67 | 120 | 13 | -24.7 | -20.0 |
| ATM withdrawals from transaction deposit accts | MM | BN | | | | 259.5 | 312 | 30.88 | 3.18 | 119 | 4 | | |
| ATM withdrawals from prepaid card accts | MM | BN | | | | 16.0 | 15.1 | 2.15 | 2.52 | 134 | 40 | | |
| Over-the-counter deposits | MM | BN | | | | 112.2 | 25.3 | 122.28 | 25.74 | 1035 | 210 | | |
| Wholesale vault deposits | MM | BN | | | | 0.5 | 0.6 | 140 | 1.10 | 2,596 | 1831 | | |
| ATM deposits | MM | BN | | | | 112 | 3.5 | 4.87 | 0.69 | 434 | 128 | | |
| On-us ATM deposits | MM | BN | | | | 119 | 3.5 | 4.67 | 0.69 | 429 | 130 | | |
| "Foreign" ATM deposits | MM | BN | | | | 0.3 | 0.3 | 0.20 | 0.12 | 612 | 336 | | |
| Selected Payment Initiation Channels | | | | | | | | | | | | | |
| Total online or mobile bill payments | MM | BN | | | | 112 | 12.7 | 4109 | 4.64 | 370 | 12 | | |
| Bill payments via a web browser | MM | BN | | | | 109.6 | 12.5 | 40.60 | 4.59 | 371 | 12 | | |
| Bill payments via a mobile app or text message | MM | BN | | | | 16 | 0.4 | 0.49 | 0.12 | 302 | 17 | | |
| Total online or mobile P2P transfers | MM | BN | | | | 0.3 | 0.1 | 0.10 | 0.05 | 377 | 23 | | |
| P2P transfers via a web browser | MM | BN | | | | 0.2 | 0.1 | 0.09 | 0.05 | 386 | 26 | | |
| P2P transfers via a mobile app | MM | BN | | | | 0.0 | 0.0 | 0.01 | 0.01 | 320 | 17 | | |
| P2P transfers via text message | MM | BN | | | | 0.0 | 0.0 | 0.00 | 0.00 | 0 | 0 | | |
| Third-party Payment Fraud | | | | | | | | | | | | | |
| Unauthorized check payments | K | MM | | | | 18.2 | 3.3 | 1111 | 3.04 | 611 | 177 | | |
| Unauthorized ACH credits | K | MM | | | | 0.6 | 0.8 | 0.51 | 0.32 | 906 | 849 | | |
| Unauthorized ACH debits | K | MM | | | | 49.9 | 8.3 | 26.40 | 6.78 | 529 | 114 | | |
| Unauthorized debit and prepaid card transactions | K | MM | | | | 382.1 | 72.2 | 43.76 | 6.85 | 115 | 12 | | |
| Unauthorized debit and prepaid signature (dual-message) transactions | K | MM | | | | 364.6 | 71.6 | 40.64 | 6.62 | 111 | 11 | | |
| Unauthorized debit and prepaid card-present transactions | K | MM | | | | 188.0 | 35.4 | 22.87 | 3.67 | 122 | 12 | | |
| Unauthorized debit and prepaid card-not-present transactions | K | MM | | | | 176.5 | 40.4 | 17.77 | 3.39 | 101 | 12 | | |
| Unauthorized debit and prepaid PIN (single-message) transactions | K | MM | | | | 17.5 | 3.8 | 3.12 | 102 | 178 | 28 | | |
| Unauthorized credit card | K | MM | | | | 64.6 | 59.5 | 7.71 | 10.30 | 119 | 63 | | |
| Unauthorized credit card-present transactions | K | MM | | | | 17.1 | 23.3 | 5.80 | 8.03 | 339 | 15 | | |
| Unauthorized credit card-not-present transactions | K | MM | | | | 47.5 | 37.9 | 1.91 | 2.29 | 40 | 25 | | |
| Unauthorized ATM withdrawals | K | MM | | | | 22.1 | 5.6 | 4.70 | 1.21 | 213 | 18 | | |

2.10.4 Credit Unions

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | 2009-2012 CAGR (%) | | |
|---|------|-----|------|------|-----|------|------------------|-------|------------------|-------|-----------------------|--------|--------|
| | Num | Val | Num | Val | Avg | Num | Num CI* (+/-) | Val | Val CI* (+/-) | Avg | Avg CI* (+/-) | Num | Val |
| Payment accounts | | | | | | | | | | | | | |
| All transaction deposit accts | MM | BN | | | | 62.9 | 4.0 | 222.9 | 22.1 | 3,543 | 316 | | |
| Consumer transaction deposit accts | MM | BN | | | | 618 | 4.0 | 213.7 | 219 | 3,459 | 319 | | |
| Business transaction deposit accts | MM | BN | | | | 11 | 0.1 | 9.2 | 16 | 8,183 | 1014 | | |
| All prepaid card accts | MM | BN | | | | 3.1 | 0.3 | 0.09 | 0.01 | 29 | 3 | | |
| Prepaid card accts managed by DI | MM | BN | | | | 2.8 | 0.3 | 0.08 | 0.01 | 29 | 3 | | |
| Prepaid card accts managed by third party | MM | BN | | | | 0.3 | 0.1 | 0.01 | 0.00 | 30 | 13 | | |
| Credit card accts | MM | BN | | | | 17.9 | 12 | 40.72 | 2.73 | 2,273 | 134 | | |
| Consumer credit card accts | MM | BN | | | | 17.8 | 12 | 40.61 | 2.72 | 2,279 | 135 | | |
| Business/government credit card accts | MM | BN | | | | 0.1 | 0.0 | 0.11 | 0.02 | 1,176 | 181 | | |
| Checks | | | | | | | | | | | | | |
| Checks (Paid) | BN | TR | 2.1 | 0.74 | 352 | 15 | 0.1 | 0.65 | 0.05 | 428 | 28 | -10.2 | -4.1 |
| Interbank paid checks | BN | TR | 2.0 | 0.66 | 336 | 14 | 0.1 | 0.59 | 0.05 | 424 | 31 | -10.9 | -3.8 |
| Inclearings | BN | TR | 2.0 | 0.66 | 336 | 14 | 0.1 | 0.59 | 0.05 | 424 | 31 | -10.9 | -3.8 |
| Checks drawn on FIs | BN | TR | 2.0 | 0.66 | 336 | 14 | 0.1 | 0.59 | 0.05 | 424 | 31 | -10.9 | -3.8 |
| U.S. treasury checks | BN | TR | | | | | | | | | | | |
| Postal money orders | BN | TR | | | | | | | | | | | |
| On-us correspondent checks | BN | TR | 0.0 | 0.00 | 969 | 0.0 | 0.0 | 0.00 | 0.00 | 0 | 0 | -100.0 | -100.0 |
| On-us paid checks | BN | TR | 0.2 | 0.08 | 538 | 0.1 | 0.0 | 0.07 | 0.01 | 466 | 35 | -2.3 | -6.8 |
| Deposited checks | BN | TR | 11 | 0.81 | 717 | 10 | 0.1 | 0.75 | 0.05 | 779 | 53 | -5.4 | -2.7 |
| Image deposited checks | BN | TR | 0.0 | 0.03 | 567 | 0.1 | 0.0 | 0.02 | 0.01 | 394 | 128 | 6.3 | -5.8 |
| Consumer and business image deposited checks | BN | TR | 0.0 | 0.03 | 567 | 0.1 | 0.0 | 0.02 | 0.01 | 394 | 128 | 6.3 | -5.8 |
| Consumer image deposited checks | BN | TR | | | | 0.0 | 0.0 | 0.01 | 0.01 | 346 | 141 | | |
| Consumer image deposited checks via mobile | BN | TR | | | | 0.0 | 0.0 | 0.01 | 0.00 | 316 | 90 | | |
| Consumer image deposited checks via other methods | BN | TR | | | | 0.0 | 0.0 | 0.01 | 0.01 | 378 | 255 | | |
| Business/government image deposited checks | BN | TR | | | | 0.0 | 0.0 | 0.01 | 0.00 | 559 | 147 | | |
| Correspondent image deposited checks | BN | TR | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 0.00 | 0.00 | 0 | 0 | -100.0 | -100.0 |
| Paper deposited checks | BN | TR | 11 | 0.80 | 724 | 0.9 | 0.1 | 0.72 | 0.05 | 803 | 56 | -6.5 | -3.2 |
| Consumer and business paper deposited checks | BN | TR | 11 | 0.80 | 724 | 0.9 | 0.1 | 0.72 | 0.05 | 803 | 56 | -6.5 | -3.2 |
| Correspondent paper deposited checks | BN | TR | 0.0 | 0.00 | 965 | 0.0 | 0.0 | 0.00 | 0.00 | 0 | 0 | -100.0 | -100.0 |
| Returned checks | MM | BN | 22.8 | 6.83 | 300 | 9.6 | 0.6 | 5.91 | 1.41 | 618 | 145 | -25.1 | -4.7 |
| Interbank returned checks | MM | BN | 21.5 | 6.42 | 298 | 9.2 | 0.6 | 5.62 | 1.41 | 611 | 150 | -24.7 | -4.3 |
| Paper interbank returned checks | MM | BN | 6.5 | 0.42 | 64 | 12 | 10 | 0.36 | 0.15 | 308 | 276 | -43.8 | -5.0 |
| Image interbank returned checks | MM | BN | 15.0 | 6.00 | 399 | 8.0 | 11 | 5.26 | 1.41 | 655 | 190 | -18.8 | -4.3 |
| On-us returned checks | MM | BN | 1.2 | 0.41 | 342 | 0.4 | 0.1 | 0.29 | 0.09 | 790 | 190 | -32.4 | -10.6 |

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | | 2009-2012 CAGR (%) | |
|---|------|-----|------|-------|------|------|------------------|------|------------------|---------|------------------|-----------------------|--------|
| | Num | Val | Num | Val | Avg | Num | Num CI* (+/-) | Val | Val CI* (+/-) | Avg | Avg CI* (+/-) | Num | Val |
| | | | | | | | | | | | | | |
| ACH | | | | | | | | | | | | | |
| Network ACH credit payments (cleared via FED and EPN) | BN | TR | 0.1 | 0.09 | 1081 | 0.1 | 0.0 | 0.07 | 0.02 | 803 | 245 | 3.3 | -6.4 |
| Offset ACH credits | BN | TR | | | | 0.0 | 0.0 | 0.02 | 0.01 | 683 | 282 | | |
| Other ACH credits | BN | TR | | | | 0.1 | 0.0 | 0.05 | 0.01 | 868 | 336 | | |
| Network ACH debit payments (cleared via FED and EPN) | BN | TR | 18 | 0.59 | 334 | 18 | 0.2 | 0.73 | 0.06 | 403 | 30 | 0.7 | 7.3 |
| Offset ACH debits | BN | TR | | | | 0.0 | 0.0 | 0.04 | 0.01 | 823 | 233 | | |
| Other ACH debits | BN | TR | | | | 18 | 0.2 | 0.69 | 0.06 | 392 | 29 | | |
| Direct exchange ACH credit payments | MM | BN | 0.5 | 0.39 | 750 | 0.0 | 0.0 | 0.00 | 0.00 | 0 | 0 | -100.0 | -100.0 |
| Direct exchange ACH debit payments | MM | BN | 55.8 | 13.07 | 234 | 0.0 | 0.0 | 0.00 | 0.00 | 0 | 0 | -100.0 | -100.0 |
| In-house on-us credit payments | BN | TR | 0.0 | 0.01 | 1318 | 0.0 | 0.0 | 0.03 | 0.02 | 1903 | 1992 | 37.0 | 54.8 |
| In-house on-us offset ACH credits | BN | TR | | | | 0.0 | 0.0 | 0.02 | 0.02 | 3,510 | 5,524 | | |
| Other in-house on-us ACH credits | BN | TR | | | | 0.0 | 0.0 | 0.01 | 0.00 | 963 | 685 | | |
| In-house on-us debit payments | BN | TR | 0.0 | 0.01 | 658 | 0.0 | 0.0 | 0.01 | 0.00 | 634 | 388 | 219 | 20.4 |
| In-house on-us offset ACH debits | BN | TR | | | | 0.0 | 0.0 | 0.00 | 0.00 | 749 | 520 | | |
| Other in-house on-us ACH debits | BN | TR | | | | 0.0 | 0.0 | 0.01 | 0.00 | 594 | 403 | | |
| Wire | | | | | | | | | | | | | |
| All wire payments | MM | TR | | | | 3.9 | 0.7 | 0.68 | 0.06 | 174,832 | 33,673 | | |
| Consumer wires | MM | TR | | | | 3.0 | 0.6 | 0.10 | 0.02 | 34,140 | 8,077 | | |
| Other wires | MM | TR | | | | 0.9 | 0.2 | 0.58 | 0.06 | 629,621 | 106,799 | | |
| Settlement/bank business wires | MM | TR | | | | 0.7 | 0.1 | 0.49 | 0.03 | 734,037 | 127,796 | | |
| Other business/government wires | MM | TR | | | | 0.3 | 0.1 | 0.09 | 0.05 | 357,032 | 193,844 | | |
| Domestic (U.S.) wire payee | MM | TR | | | | 3.1 | 0.5 | 0.68 | 0.06 | 215,468 | 35,575 | | |
| Foreign wire payee | MM | TR | | | | 0.8 | 0.4 | 0.01 | 0.00 | 7,711 | 1,158 | | |
| Consumer-originated foreign wires | MM | TR | | | | 0.7 | 0.4 | 0.00 | 0.00 | 5,403 | 723 | | |
| Other foreign wires | MM | TR | | | | 0.1 | 0.0 | 0.00 | 0.00 | 33,945 | 31,691 | | |

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | 2009-2012 CAGR (%) | | |
|---|------|-----|-------|------|-----|-------|------------------|------|------------------|-----|-----------------------|------|------|
| | Num | Val | Num | Val | Avg | Num | Num CI* (+/-) | Val | Val CI* (+/-) | Avg | Avg CI* (+/-) | Num | Val |
| | | | | | | | | | | | | | |
| Debit and Prepaid Cards | | | | | | | | | | | | | |
| All debit cards in force | M | M | | | | 52.8 | 3.2 | | | | | | |
| Consumer debit cards in force | M | M | | | | 52.3 | 3.2 | | | | | | |
| Business debit cards in force | M | M | | | | 0.5 | 0.1 | | | | | | |
| All debit cards with purchase activity | M | M | | | | 36.3 | 2.1 | | | | | | |
| Consumer debit cards with purchase activity | M | M | | | | 35.9 | 2.1 | | | | | | |
| Business debit cards with purchase activity | M | M | | | | 0.4 | 0.2 | | | | | | |
| All debit cards that are chip enabled | M | M | | | | 11 | 0.0 | | | | | | |
| Consumer debit cards that are chip enabled | M | M | | | | 11 | 0.0 | | | | | | |
| Business debit cards that are chip enabled | M | M | | | | 0.0 | 0.0 | | | | | | |
| All prepaid cards in force | M | M | | | | 13 | 0.4 | | | | | | |
| Prepaid cards in force managed by DI | M | M | | | | 10 | 0.3 | | | | | | |
| Prepaid cards in force managed by third party | M | M | | | | 0.3 | 0.1 | | | | | | |
| All prepaid cards with purchase activity | M | M | | | | 0.5 | 0.1 | | | | | | |
| Prepaid cards with purchase activity managed by DI | M | M | | | | 0.3 | 0.1 | | | | | | |
| Prepaid cards with purchase activity managed by third party | M | M | | | | 0.2 | 0.1 | | | | | | |
| All prepaid cards that are chip enabled | M | M | | | | 0.0 | 0.0 | | | | | | |
| Prepaid cards that are chip enabled managed by DI | M | M | | | | 0.0 | 0.0 | | | | | | |
| Prepaid cards that are chip enabled managed by third party | M | M | | | | 0.0 | 0.0 | | | | | | |
| Total debit and prepaid card | BN | TR | 8.1 | 0.30 | 37 | 10.1 | 0.6 | 0.39 | 0.02 | 38 | 1 | 7.8 | 9.3 |
| Signature (dual-message) transactions | BN | TR | 5.2 | 0.18 | 34 | 6.8 | 0.4 | 0.24 | 0.01 | 35 | 1 | 8.8 | 10.2 |
| PIN (single-message) transactions | BN | TR | 2.8 | 0.12 | 42 | 3.3 | 0.2 | 0.15 | 0.01 | 45 | 1 | 5.9 | 8.0 |
| Debit card transactions | BN | TR | | | | 10.1 | 0.6 | 0.38 | 0.02 | 38 | 1 | | |
| Consumer debit transactions | BN | TR | | | | 10.0 | 0.6 | 0.38 | 0.02 | 38 | 1 | | |
| Business/government debit transactions | BN | TR | | | | 0.1 | 0.0 | 0.00 | 0.00 | 62 | 5 | | |
| Prepaid card transactions | BN | TR | | | | 0.0 | 0.0 | 0.00 | 0.00 | 62 | 53 | | |
| Total cash-back transactions | M | BN | 165.6 | 7.03 | 42 | 4610 | 1719 | 8.49 | 135 | 18 | 7 | 40.7 | 6.5 |
| Debit card cash-back transactions | M | BN | | | | 434.8 | 172.0 | 8.39 | 135 | 19 | 8 | | |
| Prepaid card cash-back transactions | M | BN | | | | 26.2 | 19.8 | 0.10 | 0.09 | 4 | 2 | | |

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | 2009-2012 CAGR (%) | | |
|---|------|-----|------|-----|-----|------|------------------|------|------------------|-------|-----------------------|-----|-----|
| | Num | Val | Num | Val | Avg | Num | Num CI* (+/-) | Val | Val CI* (+/-) | Avg | Avg CI* (+/-) | Num | Val |
| | | | | | | | | | | | | | |
| Credit Cards | | | | | | | | | | | | | |
| All credit cards in force | M | M | | | | 18.3 | 11 | | | | | | |
| Consumer credit cards in force | M | M | | | | 18.2 | 11 | | | | | | |
| Business credit cards in force | M | M | | | | 0.1 | 0.0 | | | | | | |
| All credit cards with purchase activity | M | M | | | | 111 | 0.6 | | | | | | |
| Consumer credit cards with purchase activity | M | M | | | | 111 | 0.6 | | | | | | |
| Business credit cards with purchase activity | M | M | | | | 0.0 | 0.0 | | | | | | |
| All credit cards that are chip enabled | M | M | | | | 0.0 | 0.0 | | | | | | |
| Consumer credit cards that are chip enabled | M | M | | | | 0.0 | 0.0 | | | | | | |
| Business credit cards that are chip enabled | M | M | | | | 0.0 | 0.0 | | | | | | |
| Total credit card transactions | BN | TR | | | | 11 | 0.1 | 0.08 | 0.01 | 68 | 5 | | |
| Consumer credit card transactions | BN | TR | | | | 11 | 0.1 | 0.07 | 0.01 | 68 | 5 | | |
| Business/government credit card transactions | BN | TR | | | | 0.0 | 0.0 | 0.00 | 0.00 | 199 | 156 | | |
| Cash advances | M | M | BN | | | 12.7 | 2.4 | 6.68 | 0.75 | 524 | 76 | | |
| Consumer cash advances | M | M | BN | | | 12.6 | 2.3 | 6.65 | 0.74 | 526 | 71 | | |
| Consumer convenience checks and balance transfers | M | M | BN | | | 13 | 0.3 | 3.34 | 0.35 | 2,549 | 468 | | |
| Consumer ATM withdrawals and over-the-counter withdrawals from credit card accts | M | M | BN | | | 113 | 2.2 | 3.31 | 0.54 | 292 | 42 | | |
| Business/government cash advances | M | M | BN | | | 0.1 | 0.2 | 0.03 | 0.02 | 303 | 482 | | |
| Business/government convenience checks and balance transfers | M | M | BN | | | 0.0 | 0.0 | 0.01 | 0.01 | 6,204 | 7,104 | | |
| Business/government ATM withdrawals and over-the-counter withdrawals from credit card accts | M | M | BN | | | 0.1 | 0.2 | 0.02 | 0.01 | 193 | 263 | | |

| Note: Figures may not sum because of rounding. CAGR is compound annual growth rate. | Unit | | 2009 | | | 2012 | | | | | 2009-2012 CAGR (%) | | |
|---|-------|---------|--------|-----|-----|---------|------------------|--------|------------------|--------|-----------------------|------|------|
| | Num | Val | Num | Val | Avg | Num | Num CI* (+/-) | Val | Val CI* (+/-) | Avg | Avg CI* (+/-) | Num | Val |
| | | | | | | | | | | | | | |
| Cash | | | | | | | | | | | | | |
| Debit cards with ATM withdrawals | MM | | | | | 26.4 | 10 | | | | | | |
| Prepaid cards with ATM withdrawals | MM | | | | | 0.0 | 0.0 | | | | | | |
| Over-the-counter cash withdrawals | MM BN | | | | | 447.1 | 69.7 | 224.77 | 23.51 | 503 | 67 | | |
| Cash orders at wholesale vaults | MM BN | | | | | 0.2 | 0.2 | 8.52 | 3.75 | 40,417 | 23,823 | | |
| ATM withdrawals | MM BN | 1,386.8 | 132.24 | 95 | | 1,237.0 | 232.9 | 114.77 | 7.21 | 93 | 17 | -3.7 | -4.6 |
| On-us ATM withdrawals | MM BN | 627.1 | 60.75 | 97 | | 629.1 | 128.0 | 58.38 | 5.49 | 93 | 17 | 0.1 | -13 |
| "Foreign" ATM withdrawals | MM BN | 759.7 | 7149 | 94 | | 607.8 | 16.9 | 56.40 | 3.93 | 93 | 18 | -7.2 | -7.6 |
| ATM withdrawals from transaction deposit accts | MM BN | | | | | 1,235.0 | 233.0 | 114.34 | 7.10 | 93 | 17 | | |
| ATM withdrawals from prepaid card accts | MM BN | | | | | 2.0 | 6.7 | 0.43 | 130 | 222 | 946 | | |
| Over-the-counter deposits | MM BN | | | | | 252.0 | 19.1 | 176.52 | 18.35 | 701 | 51 | | |
| Wholesale vault deposits | MM BN | | | | | 0.1 | 0.0 | 150 | 0.90 | 16,279 | 1,396 | | |
| ATM deposits | MM BN | | | | | 54.1 | 5.4 | 23.48 | 2.59 | 434 | 19 | | |
| On-us ATM deposits | MM BN | | | | | 49.5 | 5.3 | 19.83 | 2.33 | 401 | 19 | | |
| "Foreign" ATM deposits | MM BN | | | | | 4.6 | 11 | 3.66 | 0.91 | 788 | 161 | | |
| Selected Payment Initiation Channels | | | | | | | | | | | | | |
| Total online or mobile bill payments | MM BN | | | | | 374.6 | 17.7 | 120.85 | 5.28 | 323 | 12 | | |
| Bill payments via a web browser | MM BN | | | | | 370.6 | 17.7 | 119.37 | 5.25 | 322 | 12 | | |
| Bill payments via a mobile app or text message | MM BN | | | | | 4.0 | 10 | 148 | 0.58 | 369 | 143 | | |
| Total online or mobile P2P transfers | MM BN | | | | | 211 | 6.8 | 10.58 | 4.30 | 502 | 112 | | |
| P2P transfers via a web browser | MM BN | | | | | 18.4 | 6.6 | 8.45 | 3.42 | 460 | 99 | | |
| P2P transfers via a mobile app | MM BN | | | | | 2.4 | 0.8 | 2.12 | 0.98 | 903 | 403 | | |
| P2P transfers via text message | MM BN | | | | | 0.4 | 0.3 | 0.00 | 0.00 | 0 | 0 | | |
| Third-party Payment Fraud | | | | | | | | | | | | | |
| Unauthorized check payments | K MM | | | | | 63.5 | 8.9 | 57.24 | 9.37 | 901 | 136 | | |
| Unauthorized ACH credits | K MM | | | | | 3.5 | 18 | 4.28 | 107 | 1,211 | 371 | | |
| Unauthorized ACH debits | K MM | | | | | 1710 | 17.3 | 59.81 | 7.31 | 350 | 37 | | |
| Unauthorized debit and prepaid card transactions | K MM | | | | | 1,445.0 | 18.3 | 189.91 | 17.45 | 131 | 8 | | |
| Unauthorized debit and prepaid signature (dual-message) transactions | K MM | | | | | 1,396.7 | 114.5 | 178.84 | 16.84 | 128 | 8 | | |
| Unauthorized debit and prepaid card-present transactions | K MM | | | | | 710.7 | 67.7 | 12.06 | 13.36 | 158 | 12 | | |
| Unauthorized debit and prepaid card-not-present transactions | K MM | | | | | 686.0 | 68.5 | 66.78 | 6.49 | 97 | 8 | | |
| Unauthorized debit and prepaid PIN (single-message) transactions | K MM | | | | | 48.3 | 19.2 | 1107 | 3.28 | 229 | 43 | | |
| Unauthorized credit card | K MM | | | | | 454.8 | 38.2 | 89.24 | 9.64 | 196 | 15 | | |
| Unauthorized credit card-present transactions | K MM | | | | | 232.5 | 31.2 | 55.63 | 8.11 | 239 | 22 | | |
| Unauthorized credit card-not-present transactions | K MM | | | | | 222.4 | 20.7 | 33.61 | 3.10 | 151 | 12 | | |
| Unauthorized ATM withdrawals | K MM | | | | | 50.7 | 10.9 | 12.55 | 3.66 | 248 | 41 | | |

3 Networks, Processors, and Issuers

Payments Surveys (NPIPS)

3.1 INTRODUCTION

The 2013 Networks, Processors, and Issuers Payments Surveys (2013 NPIPS) estimated the number and value of a variety of electronic payments in the United States for calendar year 2012. The 2013 NPIPS was a set of 15 different survey forms for 13 categories of payment instruments including general-purpose cards (credit, debit, and prepaid cards), automated clearinghouse (ACH), and private-label payment cards (credit, prepaid, and electronic benefit transfer (EBT) cards) as well as private-label prepaid transportation payments (private-label prepaid transit card payments and far-field radio frequency identification (RFID) toll collections).

The surveys also included several innovative types of alternative payment initiation methods which typically settled through a card network or ACH, and thus do not represent unique payments. The methods selected included person-to-person (P2P) and money transfer, online and walk-in bill payments, deferred payments, private-label ACH debit card payments, secure online payments, and mobile wallets.

The survey forms were sent to 272 payment organizations that process, clear or settle electronic payments. Survey data were returned by 205 organizations. National estimates were produced for general-purpose card payments, ACH, private-label credit card, and non-transit prepaid card payments. Where national estimates were not possible, that is for prepaid transportation and alternative payment initiation methods, aggregate totals from organizations that responded are reported, which can be treated as lower bound estimates.

Major trends in most of the payments discussed in this section are discussed in the Summary Report and the overview (section 1) of this report. Text in this section adds to those discussions by making some additional points, but it does not necessarily cover the points already discussed, nor does it cover all of the information collected. Tables containing aggregate estimates for all the items collected are attached at the end of this section, and, along with the

survey instruments available online, can be used to obtain a complete picture of all of the information available from the surveys.⁶⁷

3.2 GENERAL-PURPOSE CARDS

3.2.1 General-Purpose Credit Cards - Networks

General-purpose credit card (including charge card) payments include point-of-sale (POS), e-commerce, and bill payment transactions made with a credit card (or charge card) and routed through one of the 7 general-purpose credit card networks: Visa, MasterCard, American Express, Discover, Diners Club, Universal Air Travel Plan (UATP), and JCB International Credit Card Co., Ltd. (JCB). The 2013 NPIPS requested the above seven networks to report general-purpose credit card payments data in 2012 including consumer transactions, business transactions made via procurement cards or fleet cards, money sent through the credit card networks by person-to-person (P2P) payment systems, and transactions charged to a credit card where the original payment mechanism was a device other than a card, such as a key-fob transponder or an automated toll system.⁶⁸

Reflecting, in part, the ongoing shift of retail sales to the Internet, the number of general-purpose credit card-not-present transactions increased at more than 3 times the annual rate of card-present transactions from 2009 to 2012. During the same time period, the value of general-purpose credit card-not-present transactions increased more than 25 percent annually to approximately \$1.0 trillion, which, calculations show, accounted for more than two-thirds of all general-purpose card-not-present expenditures in 2012.

