Working Papers

FEDERAL RESERVE BANK OF BOSTON

No. 22-18

Who Is Paying All These Fees? An Empirical Analysis of Bank Account and Credit Card Fees

Oz Shy and Joanna Stavins

Abstract:
Banks impose a variety of account fees, and credit card issuers impose a variety of fees related to card usage. Using detailed data from a 2021 representative diary survey of US consumers, we investigate whether lower-income consumers and Black consumers are more likely to pay bank account or credit card fees, and how payment behavior varies depending on paying such fees. We find that the probability of paying several types of bank account and credit card fees is correlated with consumers' demographic attributes and payment behavior. The percentage of Black consumers who pay overdraft or low-balance fees on their bank accounts or pay late fees or cash-advance fees on their credit cards is higher than the percentage of White consumers who pay those fees. We find that lower-income consumers were significantly more likely to pay overdraft fees, and Black consumers were significantly more likely to pay any bank account fee when we hold income and account balances constant in the regressions. However, when controlling for income, we find that the race effect was smaller than in the summary statistics.

JEL Classifications: G21, G5, D14
Keywords: Bank account fees, credit card fees, fees by demographics, payment choice

Oz Shy is a senior policy adviser and economist in the research department at the Federal Reserve Bank of Atlanta. Joanna Stavins is a senior economist and policy advisor in the research department at the Federal Reserve Bank of Boston. Her email address is joanna.stavins@bos.frb.org.

Helpful comments were provided by José Fillat and Joe Peek. Ruth Cohen provided excellent research assistance.

This version: August 2022 **https://doi.org/10.29412/res.wp.2022.18**

1. Introduction

High account fees are one of the primary reasons why consumers choose not to have a bank account (FDIC 2020), and overdraft fees can be costly for low-income individuals (Prescott and Tatar 1999). The Overdraft Protection Act, recently considered by Congress, would regulate overdraft fees imposed by banks.[2] Credit card issuers can also impose high fees on cardholders who fail to pay their full balance on time, and the Consumer Financial Protection Bureau (CFPB) just announced that it will assess whether late fees charged by credit card issuers are "reasonable and proportional."[3] This paper investigates the following questions: Are fees assessed on bank account and credit card holders regressive—in other words, are lower-income consumers more likely to pay certain fees compared with higher-income consumers? Are there significant differences across consumers by age, race, and education?

We use data on a variety of fees paid by consumers on their bank accounts and credit cards from the 2021 Diary of Consumer Payment Choice (DCPC). Consumers with bank accounts were asked whether they paid any of the six types of account fees, such as overdraft and low-balance fees, and credit card holders were asked whether they paid any of the six types of fees associated with credit cards, such as late-payment and cash-advance fees. Because the diary collects detailed data on each respondent's income and demographic attributes, as well as information on payment-method adoption and use, we can analyze which consumers were more likely to pay the various fees and how payment behavior differed between consumers who paid various fees and those who did not pay those fees. Although bank account fees and credit card fees are imposed on different financial services and are therefore not directly related to each other, both types of fees can be paid disproportionally by consumers of a certain race or from a certain income cohort.

We find that the probability of paying several types of bank account and credit card fees is correlated with consumers' demographic attributes and payment behavior. The percentage of Black consumers who pay overdraft or low-balance fees on their bank accounts or pay late fees

[2] https://financialservices.house.gov/uploadedfiles/6.14_bills-117427 7ih.pdf

[3] See https://www.consumerfinance.gov/about-us/newsroom/cfpb-initiates-review-of-credit-card-company-penalty-policies-costing-consumers-12-billion-each-year/; and Kate Berry, "CFPB Launches Opening Salvo in Battle against Credit Card Late Fees," *American Banker*, June 22, 2022.

or cash-advance fees on their credit cards is higher than the percentage of White consumers who pay those fees. Even when controlling for checking account balances in a regression, we find that lower-income consumers were significantly more likely to pay overdraft fees, and Black consumers were significantly more likely to pay any bank account fee when we hold income and account balances constant.