⁶⁷ Electronic copies of the survey forms are available for download at <https://www.frbservices.org/news/research.html>.

⁶⁸ Business payments are defined to include federal, state and local government payments as well as those of various kinds of businesses and nonprofit institutions.

3.2.2 Debit Cards - Networks

Debit card transactions include POS, e-commerce, and bill payment transactions made with a debit card issued by a depository institution but exclude ATM cash withdrawals and electronic benefit transfer (EBT) card transactions.

Previous electronic payments studies conducted two separate surveys to distinguish signature and PIN payment transactions on the basis of the type of network.⁶⁹ As discussed in section 1.2, signature networks are also called dual-message networks, and PIN networks are also called single-message networks. With the advent of card-not-present PIN-less PIN transactions and POS transactions that do not require a PIN or a signature, the 2013 NPIPS combined the two surveys and added new survey questions related to debit card initiation and authorization methods to capture information about how cards are being used, while still allowing the traditional split by network brand discussed in section 1.2.5 and shown in Exhibit 9. Data collected in the initiation and authorization methods section of the survey forms were used to determine the number of payments at the POS that were authenticated with a PIN, signature, or other method.

Signature (dual-message) debit card transactions are primarily those POS and bill payment debit transactions that go through Visa or MasterCard networks. Discover also offers a signature (dual-message) debit product called Discover Debit.

From 2009 to 2012, signature (dual-message) debit card payments grew from 23.1 billion to 30.2 billion, or 9.3 percent per year by number, and from \$0.8 trillion to \$1.1 trillion, or 10.2 percent per year by value. In 2012, signature (dual-message) debit card transactions accounted for 64 percent and 62 percent of total debit card payments by number and value, respectively.

PIN debit (single-message) transactions are debit transactions that are PIN-based and routed through the 14 regional or national electronic funds transfer (EFT) networks. Every PIN debit transaction carries only one network brand. To avoid double counting the transactions, networks were asked to report only transactions that carried their own network brand. From 2009 to 2012, PIN debit (single-message) transactions grew from 14.4 billion to 16.8 billion, or

⁶⁹ Previous iterations of the NPIPS were called the Electronic Payments Study (EPS).

5.2 percent per year by number, and from \$0.6 trillion to \$0.7 trillion, or 7.1 percent per year by value.

In 2012, 41 percent of the number and 48 percent of the value of purchase transactions at the point of sale were authenticated with a PIN. While some PIN (single-message) networks reported processing PIN-less PIN transactions and some signature networks reported collecting PIN-authorizations, the net difference in authorization method compared with the traditional split by network brand was 241 million payments, a small proportion of the 47.0 billion debit transactions.

From 2009 to 2012, the number of debit card transactions at the point of sale grew more than 3 times as fast as card-not-present transactions with annual rates of 8.6 percent and 2.4 percent, respectively. During the same time period, the value of debit card transactions at the point of sale grew more than 10 times as fast as card-not-present transactions with annual rates of 11.6 percent and 1.1 percent, respectively.

Based on allocations reported by debit card networks in both 2009 and 2012, the number and value of debit cards were dominated by consumer payments. Both consumers and businesses increased their use of debit cards from 2009 to 2012, and their shares of debit card use stayed flat with approximately 97 percent of the number and 93 percent of the value of transactions being from consumers.

3.2.3 General-Purpose Prepaid Cards - Networks

General-purpose prepaid card payments include point-of-sale (POS), e-commerce, and bill payment transactions, and are processed by the same networks as general-purpose debit cards but are generally not linked to traditional transaction or checking accounts. Accounts associated with general-purpose prepaid cards typically have maximum balance limits and limited deposit and withdrawal options and different fee structures compared to multipurpose transaction accounts with debit cards. The 2013 NPIPS requested that networks report general-purpose prepaid card payments made in 2012 by reloadable and non-reloadable general-purpose prepaid cards, including; network-branded gift cards, incentive cards, and prepaid cards for bonus payments; payroll cards and cash-benefit disbursement cards (that is, Direct Express); and health savings account and flexible savings account cards.

General-purpose prepaid card payments continued to be the fastest growing noncash payment type, increasing at a 33.9 percent annual rate by number and a 36.6 percent annual rate by value from 2009 to 2012. In 2012, there were 3.1 billion general-purpose prepaid card transactions with a value of \$105 billion, or 1.8 billion more transactions and \$64 billion more value than in 2009.

In 2012, the average value of general-purpose prepaid card transactions was \$34, slightly lower than the average value of debit transactions (\$39).

Similar to debit cards, slightly over a third of the total general-purpose prepaid card transactions in 2012, both by number and value, were authorized at the point of sale via PIN entry.

Smaller value and larger value general-purpose prepaid card transactions grew at roughly similar rates from 2009 to 2012.

3.3 PRIVATE-LABEL CARDS

3.3.1 Private-Label Credit Cards

Private-label credit cards are branded for a specific retailer, independent dealer, or manufacturer. If the retailer does not manage the private-label card, a third party issues the cards and collects the payments from cardholders. Because there is no central clearing network or switch involved, the 2013 NPIPS surveyed 10 private-label credit card retail merchant issuers as well as 16 processors. To avoid double counting in the retail merchant issuer survey each organization was asked to report transaction data only for the in-house processed portion of its portfolio.⁷⁰

As in previous studies, it was challenging to gain participation for the surveys of private-label credit cards. For non-responding organizations, any missing data for their private-label credit card transactions were imputed based on ratios computed from similar organizations applied to known reported information or information in the public domain.

⁷⁰ Reported data may include some payments from selective authorization card programs that are designed to be used at a limited set of proximate merchants, such as for use near and around a town, university or mall.

3.3.1.1 Private-Label Credit Cards - Retail Merchant Issuers

The number of private-label credit card payments for retail merchant issuers increased approximately 0.2 billion, or approximately 41.4 percent per year from 2009 to 2012. The value increased 55.3 percent per year during the same time period.

From 2009 to 2012, private-label credit card payments at the point of sale grew far more rapidly than card-not-present transactions by both number and value: the number increased 42.0 percent per year for point-of-sale (POS) transactions compared with 24.2 percent per year for card-not-present transactions, while the value increased by an annual rate of 56.3 percent for point-of-sale (POS) transactions compared with an annual rate of 35.3 percent for card-not-present transactions.

In 2012, point-of-sale (POS) transactions accounted for almost all the private-label credit card payments for retail merchant issuers with 98 percent by number and 96 percent by value.

In both 2009 and 2012, the average value for consumer private-label credit card payments for retail merchant issuers was greater than the average value of business payments, which was opposite of the observations for general-purpose credit and debit card payments.

3.3.1.2 Private-Label Credit Cards - Processors

In 2012, the average value for private-label credit card payments handled by third-party processors was \$113, which was greater than the average value for general-purpose credit card payments (\$93) and private-label credit card payments for retail merchant issuers (\$100).

From 2009 to 2012, the number of consumer private-label credit card payments for processors grew 4 times as fast as business payments while the value for consumer payments grew more than twice as fast as for business payments. The average value for consumer private-label credit card payments for processors decreased from \$129 in 2009 to \$105 in 2012, while the average value for business payments increased slightly from \$124 to \$125.

From 2009 to 2012, private-label credit card payments at the point of sale for processors had an annual growth of 15.4 percent by number, while card-not-present transactions had an annual decrease of 26.4 percent. During the same period, the value of private-label credit card payments increased 10.5 percent per year for point-of-sale (POS) payments but decreased 6.4 percent per year for card-not-present transactions.

3.3.2 Private-Label Prepaid Cards - Non-Transit

Private-label prepaid card transactions are typically limited to a single merchant brand (or group of brands under a single merchant organization). Similar to private-label credit cards, there is no central clearing network or switch involved. Because, as with other types of private-label cards, every private-label prepaid card transaction must be authorized by either an in-house or a third-party processor, the 2013 NPIPS conducted a combined issuer and processor survey with 29 non-transit organizations to collect both in-house and outsourced private-label prepaid card non-transit data.

From 2009 to 2012, the number of private-label prepaid card non-transit transactions grew much more rapidly (10.8 percent per year) than the value (2.3 percent per year), which led to a decline in the average value from \$16 per transaction in 2009 to \$13 per transaction in 2012.

In 2012, the average value for credits/loads to private-label prepaid non-transit cards was \$16. In the meantime, at least 0.05 billion private-label prepaid card non-transit transactions were initiated using a mobile device, with a national estimate of 0.23 billion based on a very small fraction of organizations that responded.

From 2009 to 2012, the number of private-label prepaid card non-transit transactions with values under \$15 grew, while the number of transactions with values over \$15 declined.

3.3.3 EBT Cards

Electronic benefit transfer (EBT) is an electronic system that allows federal and state agencies to issue benefits via a magnetically encoded payment card, similar to a debit card, but usually purchases are limited. Common benefits provided in the United States via EBT are typically of two general categories: food and cash benefits. A recipient uses his/her EBT card to make purchases (transactions) at participating retailers.

The U.S. Food and Nutrition Service (FNS) oversees the management and distribution of the benefits administered through EBT programs primarily through the Supplemental Nutrition Assistance Program (SNAP), formerly known as the Food Stamp Program. All states participating in EBT have a contractor that administers their EBT payments program. Any cash benefits included with the card would be included in prepaid network volumes reported in the

general-purpose prepaid network survey. Contractors may subcontract processing or any other aspect of the program to another company.

The 2012 NPIPS collected EBT card transaction data from federal and state processors. In 2012, EBT card transactions were estimated to have totaled at least 4.9 billion by number and \$143 billion by value. Underlying details on the transactions were not available from the processors.

3.3.4 Additional Categories of Prepaid Data

The 2013 NPIPS also gathered data on prepaid card payments from three other types of sources: general-purpose prepaid card payments from processors, and private-label prepaid transportation payments.

3.3.4.1 General-Purpose Prepaid Cards - Processors

Earlier in this section, findings related to the general-purpose prepaid card transactions from the network survey were discussed. Because the networks had limited insight into the specific market applications that served prepaid cards, the 2013 NPIPS also included a survey of 35 organizations that were identified as processors for general-purpose prepaid card transactions in 2012.

The total sums of general-purpose prepaid card transactions from processors contains some double counting of transactions that is not present in network volumes. For this reason, processor data are not used to estimate national totals, but data from the processor surveys such as transaction allocations based on a variety of criteria, including card program type and card funding method, help to better understand the trends in prepaid card transactions at a level of detail not available from another source.

The number of transactions (including some counted more than once) from general-purpose prepaid card processors totaled 4.9 billion with value of \$162.2 billion in 2012, which was the largest portion of processor volumes.⁷¹

⁷¹ Because of double-counting these volumes are much larger than the national estimates of 3.12 billion transactions by number and \$105 billion by value in 2012 from the general-purpose prepaid card network survey.

Reloadable government cards had the second-largest share of prepaid processor value at \$31.2 billion, followed by payroll cards (\$17.2 billion) and health benefits cards (\$17.1 billion).⁷² From 2009 to 2012, the market share for reloadable government cards exceeded payroll card usage. During the same time period, health benefits and government cards were the fastest growing segments reported.

In 2012, more than half of the reported loading transactions were from reloads. ACH and cash were the most often used methods for card funding.

3.3.4.2 Prepaid Transportation (Transit and Toll Collections)

3.3.4.2.1 Private-Label Prepaid Cards – Transit Payments

The use of electronic fare cards in transportation continued to grow. The 2013 NPIPS collected private-label prepaid card transit payments data from 24 local transit organizations in the larger metropolitan areas in the United States, but did not include smaller market areas where there were no fixed rail system. Nevertheless, cards could be used for bus services in those areas. Therefore, the estimated private-label prepaid card transit transactions should be viewed as lower bounds for the national private-label prepaid card transit fares collected from electronic fare cards.

From 2009 to 2012, the estimated number of private-label prepaid card transit transactions increased from 4.0 billion to 4.7 billion, or at an annual rate of 5.2 percent, while the value increased from \$5.1 billion to \$7.9 billion, or at an annual rate of 16.2 percent. During the same period, the average value of private-label prepaid card transit transactions grew from \$1.25 to \$1.69. The private-label prepaid cards used for transit systems grew more rapidly in value than the number of transactions, likely because of increasing fares.

3.3.4.2.2 Far-Field RFID Toll Collections

Far-field RFID payments include toll transactions authorized via a far-field RFID transponder, which is used to collect payments from a prepaid account which typically has funds automatically replenished via ACH or a card. The 2013 NPIPS collected information on this

⁷² Health benefits cards include pre-tax benefit cards linked to health savings accounts, flexible spending accounts, or healthcare reimbursement accounts (HRAs). Like EBT cards, payments with these cards are only for qualified purchases.

type of payment from the 18 known toll operators, but there may be other toll authorities that were missed. Therefore, like private-label prepaid card transit transactions, the estimated far-field RFID toll collections should also be viewed as lower bounds for the national far-field RFID toll collections.

From 2009 to 2012, far-field RFID payments measured increased 13.9 percent per year to 5.2 billion transactions and 15.1 percent per year to \$9.9 billion by value. Although a large number of toll transactions would have been collected in cash, some of the increase in far-field RFID payments might be the result of achieving greater participation—the 2010 study only collected from 10 toll operators.

In 2012, more than 94 percent of far-field RFID transponder accounts were funded via ACH or cards. And credit card and ACH were the two most often used funding methods, while cash and debit card were the two methods with the highest average values—\$33 and \$21, respectively.

In 2012, more than 99 percent of the far-field RFID toll collections were less than \$5—increased from 97 percent in 2009. Meanwhile, 90 percent of the value of the far-field RFID toll collections was from the category of less than \$5—a huge jump from 75 percent in 2009.

3.4 AUTOMATED CLEARINGHOUSE (ACH)

Transactions over the ACH network may come from a number of sources, including both traditional ACH payments and new payment technologies that use ACH. These can include the following:

- Direct deposits, such as payroll, dividends, interest, trust disbursements, IRS tax refunds, pension benefits, commission disbursements, expense reimbursements, child support disbursements, and government disbursements and payments
- Direct payments, such as insurance premiums, mortgage payments, loan payments, rents/leases, utility bills, subscription/membership dues, monthly pledges, and tuition payments
- Corporate payments, federal and state tax, royalty payments, invoice payments, trade payments, and debt repayments
- Electronic bill payments transactions settled through the ACH such as those conducted by Fiserv (CheckFree) and ACI (ORCC)

- Most check electronification methods, such as check truncation and conversion of bill payments to ACH at a lockbox (account receivable conversions or ARC). These types of payments are categorized separately to track conversions of one primary payment type to another
- ACH debit cards, such as those being developed by the National Payment Card Association, large retailers like Target (REDcard) and petroleum chains like Speedway and Shell
- P2P payments sent over the ACH network

The transaction data were obtained from the two ACH network operators (EPN operated by The Clearing House and FedACH operated by the Federal Reserve Banks). This information was compiled by NACHA-The Electronic Payment Association.

Payment definitions were based on Standard Entry Classification (SEC) codes. A small number of ACH transactions, such as non-value transactions, were excluded on a basis equivalent to those used for the previous studies.

3.4.1 Participation

Both ACH network operators participated in the survey. NACHA collects annual statistics from these networks. NACHA's data for 2012 was used to validate and verify data from The Clearing House and the Federal Reserve Banks for the 2013 NPIPS.

3.4.2 ACH Data Considerations

- **Debits and credits:** All ACH transactions are classified as an ACH debit or an ACH credit, depending on whether the originator is crediting an account or debiting an account.
- **Returns:** Analogous to a credit card or debit card transaction, ACH transactions can be returned by a receiving depository financial institution (RDFI) and also subsequently re-presented by the originating depository financial institution (ODFI). However, the reporting of returned transactions is more complex within the ACH system, and each operator reported returns differently, with the FedACH providing more detailed data than EPN.

3.4.3 SEC Codes

All ACH transactions are routed using one of several SEC codes defined by the ACH operating rules. There were 23 such codes effective during 2012. Among these SEC codes, 16 are for payments; others are for informational (non-value transfer) purposes (e.g., ENR, DNE, NOC, etc.). The SEC codes that have been included in the 2013 NPIPS are shown in Exhibit 39.

Exhibit 39: SEC Codes Included in ACH Aggregates

| Code | Description |
|------|--|
| ARC | Accounts Receivable Check Conversion |
| BOC | Back Office Conversion |
| CCD | Cash Concentration or Disbursement |
| CIE | Consumer Initiated Entry |
| CTX | Corporate Trade Exchange |
| IAT | International Transfer |
| MTE | Machine Transfer |
| POP | Point-of-Purchase Entry |
| POS | Point-of-Sale Entry |
| PPD | P rearranged Payment and Deposit Entry |
| RCK | Re-Presented Check Entry |
| SHR | Shared Network Transaction |
| TEL | Telephone e-Check |
| TRC | Truncated Entry |
| WEB | Web e-Check |
| XCK | Destroyed Check Entry |

3.5 ALTERNATIVE PAYMENT INITIATION METHODS

Several alternative payment products are new or non-traditional payment initiation methods primarily for consumer customers but use traditional funding and settlement systems, typically with ACH, debit and credit card networks behind the scenes. One of the examples is far-field RFID toll collections which was discussed above, a few other examples include: person-to-person (P2P) and money transfers, online bill payments, walk-in bill payments, deferred payments, private-label ACH debit cards, secure online payments, and mobile wallet. The 2013 NPIPS tracked these alternative payment initiation methods separately. Reported totals for these transactions are lower bounds.

3.5.1 Person-to-Person (P2P) and Money Transfers

Person-to-person (P2P) and money transfer payment organizations specialize in processing transfers of funds between two individuals. The techniques usually feature an online or e-mail-based system which provides payment instructions with notification to the beneficiary that funds have been received from the payer. P2P has been used in online auction community environments and for casual payments between parties, although this model is expanding into new areas such as airlines and mainstream online merchants. Depository institutions have reentered the electronic P2P payment space, after previously leaving it, by adding offerings (e.g., CashEdge, PayNet, and clearXchange).

There were 14 qualified P2P and money transfer processors included in the 2013 NPIPS. From 2009 to 2012, the number of P2P and money transfers increased from 146.6 million to 205.3 million at an annual rate of 11.9 percent. During the same time period, the value increased from \$45.4 billion to \$91.5 billion at an annual rate of 26.4 percent.

Among all P2P and money transfer payments in 2012, only 8 percent were for payment amounts less than \$25, while 9 percent were for payment amounts between \$25 and \$50, and the remaining 83 percent were for payment amounts greater than \$50.

More than half of the P2P and money transfer payments (53 percent) in 2012 were reported to be to foreign payees while slightly less than two-thirds of the dollar value (63 percent) was reported to be to domestic US payees.

In 2012, the majority (76 percent) of the P2P and money transfer payments were cleared through 'Other', which included mostly agent-based systems. Cash and book transfers were the next most common clearing approaches. P2P and money transfer payments cleared through agent-based systems had the highest average value of \$575 per transaction, followed by ACH with average value of \$338 per transaction.

Almost two-thirds of the P2P and money transfer payments in 2012 were originated in person, followed by a website (24 percent) and then with a mobile phone (8 percent) which had experienced a tremendous growth from 2009.

In both 2009 and 2012, the bulk of the P2P and money transfer payments were for transactions valued \$25 or more. On the other hand, from 2009 to 2012, the P2P and money transfer payments had the fastest growth for payments valued under \$25.

3.5.2 Bill Payments

Electronic bill payment transactions continued to grow since 2009 with the combined online bill pay and walk-in bill pay categories increasing from 2.7 billion in 2009 to 3.4 billion transactions in 2012. Processors reported 3.1 billion online bill payment transactions and an additional 286 million walk-in bill payments in 2012.

While the online bill payments reported by processors is useful, it only partially represents total bill payments. The biller-direct channel has primarily utilized paper checks, walk-in locations for cash payments, recurring and one-time ACH payments (including CSR and IVR telephone payment authorizations), but in recent years billers have been accepting credit and debit card payments as well. Debit card networks reported 981 million PIN-less payments used for bill pay applications and processed over single-message networks, although this does not account for all debit card bill payments. General-purpose credit, debit, and prepaid cards can all be used to pay some types of bills online over dual-message networks, and, while partial information is informative, bill payments comprise an unknown portion of card-not-present payments.

3.5.2.1 Online Bill Payments

The 2013 NPIPS gathered data from 14 leading bill payment processors to measure the number and value of online bill payment transactions.

In both 2009 and 2012, the majority of the online bill payments reported by these processors were bank/intermediary online bill payment transactions for both the number and value. But from 2009 to 2012, the annual growth rates for biller direct online bill payments (40.0 percent by number and 32.6 percent by value) were much higher than those of bank/intermediary online bill payments (6.1 percent by number and 6.6 percent by value).

Most online bill payments in 2012 were reported to have value of \$50 or more: 80.5 percent of the transactions and 98.5 percent of the value for bank/intermediary online bill payments, and 92 percent of the transactions and 99.6 percent of the value for biller direct online bill payments.

Among the bank/intermediary online bill payments made in 2012, more than half (55 percent) was settled by ACH and approximately 16 percent was settled by checks. Other settlement methods included book transfers, wires and network/agent settlement funds. Overall, the average payment size for online bill payments was \$381.

3.5.2.2 Walk-In Bill Payments

The 2013 NPIPS included 14 large processors for walk-in bill payments. A few small processors did not respond to the survey. Meanwhile the billers that operated their own walk-in payment locations were not included in the study. Over the past two decades, most large billers have contracted with processors and local organizations to support cash and in-person payments.

The number of walk-in bill payment increased from 247.4 million in 2009 to 285.6 million in 2012 at an annual rate of 4.9 percent. During the same time period, the value increased at annual rate of 7.2 percent from \$35.6 billion to \$43.8 billion.

In 2012, most of the walk-in bill payments were settled via ACH and cash was the most frequently used method of payment for walk-in payments.

3.5.3 Deferred Payments

Deferred payment products, such as PayPal's Bill Me Later, allow a customer to complete a transaction upfront with a merchant, and then pay the balance later via a deferred payment program through the provider's product. It allows a customer to make purchases online or over the phone without using a credit card. The initial transaction is conducted by the deferred

payment provider, and the balance is paid later by the customer or initiator. Because of the limited amount of primary source data available, details about the transactions are not reported.

3.5.4 Private-Label ACH Debit Card Payments

Private-label ACH debit cards, which work similarly to a PIN debit card but route transactions through the ACH system rather than a card network, continued to exist with limited popularity. Many of the supermarkets that had offered ACH card payments to their customers wound down their services, after PIN debit card became widely available in the late 1990's. However, some larger chain stores still offer ACH payment options.

In 2012, there were approximately 105 million private-label ACH debit card payments with a value of \$7.4 billion and an average value of \$71 per transaction.

3.5.5 Secure Online Payments

The secure online payments category includes methods that have been developed to simplify online purchases and to minimize fraud that might occur with a traditional card-not-present transaction or ACH payment.

The 2013 NPIPS collected secure online payments data from 9 processors. At least 1.8 billion secure online payments with a value of \$93.0billion were made in 2012, and at least 1.5 billion involved redirection from the merchant or biller site to secure a card payment.

Among all the transaction value categories, secure online payments with value between \$5 and \$10 had the largest share (27 percent) of all secure online payments made in 2012, followed by transactions with value under \$5 (19 percent). The category for transactions with value between \$10 and \$15 had the lowest share by both number and value.

3.5.6 Mobile Wallets

Mobile wallets included transactions where the buyer made a payment using SMS messaging, a mobile application, virtual-cloud-based account or near-field RFID technology connected with a mobile device. As this is the first time data on mobile wallets was collected, evidence that the category is growing is based on industry projections. Overall, this payment category had a low participation rate, although 10 respondents including several large processors provided data.

Based on the responses gathered, there were at least 250.6 million mobile wallet payments with a value of at least \$9.5 billion made during 2012.

In 2012, among organizations that provided transaction value distribution data, more than two-thirds of the mobile wallet transactions were for payments less than \$10.

3.6 METHODOLOGY

3.6.1 Survey Design

The 2013 NPIPS included a set of 15 census-style voluntary surveys. The surveys were designed to collect information on electronic payment transactions made in the United States during the year 2012, including electronic payments made by credit card, debit card, prepaid card, automated clearinghouse (ACH), as well as alternative payment initiation methods including person-to-person (P2P) and money transfers, online and walk-in bill payments, deferred payments, far-field RFID payments, secure online payments, and mobile wallets. The survey instruments were sent to 272 payment organizations including payment network operators and processors, various card associations, electronic funds transfer (EFT) networks, and federal and state government agencies in the United States. The data collection and estimation methods used for this year's study were consistent with those used in the Electronic Payments Studies in previous years.

The survey process was managed by payment type, and some organizations received several different surveys.

3.6.1.1 Scope of Research

The 2013 NPIPS collected data in three primary areas:

- Electronic payment options used by buyers of goods or services, including in-person point-of-sale (POS) and remote transactions.
- Electronic payment products used on the 'back-end' to effect final settlement for purchase transactions, including P2P bill payment and other alternative payment initiation methods.
- Electronic payment options used by employers, federal and state agencies, and others for disbursement of income payments, such as payroll and benefit disbursement transactions.

There are variations of payment instruments, as well as components of the payments value chain, that were considered to be outside the scope of the present study. Each payment transaction has a unique, and sometimes complex, transaction flow involving the exchange of information, issuer-to-acquirer settlement, and customer-to-issuer settlement.

The following transaction information was considered outside the scope of work for the 2013 NPIPS:

- Cash and check deposits and payments
- Electronic bill presentment transactions
- EDI and Non-financial ACH transactions
- Bill payment transactions which are:
 - Initiated and settled via paper (cash or check)
 - Initiated electronically, paid via paper
- Loyalty-based accounts (e.g., airline frequent flier accounts)
- Phone cards
- Campus cards that do not have payment network connectivity (e.g., meal tickets)
- Consumer and business wire transfers via Fedwire[®] and CHIPS
- Issuer-to-acquirer settlement transactions (e.g., book entry or direct net settlement)

3.6.2 Survey Recruitment

The methodology for identifying organizations for the 2013 NPIPS was consistent with the 2001 through 2009 Electronic Payments Studies. Organizations engaged in the business of originating, switching and/or processing electronic payment instruments and remittances were identified based on information from industry directories, lists of prior participants, the Federal Reserve Bank of Philadelphia's Payment Cards Center's list of prepaid card processors, the Network Branded Prepaid Card Association (NBPCA), the Federal Reserve Bank of Boston's Mobile Payments Industry Workgroup (MPIW), Blueflame Consulting, and MH Consulting Partners.

As this study focuses on payments made in the United States in 2012, only unique payment instruments and their final settlement were counted for the purpose of computing totals. Therefore organizations were selected on their ability to monitor transaction and dollar volume data on a non-duplicative counting basis for the core payment methods. For example, there is

some overlap among prepaid card processors using branded networks, therefore network totals are used for the primary counts of prepaid transactions.

3.6.3 Survey Participation

Of the 272 organizations that were requested to participate the 2013 NPIPS, 205 organizations provided data, including 79 of the largest payment organizations that process core transactions including ACH, credit cards, debit cards and prepaid cards. The response rates are provided at the tables attached at the end of this section. Two measures of response rate are given: percentage of organizations that responded weighted by size as measured by net purchase transactions (NPT) or total transactions (TOT), and the percentage of organizations that responded for each survey item.

3.7 DATA COLLECTION PROCESS

Participation in the study was voluntary, but was highly encouraged by the Federal Reserve through industry-wide communications, personalized letters and over 2000 follow-up calls to large organizations by Blueflame Consulting and MH Consulting.

The primary data collection method was a set of questionnaires or survey instruments that were provided in both paper and MS-Excel formats. One or more senior executives at each organization on the potential participant list were mailed a personalized survey invitation, a copy of a letter from the Vice Chair of the Federal Reserve Board of Governors, and a data contact form with instructions to specify the types of transactions that their organization handled in 2012. Blueflame Consulting then distributed survey instructions and survey forms to the designated data contact for each payment organization.

Reminder calls were made to non-responding organizations. Personalized letters and e-mails were also sent to follow up with the organizations that had been invited to participate in the study. In addition, follow-up clarification calls were made to each participant to request clarifications about misclassified or incomplete data.

3.7.1 Survey Instruments

The primary type survey instrument was electronic spreadsheets, which contained some formulas and error-checking ability. Survey instructions included definitions of the data items to be reported because of the broad range of transaction types that could be processed by an organization. It was important to avoid double counting of transactions which can occur when multiple networks are involved in a transaction authorization through a “gateway” switch.

3.7.2 Communications Plan

The approach was similar to prior studies, including recruitment letters, follow up, and escalation of efforts for non-respondents. Earlier studies confirmed that effective communications are a critical element in achieving a high participation rate for this census-style study, especially since it required gaining voluntary participation from leading electronic funds transfer organizations.

The purpose of the communications plan was to outline the specific actions that needed to be used to build awareness of the study and to encourage organizations to share their transaction data. There were two audiences for the communications: senior executives in the electronic payments industry and managers in EFT payments organizations who have access to pertinent data.

3.7.2.1 Announcements to the Electronic Payments Industry

Multiple communications methods were used to build awareness within the electronic payments industry about the study, including:

- Press release by the Federal Reserve announcing the study (January 17, 2013)
- Industry newspaper coverage
- Speeches, meetings, e-mails and other communications

3.7.2.2 Communications with EFT Payment Organizations

Gaining the participation of networks, processors and issuers was achieved through the joint efforts of the Federal Reserve staff and Blueflame Consulting. Communications were conducted by mail with telephone and e-mail follow up that provided information about why each organization had been invited to participate in the study and how the survey results would be used.

There were five components in the communications plan:

1. Pre-survey letter
2. Pre-survey follow-up letter
3. Survey administration
4. Survey follow up
5. Thank you letter and a summary of results

3.7.2.3 Pre-Survey Letter

The objective of the pre-survey letter sent primarily during January through March 2013 was to obtain agreement by a senior manager in each organization to participate in the study, and to identify the correct person for providing the required transaction data. The pre-survey letter consisted of three components:

- **Letter from the FRB.** A PDF letter from the Vice Chair of the Federal Reserve Board of Governors was mailed to executives at electronic payments organizations.
- **Personalized letter from Blueflame Consulting.** A second letter was included on Blueflame Consulting letterhead and signed by Edward Bachelder, Director of Research. The letter was personally addressed to the executives explaining:
 - The process for participating in the 2013 NPIPS
 - That survey participants will receive a summary report of the results as an incentive to participate
 - A request to send a completed contact form to Blueflame Consulting via web registration form, as well as fax and e-mail response options for letter
- **Contact Form.** The contact form asked the executives to provide (or verify) the name and contact information for the individual(s) in the organization who should receive the survey package.

3.7.2.4 Pre-Survey Letter Follow Up

Blueflame Consulting made follow-up calls to organizations that did not respond to the pre-survey invitation letter. If the original contact could not be reached, Blueflame Consulting contacted other appropriate individuals within the organization. If they declined to participate in the survey, Blueflame Consulting noted the reasons and sought assistance from the Federal Reserve project team.

3.7.2.5 Survey Administration

During April through August 2013, Blueflame Consulting compiled a mailing list of individuals who should be providing data based on the forms returned from the pre-survey mailing and prior participation. Each individual was sent a package including a personalized letter or e-mail with the appropriate survey instruments to complete (and which could be returned by e-mail, fax, or postal mail). Survey administration was complex because of the number of survey instruments that may need to be completed by a larger organization.

3.7.2.6 Survey Follow Up

During May through November 2013, organizations that did not return completed survey forms within three weeks were called. Organizations that still did not respond to the reminder e-mails and follow-up phone calls were resent letters in USPS Priority Mail envelopes. The calls and e-mails stressed the importance of their participation. If information from the primary contact could not be obtained, attempts were made to contact other people within the organization and the survey materials were re-sent to another individual as appropriate. To encourage participation and ensure the accuracy of the data submissions the following steps were taken:

- Submitted data was reviewed for reasonableness, completeness and potential for double counting if their volume might be included in another processor or network's submission.
- Non-respondents were re-contacted, providing them with our estimate and request that they participate or confirm our estimate based on publicly available information and comparative data gathered from comparable participants in the study.

Large organizations that did not respond were identified and in several cases assistance was provided by Federal Reserve staff. From June through September 2013, all non-respondents were called in multiple attempts to obtain their information over the phone and/or via e-mail. Overall, at least eight attempts were made to contact each non-responding organization.

3.7.2.7 Thank You Letters and Summary of Results

At the conclusion of the data collection and analysis efforts, Blueflame Consulting sent to each respondent a letter thanking them for their participation and copy of the summary of findings.

3.7.3 Data Validation

The data were obtained directly from primary sources whenever possible. Responses were reviewed for consistency and compared with other submissions. In addition, secondary sources for data were considered. Where feasible, the findings were validated through existing relationships with electronic payments industry sources and other available research and reports.

3.7.4 Data Imputation and Estimation

In cases where organizations chose not to participate, data were generally imputed based on ratios between the data of interest reported by comparable organizations and available public information including public reports, industry statistics, and Securities and Exchange Commission filings. Reported and imputed data were then used to construct annual estimates of electronic payments in the U.S. for 2012. These methods and procedures are based on experience gained from the earlier surveys formerly call the Electronic Payments Surveys. In all cases, the non-participating organizations were called and asked to validate the reasonableness of our estimates. On a few occasions, non-respondents at that point chose to provide actual data for the study. In other cases, organizations would give guidance regarding the accuracy of the estimates.

The tables include information to help assess the quality of the estimates, including the percentage of organizations that responded weighted by size as measured by net purchase transactions (NPT) or total transactions (TOT), and the percentage of organizations that responded for each survey item. Even in cases where there were confirmed, they were not counted toward these percentages unless actual figures were provided by the responding organization.

3.8 TABULAR RESULTS

3.8.1 Estimates for 2012 with Shares and Response Rates

General-Purpose Credit Cards - Networks

| Survey Item | Number of organizations | | | 2012 | | | | | |
|---|-------------------------|------------|---------|----------------|-------|-----------------------------|-------|-------------------|-------|
| | included in census | | | Item Shares of | | Response Rates ² | | | |
| | responded | | | NPT (%) | | NPT (%) | | Organizations (%) | |
| | Totals ¹ | | Avg Val | | | | | | |
| | Num (BN) | Val (\$TR) | (\$) | Num | Val | Num | Val | Num | Val |
| 3. Net purchase transactions (NPT) | 23.8 | 2.21 | 93 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 4. NPT by type of card | 23.8 | 2.21 | 93 | | | | | | |
| 4a. Charge card transactions | 21.5 | 1.80 | 84 | 90.2 | 81.5 | 92.4 | 94.9 | 71.4 | 71.4 |
| 4b. Credit card transactions | 2.3 | 0.41 | 175 | 9.8 | 18.5 | 19.2 | 27.7 | 42.9 | 42.9 |
| 5. NPT by payment initiation and authorization method | 23.8 | 2.21 | 93 | | | | | | |
| 5a. Transactions at the point of sale | 18.0 | 1.23 | 68 | 75.8 | 55.6 | 100.0 | 100.0 | 100.0 | 100.0 |
| 5a.1. Chip | 0.0 | 0.00 | 47 | 0.1 | 0.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 5a.1.1. Signature acquired | 0.0 | 0.00 | 47 | 0.0 | 0.0 | 99.9 | 99.7 | 85.7 | 85.7 |
| 5a.1.2. Dynamic data only | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 99.9 | 99.7 | 85.7 | 85.7 |
| 5a.1.3. EMV using compliant card and terminal | 0.0 | 0.00 | 145 | 0.0 | 0.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 5a.1.4. Other | 0.0 | 0.00 | 37 | 0.0 | 0.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 5a.2. No chip (including magnetic stripe) | 18.0 | 1.23 | 68 | 75.7 | 55.6 | 100.0 | 100.0 | 100.0 | 100.0 |
| 5b. Card-not-present/remote transactions | 5.8 | 0.98 | 170 | 24.2 | 44.4 | 100.0 | 100.0 | 100.0 | 100.0 |
| 5b.1. Static card data only | 5.8 | 0.98 | 170 | 24.2 | 44.3 | 99.9 | 99.7 | 85.7 | 85.7 |
| 5b.2. Network-sponsored online verification system | 0.0 | 0.00 | 341 | 0.0 | 0.1 | 99.9 | 99.7 | 85.7 | 85.7 |
| 5b.3. Other | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 99.9 | 99.7 | 85.7 | 85.7 |
| 6. POS Transactions by type of device | 18.0 | 1.23 | 68 | | | | | | |
| 6a. Transactions initiated from or via a mobile device | 0.0 | 0.00 | 24 | 0.0 | 0.0 | 19.2 | 27.7 | 42.9 | 42.9 |
| 6b. Transactions not initiated with a mobile device | 18.0 | 1.23 | 68 | 75.8 | 55.6 | 19.2 | 27.7 | 42.9 | 42.9 |
| 7. NPT by type of payer | 23.8 | 2.21 | 93 | | | | | | |
| 7a. Consumer transactions | 20.4 | 1.55 | 76 | 85.8 | 70.1 | 100.0 | 100.0 | 100.0 | 100.0 |
| 7b. Business/government transactions | 3.4 | 0.66 | 196 | 14.2 | 29.9 | 100.0 | 100.0 | 100.0 | 100.0 |
| 7b.1. Procurement cards | 0.7 | 0.20 | 300 | 2.8 | 8.9 | 92.5 | 95.1 | 85.7 | 85.7 |
| 7b.2. Fleet cards for fueling and vehicle expenses | 0.1 | 0.02 | 167 | 0.5 | 1.0 | 92.5 | 95.1 | 85.7 | 85.7 |
| 7b.3. Other | 2.6 | 0.44 | 171 | 10.9 | 20.0 | 92.5 | 95.1 | 85.7 | 85.7 |
| 8. NPT by payee location | 23.8 | 2.21 | 93 | | | | | | |
| 8a. Transactions with U.S. payees | 23.5 | 2.15 | 92 | 98.8 | 97.5 | 100.0 | 99.9 | 85.7 | 85.7 |
| 8b. Transactions with payees outside the U.S. | 0.3 | 0.06 | 187 | 1.2 | 2.5 | 100.0 | 99.9 | 85.7 | 85.7 |
| 9. NPT by transaction value range | 23.8 | 2.21 | 93 | | | | | | |
| 9a. Transactions authorized less than \$5.00 in total value | 2.1 | 0.01 | 3 | 8.7 | 0.3 | 99.9 | 99.6 | 71.4 | 71.4 |
| 9b. Transactions authorized \$5.00 to \$9.99 in total value | 2.7 | 0.02 | 8 | 11.2 | 0.9 | 99.9 | 99.6 | 71.4 | 71.4 |
| 9c. Transactions authorized \$10.00 to \$14.99 in total value | 2.2 | 0.03 | 12 | 9.1 | 1.2 | 99.9 | 99.6 | 71.4 | 71.4 |
| 9d. Transactions authorized \$15.00 to \$24.99 in total value | 3.3 | 0.07 | 20 | 13.9 | 3.0 | 99.9 | 99.6 | 71.4 | 71.4 |
| 9e. Transactions authorized \$25.00 to \$49.99 in total value | 5.3 | 0.19 | 36 | 22.2 | 8.7 | 99.9 | 99.6 | 71.4 | 71.4 |
| 9f. Transactions authorized \$50.00 or greater in total value | 8.3 | 1.89 | 228 | 34.9 | 85.9 | 99.9 | 99.6 | 71.4 | 71.4 |

Figures may not sum because of rounding. NPT represents net purchase transactions.

¹ The total number of transactions are in billions while the total value of transactions are in trillions of USD.

² Two measures of response rate are given: 1) percentage of NPT from organizations that responded and 2) percentage of organizations that responded.

Debit Cards - Networks

| Survey Item | Totals ¹ | | Avg Val (\$) | Item Shares of NPT (%) | | Response Rates ² | | | |
|---|---------------------|------------|-----------------|---------------------------|-------|-----------------------------|------|-------------------|------|
| | Num (BN) | Val (\$TR) | | Num | Val | NPT (%) | | Organizations (%) | |
| | | | Num | | | Val | Num | Val | |
| 4. Net purchase transactions (NPT) | 47.0 | 1.82 | 39 | 100.0 | 100.0 | 99.6 | 99.6 | 85.7 | 85.7 |
| 5. NPT by payment initiation and authorization method | 47.0 | 1.82 | 39 | | | | | | |
| 5a. Transactions at the point of sale | 41.4 | 1.42 | 34 | 88.2 | 78.3 | 99.6 | 99.6 | 85.7 | 85.7 |
| 5a.1. Chip | 0.0 | 0.00 | 14 | 0.1 | 0.0 | 99.6 | 99.6 | 85.7 | 85.7 |
| 5a.1.1. Signature acquired | 0.0 | 0.00 | 14 | 0.1 | 0.0 | 99.6 | 99.6 | 85.7 | 85.7 |
| 5a.1.2. PIN entry at merchant terminal | 0.0 | 0.00 | 39 | 0.0 | 0.0 | 99.6 | 99.6 | 85.7 | 85.7 |
| (a) EMV using compliant card and terminal | 0.0 | 0.00 | 156 | 0.0 | 0.0 | 99.6 | 99.6 | 85.7 | 85.7 |
| (b) Other chip-and-PIN transactions | 0.0 | 0.00 | 38 | 0.0 | 0.0 | 99.6 | 99.6 | 85.7 | 85.7 |
| 5a.1.3. Dynamic data only | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 99.6 | 99.6 | 85.7 | 85.7 |
| 5a.1.4. Other | 0.0 | 0.00 | 9 | 0.0 | 0.0 | 99.6 | 99.6 | 85.7 | 85.7 |
| 5a.2. No chip (including magnetic stripe) | 41.4 | 1.42 | 34 | 88.2 | 78.2 | 99.6 | 99.6 | 85.7 | 85.7 |
| 5a.2.1. Signature acquired | 22.2 | 0.65 | 29 | 47.3 | 35.5 | 99.6 | 99.6 | 85.7 | 85.7 |
| 5a.2.2. PIN entry at merchant terminal | 16.9 | 0.69 | 41 | 36.1 | 37.9 | 99.6 | 99.6 | 85.7 | 85.7 |
| 5a.2.3. Other | 2.3 | 0.09 | 39 | 4.8 | 4.8 | 99.6 | 99.6 | 85.7 | 85.7 |
| 5b. Card-not-present/remote transactions | 5.5 | 0.40 | 71 | 11.8 | 21.7 | 99.6 | 99.6 | 85.7 | 85.7 |
| 5b.1. Static card data | 4.6 | 0.34 | 74 | 9.7 | 18.5 | 99.4 | 99.4 | 78.6 | 78.6 |
| 5b.2. Network-sponsored online verification system | 0.0 | 0.00 | 144 | 0.0 | 0.1 | 99.4 | 99.4 | 78.6 | 78.6 |
| 5b.3. PIN-less debit | 1.0 | 0.06 | 60 | 2.0 | 3.2 | 99.4 | 99.4 | 78.6 | 78.6 |
| 5b.4. Other | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 99.4 | 99.4 | 78.6 | 78.6 |
| 6. POS Transactions by type of device | 41.4 | 1.42 | 34 | | | | | | |
| 6a. Transactions initiated from or via a mobile device | 0.0 | 0.00 | 3 | 0.0 | 0.0 | 5.5 | 5.6 | 42.9 | 42.9 |
| 6b. Transactions not initiated with a mobile device | 41.4 | 1.42 | 34 | 88.2 | 78.3 | 11.1 | 11.6 | 50.0 | 50.0 |
| 7. NPT by type of payer | 47.0 | 1.82 | 39 | | | | | | |
| 7a. Consumer transactions | 45.5 | 1.68 | 37 | 96.8 | 92.5 | 93.5 | 92.4 | 71.4 | 71.4 |
| 7b. Business/government transactions | 1.5 | 0.14 | 91 | 3.2 | 7.5 | 93.5 | 92.4 | 71.4 | 71.4 |
| 8. NPT by payee location | 47.0 | 1.82 | 39 | | | | | | |
| 8a. Transactions with U.S. payees | 46.8 | 1.80 | 39 | 99.6 | 99.2 | 99.6 | 99.6 | 85.7 | 85.7 |
| 8b. Transactions with payees outside the U.S. | 0.2 | 0.01 | 70 | 0.4 | 0.8 | 99.6 | 99.6 | 85.7 | 85.7 |
| 9. NPT by transaction value range | 47.0 | 1.82 | 39 | | | | | | |
| 9a. Transactions authorized less than \$5.00 in total value | 6.0 | 0.02 | 3 | 12.8 | 1.0 | 93.1 | 92.1 | 50.0 | 50.0 |
| 9b. Transactions authorized \$5.00 to \$9.99 in total value | 8.4 | 0.06 | 7 | 17.9 | 3.3 | 93.1 | 92.1 | 50.0 | 50.0 |
| 9c. Transactions authorized \$10.00 to \$14.99 in total value | 5.7 | 0.07 | 12 | 12.1 | 3.7 | 93.1 | 92.1 | 50.0 | 50.0 |
| 9d. Transactions authorized \$15.00 to \$24.99 in total value | 7.6 | 0.15 | 19 | 16.2 | 8.1 | 93.1 | 92.1 | 50.0 | 50.0 |
| 9e. Transactions authorized \$25.00 to \$49.99 in total value | 9.8 | 0.34 | 35 | 20.9 | 18.9 | 93.1 | 92.1 | 50.0 | 50.0 |
| 9f. Transactions authorized \$50.00 or greater in total value | 9.4 | 1.18 | 126 | 20.0 | 64.9 | 93.1 | 92.1 | 50.0 | 50.0 |
| NPT by network type | 47.0 | 1.82 | 39 | | | | | | |
| Dual-message transactions ³ | 30.2 | 1.13 | 37 | 64.3 | 62.0 | | | | |
| Single-message transactions ³ | 16.8 | 0.69 | 41 | 35.7 | 38.0 | | | | |

Figures may not sum because of rounding. NPT represents net purchase transactions.

¹ The total number of transactions are in billions while the total value of transactions are in trillions of USD.

² Two measures of response rate are given: 1) percentage of NPT from organizations that responded and 2) percentage of organizations that responded.

³ The blanks in the response rate columns indicate derived items.

General-Purpose Prepaid Cards - Networks

Number of organizations

2012

included in census 7
 responded 7
 included in estimated totals 7

| Survey Item | Totals ¹ | | Avg Val (\$) | Item Shares of NPT (%) | | Response Rates ² | | | |
|---|---------------------|------------|-----------------|---------------------------|-------|-----------------------------|-------|-------------------|-------|
| | Num (BN) | Val (\$TR) | | Num | Val | NPT (%) | | Organizations (%) | |
| 3. Net purchase transactions (NPT) | 3.1 | 0.10 | 34 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 4. NPT by payment initiation and authorization method | 3.1 | 0.10 | 34 | | | | | | |
| 4a. Transactions at the point of sale | 2.7 | 0.08 | 30 | 87.8 | 78.7 | 100.0 | 100.0 | 100.0 | 100.0 |
| 4a.1. Chip | 0.0 | 0.00 | 9 | 0.0 | 0.0 | 97.1 | 96.1 | 71.4 | 71.4 |
| 4a.1.1. Signature acquired | 0.0 | 0.00 | 13 | 0.0 | 0.0 | 97.1 | 96.1 | 71.4 | 71.4 |
| 4a.1.2. PIN entry at merchant terminal | 0.0 | 0.00 | 34 | 0.0 | 0.0 | 97.1 | 96.1 | 71.4 | 71.4 |
| (a) EMV using compliant card and terminal | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 15.3 | 15.9 | 42.9 | 42.9 |
| (b) Other chip-and-PIN transactions | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 15.3 | 15.9 | 42.9 | 42.9 |
| 4a.1.3. Dynamic data only | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 97.1 | 96.1 | 71.4 | 71.4 |
| 4a.1.4. Other | 0.0 | 0.00 | 3 | 0.0 | 0.0 | 97.1 | 96.1 | 71.4 | 71.4 |
| 4a.2. No chip (including magnetic stripe) | 2.7 | 0.08 | 30 | 87.8 | 78.7 | 97.1 | 96.1 | 71.4 | 71.4 |
| 4a.2.1. Signature acquired | 1.5 | 0.04 | 25 | 47.9 | 35.6 | 97.1 | 96.1 | 71.4 | 71.4 |
| 4a.2.2. PIN entry at merchant terminal | 1.2 | 0.04 | 36 | 38.3 | 41.6 | 97.1 | 96.1 | 71.4 | 71.4 |
| 4a.2.3. Other | 0.1 | 0.00 | 30 | 1.7 | 1.5 | 97.1 | 96.1 | 71.4 | 71.4 |
| 4b. Card-not-present/remote transactions | 0.4 | 0.02 | 59 | 12.2 | 21.3 | 92.5 | 93.2 | 85.7 | 85.7 |
| 4b.1. Static card data | 0.3 | 0.02 | 60 | 11.0 | 19.5 | 89.8 | 89.3 | 71.4 | 71.4 |
| 4b.2. Network-sponsored online verification system | 0.0 | 0.00 | 66 | 0.0 | 0.0 | 89.8 | 89.3 | 71.4 | 71.4 |
| 4b.3. PIN-less debit | 0.0 | 0.00 | 51 | 1.2 | 1.8 | 89.8 | 89.3 | 71.4 | 71.4 |
| 4b.4. Other | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 89.8 | 89.3 | 71.4 | 71.4 |
| 5. POS Transactions by type of device | 2.7 | 0.08 | 30 | | | | | | |
| 5a. Transactions initiated from or via a mobile device | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 5.5 | 7.0 | 14.3 | 14.3 |
| 5b. Transactions not initiated with a mobile device | 2.7 | 0.08 | 30 | 87.8 | 78.7 | 5.5 | 7.0 | 14.3 | 14.3 |
| 6. NPT by payee location | 3.1 | 0.10 | 34 | | | | | | |
| 6a. Transactions with U.S. payees | 3.1 | 0.10 | 34 | 99.4 | 99.3 | 87.0 | 86.2 | 71.4 | 71.4 |
| 6b. Transactions with payees outside the U.S. | 0.0 | 0.00 | 37 | 0.6 | 0.7 | 87.0 | 86.2 | 71.4 | 71.4 |
| 7. NPT by transaction value range | 3.1 | 0.10 | 34 | | | | | | |
| 7a. Transactions authorized less than \$5.00 in total value | 0.6 | 0.00 | 3 | 19.9 | 1.6 | 89.6 | 89.2 | 57.1 | 57.1 |
| 7b. Transactions authorized \$5.00 to \$9.99 in total value | 0.6 | 0.00 | 7 | 20.1 | 4.3 | 89.6 | 89.2 | 57.1 | 57.1 |
| 7c. Transactions authorized \$10.00 to \$14.99 in total value | 0.4 | 0.00 | 12 | 12.7 | 4.5 | 89.6 | 89.2 | 57.1 | 57.1 |
| 7d. Transactions authorized \$15.00 to \$24.99 in total value | 0.5 | 0.01 | 19 | 15.0 | 8.6 | 89.6 | 89.2 | 57.1 | 57.1 |
| 7e. Transactions authorized \$25.00 to \$49.99 in total value | 0.5 | 0.02 | 34 | 16.1 | 16.4 | 89.6 | 89.2 | 57.1 | 57.1 |
| 7f. Transactions authorized \$50.00 or greater in total value | 0.5 | 0.07 | 133 | 16.3 | 64.6 | 89.6 | 89.2 | 57.1 | 57.1 |
| NPT by network type | 3.1 | 0.10 | 34 | | | | | | |
| Dual-message transactions ³ | 2.0 | 0.07 | 34 | 63.3 | 63.8 | | | | |
| Single-message transactions ³ | 1.1 | 0.04 | 34 | 36.7 | 36.2 | | | | |

Figures may not sum because of rounding. NPT represents net purchase transactions. POS represents point-of-sale.

¹ The total number of transactions are in billions while the total value of transactions are in trillions of USD.

² Two measures of response rate are given: 1) percentage of NPT from organizations that responded and 2) percentage of organizations that responded.

³ The blanks in the response rate columns indicate derived items.

Private-Label Credit Cards - Retail Merchant Issuer Survey

2012

Number of organizations
 included in census 10
 responded 8
 included in estimated totals 10

| Survey Item | Totals ¹ | | Avg Val (\$) | Item Shares of NPT (%) | | Response Rates ² | | | |
|---|---------------------|------------|-----------------|---------------------------|-------|-----------------------------|------|-------------------|------|
| | Num (BN) | Val (\$TR) | | Num | Val | NPT (%) | | Organizations (%) | |
| 5. Net purchase transactions (NPT) | 0.3 | 0.03 | 100 | 100.0 | 100.0 | 90.2 | 91.0 | 80.0 | 80.0 |
| 6. NPY by payment initiation method | 0.3 | 0.03 | 100 | | | | | | |
| 6a. Transactions at the point of sale | 0.2 | 0.02 | 98 | 97.6 | 96.3 | 90.2 | 91.0 | 80.0 | 80.0 |
| 6a.1. Chip | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 50.2 | 38.3 | 50.0 | 50.0 |
| 6a.2. No chip (including magnetic stripe) | 0.2 | 0.02 | 98 | 97.6 | 96.3 | 50.2 | 38.3 | 50.0 | 50.0 |
| 6b. Card-not-present/remote transactions | 0.0 | 0.00 | 153 | 2.4 | 3.7 | 90.2 | 91.0 | 80.0 | 80.0 |
| 7. POS Transactions by type of device | 0.2 | 0.02 | 98 | | | | | | |
| 7a. Transactions initiated from or via a mobile device | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 52.6 | 43.8 | 70.0 | 70.0 |
| 7b. Transactions not initiated with a mobile device | 0.2 | 0.02 | 98 | 97.6 | 96.3 | 52.6 | 43.8 | 70.0 | 70.0 |
| 8. NPT by type of payer | 0.3 | 0.03 | 100 | | | | | | |
| 8a. Consumer transactions | 0.2 | 0.02 | 102 | 92.1 | 93.8 | 89.5 | 90.6 | 70.0 | 70.0 |
| 8b. Business/government transactions | 0.0 | 0.00 | 77 | 7.9 | 6.2 | 89.5 | 90.6 | 70.0 | 70.0 |
| 8b.1. Procurement cards | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 89.5 | 90.6 | 70.0 | 70.0 |
| 8b.2. Fleet cards for fueling and vehicle expenses | 0.0 | 0.00 | 77 | 7.9 | 6.2 | 89.5 | 90.6 | 70.0 | 70.0 |
| 8b.3. Other | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 89.5 | 90.6 | 70.0 | 70.0 |
| 9. NPT by transaction value range | 0.3 | 0.03 | 100 | | | | | | |
| 9a. Transactions authorized less than \$5.00 in total value | 0.0 | 0.00 | 3 | 5.9 | 0.2 | 40.2 | 35.1 | 50.0 | 50.0 |
| 9b. Transactions authorized \$5.00 to \$9.99 in total value | 0.0 | 0.00 | 8 | 5.5 | 0.5 | 40.2 | 35.1 | 50.0 | 50.0 |
| 9c. Transactions authorized \$10.00 to \$14.99 in total value | 0.0 | 0.00 | 13 | 5.4 | 0.7 | 40.2 | 35.1 | 50.0 | 50.0 |
| 9d. Transactions authorized \$15.00 to \$24.99 in total value | 0.0 | 0.00 | 21 | 11.2 | 2.4 | 40.2 | 35.1 | 50.0 | 50.0 |
| 9e. Transactions authorized \$25.00 to \$49.99 in total value | 0.1 | 0.00 | 39 | 22.5 | 8.8 | 40.2 | 35.1 | 50.0 | 50.0 |
| 9f. Transactions authorized \$50.00 or greater in total value | 0.1 | 0.02 | 176 | 49.5 | 87.5 | 40.2 | 35.1 | 50.0 | 50.0 |

Figures may not sum because of rounding. NPT represents net purchase transactions.

¹ The total number of transactions are in billions while the total value of transactions are in trillions of USD.

² Two measures of response rate are given: 1) percentage of NPT from organizations that responded and 2) percentage of organizations that responded.

Private-Label Credit Cards - Processors

| <u>Number of organizations</u> | | 2012 |
|--------------------------------|----|-------------|
| included in census | 16 | |
| responded | 11 | |
| included in estimated totals | 16 | |

| Survey Item | Totals ¹ | | Avg Val (\$) | Item Shares of NPT (%) | | Response Rates ² | | | |
|---|---------------------|------------|-----------------|---------------------------|-------|-----------------------------|------|-------------------|------|
| | Num (BN) | Val (\$TR) | | Num | Val | NPT (%) | | Organizations (%) | |
| 4. Net purchase transactions (NPT) | 2.1 | 0.24 | 113 | 100.0 | 100.0 | 64.4 | 53.3 | 68.8 | 68.8 |
| 5. NPT by payment initiation method | 2.1 | 0.24 | 113 | | | | | | |
| 5a. Transactions at the point of sale | 2.1 | 0.23 | 110 | 98.7 | 96.7 | 42.7 | 34.9 | 50.0 | 50.0 |
| 5a.1. Chip | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 41.4 | 34.4 | 25.0 | 25.0 |
| 5a.2. No chip (including magnetic stripe) | 2.1 | 0.23 | 110 | 98.7 | 96.7 | 41.4 | 34.4 | 25.0 | 25.0 |
| 5b. Card-not-present/remote transactions | 0.0 | 0.01 | 295 | 1.3 | 3.3 | 42.7 | 34.9 | 50.0 | 50.0 |
| 6. POS Transactions by type of device | 2.1 | 0.23 | 110 | | | | | | |
| 6a. Transactions initiated from or via a mobile device | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 41.4 | 34.4 | 25.0 | 25.0 |
| 6b. Transactions not initiated with a mobile device | 2.1 | 0.23 | 110 | 98.7 | 96.7 | 41.4 | 34.4 | 25.0 | 25.0 |
| 7. NPT by type of payer | 2.1 | 0.24 | 113 | | | | | | |
| 7a. Consumer transactions | 1.3 | 0.14 | 105 | 61.8 | 57.7 | 61.9 | 44.5 | 56.3 | 56.3 |
| 7b. Business/government transactions | 0.8 | 0.10 | 125 | 38.2 | 42.3 | 61.9 | 44.5 | 56.3 | 56.3 |
| 7b.1. Procurement cards | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 40.6 | 27.2 | 43.8 | 43.8 |
| 7b.2. Fleet cards for fueling and vehicle expenses | 0.8 | 0.10 | 125 | 38.2 | 42.3 | 40.6 | 27.2 | 43.8 | 43.8 |
| 8. NPT by transaction value range | 2.1 | 0.24 | 113 | | | | | | |
| 8a. Transactions authorized less than \$5.00 in total value | 0.1 | 0.00 | 27 | 3.1 | 0.7 | 41.5 | 36.7 | 31.3 | 31.3 |
| 8b. Transactions authorized \$5.00 to \$9.99 in total value | 0.1 | 0.00 | 9 | 3.0 | 0.2 | 41.5 | 36.7 | 31.3 | 31.3 |
| 8c. Transactions authorized \$10.00 to \$14.99 in total value | 0.1 | 0.00 | 13 | 3.4 | 0.4 | 41.5 | 36.7 | 31.3 | 31.3 |
| 8d. Transactions authorized \$15.00 to \$24.99 in total value | 0.2 | 0.00 | 21 | 8.7 | 1.6 | 41.5 | 36.7 | 31.3 | 31.3 |
| 8e. Transactions authorized \$25.00 to \$49.99 in total value | 0.6 | 0.02 | 40 | 27.9 | 10.0 | 41.5 | 36.7 | 31.3 | 31.3 |
| 8f. Transactions authorized \$50.00 or greater in total value | 1.2 | 0.21 | 181 | 54.0 | 87.0 | 41.5 | 36.7 | 31.3 | 31.3 |

Figures may not sum because of rounding. NPT represents net purchase transactions.

¹ The total number of transactions are in billions while the total value of transactions are in trillions of USD.

² Two measures of response rate are given: 1) percentage of NPT from organizations that responded and 2) percentage of organizations that responded.

Private-Label Prepaid Cards - Non-transit

Number of organizations

2012

included in census 29
 responded 21
 included in estimated totals 29

| Survey Item | Totals ¹ | | Avg Val (\$) | Item Shares of NPT (%) | | Response Rates ² | | | |
|---|---------------------|------------|--------------|------------------------|-------|-----------------------------|------|-------------------|------|
| | Num (BN) | Val (\$TR) | | Num | Val | NPT (%) | | Organizations (%) | |
| 3. Net purchase transactions (NPT) | 3.6 | 0.05 | 13 | 100.0 | 100.0 | 95.8 | 89.9 | 72.4 | 72.4 |
| 4. NPT by payment initiation method | 3.6 | 0.05 | 13 | | | | | | |
| 4a. Transactions at the point of sale | 3.6 | 0.05 | 13 | 99.3 | 98.7 | 22.1 | 18.0 | 20.7 | 24.1 |
| 4a.1. Chip | 0.0 | 0.00 | 39 | 0.1 | 0.2 | 19.3 | 12.6 | 24.1 | 24.1 |
| 4a.2. No chip (including magnetic stripe) | 3.6 | 0.05 | 13 | 99.3 | 98.5 | 18.6 | 10.1 | 17.2 | 17.2 |
| 4b. Card-not-present/remote transactions | 0.0 | 0.00 | 24 | 0.7 | 1.3 | 22.1 | 15.6 | 20.7 | 20.7 |
| 5. POS Transactions by type of device | 3.6 | 0.05 | 13 | | | | | | |
| 5a. Transactions initiated from or via a mobile device | 0.2 | 0.00 | 9 | 6.2 | 4.3 | 19.6 | 12.0 | 13.8 | 13.8 |
| 5b. Transactions not initiated with a mobile device | 3.4 | 0.04 | 13 | 93.1 | 94.4 | 20.3 | 14.7 | 20.7 | 20.7 |
| 6. NPT by type of card | 3.6 | 0.05 | 13 | | | | | | |
| 6a. Gift card transactions | 3.6 | 0.05 | 13 | 99.8 | 99.5 | 57.8 | 56.2 | 31.0 | 31.0 |
| 6b. Transit card transactions | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 57.6 | 55.9 | 27.6 | 27.6 |
| 6c. Customer refund & incentive card transactions | 0.0 | 0.00 | 34 | 0.2 | 0.5 | 57.6 | 55.9 | 27.6 | 27.6 |
| 6d. Other private-label prepaid card transactions | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 57.6 | 55.9 | 27.6 | 27.6 |
| 7. NPT by transaction value range | 3.6 | 0.05 | 13 | | | | | | |
| 7a. Transactions authorized less than \$5.00 in total value | 2.1 | 0.01 | 5 | 59.3 | 23.1 | 19.7 | 12.3 | 17.2 | 17.2 |
| 7b. Transactions authorized \$5.00 to \$9.99 in total value | 0.9 | 0.01 | 11 | 24.5 | 21.8 | 19.7 | 12.3 | 17.2 | 17.2 |
| 7c. Transactions authorized \$10.00 to \$14.99 in total value | 0.2 | 0.00 | 20 | 6.2 | 9.5 | 19.7 | 12.3 | 17.2 | 17.2 |
| 7d. Transactions authorized \$15.00 to \$24.99 in total value | 0.2 | 0.01 | 32 | 4.6 | 11.4 | 19.7 | 12.3 | 17.2 | 17.2 |
| 7e. Transactions authorized \$25.00 to \$49.99 in total value | 0.1 | 0.01 | 52 | 3.8 | 15.3 | 19.7 | 12.3 | 17.2 | 17.2 |
| 7f. Transactions authorized \$50.00 or greater in total value | 0.1 | 0.01 | 143 | 1.7 | 18.9 | 19.7 | 12.3 | 17.2 | 17.2 |
| Card funding | | | | | | | | | |
| 8. Total credits/loads | 2.8 | 0.05 | 16 | 77.5 | 98.5 | 57.3 | 57.2 | 37.9 | 41.4 |
| 8a. Initial loads | 1.9 | 0.03 | 16 | 53.1 | 66.1 | 58.4 | 57.2 | 34.5 | 34.5 |
| 8b. Reloads | 0.9 | 0.02 | 17 | 24.4 | 32.4 | 56.3 | 54.3 | 34.5 | 34.5 |
| 8c. Other credits/loads | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 56.0 | 53.9 | 31.0 | 31.0 |
| 9. Card funding method | 2.8 | 0.05 | 16 | 77.5 | 98.5 | 55.2 | 54.9 | 24.1 | 27.6 |
| 9a. Cash | 2.8 | 0.02 | 6 | 77.5 | 38.2 | 0.7 | 2.6 | 6.9 | 6.9 |
| 9b. Check | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 0.1 | 0.2 | 3.4 | 3.4 |
| 9c. Credit card | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 0.1 | 0.2 | 3.4 | 3.4 |
| 9d. Debit card | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 0.1 | 0.2 | 3.4 | 3.4 |
| 9e. ACH | 0.0 | 0.03 | 0 | 0.0 | 60.3 | 0.1 | 2.6 | 3.4 | 6.9 |
| 9f. Other funding methods | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 0.1 | 0.2 | 3.4 | 3.4 |
| Cash withdrawals | | | | | | | | | |
| 10. CY 2012 Approved cash withdrawals | 0.0 | 0.00 | 356 | 0.0 | 0.5 | 55.8 | 55.1 | 31.0 | 31.0 |

Figures may not sum because of rounding. NPT represents net purchase transactions.

¹ The total number of transactions are in billions while the total value of transactions are in trillions of USD.

² Two measures of response rate are given: 1) percentage of NPT from organizations that responded and 2) percentage of organizations that responded.

General-Purpose Prepaid Cards - Processors

| | | <u>Number of organizations</u> | | 2012 | | | | | | |
|---|---------------------|--------------------------------|--------------|------------------------|-------|-----------------------------|------|-------------------|------|--|
| | | included in census | 35 | | | | | | | |
| | | responded | 26 | | | | | | | |
| | | included in estimated totals | 35 | | | | | | | |
| Survey Item | Totals ¹ | | Avg Val (\$) | Item Shares of NPT (%) | | Response Rates ² | | | | |
| | Num (MM) | Val (\$BN) | | Num | Val | NPT (%) | | Organizations (%) | | |
| 3. Net purchase transactions (NPT) | 4,902.9 | 162.19 | 33 | 100.0 | 100.0 | 90.3 | 87.6 | 74.3 | 74.3 | |
| 4. NPT by payment initiation method | 4,902.9 | 162.19 | 33 | | | | | | | |
| 4a. Transactions at the point of sale | 4,224.8 | 135.68 | 32 | 86.2 | 83.7 | 59.2 | 67.3 | 54.3 | 54.3 | |
| 4a.1. Chip | 10.5 | 0.26 | 25 | 0.2 | 0.2 | 39.3 | 48.4 | 42.9 | 42.9 | |
| 4a.2. No chip (including magnetic stripe) | 4,214.3 | 135.41 | 32 | 86.0 | 83.5 | 39.3 | 48.4 | 42.9 | 42.9 | |
| 4b. Card-not-present/remote transactions | 678.2 | 26.51 | 39 | 13.8 | 16.3 | 58.5 | 66.7 | 45.7 | 45.7 | |
| 5. POS Transactions by type of device | 4,224.8 | 135.68 | 32 | | | | | | | |
| 5a. Transactions initiated from or via a mobile device | 1.2 | 0.01 | 12 | 0.0 | 0.0 | 49.7 | 66.2 | 31.4 | 31.4 | |
| 5b. Transactions not initiated with a mobile device | 4,223.6 | 135.66 | 32 | 86.1 | 83.6 | 49.5 | 65.6 | 31.4 | 31.4 | |
| 6 NPT by payee location | 4,902.9 | 162.19 | 33 | | | | | | | |
| 6a. Transactions with U.S. payees | 4,737.4 | 145.55 | 31 | 96.6 | 89.7 | 54.9 | 71.0 | 48.6 | 48.6 | |
| 6b. Transactions with payees outside the U.S. | 165.5 | 16.64 | 101 | 3.4 | 10.3 | 54.9 | 71.0 | 48.6 | 48.6 | |
| 7. NPT by type of card | 4,902.9 | 162.19 | 33 | | | | | | | |
| 7a. General-purpose prepaid card transactions | 1,656.4 | 46.47 | 28 | 33.8 | 28.7 | 57.1 | 70.4 | 57.1 | 57.1 | |
| 7b. Gift card transactions | 524.7 | 10.24 | 20 | 10.7 | 6.3 | 57.1 | 70.4 | 57.1 | 57.1 | |
| 7c. Medical card transactions | 350.2 | 17.12 | 49 | 7.1 | 10.6 | 57.1 | 70.4 | 57.1 | 57.1 | |
| 7d. Customer refund & incentive card transactions | 245.6 | 6.01 | 24 | 5.0 | 3.7 | 57.1 | 70.4 | 57.1 | 57.1 | |
| 7e. Payroll card transactions | 743.6 | 17.18 | 23 | 15.2 | 10.6 | 57.1 | 70.4 | 57.1 | 57.1 | |
| 7f. Government card transactions | 817.2 | 31.16 | 38 | 16.7 | 19.2 | 57.1 | 70.4 | 57.1 | 57.1 | |
| 7g. Other general-purpose prepaid card transactions | 565.2 | 34.02 | 60 | 11.5 | 21.0 | 57.1 | 60.4 | 57.1 | 54.3 | |
| 8. NPT by transaction value range | 4,902.9 | 162.19 | 33 | | | | | | | |
| 8a. Transactions authorized less than \$5.00 in total value | 1,057.3 | 2.73 | 3 | 21.6 | 1.7 | 25.1 | 26.4 | 31.4 | 31.4 | |
| 8b. Transactions authorized \$5.00 to \$9.99 in total value | 1,007.2 | 6.78 | 7 | 20.5 | 4.2 | 25.1 | 26.4 | 31.4 | 31.4 | |
| 8c. Transactions authorized \$10.00 to \$14.99 in total value | 640.6 | 9.06 | 14 | 13.1 | 5.6 | 25.1 | 26.4 | 31.4 | 31.4 | |
| 8d. Transactions authorized \$15.00 to \$24.99 in total value | 655.4 | 10.36 | 16 | 13.4 | 6.4 | 25.1 | 26.4 | 31.4 | 31.4 | |
| 8e. Transactions authorized \$25.00 to \$49.99 in total value | 741.1 | 23.99 | 32 | 15.1 | 14.8 | 25.1 | 26.4 | 31.4 | 31.4 | |
| 8f. Transactions authorized \$50.00 or greater in total value | 801.4 | 109.28 | 136 | 16.3 | 67.4 | 25.1 | 26.4 | 31.4 | 31.4 | |
| Card funding | | | | | | | | | | |
| 9. Total credits/loads | 1,145.3 | 282.84 | 247 | 23.4 | 174.4 | 55.3 | 63.1 | 54.3 | 54.3 | |
| 9a. Initial loads | 524.1 | 128.91 | 246 | 10.7 | 79.5 | 36.3 | 37.9 | 37.1 | 37.1 | |
| 9b. Reloads | 612.7 | 153.30 | 250 | 12.5 | 94.5 | 36.8 | 38.2 | 40.0 | 40.0 | |
| 9c. Other credits/loads | 8.5 | 0.64 | 75 | 0.2 | 0.4 | 36.4 | 37.8 | 40.0 | 37.1 | |
| 10. Card funding method | 1,145.3 | 282.84 | 247 | 23.4 | 174.4 | 55.3 | 63.1 | 54.3 | 54.3 | |
| 10a. Cash | 423.9 | 60.24 | 142 | 8.6 | 37.1 | 27.5 | 25.3 | 34.3 | 34.3 | |
| 10b. Check | 15.5 | 3.76 | 243 | 0.3 | 2.3 | 27.5 | 25.3 | 34.3 | 34.3 | |
| 10c. Credit card | 1.3 | 0.11 | 86 | 0.0 | 0.1 | 27.5 | 25.3 | 34.3 | 34.3 | |
| 10d. Debit card | 0.3 | 0.06 | 227 | 0.0 | 0.0 | 27.4 | 25.2 | 31.4 | 31.4 | |
| 10e. ACH | 514.9 | 134.12 | 260 | 10.5 | 82.7 | 27.5 | 25.3 | 34.3 | 34.3 | |
| 10f. Other | 189.5 | 84.57 | 446 | 3.9 | 52.1 | 27.5 | 25.3 | 34.3 | 34.3 | |

Figures may not sum because of rounding. NPT represents net purchase transactions.

¹ The total number of transactions are in millions while the total value of transactions are in billions of USD.

² Two measures of response rate are given: 1) percentage of NPT from organizations that responded and 2) percentage of organizations that responded.

Private-Label Prepaid Cards - Transit

| Number of organizations | |
|------------------------------|----|
| included in census | 24 |
| responded | 20 |
| included in estimated totals | 24 |

2012

| Survey Item | Totals ^{1,3} | | Avg Val (\$) | Item Shares of NPT (%) | | Response Rates ² | | | | |
|---|-----------------------|------------|-----------------|---------------------------|-------|-----------------------------|------|-------------------|------|--|
| | Num (MM) | Val (\$BN) | | Num | Val | NPT (%) | | Organizations (%) | | |
| 3. Net purchase transactions (NPT) | 4,708.4 | 7.93 | 2 | 100.0 | 100.0 | 87.5 | 91.9 | 83.3 | 83.3 | |
| 4. NPT by payment initiation method | 4,708.4 | 7.93 | 2 | | | | | | | |
| 4a. Transactions at the point of sale | 4,446.1 | 5.86 | 1 | 94.4 | 73.9 | 18.4 | 13.9 | 45.8 | 45.8 | |
| 4a.1. Chip | 4,016.0 | 4.08 | 1 | 85.3 | 51.4 | 18.1 | 13.7 | 41.7 | 41.7 | |
| 4a.2. No chip (including magnetic stripe) | 430.0 | 1.78 | 4 | 9.1 | 22.5 | 20.5 | 15.5 | 45.8 | 45.8 | |
| 4b. Card-not-present/remote transactions | 262.3 | 2.07 | 8 | 5.6 | 26.1 | 20.8 | 15.8 | 50.0 | 50.0 | |
| 5. POS Transactions by type of device | 4,446.1 | 5.86 | 1 | | | | | | | |
| 5a. Transactions initiated from or via a mobile device | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 7.4 | 8.0 | 20.8 | 20.8 | |
| 5b. Transactions not initiated with a mobile device | 4,446.1 | 5.86 | 1 | 94.4 | 73.9 | 7.4 | 8.0 | 20.8 | 20.8 | |
| 7. NPT by transaction value range | 4,708.4 | 7.93 | 2 | | | | | | | |
| 7a. Transactions authorized less than \$5.00 in total value | 2,865.7 | 0.69 | 0 | 60.9 | 8.6 | 19.0 | 13.4 | 37.5 | 37.5 | |
| 7b. Transactions authorized \$5.00 to \$9.99 in total value | 541.4 | 0.54 | 1 | 11.5 | 6.8 | 17.6 | 12.7 | 33.3 | 33.3 | |
| 7c. Transactions authorized \$10.00 to \$14.99 in total value | 965.2 | 3.17 | 3 | 20.5 | 40.0 | 17.6 | 12.7 | 33.3 | 33.3 | |
| 7d. Transactions authorized \$15.00 to \$24.99 in total value | 245.5 | 1.23 | 5 | 5.2 | 15.5 | 17.6 | 12.7 | 33.3 | 33.3 | |
| 7e. Transactions authorized \$25.00 to \$49.99 in total value | 41.7 | 0.28 | 7 | 0.9 | 3.6 | 17.6 | 12.7 | 33.3 | 33.3 | |
| 7f. Transactions authorized \$50.00 or greater in total value | 48.9 | 2.02 | 41 | 1.0 | 25.5 | 17.6 | 12.7 | 33.3 | 33.3 | |
| Card funding | | | | | | | | | | |
| 8. Total credits/loads | 486.3 | 8.32 | 17 | 10.3 | 104.9 | 72.1 | 55.9 | 50.0 | 50.0 | |
| 8a. Initial loads | 216.4 | 4.50 | 21 | 4.6 | 56.7 | 59.6 | 45.6 | 25.0 | 25.0 | |
| 8b. Reloads | 267.1 | 3.70 | 14 | 5.7 | 46.7 | 59.6 | 45.6 | 25.0 | 25.0 | |
| 8c. Other credits/loads | 2.8 | 0.12 | 44 | 0.1 | 1.5 | 59.6 | 45.6 | 25.0 | 25.0 | |
| 9. Card funding method | 486.3 | 8.32 | 17 | 10.3 | 104.9 | 69.7 | 53.4 | 45.8 | 41.7 | |
| 9a. Cash | 334.3 | 3.58 | 11 | 7.1 | 45.1 | 69.7 | 53.4 | 45.8 | 41.7 | |
| 9b. Check | 4.1 | 0.36 | 88 | 0.1 | 4.5 | 69.7 | 53.4 | 45.8 | 41.7 | |
| 9c. Credit card | 93.7 | 2.88 | 31 | 2.0 | 36.3 | 69.7 | 53.4 | 45.8 | 41.7 | |
| 9d. Debit card | 53.5 | 1.29 | 24 | 1.1 | 16.3 | 69.7 | 53.4 | 45.8 | 41.7 | |
| 9e. ACH | 0.1 | 0.21 | 1,393 | 0.0 | 2.6 | 69.7 | 53.4 | 45.8 | 41.7 | |
| 9f. Other funding methods | 0.5 | 0.01 | 12 | 0.0 | 0.1 | 69.7 | 53.4 | 45.8 | 41.7 | |
| Cash withdrawals | | | | | | | | | | |
| 10. CY 2012 Approved cash withdrawals | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 15.8 | 11.5 | 29.2 | 29.2 | |

Figures may not sum because of rounding. NPT represents net purchase transactions.

¹ The total number of transactions are in millions while the total value of transactions are in billions of USD.

² Two measures of response rate are given: 1) percentage of NPT from organizations that responded and 2) percentage of organizations that responded.

³ The totals for each item are the direct sum of organizations that responded and only represent the lower bounds for national estimates.

Far-Field RFID Payments - Processors

| <u>Number of organizations</u> | | 2012 |
|--------------------------------|----|------|
| included in census | 18 | |
| responded | 18 | |
| included in estimated totals | 18 | |

| Survey Item | Totals ^{1,3} | | Avg Val (\$) | Item Shares of TOT (%) | | Response Rates ² | | | |
|---|-----------------------|------------|-----------------|---------------------------|-------|-----------------------------|-------|-------------------|-------|
| | Num (MM) | Val (\$BN) | | Num | Val | TOT (%) | | Organizations (%) | |
| 1. Total transactions (TOT) | 5,224.1 | 9.91 | 2 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2. TOT by transaction value range | 5,224.1 | 9.91 | 2 | | | | | | |
| 2a. Transactions authorized less than \$5.00 in total value | 5,176.7 | 8.93 | 2 | 99.1 | 90.1 | 47.2 | 25.8 | 61.1 | 61.1 |
| 2b. Transactions authorized \$5.00 to \$9.99 in total value | 36.9 | 0.39 | 11 | 0.7 | 3.9 | 47.2 | 25.8 | 61.1 | 61.1 |
| 2c. Transactions authorized \$10.00 to \$14.99 in total value | 0.5 | 0.01 | 22 | 0.0 | 0.1 | 47.2 | 25.8 | 61.1 | 61.1 |
| 2d. Transactions authorized \$15.00 to \$24.99 in total value | 3.5 | 0.13 | 37 | 0.1 | 1.3 | 47.2 | 25.8 | 61.1 | 61.1 |
| 2e. Transactions authorized \$25.00 to \$49.99 in total value | 5.8 | 0.37 | 64 | 0.1 | 3.7 | 47.2 | 25.8 | 61.1 | 61.1 |
| 2f. Transactions authorized \$50.00 or greater in total value | 0.7 | 0.08 | 107 | 0.0 | 0.8 | 47.2 | 25.8 | 61.1 | 61.1 |
| 3. Funding method | 1,186.4 | 11.72 | 10 | 22.7 | 118.3 | 38.0 | 31.6 | 61.1 | 77.8 |
| 3a. Cash | 5.1 | 0.17 | 33 | 0.1 | 1.7 | 31.1 | 22.3 | 50.0 | 55.6 |
| 3b. Check | 61.5 | 0.31 | 5 | 1.2 | 3.1 | 33.1 | 22.3 | 55.6 | 55.6 |
| 3c. Credit card | 851.5 | 9.68 | 11 | 16.3 | 97.7 | 31.9 | 22.6 | 50.0 | 61.1 |
| 3d. Debit card | 66.4 | 1.40 | 21 | 1.3 | 14.2 | 33.0 | 22.3 | 50.0 | 50.0 |
| 3e. ACH | 199.5 | 0.13 | 1 | 3.8 | 1.3 | 39.0 | 26.6 | 61.1 | 61.1 |
| 3f. Other | 2.5 | 0.03 | 11 | 0.0 | 0.3 | 33.9 | 22.6 | 61.1 | 61.1 |

Figures may not sum because of rounding. TOT represents total transactions.

¹ The total number of transactions are in millions while the total value of transactions are in billions of USD.

² Two measures of response rate are given: 1) percentage of TOT from organizations that responded and 2) percentage of organizations that responded.

³ The totals for each item are the direct sum of organizations that responded and only represent the lower bounds for national total estimates.

P2P & Money Transfers - Processors

| <u>Number of organizations</u> | | 2012 |
|--------------------------------|----|------|
| included in census | 14 | |
| responded | 12 | |
| included in estimated totals | 14 | |

| Survey Item | Totals ^{1,3} | | Avg Val (\$) | Item Shares of TOT (%) | | Response Rates ² | | | |
|---|-----------------------|------------|-----------------|---------------------------|-------|-----------------------------|------|-------------------|------|
| | Num (MM) | Val (\$BN) | | Num | Val | TOT (%) | | Organizations (%) | |
| 1. Total transactions (TOT) | 205.3 | 91.52 | 446 | 100.0 | 100.0 | 93.1 | 97.9 | 85.7 | 85.7 |
| 2. TOT by payee location | 205.3 | 91.52 | 446 | | | | | | |
| 2a. Transactions with U.S. payees | 96.2 | 57.28 | 596 | 46.8 | 62.6 | 48.7 | 73.6 | 64.3 | 64.3 |
| 2b. Transactions with payees outside the U.S. | 109.1 | 34.24 | 314 | 53.2 | 37.4 | 48.7 | 73.6 | 64.3 | 64.3 |
| 3. TOT by transaction value range | 205.3 | 91.52 | 446 | | | | | | |
| 3a. Transactions authorized less than \$5.00 in total value | 2.9 | 0.01 | 3 | 1.4 | 0.0 | 57.6 | 37.8 | 64.3 | 64.3 |
| 3b. Transactions authorized \$5.00 to \$9.99 in total value | 2.6 | 0.03 | 10 | 1.2 | 0.0 | 57.6 | 37.8 | 64.3 | 64.3 |
| 3c. Transactions authorized \$10.00 to \$14.99 in total value | 3.8 | 0.06 | 17 | 1.8 | 0.1 | 57.6 | 37.8 | 64.3 | 64.3 |
| 3d. Transactions authorized \$15.00 to \$24.99 in total value | 7.9 | 0.23 | 29 | 3.9 | 0.3 | 57.6 | 37.8 | 64.3 | 64.3 |
| 3e. Transactions authorized \$25.00 to \$49.99 in total value | 18.3 | 0.97 | 53 | 8.9 | 1.1 | 57.6 | 37.8 | 64.3 | 64.3 |
| 3f. Transactions authorized \$50.00 or greater in total value | 169.8 | 90.22 | 531 | 82.7 | 98.6 | 57.6 | 37.8 | 64.3 | 64.3 |
| 4. TOT by type of clearing system | 205.3 | 91.52 | 446 | | | | | | |
| 4a. Credit card/signature debit networks | 16.2 | 2.09 | 129 | 7.9 | 2.3 | 35.4 | 62.5 | 57.1 | 57.1 |
| 4b. EFT PIN debit networks | 1.4 | 0.30 | 215 | 0.7 | 0.3 | 35.4 | 62.5 | 57.1 | 57.1 |
| 4c. ACH | 23.5 | 7.94 | 338 | 11.4 | 8.7 | 35.4 | 62.5 | 57.1 | 57.1 |
| 4d. Cash collected/book transfer | 32.4 | 5.43 | 168 | 15.8 | 5.9 | 35.4 | 62.5 | 57.1 | 57.1 |
| 4e. Other | 131.8 | 75.76 | 575 | 64.2 | 82.8 | 35.4 | 62.5 | 57.1 | 57.1 |
| 5. TOT by type of origination channel | 205.3 | 91.52 | 446 | | | | | | |
| 5a. Website | 49.5 | 34.07 | 688 | 24.1 | 37.2 | 34.9 | 61.7 | 50.0 | 50.0 |
| 5b. Mobile phone | 16.6 | 2.15 | 129 | 8.1 | 2.3 | 34.9 | 61.7 | 50.0 | 50.0 |
| 5c. In-person | 135.1 | 54.58 | 404 | 65.8 | 59.6 | 35.4 | 62.5 | 57.1 | 57.1 |
| 5d. Other | 4.1 | 0.72 | 176 | 2.0 | 0.8 | 35.4 | 62.5 | 57.1 | 57.1 |

Figures may not sum because of rounding. TOT represents total transactions.

¹ The total number of transactions are in millions while the total value of transactions are in billions of USD.

² Two measures of response rate are given: 1) percentage of TOT from organizations that responded and 2) percentage of organizations that responded.

³ The totals for each item are the direct sum of organizations that responded and only represent the lower bounds for national total estimates.

Online Bill Payments - Processors

| Survey Item | Totals ^{1,3} | | Avg Val (\$) | Item Shares of TOT (%) | | Response Rates ² | | | |
|---|-----------------------|-----------------|-----------------|---------------------------|--------------|-----------------------------|-------------|-------------------|-------------|
| | Num (MM) | Val (\$BN) | | Num | Val | TOT (%) | | Organizations (%) | |
| Number of organizations | | | | | | | | | |
| included in census | 21 | | | | | | | | |
| responded | 12 | | | | | | | | |
| included in estimated totals | 14 | | | | | | | | |
| 2012 | | | | | | | | | |
| 1. Bank/intermediary online bill payment transactions | 2,836.1 | 1,050.17 | 370 | 91.6 | 89.0 | 98.8 | 98.1 | 57.1 | 57.1 |
| 2. Biller direct online bill payment transactions | 261.3 | 130.22 | 498 | 8.4 | 11.0 | 98.8 | 98.1 | 57.1 | 57.1 |
| Total online bill payments (TOT) | 3,097.4 | 1,180.39 | 381 | 100.0 | 100.0 | 98.8 | 98.1 | 57.1 | 57.1 |
| 3. TOT by transaction value range – Bank/intermediary OLBP | 2,836.1 | 1,050.17 | 370 | | | | | | |
| 3a. Transactions authorized less than \$5.00 in total value | 16.4 | 0.04 | 2 | 0.5 | 0.0 | 81.1 | 81.7 | 38.1 | 38.1 |
| 3b. Transactions authorized \$5.00 to \$9.99 in total value | 24.1 | 0.17 | 7 | 0.8 | 0.0 | 81.1 | 81.7 | 38.1 | 38.1 |
| 3c. Transactions authorized \$10.00 to \$14.99 in total value | 41.6 | 0.50 | 12 | 1.3 | 0.0 | 81.1 | 81.7 | 38.1 | 38.1 |
| 3d. Transactions authorized \$15.00 to \$24.99 in total value | 111.9 | 2.20 | 20 | 3.6 | 0.2 | 81.1 | 81.7 | 38.1 | 38.1 |
| 3e. Transactions authorized \$25.00 to \$49.99 in total value | 359.8 | 12.64 | 35 | 11.6 | 1.1 | 81.1 | 81.7 | 38.1 | 38.1 |
| 3f. Transactions authorized \$50.00 or greater in total value | 2,282.3 | 1,034.62 | 453 | 73.7 | 87.7 | 81.1 | 81.7 | 38.1 | 38.1 |
| 4. TOT by transaction value range – Biller direct OLBP | 261.3 | 130.22 | 498 | | | | | | |
| 4a. Transactions authorized less than \$5.00 in total value | 0.6 | 0.00 | 2 | 0.0 | 0.0 | 81.7 | 81.1 | 52.4 | 52.4 |
| 4b. Transactions authorized \$5.00 to \$9.99 in total value | 0.5 | 0.00 | 5 | 0.0 | 0.0 | 81.7 | 81.1 | 52.4 | 52.4 |
| 4c. Transactions authorized \$10.00 to \$14.99 in total value | 1.5 | 0.01 | 10 | 0.0 | 0.0 | 81.7 | 81.1 | 52.4 | 52.4 |
| 4d. Transactions authorized \$15.00 to \$24.99 in total value | 5.9 | 0.09 | 15 | 0.2 | 0.0 | 81.7 | 81.1 | 52.4 | 52.4 |
| 4e. Transactions authorized \$25.00 to \$49.99 in total value | 12.8 | 0.39 | 30 | 0.4 | 0.0 | 81.7 | 81.1 | 52.4 | 52.4 |
| 4f. Transactions authorized \$50.00 or greater in total value | 240.1 | 129.72 | 540 | 7.8 | 11.0 | 81.7 | 81.1 | 52.4 | 52.4 |
| 5. TOT by type of settlement system - Bank/intermediary OLBP | 2,836.1 | 1,050.17 | 370 | 91.6 | 89.0 | | | | |
| 5a. ACH | 1,550.6 | 519.25 | 335 | 50.1 | 44.0 | 91.6 | 95.2 | 38.1 | 38.1 |
| 5b. Check | 478.0 | 219.04 | 458 | 15.4 | 18.6 | 91.6 | 95.2 | 38.1 | 38.1 |
| 5c. Other | 807.6 | 311.88 | 386 | 26.1 | 26.4 | 91.6 | 95.2 | 38.1 | 38.1 |

Figures may not sum because of rounding. TOT represents total online bill payments. OLBP represents online bill payments.

¹ The total number of transactions are in millions while the total value of transactions are in billions of USD.

² Two measures of response rate are given: 1) percentage of TOT from organizations that responded and 2) percentage of organizations that responded.

³ The totals for each item are the direct sum of organizations that responded and only represent the lower bounds for national total estimates.

Walk-in Bill Payments - Processors

| | | <u>Number of organizations</u> | | | 2012 | | | | | |
|---|-----------------------|--------------------------------|--------------|------------------------|-------|-------------------------------------|------|-------------------|------|--|
| | | included in census | | | 18 | | | | | |
| | | responded | | | 10 | | | | | |
| | | included in estimated totals | | | 14 | | | | | |
| Survey Item | Totals ^{1,3} | | Avg Val (\$) | Item Shares of TOT (%) | | Response Rates ² TOT (%) | | Organizations (%) | | |
| | Num (MM) | Val (\$BN) | | Num | Val | Num | Val | Num | Val | |
| 1. Total transactions (TOT) | 285.6 | 43.81 | 153 | 100.0 | 100.0 | 82.6 | 89.0 | 55.6 | 55.6 | |
| 2. TOT by transaction value range | 285.6 | 43.81 | 153 | | | | | | | |
| 2a. Transactions authorized less than \$5.00 in total value | 1.3 | 0.00 | 3 | 0.4 | 0.0 | 48.8 | 43.5 | 27.8 | 27.8 | |
| 2b. Transactions authorized \$5.00 to \$9.99 in total value | 3.6 | 0.03 | 9 | 1.2 | 0.1 | 48.8 | 43.5 | 27.8 | 27.8 | |
| 2c. Transactions authorized \$10.00 to \$14.99 in total value | 6.1 | 0.08 | 14 | 2.1 | 0.2 | 48.8 | 43.5 | 27.8 | 27.8 | |
| 2d. Transactions authorized \$15.00 to \$24.99 in total value | 16.4 | 0.37 | 23 | 5.7 | 0.9 | 48.8 | 43.5 | 27.8 | 27.8 | |
| 2e. Transactions authorized \$25.00 to \$49.99 in total value | 46.9 | 1.96 | 42 | 16.4 | 4.5 | 48.8 | 43.5 | 27.8 | 27.8 | |
| 2f. Transactions authorized \$50.00 or greater in total value | 211.4 | 41.36 | 196 | 74.0 | 94.4 | 48.8 | 43.5 | 27.8 | 27.8 | |
| 3. TOT by type of settlement system | 285.6 | 43.81 | 153 | | | | | | | |
| 3a. ACH | 276.9 | 41.39 | 149 | 96.9 | 94.5 | 46.7 | 41.9 | 22.2 | 22.2 | |
| 3b. Check | 0.0 | 0.00 | 122 | 0.0 | 0.0 | 46.7 | 41.9 | 22.2 | 22.2 | |
| 3c. Book transfer (cash payments) | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 46.7 | 41.9 | 22.2 | 22.2 | |
| 3d. Other | 8.7 | 2.42 | 277 | 3.0 | 5.5 | 46.7 | 41.9 | 22.2 | 22.2 | |
| 4. TOT by funding method | 285.6 | 43.81 | 153 | | | | | | | |
| 4a. Cash | 261.8 | 37.81 | 144 | 91.7 | 86.3 | 42.8 | 32.8 | 22.2 | 22.2 | |
| 4b. Check | 22.9 | 5.83 | 254 | 8.0 | 13.3 | 42.8 | 32.8 | 22.2 | 22.2 | |
| 4c. Credit card | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 42.8 | 32.8 | 22.2 | 22.2 | |
| 4d. Debit card | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 42.8 | 32.8 | 22.2 | 22.2 | |
| 4e. ACH | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 42.8 | 32.8 | 22.2 | 22.2 | |
| 4f. Other | 0.9 | 0.18 | 202 | 0.3 | 0.4 | 42.8 | 32.8 | 22.2 | 22.2 | |

Figures may not sum because of rounding. TOT represents total transactions.

¹ The total number of transactions are in millions while the total value of transactions are in billions of USD.

² Two measures of response rate are given: 1) percentage of TOT from organizations that responded and 2) percentage of organizations that responded.

³ The totals for each item are the direct sum of organizations that responded and only represent the lower bounds for national total estimates.

Private-Label ACH Debit Cards - Processors

| | | <u>Number of organizations</u> | | | 2012 | | | | | |
|---|-----------------------|--------------------------------|--------------|------------------------|-------|-------------------------------------|------|-------------------|------|--|
| | | included in census | | | 6 | | | | | |
| | | responded | | | 5 | | | | | |
| | | included in estimated totals | | | 6 | | | | | |
| Survey Item | Totals ^{1,3} | | Avg Val (\$) | Item Shares of NPT (%) | | Response Rates ² NPT (%) | | Organizations (%) | | |
| | Num (MM) | Val (\$BN) | | Num | Val | Num | Val | Num | Val | |
| 3. Net purchase transactions (NPT) | 104.5 | 7.37 | 71 | 100.0 | 100.0 | 78.5 | 62.1 | 83.3 | 83.3 | |
| 4. NPT by transaction value range | 104.5 | 7.37 | 71 | | | | | | | |
| 4a. Transactions authorized less than \$5.00 in total value | 15.4 | 0.06 | 4 | 14.8 | 0.8 | 75.3 | 59.7 | 50.0 | 50.0 | |
| 4b. Transactions authorized \$5.00 to \$9.99 in total value | 9.4 | 0.09 | 10 | 9.0 | 1.3 | 75.3 | 59.7 | 50.0 | 50.0 | |
| 4c. Transactions authorized \$10.00 to \$14.99 in total value | 7.3 | 0.12 | 17 | 7.0 | 1.7 | 75.3 | 59.7 | 50.0 | 50.0 | |
| 4d. Transactions authorized \$15.00 to \$24.99 in total value | 12.6 | 0.34 | 27 | 12.0 | 4.7 | 75.3 | 59.7 | 50.0 | 50.0 | |
| 4e. Transactions authorized \$25.00 to \$49.99 in total value | 23.0 | 1.16 | 50 | 22.0 | 15.7 | 75.3 | 59.7 | 50.0 | 50.0 | |
| 4f. Transactions authorized \$50.00 or greater in total value | 36.8 | 5.59 | 152 | 35.2 | 75.9 | 75.3 | 59.7 | 50.0 | 50.0 | |
| 5. NPT by merchant settlement method | 104.5 | 7.37 | 71 | | | | | | | |
| 5a. ACH | 104.5 | 7.37 | 71 | 100.0 | 100.0 | 75.3 | 59.7 | 50.0 | 50.0 | |
| 5b. Wire | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 75.3 | 59.7 | 50.0 | 50.0 | |
| 5c. Other | 0.0 | 0.00 | 0 | 0.0 | 0.0 | 75.3 | 59.7 | 50.0 | 50.0 | |

Figures may not sum because of rounding. NPT represents net purchase transactions.

¹ The total number of transactions are in millions while the total value of transactions are in billions of USD.

² Two measures of response rate are given: 1) percentage of NPT from organizations that responded and 2) percentage of organizations that responded.

³ The totals for each item are the direct sum of organizations that responded and only represent the lower bounds for national total estimates.

Secure Online Payments - Processors

| | | <u>Number of organizations</u> | | 2012 | | | | | |
|---|-----------------------|--------------------------------|--------------|------------------------|-------|-----------------------------|------|-------------------|------|
| | | included in census | | | | | | | |
| | | responded | | | | | | | |
| | | included in estimated totals | | | | | | | |
| Survey Item | Totals ^{1,3} | | Avg Val (\$) | Item Shares of TOT (%) | | Response Rates ² | | | |
| | Num (MM) | Val (\$BN) | | Num | Val | TOT (%) | | Organizations (%) | |
| 1. Total transactions (TOT) | 1,819.5 | 93.03 | 51 | 100.0 | 100.0 | 91.2 | 91.4 | 58.3 | 58.3 |
| 1a. Redirected from the merchant or biller site | 1,539.2 | 70.14 | 46 | 84.6 | 75.4 | 34.4 | 12.7 | 33.3 | 33.3 |
| 1a.1. eCommerce secure online credit card payments | 1,537.1 | 69.21 | 45 | 84.5 | 74.4 | 34.4 | 12.7 | 33.3 | 33.3 |
| 1a.2. eCommerce secure online PIN debit payments | 2.1 | 0.93 | 442 | 0.1 | 1.0 | 34.4 | 12.7 | 33.3 | 33.3 |
| 1b. Secure online prepaid/escrow-account e.g., PayPal | 51.8 | 0.98 | 19 | 2.8 | 1.1 | 34.4 | 12.7 | 33.3 | 33.3 |
| 1c. Other secure eCommerce payments | 228.6 | 21.90 | 96 | 12.6 | 23.5 | 34.4 | 12.7 | 33.3 | 33.3 |
| 2. NPT by transaction value range | 1,819.5 | 93.03 | 51 | | | | | | |
| 2a. Transactions authorized less than \$5.00 in total value | 353.7 | 0.94 | 3 | 19.4 | 1.0 | 90.2 | 87.7 | 33.3 | 33.3 |
| 2b. Transactions authorized \$5.00 to \$9.99 in total value | 493.9 | 2.83 | 6 | 27.1 | 3.0 | 90.2 | 87.7 | 33.3 | 33.3 |
| 2c. Transactions authorized \$10.00 to \$14.99 in total value | 69.4 | 0.80 | 12 | 3.8 | 0.9 | 90.2 | 87.7 | 33.3 | 33.3 |
| 2d. Transactions authorized \$15.00 to \$24.99 in total value | 324.7 | 6.24 | 19 | 17.8 | 6.7 | 90.2 | 87.7 | 33.3 | 33.3 |
| 2e. Transactions authorized \$25.00 to \$49.99 in total value | 251.1 | 9.15 | 36 | 13.8 | 9.8 | 90.2 | 87.7 | 33.3 | 33.3 |
| 2f. Transactions authorized \$50.00 or greater in total value | 326.7 | 73.08 | 224 | 18.0 | 78.6 | 90.2 | 87.7 | 33.3 | 33.3 |

Figures may not sum because of rounding. TOT represents total transactions.

¹ The total number of transactions are in millions while the total value of transactions are in billions of USD.

² Two measures of response rate are given: 1) percentage of TOT from organizations that responded and 2) percentage of organizations that responded.

³ The totals for each item are the direct sum of organizations that responded and only represent the lower bounds for national total estimates.

Mobile Wallets - Processors

| | | <u>Number of organizations</u> | | 2012 | | | | | |
|---|-----------------------|--------------------------------|--------------|------------------------|-------|-----------------------------|------|-------------------|------|
| | | included in census | | | | | | | |
| | | responded | | | | | | | |
| | | included in estimated totals | | | | | | | |
| Survey Item | Totals ^{1,3} | | Avg Val (\$) | Item Shares of TOT (%) | | Response Rates ² | | | |
| | Num (MM) | Val (\$BN) | | Num | Val | TOT (%) | | Organizations (%) | |
| 1. Total transactions (TOT) | 250.6 | 9.48 | 38 | 100.0 | 100.0 | 28.6 | 20.6 | 33.3 | 33.3 |
| 2. TOT by transaction value range | 250.6 | 9.48 | 38 | | | | | | |
| 2a. Transactions authorized less than \$5.00 in total value | 106.2 | 0.47 | 4 | 42.4 | 5.0 | 28.5 | 20.5 | 16.7 | 16.7 |
| 2b. Transactions authorized \$5.00 to \$9.99 in total value | 66.2 | 0.60 | 9 | 26.4 | 6.4 | 28.5 | 20.5 | 16.7 | 16.7 |
| 2c. Transactions authorized \$10.00 to \$14.99 in total value | 8.3 | 0.14 | 17 | 3.3 | 1.5 | 28.5 | 20.5 | 16.7 | 16.7 |
| 2d. Transactions authorized \$15.00 to \$24.99 in total value | 25.3 | 0.62 | 24 | 10.1 | 6.5 | 28.5 | 20.5 | 16.7 | 16.7 |
| 2e. Transactions authorized \$25.00 to \$49.99 in total value | 18.7 | 0.95 | 51 | 7.5 | 10.0 | 28.5 | 20.5 | 16.7 | 16.7 |
| 2f. Transactions authorized \$50.00 or greater in total value | 25.9 | 6.70 | 259 | 10.3 | 70.7 | 28.5 | 20.5 | 16.7 | 16.7 |

Figures may not sum because of rounding. TOT represents total transactions.

¹ The total number of transactions are in millions while the total value of transactions are in billions of USD.

² Two measures of response rate are given: 1) percentage of TOT from organizations that responded and 2) percentage of organizations that responded.

³ The totals for each item are the direct sum of organizations that responded and only represent the lower bounds for national total estimates.

Number of Network ACH transactions by Standard Entry Class Code 2012

| Standard Entry Class Code | Network Debit Transactions | Network Credit Transactions | Total Transaction Volume | Percent of Network Total |
|---------------------------|----------------------------|-----------------------------|--------------------------|--------------------------|
| ARC | 1,862,877,188 | 14,011 | 1,862,891,199 | 11.1% |
| BOC | 191,706,568 | 30,941 | 191,737,509 | 1.1% |
| CCD | 735,035,378 | 1,548,121,330 | 2,283,156,708 | 13.6% |
| CIE | 31,958 | 167,972,543 | 168,004,501 | 1.0% |
| CTX | 8,855,881 | 77,085,158 | 85,941,039 | 0.5% |
| IAT | 38,700,280 | 5,243,728 | 43,944,008 | 0.3% |
| MTE | 9,156,920 | 821,067 | 9,977,987 | 0.1% |
| POP | 454,342,824 | 38,949 | 454,381,773 | 2.7% |
| POS | 90,498,998 | 4,458,210 | 94,957,208 | 0.6% |
| PPD | 3,080,359,217 | 5,143,048,252 | 8,223,407,469 | 49.2% |
| RCK | 5,662,410 | 3,383 | 5,665,793 | 0.0% |
| SHR | 1,470,617 | 16,356 | 1,486,973 | 0.0% |
| TEL | 349,011,999 | 58,678 | 349,070,677 | 2.1% |
| TRC | 3,872 | 0 | 3,872 | 0.0% |
| WEB | 2,952,848,585 | 93,160 | 2,952,941,745 | 17.7% |
| XCK | 8,664 | 0 | 8,664 | 0.0% |
| Network Total | 9,780,571,359 | 6,947,005,766 | 16,727,577,125 | 100% |

Note: Excludes non-value Standard Entry Class codes.

Value of Network ACH transactions by Standard Entry Class Code 2012

| Standard Entry Class Code | Network Debit Transactions (\$, in thousands) | Network Credit Transactions (\$, in thousands) | Total Dollar Value (\$, in thousands) | Percent of Total Value |
|---------------------------|--|---|--|------------------------|
| ARC | 504,774,533 | 5,574 | 504,780,107 | 1.4% |
| BOC | 18,817,503 | 4,551 | 18,822,054 | 0.1% |
| CCD | 9,296,134,900 | 11,691,081,241 | 20,987,216,141 | 56.9% |
| CIE | 2,882 | 106,205,206 | 106,208,088 | 0.3% |
| CTX | 165,180,778 | 3,257,544,035 | 3,422,724,813 | 9.3% |
| IAT | 15,076,527 | 67,810,034 | 82,886,561 | 0.2% |
| MTE | 4,934,242 | 4,306,719 | 9,240,961 | 0.0% |
| POP | 45,506,587 | 3,295 | 45,509,882 | 0.1% |
| POS | 6,036,684 | 202,894 | 6,239,578 | 0.0% |
| PPD | 2,766,669,508 | 7,516,011,798 | 10,282,681,306 | 27.9% |
| RCK | 1,195,428 | 1,053 | 1,196,481 | 0.0% |
| SHR | 55,931 | 56,024 | 111,955 | 0.0% |
| TEL | 121,020,375 | 25,727 | 121,046,102 | 0.3% |
| TRC | 212 | 0 | 212 | 0.0% |
| WEB | 1,290,330,028 | 32,131 | 1,290,362,159 | 3.5% |
| XCK | 3,447 | 1 | 3,448 | 0.0% |
| Network Total | 14,235,739,565 | 22,643,290,283 | 36,879,029,848 | 100% |

3.8.2 Estimates for 2009 and 2012 with Growth Rates

General-Purpose Credit Cards - Networks

| Survey Item | 2009 | | 2012 | | 2009 Estimates ¹ | | 2012 Estimates ¹ | | CAGR (%) | |
|---|--|------------|----------|------------|-----------------------------|------------|-----------------------------|------------|----------|-----|
| | Number of organizations included in estimated totals | | | | Avg Val | | Avg Val | | | |
| | Num (Bn) | Val (\$TR) | Num (Bn) | Val (\$TR) | Num (Bn) | Val (\$TR) | Num (Bn) | Val (\$TR) | Num | Val |
| | 5 | | 7 | | | | | | | |
| 3. Net purchase transactions (NPT) | 19.5 | 1.69 | 87 | 23.8 | 2.21 | 93 | 6.8 | 9.3 | | |
| 4. NPT by type of card | 19.5 | 1.69 | 87 | 23.8 | 2.21 | 93 | 6.8 | 9.3 | | |
| 4a. Credit card transactions | 13.0 | 1.13 | 87 | 21.5 | 1.80 | 84 | 18.1 | 16.9 | | |
| 4b. Charge card transactions | 6.5 | 0.56 | 87 | 2.3 | 0.41 | 175 | -29.0 | -10.3 | | |
| 5. NPT by payment initiation and authorization method | 19.5 | 1.69 | 87 | 23.8 | 2.21 | 93 | 6.8 | 9.3 | | |
| 5a. Transactions at the point of sale | 15.8 | 1.19 | 76 | 18.0 | 1.23 | 68 | 4.6 | 1.0 | | |
| 5b. Card-not-present/remote transactions | 3.8 | 0.50 | 132 | 5.8 | 0.98 | 170 | 15.2 | 25.2 | | |
| 7. NPT by type of payer | 19.5 | 1.69 | 87 | 23.8 | 2.21 | 93 | 6.8 | 9.3 | | |
| 7a. Consumer transactions | 17.2 | 1.27 | 74 | 20.4 | 1.55 | 76 | 5.9 | 6.7 | | |
| 7b. Business/government transactions | 2.3 | 0.42 | 178 | 3.4 | 0.66 | 196 | 12.9 | 16.4 | | |
| 9. NPT by transaction value range | 19.5 | 1.69 | 87 | 23.8 | 2.21 | 93 | 6.8 | 9.3 | | |
| 9a. Transactions authorized less than \$5.00 in total value | 2.1 | 0.00 | 2 | 2.1 | 0.01 | 3 | -0.3 | 9.2 | | |
| 9b. Transactions authorized \$5.00 to \$9.99 in total value | 3.6 | 0.04 | 10 | 2.7 | 0.02 | 8 | 10.1 | 10.1 | | |
| 9c. Transactions authorized \$10.00 to \$14.99 in total value | | | | 2.2 | 0.03 | 12 | | | | |
| 9d. Transactions authorized \$15.00 to \$24.99 in total value | 2.8 | 0.06 | 20 | 3.3 | 0.07 | 20 | 5.2 | 5.8 | | |
| 9e. Transactions authorized \$25.00 to \$49.99 in total value | | | | 5.3 | 0.19 | 36 | | | | |
| 9f. Transactions authorized \$50.00 or greater in total value | 11.0 | 1.60 | 145 | 8.3 | 1.89 | 228 | 7.3 | 9.4 | | |

Figures may not sum because of rounding. CAGR is compound annual growth rate.

¹ The number of transactions are in billions while the value of transactions are in trillions of USD.

Debit Cards - Networks

| Survey Item | 2009 | | 2012 | | 2009 Estimates ¹ | | 2012 Estimates ¹ | | CAGR (%) | |
|---|--|------------|----------|------------|-----------------------------|------------|-----------------------------|------------|----------|-----|
| | Number of organizations included in estimated totals | | | | Avg Val | | Avg Val | | | |
| | Num (Bn) | Val (\$TR) | Num (Bn) | Val (\$TR) | Num (Bn) | Val (\$TR) | Num (Bn) | Val (\$TR) | Num | Val |
| | 13 | | 14 | | | | | | | |
| 4. Net purchase transactions (NPT) | 37.5 | 1.40 | 37 | 47.0 | 1.82 | 39 | 7.7 | 9.0 | | |
| 5. NPT by payment initiation and authorization method | 37.5 | 1.40 | 37 | 47.0 | 1.82 | 39 | 7.7 | 9.0 | | |
| 5a. Transactions at the point of sale | 32.4 | 1.02 | 32 | 41.4 | 1.42 | 34 | 8.6 | 11.6 | | |
| 5b. Card-not-present/remote transactions | 5.2 | 0.38 | 74 | 5.5 | 0.40 | 71 | 2.4 | 1.2 | | |
| 7. NPT by type of payer | 37.5 | 1.40 | 37 | 47.0 | 1.82 | 39 | 7.7 | 9.0 | | |
| 7a. Consumer transactions | 36.3 | 1.30 | 36 | 45.5 | 1.68 | 37 | 7.8 | 8.8 | | |
| 7b. Business/government transactions | 1.2 | 0.10 | 82 | 1.5 | 0.14 | 91 | 7.4 | 11.1 | | |
| 9. NPT by transaction value range | 37.5 | 1.40 | 37 | 47.0 | 1.82 | 39 | 7.7 | 9.0 | | |
| 9a. Transactions authorized less than \$5.00 in total value | 4.8 | 0.01 | 3 | 6.0 | 0.02 | 3 | 7.6 | 11.0 | | |
| 9b. Transactions authorized \$5.00 to \$9.99 in total value | 10.7 | 0.10 | 9 | 8.4 | 0.06 | 7 | 9.6 | 9.8 | | |
| 9c. Transactions authorized \$10.00 to \$14.99 in total value | | | | NR | 0.07 | 12 | | | | |
| 9d. Transactions authorized \$15.00 to \$24.99 in total value | 6.5 | 0.12 | 19 | 7.6 | 0.15 | 19 | 5.2 | 5.8 | | |
| 9e. Transactions authorized \$25.00 to \$49.99 in total value | | | | 76 | 0.34 | 35 | | | | |
| 9f. Transactions authorized \$50.00 or greater in total value | 15.4 | 1.17 | NR | 9.4 | 1.18 | 126 | 7.6 | 9.2 | | |
| NPT by network type | 37.5 | 1.40 | 37 | 47.0 | 1.82 | 39 | 7.7 | 9.0 | | |
| dual-message | 23.1 | 0.84 | 36 | 30.2 | 1.13 | 37 | 9.3 | 10.2 | | |
| single-message | 14.4 | 0.56 | 39 | 16.8 | 0.69 | 41 | 5.2 | 7.1 | | |

Figures may not sum because of rounding. CAGR is compound annual growth rate.

¹ The number of transactions are in billions while the value of transactions are in trillions of USD.

General-Purpose Prepaid Cards - Networks

| Survey Item | 2009 | | 2012 | | 2009 Estimates ¹ | | | 2012 Estimates ¹ | | | CAGR (%) | |
|---|--|------------|----------|------------|-----------------------------|------------|--------------|-----------------------------|------------|--------------|----------|-----|
| | Number of organizations included in estimated totals | | | | Avg Val | | | Avg Val | | | | |
| | Num (Bn) | Val (\$TR) | Num (Bn) | Val (\$TR) | Num (Bn) | Val (\$TR) | Avg Val (\$) | Num (Bn) | Val (\$TR) | Avg Val (\$) | Num | Val |
| | 6 | | 7 | | | | | | | | | |
| 3. Net purchase transactions (NPT) | 1.3 | 0.04 | | | 32 | 3.1 | 0.10 | 34 | 33.9 | 36.6 | | |
| 7. NPT by transaction value range | 1.3 | 0.04 | | | 32 | 3.1 | 0.10 | 34 | 33.9 | 36.6 | | |
| 7a. Transactions authorized less than \$5.00 in total value | 0.2 | 0.00 | | | 3 | 0.6 | 0.00 | 3 | 36.4 | 38.4 | | |
| 7b. Transactions authorized \$5.00 to \$9.99 in total value | | | | | | | | 7 | | | | |
| 7c. Transactions authorized \$10.00 to \$14.99 in total value | 0.4 | 0.00 | | | 9 | 0.4 | 0.00 | 12 | 34.4 | 35.8 | | |
| 7d. Transactions authorized \$15.00 to \$24.99 in total value | 0.2 | 0.00 | | | 19 | 0.5 | 0.01 | 19 | 31.2 | 32.9 | | |
| 7e. Transactions authorized \$25.00 to \$49.99 in total value | | | | | | | | 34 | | | | |
| 7f. Transactions authorized \$50.00 or greater in total value | 0.4 | 0.03 | | | 77 | 0.5 | 0.02 | 133 | 33.1 | 37.0 | | |

Figures may not sum because of rounding. CAGR is compound annual growth rate.

¹ The number of transactions are in billions while the value of transactions are in trillions of USD.

Private-Label Credit Cards - Retail Merchant Issuer Survey

| Survey Item | 2009 | | 2012 | | 2009 Estimates ¹ | | | 2012 Estimates ¹ | | | CAGR (%) | |
|---|--|------------|----------|------------|-----------------------------|------------|--------------|-----------------------------|------------|--------------|----------|-----|
| | Number of organizations included in estimated totals | | | | Avg Val | | | Avg Val | | | | |
| | Num (Bn) | Val (\$TR) | Num (Bn) | Val (\$TR) | Num (Bn) | Val (\$TR) | Avg Val (\$) | Num (Bn) | Val (\$TR) | Avg Val (\$) | Num | Val |
| | 8 | | 10 | | | | | | | | | |
| 5. Net purchase transactions (NPT) | 0.1 | 0.01 | | | 75 | 0.3 | 0.03 | 100 | 41.4 | 55.3 | | |
| 6. NPT by payment initiation method | 0.1 | 0.01 | | | 75 | 0.3 | 0.03 | 100 | 41.4 | 55.3 | | |
| 6a. Transactions at the point of sale | 0.1 | 0.01 | | | 74 | 0.2 | 0.02 | 98 | 42.0 | 56.3 | | |
| 6b. Card-not-present/remote transactions | 0.0 | 0.00 | | | 119 | 0.0 | 0.00 | 153 | 24.2 | 35.3 | | |
| 8. NPT by type of payer | 0.1 | 0.01 | | | 75 | 0.3 | 0.03 | 100 | 41.4 | 55.3 | | |
| 8a. Consumer transactions | 0.1 | 0.01 | | | 75 | 0.2 | 0.02 | 102 | 38.4 | 52.9 | | |
| 8b. Business/government transactions | 0.0 | 0.00 | | | 70 | 0.0 | 0.00 | 77 | 132.4 | 140.6 | | |
| 9. NPT by transaction value range | 0.1 | 0.01 | | | 75 | 0.3 | 0.03 | 100 | 41.4 | 55.3 | | |
| 9a. Transactions authorized less than \$5.00 in total value | 0.0 | 0.00 | | | 3 | 0.0 | 0.00 | 3 | 58.1 | 69.0 | | |
| 9b. Transactions authorized \$5.00 to \$9.99 in total value | | | | | | | | 8 | | | | |
| 9c. Transactions authorized \$10.00 to \$14.99 in total value | 0.0 | 0.00 | | | 8 | 0.0 | 0.00 | 13 | 38.4 | 50.4 | | |
| 9d. Transactions authorized \$15.00 to \$24.99 in total value | 0.0 | 0.00 | | | 16 | 0.0 | 0.00 | 21 | 30.7 | 42.5 | | |
| 9e. Transactions authorized \$25.00 to \$49.99 in total value | | | | | | | | 39 | | | | |
| 9f. Transactions authorized \$50.00 or greater in total value | 0.1 | 0.01 | | | 103 | 0.1 | 0.00 | 176 | 42.7 | 55.7 | | |

Figures may not sum because of rounding. CAGR is compound annual growth rate.

¹ The number of transactions are in billions while the value of transactions are in trillions of USD.

Private-Label Credit Cards - Processors

| Survey Item | 2009 | | 2012 | | 2009 Estimates ¹ | | | 2012 Estimates ¹ | | | CAGR (%) | |
|---|--|------------|----------|------------|-----------------------------|------------|--------------|-----------------------------|------------|--------------|----------|-----|
| | Number of organizations included in estimated totals | | | | Avg Val | | | Avg Val | | | | |
| | Num (Bn) | Val (\$TR) | Num (Bn) | Val (\$TR) | Num (Bn) | Val (\$TR) | Avg Val (\$) | Num (Bn) | Val (\$TR) | Avg Val (\$) | Num | Val |
| | 21 | | 15 | | | | | | | | | |
| 4. Net purchase transactions (NPT) | 1.5 | 0.18 | | | 126 | 2.1 | 0.24 | 113 | 14.0 | 9.7 | | |
| 5. NPT by payment initiation method | 1.5 | 0.18 | | | 126 | 2.1 | 0.24 | 113 | 14.0 | 9.7 | | |
| 5a. Transactions at the point of sale | 1.4 | 0.17 | | | 126 | 2.1 | 0.23 | 110 | 15.4 | 10.5 | | |
| 5b. Card-not-present/remote transactions | 0.1 | 0.01 | | | 143 | 0.0 | 0.01 | 295 | -26.4 | -6.4 | | |
| 7. NPT by type of payer | 1.5 | 0.18 | | | 126 | 2.1 | 0.24 | 113 | 14.0 | 9.7 | | |
| 7a. Consumer transactions | 0.7 | 0.10 | | | 129 | 1.3 | 0.14 | 105 | 21.2 | 13.3 | | |
| 7b. Business/government transactions | 0.7 | 0.09 | | | 124 | 0.8 | 0.10 | 125 | 5.3 | 5.5 | | |
| 8. NPT by transaction value range | 1.5 | 0.18 | | | 126 | 2.1 | 0.24 | 113 | 14.0 | 9.7 | | |
| 8a. Transactions authorized less than \$5.00 in total value | 0.0 | 0.00 | | | 2 | 0.1 | 0.00 | 27 | 12.8 | 150.9 | | |
| 8b. Transactions authorized \$5.00 to \$9.99 in total value | | | | | | | | 9 | | | | |
| 8c. Transactions authorized \$10.00 to \$14.99 in total value | 0.1 | 0.00 | | | 15 | 0.1 | 0.00 | 13 | 13.4 | 2.1 | | |
| 8d. Transactions authorized \$15.00 to \$24.99 in total value | 0.1 | 0.00 | | | 30 | 0.2 | 0.00 | 21 | 11.2 | -0.4 | | |
| 8e. Transactions authorized \$25.00 to \$49.99 in total value | | | | | | | | 40 | | | | |
| 8f. Transactions authorized \$50.00 or greater in total value | 1.2 | 0.18 | | | 151 | 1.2 | 0.21 | 181 | 14.5 | 9.7 | | |

Figures may not sum because of rounding. CAGR is compound annual growth rate.

¹ The number of transactions are in billions while the value of transactions are in trillions of USD.

Private-Label Prepaid Cards - Non-transit

| | 2009 | | 2012 | | | | | |
|---|-----------------------------|------------|--------------|-----------------------------|------------|--------------|----------|--------|
| Number of organizations included in estimated totals | 21 | | 29 | | | | | |
| Survey Item | 2009 Estimates ¹ | | | 2012 Estimates ¹ | | | CAGR (%) | |
| | Num (Bn) | Val (\$TR) | Avg Val (\$) | Num (Bn) | Val (\$TR) | Avg Val (\$) | Num | Val |
| 3. Net purchase transactions (NPT) | 2.7 | 0.04 | 16 | 3.6 | 0.05 | 13 | 10.8 | 2.4 |
| 6. NPT by type of card | 2.7 | 0.04 | 16 | 3.6 | 0.05 | 13 | 10.8 | 2.4 |
| 6a. Gift card transactions | 2.6 | 0.04 | 16 | 3.6 | 0.05 | 13 | 12.0 | 4.5 |
| 6b. Transit card transactions | 0.0 | 0.00 | 0 | 0.0 | 0.00 | 0 | 0.0 | 0.0 |
| 6c. Customer refund & incentive card transactions | 0.0 | 0.00 | 27 | 0.0 | 0.00 | 34 | -48.6 | -44.1 |
| 6d. Other private-label prepaid card transactions | 0.0 | 0.00 | 41 | 0.0 | 0.00 | 0 | -100.0 | -100.0 |
| 7. NPT by transaction value range | 2.7 | 0.04 | 16 | 3.6 | 0.05 | 13 | 10.8 | 2.4 |
| 7a. Transactions authorized less than \$5.00 in total value | 1.2 | 0.00 | 3 | 2.1 | 0.01 | 5 | 20.4 | 43.3 |
| 7b. Transactions authorized \$5.00 to \$9.99 in total value | 0.7 | 0.01 | 10 | 0.9 | 0.01 | 11 | 16.0 | 29.1 |
| 7c. Transactions authorized \$10.00 to \$14.99 in total value | 0.3 | 0.01 | 22 | 0.2 | 0.01 | 32 | -16.9 | -5.0 |
| 7d. Transactions authorized \$15.00 to \$24.99 in total value | 0.4 | 0.03 | 63 | 0.1 | 0.01 | 52 | -22.7 | -15.9 |
| 7e. Transactions authorized \$25.00 to \$49.99 in total value | | | | 0.1 | 0.01 | 143 | | |
| 7f. Transactions authorized \$50.00 or greater in total value | | | | | | | | |

Figures may not sum because of rounding. CAGR is compound annual growth rate.

¹ The number of transactions are in billions while the value of transactions are in trillions of USD.

General-Purpose Prepaid Cards - Processors

| | 2009 | | 2012 | | | | | |
|---|-----------------------------|------------|--------------|-----------------------------|------------|--------------|----------|-------|
| Number of organizations included in estimated totals | 15 | | 35 | | | | | |
| Survey Item | 2009 Estimates ¹ | | | 2012 Estimates ¹ | | | CAGR (%) | |
| | Num (MM) | Val (\$BN) | Avg Val (\$) | Num (MM) | Val (\$BN) | Avg Val (\$) | Num | Val |
| 3. Net purchase transactions (NPT) | 1,640.5 | 71.68 | 44 | 4,902.9 | 162.19 | 33 | 44.0 | 31.3 |
| 7. NPT by type of card | 1,640.5 | 71.68 | 44 | 4,902.9 | 162.19 | 33 | 44.0 | 31.3 |
| 7a. General-purpose prepaid card transactions | 594.1 | 26.16 | 44 | 1,656.4 | 46.47 | 28 | 40.7 | 21.1 |
| 7b. Gift card transactions | 197.6 | 5.82 | 29 | 524.7 | 10.24 | 20 | 38.5 | 20.7 |
| 7c. Medical card transactions | 92.1 | 5.97 | 65 | 350.2 | 17.12 | 49 | 56.1 | 42.1 |
| 7d. Customer refund & incentive card transactions | 87.3 | 2.05 | 24 | 245.6 | 6.01 | 24 | 41.2 | 43.1 |
| 7e. Payroll card transactions | 448.0 | 19.07 | 43 | 743.6 | 17.18 | 23 | 18.4 | -3.4 |
| 7f. Government card transactions | 210.2 | 12.32 | 59 | 817.2 | 31.16 | 38 | 57.2 | 36.3 |
| 7g. Other general-purpose prepaid card transactions | 32.7 | 1.38 | 42 | 565.2 | 34.02 | 60 | 158.5 | 191.4 |
| 8. NPT by transaction value range | 1,640.5 | 71.68 | 44 | 4,902.9 | 162.19 | 33 | 44.0 | 31.3 |
| 8a. Transactions authorized less than \$5.00 in total value | 204.2 | 0.73 | 4 | 1,057.3 | 2.73 | 3 | 73.0 | 55.1 |
| 8b. Transactions authorized \$5.00 to \$9.99 in total value | 316.5 | 3.43 | 11 | 1,007.2 | 6.78 | 7 | 73.3 | 66.5 |
| 8c. Transactions authorized \$10.00 to \$14.99 in total value | 269.3 | 5.96 | 22 | 640.6 | 9.06 | 14 | 34.5 | 20.2 |
| 8d. Transactions authorized \$15.00 to \$24.99 in total value | 850.4 | 61.56 | 72 | 741.1 | 23.99 | 32 | 22.0 | 29.4 |
| 8e. Transactions authorized \$25.00 to \$49.99 in total value | | | | 801.4 | 109.28 | 136 | | |
| 8f. Transactions authorized \$50.00 or greater in total value | | | | | | | | |

Figures may not sum because of rounding. CAGR is compound annual growth rate.

¹ The number of transactions are in millions while the value of transactions are in billions of USD.

Private-Label Prepaid Cards - Transit

| | 2009 | | 2012 | | | | | |
|---|-------------------------------|------------|--------------|-------------------------------|------------|--------------|----------|-------|
| Number of organizations included in estimated totals | 19 | | 24 | | | | | |
| Survey Item | 2009 Estimates ^{1,2} | | | 2012 Estimates ^{1,2} | | | CAGR (%) | |
| | Num (MM) | Val (\$BN) | Avg Val (\$) | Num (MM) | Val (\$BN) | Avg Val (\$) | Num | Val |
| 3. Net purchase transactions (NPT) | 4,047.4 | 5.06 | 1 | 4,708.4 | 7.93 | 2 | 5.2 | 16.2 |
| 7. NPT by transaction value range | 4,047.4 | 5.06 | 1 | 4,708.4 | 7.93 | 2 | 5.2 | 16.2 |
| 7a. Transactions authorized less than \$5.00 in total value | 4,037.2 | 5.05 | 1 | 2,865.7 | 0.69 | 0 | -10.8 | -48.6 |
| 7b. Transactions authorized \$5.00 to \$9.99 in total value | 10.1 | 0.01 | 1 | 541.4 | 0.54 | 1 | 430.9 | 574.5 |
| 7c. Transactions authorized \$10.00 to \$14.99 in total value | 0.2 | 0.00 | 14 | 245.5 | 1.23 | 5 | 1,059.4 | 715.1 |
| 7d. Transactions authorized \$15.00 to \$24.99 in total value | 0.0 | 0.00 | 0 | 41.7 | 0.28 | 7 | | |
| 7e. Transactions authorized \$25.00 to \$49.99 in total value | | | | 48.9 | 2.02 | 41 | NR | NR |
| 7f. Transactions authorized \$50.00 or greater in total value | | | | | | | | |

Figures may not sum because of rounding. CAGR is compound annual growth rate.

¹ The number of transactions are in millions while the value of transactions are in billions of USD.

² The totals for each item are the direct sum of organizations that responded and only represent the lower bounds for national estimates.

Far-Field RFID Payments - Processors

| Survey Item | 2009 | | 2012 | | 2009 Estimates ^{1,2} | | 2012 Estimates ^{1,2} | | CAGR (%) | |
|---|--|------------|----------|------------|-------------------------------|---------|-------------------------------|-------|----------|------|
| | Number of organizations included in estimated totals | | | | Avg Val | | Avg Val | | Num | Val |
| | Num (MM) | Val (\$BN) | Num (MM) | Val (\$BN) | (\$) | (\$) | (\$) | (\$) | | |
| 1. Total transactions (TOT) | 10 | 18 | 3,538.3 | 6.49 | 2 | 5,224.1 | 9.91 | 2 | 13.9 | 15.1 |
| 2. TOT by transaction value range | 3,538.3 | 6.49 | 2 | 5,224.1 | 9.91 | 2 | 13.9 | 15.1 | | |
| 2a. Transactions authorized less than \$5.00 in total value | 3,443.0 | 4.86 | 1 | 5,176.7 | 8.93 | 2 | 14.6 | 22.4 | | |
| 2b. Transactions authorized \$5.00 to \$9.99 in total value | 77.5 | 0.93 | 12 | 36.9 | 0.39 | 11 | -21.6 | -24.3 | | |
| 2c. Transactions authorized \$10.00 to \$14.99 in total value | | | | 0.5 | 0.01 | 22 | | | | |
| 2d. Transactions authorized \$15.00 to \$24.99 in total value | 5.6 | 0.15 | 27 | 3.5 | 0.13 | 37 | -14.4 | -5.4 | | |
| 2e. Transactions authorized \$25.00 to \$49.99 in total value | 12.2 | 0.55 | 45 | 5.8 | 0.37 | 64 | -18.9 | -6.3 | | |
| 2f. Transactions authorized \$50.00 or greater in total value | | | | 0.7 | 0.08 | 107 | | | | |

Figures may not sum because of rounding. CAGR is compound annual growth rate.

¹ The number of transactions are in millions while the value of transactions are in billions of USD.

² The totals for each item only represent the lower bounds for national estimates.

P2P & Money Transfers - Processors

| Survey Item | 2009 | | 2012 | | 2009 Estimates ^{1,2} | | 2012 Estimates ^{1,2} | | CAGR (%) | |
|---|--|------------|----------|------------|-------------------------------|-------|-------------------------------|---------|----------|------|
| | Number of organizations included in estimated totals | | | | Avg Val | | Avg Val | | Num | Val |
| | Num (MM) | Val (\$BN) | Num (MM) | Val (\$BN) | (\$) | (\$) | (\$) | (\$) | | |
| 1. Total transactions (TOT) | 7 | 14 | 146.6 | 45.36 | 309 | 205.3 | 91.52 | 446 | 11.9 | 26.4 |
| 3. TOT by transaction value range | 146.6 | 45.36 | 309 | 205.3 | 91.52 | 446 | 11.9 | 26.4 | | |
| 3a. Transactions authorized less than \$5.00 in total value | 0.8 | 0.00 | 2 | 2.9 | 0.01 | 3 | 54.5 | 91.2 | | |
| 3b. Transactions authorized \$5.00 to \$9.99 in total value | 1.6 | 0.02 | 13 | 2.6 | 0.03 | 10 | 57.5 | 63.3 | | |
| 3c. Transactions authorized \$10.00 to \$14.99 in total value | | | | 3.8 | 0.06 | 17 | | | | |
| 3d. Transactions authorized \$15.00 to \$24.99 in total value | 2.7 | 0.07 | 24 | 7.9 | 0.23 | 29 | 43.9 | 52.8 | | |
| 3e. Transactions authorized \$25.00 to \$49.99 in total value | 141.5 | 45.27 | 320 | 18.3 | 0.97 | 53 | 10.0 | 26.3 | | |
| 3f. Transactions authorized \$50.00 or greater in total value | | | | 169.8 | 90.22 | 531 | | | | |
| 4. TOT by type of clearing system | 146.6 | 45.36 | 309 | 205.3 | 91.52 | 446 | 11.9 | 26.4 | | |
| 4a. Credit card/signature (dual-message) debit networks | 6.4 | 1.48 | 231 | 16.2 | 2.09 | 129 | 36.2 | 12.2 | | |
| 4b. EFT/PIN (single-message) debit networks | 0.0 | 0.00 | 0 | 1.4 | 0.30 | 215 | NR | NR | | |
| 4c. ACH | 0.4 | 0.90 | 2,116 | 23.5 | 7.94 | 338 | 280.7 | 106.6 | | |
| 4d. Cash collected/book transfer | 0.0 | 0.00 | 0 | 32.4 | 5.43 | 168 | NR | NR | | |
| 4e. Other | 139.8 | 42.98 | 308 | 131.8 | 75.76 | 575 | -1.9 | 20.8 | | |
| 5. TOT by type of origination channel | 146.6 | 45.36 | 309 | 205.3 | 91.52 | 446 | 11.9 | 26.4 | | |
| 5a. Website | 3.4 | 1.52 | 443 | 49.5 | 34.07 | 688 | 143.6 | 182.1 | | |
| 5b. Mobile phone | 0.0 | 0.00 | 54 | 16.6 | 2.15 | 129 | 1,366.1 | 1,862.7 | | |
| 5c. In-person | 143.2 | 43.84 | 306 | 135.1 | 54.58 | 404 | -1.9 | 7.6 | | |
| 5d. Other | 0.0 | 0.00 | 0 | 4.1 | 0.72 | 176 | NR | NR | | |

Figures may not sum because of rounding. CAGR is compound annual growth rate. TOT represents total transactions.

¹ The number of transactions are in millions while the value of transactions are in billions of USD.

² The totals for each item only represent the lower bounds for national estimates.

Online Bill Payments - Processors

| Survey Item | 2009 | | 2012 | | 2009 Estimates ^{1,2} | | | 2012 Estimates ^{1,2} | | | CAGR (%) | |
|---|--|------------|----------|------------|-------------------------------|------------|--------------|-------------------------------|------------|--------------|----------|-----|
| | Number of organizations included in estimated totals | | | | Avg Val | | | Avg Val | | | Num | Val |
| | Num (MM) | Val (\$BN) | Num (MM) | Val (\$BN) | Num (MM) | Val (\$BN) | Avg Val (\$) | Num (MM) | Val (\$BN) | Avg Val (\$) | Num | Val |
| | 5 | | 14 | | | | | | | | | |
| 1. Bank/intermediary online bill payment transactions | 2,371.3 | 867.92 | 366 | 2,836.1 | 1,050.17 | 370 | 6.1 | 6.6 | | | | |
| 2. Biller direct online bill payment transactions | 95.3 | 55.83 | 586 | 261.3 | 130.22 | 498 | 40.0 | 32.6 | | | | |
| Total online bill payment | 2,466.6 | 923.74 | 374 | 3,097.4 | 1,180.39 | 381 | 7.9 | 8.5 | | | | |
| 3. Bank/intermediary OLBP by transaction value range | 2,371.3 | 867.92 | 366 | 2,836.1 | 1,050.17 | 370 | 6.1 | 6.6 | | | | |
| 3a. Transactions authorized less than \$5.00 in total value | 14.1 | 0.04 | 3 | 16.4 | 0.04 | 2 | 5.1 | -0.1 | | | | |
| 3b. Transactions authorized \$5.00 to \$9.99 in total value | 67.5 | 0.69 | 10 | 24.1 | 0.17 | 7 | -0.9 | -0.9 | | | | |
| 3c. Transactions authorized \$10.00 to \$14.99 in total value | | | | 41.6 | 0.50 | 12 | | | | | | |
| 3d. Transactions authorized \$15.00 to \$24.99 in total value | 115.4 | 2.26 | 20 | 111.9 | 2.20 | 20 | -1.0 | -0.9 | | | | |
| 3e. Transactions authorized \$25.00 to \$49.99 in total value | | | | 359.8 | 12.64 | 35 | | | | | | |
| 3f. Transactions authorized \$50.00 or greater in total value | 2,174.3 | 864.93 | 398 | 2,282.3 | 1,034.62 | 453 | 6.7 | 6.6 | | | | |
| 4. Biller direct OLBP by transaction value range | 95.3 | 55.83 | 586 | 261.3 | 130.22 | 498 | 40.0 | 32.6 | | | | |
| 4a. Transactions authorized less than \$5.00 in total value | 0.8 | 0.00 | 2 | 0.6 | 0.00 | 2 | -7.6 | -15.8 | | | | |
| 4b. Transactions authorized \$5.00 to \$9.99 in total value | | | | 0.5 | 0.00 | 5 | | | | | | |
| 4c. Transactions authorized \$10.00 to \$14.99 in total value | 1.1 | 0.01 | 9 | 1.5 | 0.01 | 10 | 23.0 | 23.3 | | | | |
| 4d. Transactions authorized \$15.00 to \$24.99 in total value | 2.9 | 0.04 | 15 | 5.9 | 0.09 | 15 | 26.7 | 25.8 | | | | |
| 4e. Transactions authorized \$25.00 to \$49.99 in total value | | | | 12.8 | 0.39 | 30 | | | | | | |
| 4f. Transactions authorized \$50.00 or greater in total value | 90.5 | 55.77 | 616 | 240.1 | 129.72 | 540 | 40.8 | 32.6 | | | | |
| 5. Settlement system - Bank/intermediary OLBP | 2,371.3 | 867.92 | 366 | 2,836.1 | 1,050.17 | 370 | 6.1 | 6.6 | | | | |
| 5a. ACH | 1,312.3 | 446.37 | 340 | 1,550.6 | 519.25 | 335 | 5.7 | 5.2 | | | | |
| 5b. Check | 385.9 | 160.84 | 417 | 478.0 | 219.04 | 458 | 7.4 | 10.8 | | | | |
| 5c. Other | 673.1 | 260.70 | 387 | 807.6 | 311.88 | 386 | 6.3 | 6.2 | | | | |

Figures may not sum because of rounding. CAGR is compound annual growth rate. OLBP represents online bill payments.

¹ The number of transactions are in millions while the value of transactions are in billions of USD.

² The totals for each item are the direct sum of organizations that responded and only represent the lower bounds for national estimates.

Walk-in Bill Payments - Processors

| Survey Item | 2009 | | 2012 | | 2009 Estimates ^{1,2} | | | 2012 Estimates ^{1,2} | | | CAGR (%) | |
|---|--|------------|----------|------------|-------------------------------|------------|--------------|-------------------------------|------------|--------------|----------|-----|
| | Number of organizations included in estimated totals | | | | Avg Val | | | Avg Val | | | Num | Val |
| | Num (MM) | Val (\$BN) | Num (MM) | Val (\$BN) | Num (MM) | Val (\$BN) | Avg Val (\$) | Num (MM) | Val (\$BN) | Avg Val (\$) | Num | Val |
| | 8 | | 14 | | | | | | | | | |
| 1. Total transactions (TOT) | 247.4 | 35.60 | 144 | 285.6 | 43.81 | 153 | 4.9 | 7.2 | | | | |
| 2. TOT by transaction value range | 247.4 | 35.60 | 144 | 285.6 | 43.81 | 153 | 4.9 | 7.2 | | | | |
| 2a. Transactions authorized less than \$5.00 in total value | 0.8 | 0.00 | 2 | 1.3 | 0.00 | 3 | 17.7 | 26.8 | | | | |
| 2b. Transactions authorized \$5.00 to \$9.99 in total value | | | | 3.6 | 0.03 | 9 | | | | | | |
| 2c. Transactions authorized \$10.00 to \$14.99 in total value | 5.0 | 0.05 | 10 | 6.1 | 0.08 | 14 | 24.4 | 30.8 | | | | |
| 2d. Transactions authorized \$15.00 to \$24.99 in total value | 8.1 | 0.15 | 18 | 16.4 | 0.37 | 23 | 26.6 | 37.0 | | | | |
| 2e. Transactions authorized \$25.00 to \$49.99 in total value | | | | 46.9 | 1.96 | 42 | | | | | | |
| 2f. Transactions authorized \$50.00 or greater in total value | 233.5 | 35.41 | 152 | 211.4 | 41.36 | 196 | 3.4 | 7.0 | | | | |
| 3. TOT by type of settlement system | 247.4 | 35.60 | 144 | 285.6 | 43.81 | 153 | 4.9 | 7.2 | | | | |
| 3a. ACH | 157.2 | 19.11 | 122 | 276.9 | 41.39 | 149 | 20.8 | 29.4 | | | | |
| 3b. Check | 6.1 | 0.59 | 96 | 0.0 | 0.00 | 122 | -92.8 | -92.2 | | | | |
| 3c. Book transfer (cash payments) | 0.0 | 0.00 | 0 | 0.0 | 0.00 | 0 | 0.0 | 0.0 | | | | |
| 3d. Other | 84.1 | 15.90 | 189 | 8.7 | 2.42 | 277 | -53.0 | -46.6 | | | | |

Figures may not sum because of rounding. CAGR is compound annual growth rate.

¹ The number of transactions are in millions while the value of transactions are in billions of USD.

² The totals for each item are the direct sum of organizations that responded and only represent the lower bounds for national estimates.

4 Check Sample Survey (CSS)

4.1 INTRODUCTION

The 2013 Check Sample Survey (2013 CSS) estimated the distribution of checks by counterparty and purpose for calendar year 2012.⁷³ Survey data are based on a random sample of checks written and processed by 11 large commercial banks in 2012. The final sample consists of 41,097 checks.

4.2 FINDINGS

Section 4.2.1 provides estimates for the distribution of 2012 checks written by counterparty and purpose. Section 4.2.2 provides trend analysis by comparing the estimates for 2009 to the estimates for 2012.

4.2.1 Estimates for Checks Written in 2012

For payer and payee categorization, the sampled checks were grouped as consumer, business, or unknown. The unknown category included checks written that could not be definitely identified as consumer or business. Throughout the study, the business category included businesses; federal, state, and local government agencies; and nonprofit organizations. (See Section 4.3.3.1 for details about payer and payee categories.)

The sampled checks were also classified into four defined purpose categories: income, casual, bill payment (BP), and point-of-sale (POS).⁷⁴ Combining counterparty and purpose categories, the 2013 CSS had nine discrete categories of checks. Checks written by businesses to consumers (B2C) or by consumers to consumers (C2C) were defined as income or casual

⁷³ The figures reported here are revised. The revisions are discussed in Section 4.3.5.2.

⁷⁴ Bill payment was called remittance, or REM, in previous iterations of the Check Sample Survey.

payments, respectively. Checks written to businesses were categorized as either bill payment (BP), point-of-sale (POS) or, in cases where the purpose of a check written to a business could not be determined, BP/POS. See Section 4.3.3.2 for details about purpose categories.

4.2.1.1 Distribution of the Number of Checks Written

In 2012, more than half (53.2 percent) of the checks were written by consumers but almost three-quarters (74.9 percent) of the checks written were payable to businesses (Exhibit 40 and Exhibit 41).

Exhibit 40: Distribution of the Number of Checks Written in 2012, by Payer

| <u>Payer</u> | <u>Distribution</u> | | <u>95% Confidence Interval</u> |
|--------------|---------------------|-----|--------------------------------|
| Consumer | 53.2% | +/- | 0.5% |
| Business | 46.8% | +/- | 0.5% |
| Unknown* | <0.1% | +/- | <0.1% |
| Total | 100.0% | | |

* The unknown category included checks written that the payer could not be definitely identified as consumer or business. Figures may not sum because of rounding.

Exhibit 41: Distribution of the Number of Checks Written in 2012, by Payee

| <u>Payee</u> | <u>Distribution</u> | | <u>95% Confidence Interval</u> |
|--------------|---------------------|-----|--------------------------------|
| Consumer | 25.1% | +/- | 0.4% |
| Business | 74.9% | +/- | 0.4% |
| Unknown* | 0.0% | +/- | 0.0% |
| Total | 100.0% | | |

* The unknown category included checks written that the payee could not be definitely identified as consumer or business.

Combining payer and payee types into counterparty combinations, Exhibit 42 shows that consumer-to-business checks (C2B) had the largest share of checks written in 2012 (43.0 percent), followed by business-to-business checks (B2B) at 31.9 percent, then business-to-consumer checks (B2C), and lastly consumer-to-consumer checks (C2C).

Exhibit 42: Distribution of the Number of Checks Written in 2012, by Counterparty

| <u>Counterparty</u> | <u>Distribution</u> | | <u>95% Confidence Interval</u> |
|---------------------|---------------------|-----|--------------------------------|
| C2B | 43.0% | +/- | 0.5% |
| C2C | 10.2% | +/- | 0.3% |
| B2B | 31.9% | +/- | 0.5% |
| B2C | 14.9% | +/- | 0.3% |
| Unknown* | <0.1% | +/- | <0.1% |

* The unknown category included checks written that either the payer, payee, or both the payer and payee could not be definitely identified as consumer or business.
Figures may not sum because of rounding.

In 2012, more than half (55.2 percent) of the checks written were for bill payment (BP) including 31.5 percent for C2B checks and 23.7 percent for B2B checks. The next largest category of checks written by purpose was checks for income (that is, B2C checks) which had 14.9 percent of all checks written in 2012 (Exhibit 43).

Exhibit 43: Distribution of the Number of Checks Written in 2012, by Counterparty and Purpose

| Purpose | Counterparty | | Distribution* | | | | | | | | | |
|----------------|---------------------|------|----------------------|------|-------|------|-------|------|-----------|-------|--------|-------|
| | C2C | +/- | C2B | +/- | B2B | +/- | B2C | +/- | Unknown** | +/- | Total | +/- |
| Income | | | | | | | 14.9% | 0.3% | | | 14.9% | 0.3% |
| Casual | 10.2% | 0.3% | | | | | | | | | 10.2% | 0.3% |
| BP | | | 31.5% | 0.4% | 23.7% | 0.4% | | | | | 55.2% | 0.5% |
| POS | | | 4.5% | 0.2% | 1.9% | 0.1% | | | | | 6.4% | 0.2% |
| BP/POS | | | 7.0% | 0.2% | 6.3% | 0.2% | | | | | 13.3% | 0.3% |
| Unknown*** | | | | | | | | | <0.1% | <0.1% | <0.1% | <0.1% |
| Total | 10.2% | 0.3% | 43.0% | 0.5% | 31.9% | 0.5% | 14.9% | 0.3% | <0.1% | <0.1% | 100.0% | |

* Point estimate +/- half-width of the 95% confidence interval.

** The unknown category included checks written that either the payer, payee, or both the payer and payee could not be definitely identified as consumer or business.

*** The unknown category included checks written that had an indeterminate purpose.

Figures may not sum because of rounding.

4.2.1.2 Number of Checks Written by Counterparty and Purpose

Although the sampled checks written in 2012 were from 11 large commercial banks, because many of them were interbank checks they could also have been processed by any other depository institution in the United States either as the paying bank or the collecting bank.

Therefore, under the assumption that the estimated check distributions from the 2013 CSS represented the true distributions among checks processed by all depository institutions in the United States in 2012, the estimated 21.1 billion checks written in 2012 can be allocated to various counterparty and purpose categories.⁷⁵

Using this approach, the 2013 CSS estimated that there were 11.6 billion BP checks written in 2012: 6.6 billion were C2B and 5.0 billion were B2B. Consumers wrote approximately 1.1 billion more checks to each other (2.1 billion) than to merchants at the point of sale (1.0 billion). Businesses wrote 3.1 billion checks to consumers (Exhibit 44).

Exhibit 44: Number of Checks Written in 2012, by Counterparty and Purpose

| Counterparty | | Number of Checks (billions) * | | | | | | | | | | |
|--------------|------------|-------------------------------|------------|----------------|------------|----------------|------------|----------------|----------------|----------------|-------------|-------|
| | | C2C | | C2B | | B2B | | B2C | | Unknown** | | Total |
| Purpose | | +/- | | +/- | | +/- | | +/- | | +/- | | +/- |
| Income | | | | | | | 3.1 | <0.1 | | | 3.1 | <0.1 |
| Casual | 2.1 | <0.1 | | | | | | | | | 2.1 | <0.1 |
| BP | | | 6.6 | <0.1 | 5.0 | <0.1 | | | | | 11.6 | <0.1 |
| POS | | | 1.0 | <0.1 | 0.4 | <0.1 | | | | | 1.4 | <0.1 |
| BP/POS | | | 1.5 | <0.1 | 1.3 | <0.1 | | | | | 2.8 | <0.1 |
| Unknown*** | | | | | | | | | <0.1 | <0.1 | <0.1 | <0.1 |
| Total | 2.1 | <0.1 | 9.0 | <0.1 | 6.7 | <0.1 | 3.1 | <0.1 | <0.1 | <0.1 | 21.1 | |

* Point estimate +/- half-width of the 95% confidence interval.

** The unknown category included checks written that either the payer, payee, or both the payer and payee could not be definitely identified as consumer or business.

*** The unknown category included checks written that had an indeterminate purpose.

Figures may not sum because of rounding.

4.2.1.3 Distribution of the Value of Checks Written

Although more than 50 percent of checks were written by consumers in 2012, they accounted for only 21.5 percent of the value (Exhibit 45). Checks written by businesses, on the other hand, accounted for 78.5 percent of the total check value. Meanwhile, 82.7 percent of the total check value was received by businesses (Exhibit 46).

⁷⁵ The estimated number of checks written was taken from the 2013 Depository and Financial Institutions Payments Survey.

Exhibit 45: Distribution of the Value of Checks Written in 2012, by Payer

| <u>Payer</u> | <u>Distribution</u> | | <u>95% Confidence Interval</u> |
|--------------|---------------------|-----|--------------------------------|
| Consumer | 21.5% | +/- | 0.4% |
| Business | 78.5% | +/- | 0.4% |
| Unknown* | <0.1% | +/- | <0.1% |
| Total | 100.0% | | |

* The unknown category included checks written that the payer could not be definitely identified as consumer or business. Figures may not sum because of rounding.

Exhibit 46: Distribution of the Value of Checks Written in 2012, by Payee

| <u>Payee</u> | <u>Distribution</u> | | <u>95% Confidence Interval</u> |
|--------------|---------------------|-----|--------------------------------|
| Consumer | 17.3% | +/- | 0.4% |
| Business | 82.7% | +/- | 0.4% |
| Unknown* | 0.0% | +/- | 0.0% |
| Total | 100.0% | | |

* The unknown category included checks written that the payee could not be definitely identified as consumer or business.

In 2012, B2B checks accounted for nearly two-thirds (66.2 percent) of the total value of checks written. C2B checks were the second largest category with a share of 16.5 percent of the total value (Exhibit 47).

Exhibit 47: Distribution of the Value of Checks Written in 2012, by Counterparty

| <u>Counterparty</u> | <u>Distribution</u> | | <u>95% Confidence Interval</u> |
|---------------------|---------------------|-----|--------------------------------|
| C2B | 16.5% | +/- | 0.4% |
| C2C | 5.0% | +/- | 0.2% |
| B2B | 66.2% | +/- | 0.5% |
| B2C | 12.3% | +/- | 0.3% |
| Unknown* | <0.1% | +/- | <0.1% |

* The unknown category included checks written that either the payer, payee, or both the payer and payee could not be definitely identified as consumer or business. Figures may not sum because of rounding.

In 2012, the value of checks written was heavily concentrated in bill payment checks. This category accounted for almost two-thirds (65.5 percent) of the total check value: 52.5 percent

for B2B and 13.1 percent for C2B.⁷⁶ The true distribution may have favored checks for bill payment (BP) even more heavily because 15.1 percent of the total check value could not be determined as either BP or POS (Exhibit 48).

Exhibit 48: Distribution of the Value of Checks Written in 2012, by Counterparty and Purpose

| Purpose | Counterparty | | Distribution* | | | | | | | | | |
|------------|--------------|------|---------------|------|-------|------|-------|------|-----------|-------|--------|-------|
| | C2C | +/- | C2B | +/- | B2B | +/- | B2C | +/- | Unknown** | +/- | Total | +/- |
| Income | | | | | | | 12.3% | 0.3% | | | 12.3% | 0.3% |
| Casual | 5.0% | 0.2% | | | | | | | | | 5.0% | 0.2% |
| BP/POS | | | 13.1% | 0.3% | 52.5% | 0.5% | | | | | 65.5% | 0.5% |
| POS | | | 1.2% | 0.1% | 0.9% | 0.1% | | | | | 2.0% | 0.1% |
| BP/POS | | | 2.3% | 0.1% | 12.8% | 0.3% | | | | | 15.1% | 0.3% |
| Unknown*** | | | | | | | | | <0.1% | <0.1% | <0.1% | <0.1% |
| Total | 5.0% | 0.2% | 16.5% | 0.4% | 66.2% | 0.5% | 12.3% | 0.3% | <0.1% | <0.1% | 100.0% | |

* Point estimate +/- half-width of the 95% confidence interval.

** The unknown category included checks written that either the payer, payee, or both the payer and payee could not be definitely identified as consumer or business.

*** The unknown category included checks written that had an indeterminate purpose.

Figures may not sum because of rounding.

Based on the CSS sample, the average value for checks written in 2012 was estimated to be \$1,317.⁷⁷ The high average value was mostly driven by checks written by businesses with an average value of \$2,208, which is 4 times of the average value of checks written by consumers (\$533). Among counterparties, B2B checks had the highest average value of \$2,732, and C2B checks had the lowest average value of \$505—even lower than C2C checks, which averaged \$650 (Exhibit 49).

⁷⁶ Figures do not sum because of rounding.

⁷⁷ The CSS estimate of the average value of checks written differs from the national estimate of \$1,257 for 2012 which is from DFIPS. The difference is because the banks participating in both studies differ – DFIPS is a random sample of all DFIs in the US and the CSS is a study of 11 large DFIs. Despite the difference in sampling technique, the values are reasonably close.

Exhibit 49: Average Value of Checks Written in 2012, by Counterparty

| | | Average Value* | | | | | | | |
|------------|----------|----------------|----------|----------|-----------|-----------|---------|-------|--|
| | | Payee | | Business | | Unknown** | | Total | |
| Payer | Consumer | +/- | Business | +/- | Unknown** | +/- | Total | +/- | |
| Consumer | \$650 | \$27 | \$505 | \$56 | \$0 | \$0 | \$533 | \$52 | |
| Business | \$1,087 | \$80 | \$2,732 | \$208 | \$0 | \$0 | \$2,208 | \$178 | |
| Unknown*** | | | \$1,295 | \$29 | \$0 | \$0 | \$1,295 | \$29 | |
| Total | \$910 | \$62 | \$1,454 | \$137 | \$0 | \$0 | \$1,317 | \$123 | |

* Point estimate +/- half-width of the 95% confidence interval.

** The unknown category included checks written that the payee could not be definitely identified as consumer or business.

*** The unknown category included checks written that the payer could not be definitely identified as consumer or business.

The estimated average value of checks written from CSS differs from the national estimate of \$1,257 for 2012.

4.2.1.5 Average Value of Checks Written by Counterparty and Purpose

In 2012, the largest average values of checks written were for B2B BP checks (\$2,914) and B2B BP/POS checks (\$2,678). Given the relatively large average value of these B2B BP/POS checks—much larger than the B2B POS checks (\$609)—it is likely that the majority of these BP/POS checks were BP items (Exhibit 50).

Exhibit 50: Average Value of Checks Written in 2012, by Counterparty and Purpose

| | | Average Value* | | | | | | | | | | |
|------------|-------|----------------|-------|------|---------|-------|---------|------|-----------|-----------|---------|-------|
| | | Counterparty | | C2B | | B2B | | B2C | | Unknown** | | TOTAL |
| Purpose | C2C | +/- | C2B | +/- | B2B | +/- | B2C | +/- | Unknown** | +/- | TOTAL | +/- |
| Income | | | | | | | \$1,087 | \$80 | | | \$1,087 | \$80 |
| Casual | \$650 | \$27 | | | | | | | | | \$650 | \$27 |
| BP | | | \$546 | \$62 | \$2,914 | \$216 | | | | | \$1,563 | \$143 |
| POS | | | \$337 | \$53 | \$609 | \$21 | | | | | \$416 | \$46 |
| BP/POS | | | \$429 | \$17 | \$2,678 | \$216 | | | | | \$1,500 | \$142 |
| Unknown*** | | | | | | | | | \$1,295 | \$29 | \$1,295 | \$29 |
| Total | \$650 | \$27 | \$505 | \$56 | \$2,732 | \$208 | \$1,087 | \$80 | \$1,295 | \$29 | \$1,317 | \$123 |

* Point estimate +/- half-width of the 95% confidence interval.

** The unknown category included checks written that either the payer, payee, or both the payer and payee could not be definitely identified as consumer or business.

*** The unknown category included checks written that had an indeterminate purpose.

At an average of \$650, C2C checks have the highest average value among all types of consumer checks—\$104 higher than C2B BP checks. Also, consumers transfer value between multiple depository accounts. In fact, C2C checks identified as having the same payer as payee (that is, a consumer wrote a check to him/herself, indicative of moving money across accounts)

had an average value of \$2,164 which was much higher than the average values of all other categories of checks written by consumers.

4.2.1.6 Distribution of the Number of Checks Written by Check Value Range

The sampled checks were also grouped by the dollar value of checks. In 2012, approximately three out of every four checks (76.2 percent) were written for \$500 or less, and close to half of the checks (44.1 percent) were written for \$100 or less (Exhibit 51).

Exhibit 51: Distribution of the Number of Checks Written in 2012, by Check Value Range

| <u>Check Value Range</u> | <u>Distribution</u> | | <u>95% Confidence Interval</u> |
|--------------------------|---------------------|-----|--------------------------------|
| \$0.01-\$50 | 28.8% | +/- | 0.4% |
| \$50.01-\$100 | 15.3% | +/- | 0.3% |
| \$100.01-\$500 | 32.1% | +/- | 0.5% |
| \$500.01-\$1000 | 10.6% | +/- | 0.3% |
| \$1000.01-\$2500 | 7.1% | +/- | 0.2% |
| \$2500.01-\$5000 | 2.8% | +/- | 0.2% |
| \$5000.01 + | 3.3% | +/- | 0.2% |

4.2.1.7 Remotely Created Checks

Remotely created checks are demand drafts that have a typed statement in lieu of a signature, such as “No Signature Required,” “Signature on File,” “Authorized by the Depositor,” or “Authorized by the Payer.” Approximately 2.2 percent of the checks written in 2012 were estimated to be remotely created checks (RCCs). As discussed later in Section 4.3.6.1, the study did not estimate the number or value of other types of demand drafts.

4.2.1.8 Checks Ineligible for ACH Conversion

Approximately 45.5 percent of the checks written in 2012 were estimated to be checks ineligible for ACH conversion, which tend to be business or government, and checks over \$25,000, according to NACHA rules. (See Section 4.3.6.2 for details.)

4.2.2 Comparison between the Estimates for Checks Written in 2009 and 2012

This section compares the estimates for 2012 from the 2013 CSS to the revised estimates for 2009 using the survey data collected for the 2010 CSS.⁷⁸

4.2.2.1 Changes in the Distribution of the Number of Checks Written

From 2009 to 2012, the share of checks written by consumers decreased from 54.3 percent to 53.2 percent, while the share of checks written by businesses increased from 45.7 percent to 46.8 percent (Exhibit 52). During the same time period, the share of checks written to consumers decreased from 28.7 percent to 25.1 percent and the share of checks written to businesses increased from 71.2 percent to 74.9 percent (Exhibit 53).

Exhibit 52: Changes in the Distribution of the Number of Checks Written, by Payer

| <u>Payer</u> | <u>2009</u> | | | <u>2012</u> | | | <u>Percentage Change</u> |
|--------------|-------------|-----|-------|-------------|-----|-------|--------------------------|
| Consumer | 54.3% | +/- | 0.5% | 53.2% | +/- | 0.5% | -2.0% |
| Business | 45.7% | +/- | 0.5% | 46.8% | +/- | 0.5% | 2.5% |
| Unknown* | <0.1% | +/- | <0.1% | <0.1% | +/- | <0.1% | -27.7% |
| Total | 100.0% | | | 100.0% | | | |

* The unknown category included checks written that the payer could not be definitely identified as consumer or business.

Point estimate +/- half-width of the 95% confidence interval.

Figures may not sum because of rounding.

Exhibit 53: Changes in the Distribution of the Number of Checks Written, by Payee

| <u>Payee</u> | <u>2009</u> | | | <u>2012</u> | | | <u>Percentage Change</u> |
|--------------|-------------|-----|-------|-------------|-----|------|--------------------------|
| Consumer | 28.7% | +/- | 0.4% | 25.1% | +/- | 0.4% | -12.6% |
| Business | 71.2% | +/- | 0.4% | 74.9% | +/- | 0.4% | 5.2% |
| Unknown* | 0.1% | +/- | <0.1% | 0.0% | +/- | 0.0% | -100.0% |
| Total | 100.0% | | | 100.0% | | | |

* The unknown category included checks written that the payee could not be definitely identified as consumer or business.

Point estimate +/- half-width of the 95% confidence interval.

Figures may not sum because of rounding.

⁷⁸ Revisions are discussed in Section 4.3.5.2.

4.2.2.2 Changes in the Number of Checks Written by Counterparty and Purpose

The percentage estimates from the 2013 CSS and 2010 CSS can be applied to the estimated 21.1 billion checks written in 2012 and 27.8 billion checks written in 2009, respectively, to estimate changes in the number of checks written in the United States by counterparty and purpose.

Among checks written by consumers, C2B checks had the largest annual decline of 9.6 percent, as the number of C2B checks dropped from 12.2 billion in 2009 to 9.0 billion in 2012 (Exhibit 54). Despite the large decline, C2B checks remained the most common form of checks written in 2012.

Exhibit 54: Changes in the Number of Checks Written 2009-2012, by Counterparty and Purpose

| 2009 Number of Checks (billions) * | | | | | | | | | | | | |
|------------------------------------|--------------|----------------|-------------|----------------|------------|----------------|------------|----------------|----------------|----------------|-------------|------|
| Purpose | Counterparty | | C2B | | B2B | | B2C | | Unknown** | | Total | |
| | C2C | +/- | | +/- | | +/- | | +/- | | +/- | | +/- |
| Income | | | | | | | 5.1 | <0.1 | | | 5.1 | <0.1 |
| Casual | 2.8 | <0.1 | | | | | | | | | 2.8 | <0.1 |
| BP | | | 8.6 | <0.1 | 5.8 | <0.1 | | | | | 14.4 | <0.1 |
| POS | | | 2.0 | <0.1 | 0.6 | <0.1 | | | | | 2.5 | <0.1 |
| BP/POS | | | 1.7 | <0.1 | 1.2 | <0.1 | | | | | 2.9 | <0.1 |
| Unknown*** | | | | | | | | | <0.1 | <0.1 | <0.1 | <0.1 |
| Total | 2.8 | <0.1 | 12.2 | <0.1 | 7.5 | <0.1 | 5.1 | <0.1 | <0.1 | <0.1 | 27.8 | |

| 2012 Number of Checks (billions) * | | | | | | | | | | | | |
|------------------------------------|--------------|----------------|------------|----------------|------------|----------------|------------|----------------|-----------|----------------|-------------|------|
| Purpose | Counterparty | | C2B | | B2B | | B2C | | Unknown** | | Total | |
| | C2C | +/- | | +/- | | +/- | | +/- | | +/- | | +/- |
| Income | | | | | | | 3.1 | <0.1 | | | 3.1 | <0.1 |
| Casual | 2.1 | <0.1 | | | | | | | | | 2.1 | <0.1 |
| BP | | | 6.6 | <0.1 | 5.0 | <0.1 | | | | | 11.6 | <0.1 |
| POS | | | 1.0 | <0.1 | 0.4 | <0.1 | | | | | 1.4 | <0.1 |
| BP/POS | | | 1.5 | <0.1 | 1.3 | <0.1 | | | | | 2.8 | <0.1 |
| Unknown*** | | | | | | | | | <0.1 | <0.1 | <0.1 | <0.1 |
| Total | 2.1 | <0.1 | 9.0 | <0.1 | 6.7 | <0.1 | 3.1 | <0.1 | - | <0.1 | 21.1 | |

| CAGR | | | | | | | |
|--------------|--------------|--|--------------|--------------|---------------|---------------|--------------|
| Purpose | Counterparty | | C2B | B2B | B2C | Unknown** | Total |
| | C2C | | | | | | |
| Income | | | | | -15.2% | | -15.2% |
| Casual | -8.8% | | | | | | -8.8% |
| BP | | | -8.2% | -4.8% | | | -6.8% |
| POS | | | -21.4% | -10.8% | | | -18.8% |
| BP/POS | | | -4.9% | 3.4% | | | -1.3% |
| Unknown*** | | | | | | -42.7% | -42.7% |
| Total | -8.8% | | -9.6% | -3.8% | -15.2% | -42.7% | -8.8% |

* Point estimate +/- half-width of the 95% confidence interval.

** The unknown category included checks written that either the payer, payee, or both the payer and payee could not be definitely identified as consumer or business.

*** The unknown category included checks written that had an indeterminate purpose.

Figures may not sum because of rounding. CAGR is compound annual growth rate.

From 2009 to 2012, C2B checks by all categories for purpose experienced declines, including checks written for BP, POS, and BP/POS. The decline in C2B check writing reflected, among other things, the replacement of consumer checks by electronic payments, such as online bill payments through ACH; debit card bill payments; or point-of-sale (POS) purchases with debit cards, credit cards, or prepaid cards.

Meanwhile, the number of C2C checks decreased from 2.8 billion in 2009 to 2.1 billion in 2012, at an annual decline of 8.8 percent, which was similar to the total decline of 8.8 percent.

Among all counterparty types, B2C checks had the largest annual percent decline (15.2 percent).⁷⁹ The number of B2C checks declined from 5.1 billion in 2009 to 3.1 billion in 2012. The decline in B2C checks were likely the result of income payment migration to ACH direct deposit and prepaid cards. On the other hand, B2B checks had the lowest annual percent decline (3.8 percent) among all counterparty types.⁸⁰

4.2.2.3 Changes in the Distribution of the Value of Checks Written

Between 2009 and 2012, the distribution of the value of checks shifted further toward checks written by consumers and away from checks written by businesses. Checks written by consumers increased from 16.9 percent of the total check value in 2009 to 21.5 percent in 2012 (Exhibit 55). On the other hand, the share of the value of checks written to consumers decreased from 20.2 percent in 2009 to 17.3 percent in 2012 (Exhibit 56). The rise in consumer check's share of value came from both an increase in C2B value share, from 12.8 percent in 2009 to 16.5 percent in 2012, as well as an increase in C2C value share, from 4.1 percent in 2009 to 5.0 percent in 2012 (Exhibit 57). These increases might have been attributable to the resilience of checks for large-ticket items such as rental payments, while checks for more transactional, small-ticket items have declined.

⁷⁹ Prior to the update of the estimates, the Summary Report released on December 19, 2013 reported an annual decline of 16.0 percent for B2C checks from 2009 to 2012.

⁸⁰ Prior to the update of the estimates, the Summary Report released on December 19, 2013 reported an annual decline of 9.2 percent for B2B checks from 2009 to 2012.

Exhibit 55: Changes in the Distribution of the Value of Checks Written 2009-2012, by Payer

| <u>Payer</u> | <u>2009</u> | | | <u>2012</u> | | | <u>Percent Change</u> |
|--------------|-------------|-----|-------|-------------|-----|-------|-----------------------|
| Consumer | 16.9% | +/- | 0.3% | 21.5% | +/- | 0.4% | 27.3% |
| Business | 83.1% | +/- | 0.4% | 78.5% | +/- | 0.4% | -5.5% |
| Unknown* | <0.1% | +/- | <0.1% | <0.1% | +/- | <0.1% | -45.0% |
| Total | 100.0% | | | 100.0% | | | |

* The unknown category included checks written that the payer could not be definitely identified as consumer or business.

Point estimate +/- half-width of the 95% confidence interval.

Figures may not sum because of rounding.

Exhibit 56: Changes in the Distribution of the Value of Checks Written 2009-2012, by Payee

| <u>Payee</u> | <u>2009</u> | | | <u>2012</u> | | | <u>Percent Change</u> |
|--------------|-------------|-----|-------|-------------|-----|------|-----------------------|
| Consumer | 20.2% | +/- | 0.4% | 17.3% | +/- | 0.4% | -14.1% |
| Business | 79.8% | +/- | 0.4% | 82.7% | +/- | 0.4% | 3.6% |
| Unknown* | <0.1% | +/- | <0.1% | 0.0% | +/- | 0.0% | -100.0% |
| Total | 100.0% | | | 100.0% | | | |

* The unknown category included checks written that the payee could not be definitely identified as consumer or business.

Point estimate +/- half-width of the 95% confidence interval.

Figures may not sum because of rounding.

Exhibit 57: Changes in the Distribution of the Value of Checks Written 2009-2012, by Counterparty and Purpose

| 2009 Distribution* | | | | | | | | | | | | | | |
|--------------------|--------------|------|-------|------|-------|------|-------|------|-----------|-------|-----------|-------|-------|--|
| Purpose | Counterparty | | C2C | | C2B | | B2B | | B2C | | Unknown** | | Total | |
| | C2C | +/- | C2C | +/- | B2B | +/- | B2C | +/- | Unknown** | +/- | Total | +/- | | |
| Income | | | | | | | 16.1% | 0.3% | | | 16.1% | 0.3% | | |
| Casual | 4.1% | 0.2% | | | | | | | | | 4.1% | 0.2% | | |
| BP | | | 10.5% | 0.3% | 54.3% | 0.5% | | | | | 64.8% | 0.4% | | |
| POS | | | 0.7% | 0.1% | 1.3% | 0.1% | | | | | 2.0% | 0.1% | | |
| BP/POS | | | 1.7% | 0.1% | 11.4% | 0.3% | | | | | 13.0% | 0.3% | | |
| Unknown*** | | | | | | | | | 0.1% | <0.1% | 0.1% | <0.1% | | |
| Total | 4.1% | 0.2% | 12.8% | 0.3% | 67.0% | 0.4% | 16.1% | 0.3% | 0.1% | <0.1% | 100.0% | | | |

| 2012 Distribution* | | | | | | | | | | | | | | |
|--------------------|--------------|------|-------|------|-------|------|-------|------|-----------|-------|-----------|-------|-------|--|
| Purpose | Counterparty | | C2C | | C2B | | B2B | | B2C | | Unknown** | | Total | |
| | C2C | +/- | C2C | +/- | B2B | +/- | B2C | +/- | Unknown** | +/- | Total | +/- | | |
| Income | | | | | | | 12.3% | 0.3% | | | 12.3% | 0.3% | | |
| Casual | 5.0% | 0.2% | | | | | | | | | 5.0% | 0.2% | | |
| BP | | | 13.1% | 0.3% | 52.5% | 0.5% | | | | | 65.5% | 0.5% | | |
| POS | | | 1.2% | 0.1% | 0.9% | 0.1% | | | | | 2.0% | 0.1% | | |
| BP/POS | | | 2.3% | 0.1% | 12.8% | 0.3% | | | | | 15.1% | 0.3% | | |
| Unknown*** | | | | | | | | | <0.1% | <0.1% | <0.1% | <0.1% | | |
| Total | 5.0% | 0.2% | 16.5% | 0.4% | 66.2% | 0.5% | 12.3% | 0.3% | <0.1% | <0.1% | 100.0% | | | |

| Percent Change | | | | | | | | |
|----------------|--------------|-----|-------|-----|--------|--------|-----------|--------|
| Purpose | Counterparty | | C2C | C2B | B2B | B2C | Unknown** | Total |
| | C2C | +/- | C2C | +/- | B2B | +/- | Unknown** | Total |
| Income | | | | | | -23.4% | | -23.4% |
| Casual | 23.2% | | | | | | | 23.2% |
| BP | | | 24.8% | | -3.4% | | | 1.1% |
| POS | | | 65.9% | | -32.8% | | | 1.9% |
| BP/POS | | | 37.2% | | 13.0% | | | 16.0% |
| Unknown*** | | | | | | | -57.6% | -57.6% |
| Total | 23.2% | | 28.6% | | -1.2% | -23.4% | -57.6% | |

* Point estimate +/- half-width of the 95% confidence interval.

** The unknown category included checks written that either the payer, payee, or both the payer and payee could not be definitely identified as consumer or business.

*** The unknown category included checks written that had an indeterminate purpose.

Figures may not sum because of rounding.

in 2009 to 78.5 percent in 2012, but the share of the value of checks written to businesses increased from 79.8 percent to 82.7 percent in 2012. The decrease in business check's share of value mainly came from a drop in B2C value share, from 16.1 percent in 2009 to 12.3 percent in 2012.

4.2.2.4 Changes in the Number of Remotely Created Checks

The 2013 CSS found that the incidence of remotely created checks remained consistent from 2009 to 2012 at 2.2 percent of all checks written. Applying this percentage to the estimated

number of checks written in 2009 and 2012, the number of remotely created checks was estimated to have declined from approximately 601 million in 2009 to approximately 470 million in 2012.

4.2.2.5 Changes in the Number of Checks Ineligible for ACH Conversion

The 2010 CSS found that 43.3 percent of checks written in 2009 were written by businesses and ineligible for ACH conversion.⁸¹ As discussed above, that percentage had increased to 45.5 percent in 2012, because of the increased share of business checks written from 2009 to 2012. In terms of the number of checks written, the number of checks ineligible for ACH conversion decreased from 12.0 billion in 2009 to 9.6 billion in 2012.

4.3 METHODOLOGY

The 2013 CSS estimates were based on a random sample of checks written and processed by 11 large commercial banks in the United States in 2012.⁸²

4.3.1 Survey Design

The 2013 CSS was a voluntary survey. Nine of the 11 participating commercial banks were customers of the Viewpointe's check-image archive while the other two utilized their own check-image archive. To maintain consistency across study years, the same 11 banks in the 2010 CSS were requested to participate in the 2013 CSS. Only 9 of these 11 banks were included in the 2007 CSS. To avoid the inconsistency in the trend analysis, we only compared the estimates between 2010 CSS and 2013 CSS in this detailed report.

We assumed that the final sample represented the population of checks processed during 2012, including checks both drawn on and collected by the participating banks. The population of

⁸¹ The 2010 CSS detailed report stated that 45.7 percent of checks were ineligible for ACH conversion. A revision was made to that number since the release of that 2010 CSS detailed report, which brought the percentage down to 43.3 percent. Only nine of the 11 banks from the 2010 CSS were included in the original analysis. The revision included the full set of 11 participating banks.

⁸² The Check Sample Survey sampled "prime pass" checks, including both transit checks, which were deposited at a participating bank but drawn on another depository institution, and checks paid by the participating banks. Adjustments were made to account for sample bias from checks deposited at one of the participating banks and paid by another participating bank.

checks archived for these 11 participating banks in 2012 was estimated to account for approximately 52 percent of all “prime pass” items in the United States in 2012.⁸³ Meanwhile, these 11 banks held approximately 36 percent of deposit liabilities and paid roughly 57 percent of all checks paid in the United States in 2012.⁸⁴

Although the population of checks archived for these 11 large commercial banks represented a significant share of checks in the United States in 2012, it is unclear how the results would have differed had the sample been drawn from a nationally representative sample of depository institutions.

4.3.1.1 Sample Size and Sampling Technique

A sample size of at least 30,000 checks was determined to be sufficient to accurately characterize the distribution of checks written in 2012 with a 95 percent confidence interval of +/- 5 percent. The number of items sampled from each bank was proportional to its share of all items processed by participating banks in 2012.

To reach the target sample of 30,000 checks, archived items were oversampled. This allowed for duplicate checks and non-check items to be removed from the sample.⁸⁵ After oversampling and eliminating duplicate checks and non-check items, the final sample consisted of 41,097 checks. (See Section 4.3.2.2 for details about eliminating duplicate checks.)

4.3.1.2 Weighting the Final Sample

Three weights were applied to data from each sampled check:

1. *Primary weighting.* Sample weights were applied to ensure the final sample was representative of the population of checks processed by participating banks.

⁸³ The fraction is based on the estimated number of checks from DFIPS. The number of prime pass items refers to the total number of discrete items processed, excluding any re-handling of checks for the purpose of sorting to paying bank endpoints, customer statements, etc. The estimated number of industry prime pass items excluded items processed by the Federal Reserve Banks.

⁸⁴ Deposit liabilities as of December 2012.

⁸⁵ Check-image archives house check and non-check items (e.g., deposit slips). Therefore, the method of over-sampling provided a cushion to cull out any non-check documents during data collection. Additionally, because the participating banks sent checks to one another, over-sampling allowed for the removal of any duplicate checks from the sample.

2. *Secondary weighting.* A second weight adjusted for the fact that an interbank check exchanged between two participating banks in the survey had a higher probability of random selection than an interbank check exchanged between a survey participant and a depository institution (DI) not participated in the survey.⁸⁶ Although each interbank check is a single paper item, it may be stored as discrete images in multiple banks' archives. To adjust for this, the research team weighted interbank checks between participating banks such that each interbank item in the final sample appeared to have the same probability of selection.⁸⁷
3. *Tertiary weighting.* A third weight adjusted the sample population for the ratio of on-us checks (that is checks both written and paid by the same bank) to transit checks. This was to ensure that the final sample was representative of on-us to transit ratio among the population of checks processed by participating banks. This third weight is new to the CSS and was not previously applied in prior iterations of the CSS. To maintain consistency when comparing across studies, the 2010 CSS sample was weighted based on the ratio of on-us to transit checks processed in 2009 by participating banks. This weighting made negligible impact to the 2010 CSS results. In addition, although the 2007 CSS estimates were not included in this report, a re-weighting of the 2007 CSS sample based on the on-us to transit ratio was also performed. Like the 2010 CSS data, this weighting made negligible impact to the 2007 CSS results.

4.3.2 Data Collection

The data collection strategy was developed to gather non-sensitive information about each sampled check in an effort to categorize it by counterparty and purpose. Each sampled check was investigated at least twice during data collection. In each round, a different investigator surveyed each check. A third round of data collection, called the Reconcile CSS Survey, was used if and only if any response from the first two surveys—the CSS Long Survey and the CSS Short Survey—did not match. The Reconcile CSS Survey, which had an identical set of

⁸⁶ An interbank check is a check drawn on one depository institution and deposited at another.

⁸⁷ The weighting for interbank checks differed for each of the 11 banks depending on their percentage of checks found to be interbank.

questions to the CSS Short Survey, was taken by a third investigator. There were two primary reasons to investigate each check three times:

1. To improve the ability to confidently categorize each check based on multiple, independent observations about its payer, payee, and purpose
2. To provide a basis to reconcile discrepancies in categorization by any two investigators and to recognize and correct keying errors

A copy of the CSS Long Survey Instrument and the CSS Short Survey Instrument are available online. The CSS Long Survey consisted of 25 questions, and the CSS Short Survey consisted of 8 questions.⁸⁸

The survey instruments collected Boolean data about the presence of specific attributes on each check, such as the following:

1. Organizational suffixes, e.g., Inc., LLC, LTD, Co., Corp., Corporation, Trust, Services, .com, or Association, in the name or address of the payer or payee
2. Indicators of government entities, e.g., State of, County of, City of, Town of, Township of, Bureau of, or Municipality, in the name or address of the payer or payee
3. Indicators of organizational departments, e.g., Treasury, Treasurer, Commissioner, Controller, Office of, or Accounts Payable, in the name or address of the payer or payee
4. Indicators of personal addresses, such as Apartment or Apt # in the payer or payee address
5. Whether the payee line or the front of the check contains an address for the payee
6. Whether the check contains an auxiliary on-us field
7. Whether the maker's signature or payee's endorsement is hand-written
8. Presence of handwritten information recorded at the time of tender, e.g., a driver's license number or date of birth.
9. Whether the payee's endorsement is vertical or horizontal

⁸⁸ Electronic copies of the survey forms are available for download at <https://www.frbservices.org/news/research.html>.

In addition to the above Boolean data, investigators also recorded other non-sensitive information from the front and back of the check, such as the following:

1. Date of the check
2. Dollar amount of the check
3. Nine-digit routing number (RTN) of the payer bank
4. Serial number of the check
5. Nine-digit routing number (RTN) of the endorsing bank
6. Payer's zip code (if present)

The survey instruments also asked the investigators to render an opinion about the type of payer and payee—*consumer, business, government, not consumer, or not government*—for each check based on all available information.

4.3.2.1 Metadata

Some participating banks also provided metadata for the sampled checks. The amount of information stored in a metadata file varied by bank. For the purposes of the study, when metadata were available, the research team used them to automatically determine serial numbers of the checks, dollar amounts of the checks, and nine-digit routing numbers (RTNs) of the payer banks.

4.3.2.2 Eliminating Duplicate Checks

Because the study required sampling checks from multiple banks' archives, and because checks deposited at one participating bank and drawn on another were part of the sample population, there was some risk that a check sampled from one bank's archive would be identical to a check sampled from another bank's archive. Additionally, the research team considered the possibility that random sampling may select the same check more than once from the same archive (e.g., a returned check that was subsequently re-presented). In order to eliminate duplicates from the sample, the research team systematically analyzed four fields of data recorded by participating banks about each check:

1. Date of the check
2. Dollar amount of the check

3. Nine-digit routing number (RTN) of the payer bank
4. Serial number of the check

If two or more items within the sample had the same data for each of the four fields, the research team would flag these items as potential duplicates. Through this method all duplicate items were systematically identified and removed from the final sample.

4.3.2.3 Data Collection Training

McKinsey administered in-person training with each participating bank's investigation staff, which consisted of the following:

1. Describing the purpose of the study
2. Explaining the basic fields contained on a check
3. Providing examples of *consumer*, *business*, and *government* checks, and discussing important characteristics of each
4. Listing specific examples of payer and payee categories as well as types of checks (e.g., travelers checks) and how to appropriately categorize them
5. Walking the investigators through the process of gathering data from several example checks
6. Answering questions from investigators or team leaders about how to answer various types of questions

4.3.3 Categorization of Checks Written

Based on the data received from each bank, the research team employed a model to categorize each sampled check according to its payer, payee, and purpose.

4.3.3.1 Payer and Payee Categories

The research team defined two categories for payer and payee: consumer and business, which included businesses; federal, state, and local government agencies; and nonprofit organizations. These two categories are commonly accepted in the industry and represent groups with a common set of behaviors and payment options available to them.

In general, the CSS analyzed checks based on the “flow of funds.” Meaning, the payer and payee of a sampled check were identified based on who originally initiated the check or transaction and who ultimately received the check. For example, in the case of a money order, the payer was not considered the vendor of the money order such as the USPS, MoneyGram, or Western Union. Instead the payer was considered the person or entity that purchased the money order. The recipient of the money order was the payee. The same was true for a check draft created for an online bill payment. Banks will, at times, have a check created in lieu of sending an ACH transaction for an online bill payment. The CSS considered the initiator of that transaction as the payer, not the bank or the vendor of the check draft. The recipient of that check (that is, the person or entity the order was made to) was considered the payee.

Some small businesses, such as sole proprietorships, may resemble a consumer payer or payee more closely than a business in terms of availability and use of electronic payment alternatives. As a practical matter, the 2013 CSS effectively dealt with the commonality between consumers and sole proprietorships by assuming that any check written to or from an individual and having no characteristics on the check to indicate a business payer or payee was classified as consumer payer or payee, respectively.

Because the distinction between business, government, and nonprofit organization is largely immaterial for the purpose of evaluating substitution potential, they are grouped together as business entities. Generally, there are no particular impediments to a government/nonprofit entity accepting a payment type that a business might accept and vice versa. Likewise, business or government/nonprofit payers were assumed to have comparable access to payment alternatives, such as purchasing cards, financial EDI (an electronic format for exchanging financial business transaction data), or ACH-initiation capabilities.

4.3.3.2 Purpose Categories

Considering all possible payment types and their various options for substitution of electronic for paper payments, the research team defined four primary purpose categories:

1. **Casual** – Payments from one individual to another. By definition, all consumer-to-consumer payments were categorized as Casual.

2. **Income** – Payments to an individual from either a business or government entity. By definition, all business-to-consumer and government-to-consumer payments were categorized as Income. The following are examples of such payments:
 - a. Payrolls
 - b. Pensions
 - c. Benefits/entitlements
 - d. Rebate/promotional/refund
 - e. Expense reimbursements
 - f. Tax refunds
 - g. Investment disbursements
 - h. Bill payments from a business entity to small businesses indistinguishable from consumers

3. **Bill payment (BP)**⁸⁹ – Payments from any type of payer to a business payee that did not occur at the point of sale. The following are examples of such payments:
 - a. Recurring retail bill payment – Regular recurring payments. Examples included utility bill payments, insurance premiums, telecommunications charges, credit card bill payments, or loan payments.
 - b. Non-recurring retail bill payment – Irregular payments made for products or services rendered for consumer consumption. Examples included medical bill payments; payments to service providers such as plumbers, contractors, or pest controls; and payments of legal or accountant fees.
 - c. Commercial bill payment – Any B2B payments not made at the point of sale. Examples included purchases of raw materials, office supplies, business equipment, finished goods from wholesalers, or professional services.

⁸⁹ Bill payment was called remittance, or REM, in previous iterations of the Check Sample Survey.

4. **Point-of-sale (POS)** – Payments from any type of payer to a business payee that occurred in a storefront (that is, a traditional single or multi-lane retail environment), such as a department store, drugstore, clothing store, gas station, or dry cleaner.

Exhibit 58 illustrates the intersection of the two payer types, two payee types, and four purpose classifications. One objective of the 2013 CSS was to document the distribution of checks written in 2012 across this matrix. Note that dark shaded cells indicate check payment types that do not exist.⁹⁰

Exhibit 58: Check Categorization Matrix

| Purpose | Payer | Payee | |
|---------------------|--------------|--------------|--------------|
| | | Consumer (C) | Business (B) |
| Income | Consumer (C) | | |
| | Business (B) | | |
| Casual | Consumer (C) | | |
| | Business (B) | | |
| Bill payment (BP) | Consumer (C) | | |
| | Business (B) | | |
| Point-of-Sale (POS) | Consumer (C) | | |
| | Business (B) | | |

4.3.4 Check Categorization Model

The research team employed a categorization model based on conditional logic to assign a classification to each check. Judging from data recorded by the investigators, the model assigned a payer, payee, and purpose classification to each check.

⁹⁰ It was decided that dividend payments to corporate shareholders would not qualify as Income payments. From a substitution perspective —i.e., the ability to substitute electronic for paper payments—this type of dividend payments is indistinguishable from business-to-business bill payments and, therefore, should be categorized as such.

The model derived the classification categories (payer, payee, and purpose) for each check by first analyzing the objective data gathered from the survey instruments. If the responses yielded enough information without inconsistencies, the model produced a determinate response (e.g., consumer or business).

If the model could not definitively categorize the sampled check, it generated one of the two alternate responses: Indeterminate or Error. The model returned an Indeterminate outcome if the surveys were correctly completed but the logical chain did not contain enough information to yield a determinate response. Otherwise, if the surveys were incorrectly completed or provided inconsistent data, the model returned an Error outcome.

The model then combined this initial categorization for payer, payee, and purpose based on objective data with the subjective responses made by the investigators to determine a final categorization. The combination of the initial result based on objective data and subjective categorizations provided the study with well reconciled results to limit the number of indeterminate classifications.

4.3.4.1 Categorization of Payer

Information on the face of a check determined its payer type. Checks were typically categorized as business for payer based on the characteristics of the MICR line (e.g., a federal government check's MICR line begins with 000, many business checks include an auxiliary on-us field), whether the check was machine-printed or hand-written, the method used to frank the check (e.g., typed or machine-printed "signature"), and the characteristics of the payer name and address. For example, the field for the name/address of the payer was useful in both subjective and objective categorizations, because it contained indicators such as Inc., LLC, LTD, Corp., Department of, City of, Town of, Bureau of, or Accounts Payable. The payee line (e.g., following "Pay to the order of...") was also useful in some cases, because business or government payers—unlike consumers—sometimes include the full mailing address of the payee (machine printed) on the face of the check.

Checks classified as consumer for payer generally included checks without characteristics in the MICR line or in the name/address field. It is entirely possible that some small businesses or sole proprietors might use their personal checks for business payments. Without any characteristics to indicate a business use, these checks would be classified as consumer. This risk of misclassification was deemed acceptable. With regard to payments substitution, small

businesses that are difficult to distinguish from consumers have similar payments preferences to consumers' and face many of the same payments choices.

4.3.4.2 Categorization of Payee

The determination of the payee was made from information on both the front and back of the check: the payee line, the endorsement, and any other writing/stamp/print on the check (e.g., information on the memo line).

Investigators used the payee line to identify any obvious signs of a business payee, e.g., Inc., LLC, Corp., IRS, Tax Commissioner, Bureau of, Town of, County of, or Accounts Receivable. Investigators recorded the presence of unique printing or stamps on the checks written that might indicate a point-of-sale (POS) transaction, e.g., a driver's license number, store number, terminal number. The payee endorsement was also a significant determinant of payee type. Business payees tended to stamp or machine print their endorsements on the back of checks. Lockbox (that is, bill payment) transactions in particular tended to be endorsed along the length of the check (that is, parallel to text on the face of the check) rather than across the end of the check (that is, perpendicular to text on the face of the check).

4.3.4.3 Categorization of Purpose

The categorization model determined the purpose of each check by combining information gathered directly from the check with the final categorization of its counterparty (that is, payer and payee combination).

The first step in determining the purpose of a check was to cross-reference the payer and payee final categorizations (Exhibit 59).

Exhibit 59: Purpose by Counterparty Combinations

| | | Payee Categorization | | |
|----------------------|----------|----------------------|-----------|---------|
| | | Consumer | Business | Unknown |
| Payer Categorization | Consumer | Casual | BP or POS | Unknown |
| | Business | Income | BP or POS | Unknown |
| | Unknown | Unknown | Unknown | Unknown |

Several cells in Exhibit 59 show that the relationship between payer and payee alone was enough to determine the purpose of some checks. For example, all B2C checks were classified as Income. As noted in Section 4.3.3.2, not all income payments as categorized by this study were payroll checks. Rebate checks, tax refunds, stock dividends are all examples of checks written that would fall into the Income category.

Similarly, all checks written from one individual to another individual were classified as Casual. Based on the examples discussed Section 4.3.3.1, the Casual category likely included payments to and from sole proprietorships or small businesses that used what were, or appeared to be, personal checks for business transactions. For instance, rental payments from tenants to individual landlords may be included as Casual unless the information on the check (e.g., statements on the memo line) indicated that the payer or payee was a business. The classification of some of these checks as Casual may not be entirely inappropriate. During 2012, these types of checks described above had a low probability of substitution by electronic instruments.

If the model classified a check's purpose as Income or Casual based on its counterparty (e.g., a B2C check), the algorithm automatically defined that as the final categorization for its purpose.

Any check written to a business payee was initially categorized as either bill payment (BP) or point-of-sale (POS). To go one step further and definitively categorize these items, the model evaluated other data about the payee, such as the endorsement or other information added to the check by the payee. If the endorsement included such information as a store number, a terminal number, or a customer's driver's license number, this suggested a point-of-sale (POS) transaction. Lockbox endorsements, apparent by their alignment across the length of the check in conjunction with the terms such as "absentee" or "absent endorsed," indicated a bill payment transaction.

The distinction between bill payment (BP) and point-of-sale (POS) was also based on information recorded by the investigators about the type of the payee. If an investigator reported that the payee was, for example a credit card issuer or a utility, this check would be classified as bill payment (BP). On the other hand, payments made to a convenience store, a restaurant, a drugstore, or a retail store suggested a point-of-sale (POS) payment.

If the distinction between bill payment (BP) and point-of-sale (POS) could not be determined through the data collected in the survey, the model ultimately classified the check as BP/POS.

4.3.5 Estimation

The results of the check categorization process yielded estimates for the distribution of checks written in the United States in 2012. To derive national point estimates for the number of checks written in a given category, the research team applied those distribution estimates to the estimated number and value of checks written in the United States in 2012, respectively.⁹¹

All the point estimates in the above exhibits included correspondingly estimated half-width of the 95 percent confidence intervals. The boundaries of a confidence interval were estimated as the point estimate plus or minus the half-width. Assuming the data were normally distributed and the sample was large, an estimate of the half-width is approximately 1.96 times the sampling standard error. The standard errors did not account for the possibility that the algorithm misclassified a check.

4.3.5.1 Trend Analysis

The same 11 commercial banks that participated in the 2010 CSS also participated in the 2013 CSS. Both check samples in their entirety from the 2013 CSS and 2010 CSS are compared for the trend analysis.

In the detailed report for the 2010 CSS, all the 11 banks were included in the distribution analysis section (that is, the analysis of the distribution of checks written in 2009 by counterparty and purpose). However, for the comparison of 2009 estimates to 2006 estimates, a set of alternative estimates was constructed. The alternate group consisted of 9 of the 11 banks that had participated in both the 2010 CSS and 2007 CSS, and the alternative estimates adjusted for major acquisitions by some of the participating banks between the 2007 and 2010 studies.

Instead of continuing to use the alternate group of banks from the trend analysis in the 2010 CSS, the 2013 CSS used the full set of 11 banks to study the trend from 2009 to 2012. This provided not only a more consistent analysis between the 2010 CSS and 2013 CSS, but also created a better representation of the check market in terms of geographic, demographic, and check-volume coverage.

⁹¹ It is recognized that the 11 participating commercial banks did not have the entire population of checks in the United States. However, the participating banks did process a sizeable portion of prime pass items; therefore, it is not unreasonable to assume that the checks in their archives had similar behavior/characteristics as the checks in the United States.

4.3.5.2 Revisions

Data in this report reflects updated estimates since the Summary Report was released in December 2013. Section 2.4.1 in the Summary Report focused on the differences of checks written by counterparty and purpose from 2006 to 2012. (These data are also discussed in the overview section of this report.) Based on information that came to light after the release of the Summary Report, the data were reweighted to gain a more accurate comparison. In addition, the Summary Report used the 2010 CSS alternate group described above. Re-weighting the data and switching out the 2010 alternate group with the full set of 2010 CSS banks impacted the annual percent decline figures of the counterparties. Specifically, comparing to the Summary Report, checks written by consumers (including C2B and C2C checks) had a greater annual percent decline from 2009 to 2012 while B2B checks had a lower annual percent decline as described in this detailed report. Also, the estimate of the number of checks written was revised.

4.3.6 Additional Analysis

In addition to studying the distribution of checks written by payer, payee, and purpose, the research team sought to identify the incidence of certain demand drafts and checks ineligible for conversion to ACH.

4.3.6.1 Demand Drafts

A demand draft is a check that does not require the account holder's handwritten signature and is issued by a third party under the purported authority of the customer for the purpose of charging the customer's bank account.⁹² A demand draft may come in one of two varieties. The first variety contains the customer's printed or typewritten name or account number, and a notation that the customer authorized the draft. This includes checks written by check printers who process invoices for businesses. Banks and other third parties such as FIS, Fiserv, and RR Donnelley are industry providers of this service. These checks do not have any distinguishing characteristics that can be recorded without capturing sensitive information such as payer name or account number (a central requirement of this study was that no sensitive

⁹² The third party creating a demand draft may have the account holder's electronic signature on file, and may include that signature on the draft.

information be collected). Therefore, the research team cannot estimate the incidence of this type of check from the data gathered by this study.

The second variety of demand drafts, which this report refers to as remotely created checks, consists of checks written that have a typed statement in lieu of a signature, such as “No Signature Required,” “Signature on File,” “Authorized by the Depositor,” or “Authorized by the Payer.” The study measured the incidence of remotely created checks.

4.3.6.2 Checks Ineligible for ACH Conversion

Certain checks by agreement between the payer and payee can be converted to ACH for clearing and settlement, and other checks cannot be converted. The CSS aimed to identify the incidence of checks written that were ineligible for conversion to ACH, according to NACHA rules.⁹³ The determination was made based on the following conditions:

1. If the characteristics of the name and address indicated that the payer was a federal entity, such as the U.S. Treasury, Federal Reserve, Federal Home Loan, a mutual fund, or investment firm
2. If the amount of the check exceeded \$25,000
3. If the leftmost portion of the MICR line, before the RTN, contained the optional number known as the auxiliary on-us field
4. If a signature was not present. This included blanks and statements in lieu of a signature such as “No Signature Required”

⁹³ NACHA manages the governance of the ACH network, and has set the rules for what types of checks can or cannot be converted to ACH.