Studies on the prevalence of various types of fees are scarce, and the available data sources are not recent. A Pew survey conducted in 2012 found that 18 percent of consumers had incurred overdraft fees in the preceding year. The likelihood of paying overdraft fees was much higher among lower-income consumers, and consumers making less than $30,000 a year were nearly twice as likely to incur an overdraft penalty fee compared with those making more than $30,000 (Pew 2012). The FDIC (2020) finds that 34.2 percent of unbanked consumers stated that high bank account fees is *one* reason for their decision not to have a bank account, and 7.3 percent identified such fees as the *main* reason for not having a bank account. Stavins (2018) analyzes the role of consumer preferences for specific payment methods and how price discounts and surcharges based on payment method affect the choice of payment method at the point of sale. Using an administrative panel of credit card accounts from the CFPB's Credit Card Database, Grodzicki et al. (2022) investigate how credit card users respond to prices. They find that consumers internalize both rates and fees when making purchasing, borrowing, and later-payment decisions on their card.

The goal of this paper is to explore how bank account and credit card fees are distributed across different demographic groups and to analyze the relationship between those fees and payment behavior. However, it is important to note that the relationship between fees and consumers' choices of whether to use payment methods affected by those fees exhibits a chicken-and-egg nature. A greater use of payments out of bank accounts and of credit cards makes it more profitable for financial institutions to raise their fees. In contrast, consumers may be deterred from using those payment methods when fees are raised. Our goal is not to suggest that certain types of fees should be eliminated or that consumers would be better off making other financial arrangements. Even though paying bank account or credit card fees may not be desirable for consumers, it is potentially less costly to maintain an account and pay fees than to

be unbanked. While banks maximize profits, consumers maximize their utility given the fees they might have to pay.[4]

The remaining sections of this paper are as follows. Section 2 describes the data used in the analysis. Section 3 summarizes various bank account fees paid by consumers, with an emphasis on differences by demographics, and Section 4 provides a similar analysis for credit card fees. Section 5 provides regression results estimating the probability of paying various fees on demographic and financial attributes. Section 6 concludes. In the Appendices, we extend the analysis to include results on the relationship between fees and account balances, and between fees and payment behavior.

2. Data

We use data from the 2021 Diary of Consumer Payment Choice (DCPC).[5] The DCPC surveys a representative sample of US adults (18 and older). DCPC respondents report their checking and savings bank account holdings, list payment instruments they have (adopt), and report how they use those payment instruments. Payment instruments include cash, paper checks, credit cards, debit cards, prepaid cards, and electronic payments out of bank accounts. Consumers record all of their transactions during three consecutive days. Transactions include purchases (in person or online), bill payments, person-to-person payments, and ATM withdrawals and deposits. Respondents' three-day diaries are evenly distributed throughout the month of October each year. Each October diary day has an equal number of overlapping respondents recording their first-, second-, and third-day payment information.

Although the DCPC has been administered annually since 2015, the 2021 edition was the first to include a relatively detailed set of questions about bank account and credit card fees paid by consumers. In addition to including new questions, the 2021 DCPC had many more

[4] It is possible, however, that consumers cannot optimize their utility due to a lack of transparency about the fees, financial literacy issues, or inattention.

[5] The diary is conducted through a collaboration between the Federal Reserve Banks of Atlanta, Boston, and San Francisco. The data and assisting documents (codebooks) are publicly available for downloading from the Federal Reserve Bank of Atlanta's Consumer Payments webpage. Summary reports are given in Greene and Stavins (2021) and Cubides and O'Brien (2022). Similar surveys are conducted by the Bank of Canada; see Henry, Huynh, and Welte (2018).

respondents than earlier editions did—3,969 respondents, whereas each of the earlier surveys had fewer than 3,000 respondents.

Table 1 shows bank account and credit card adoption, mean checking account balances, and credit card revolving balances by income and demographic cohort. In total, 95 percent of consumers were banked, and 93 percent had a checking account in October 2021. The share of consumers who were banked increased with age, income, and education. White consumers were more likely to be banked than Black consumers, employed more likely than unemployed, homeowners more likely than renters, and married consumers more likely than those with any other marital status (separated, divorced, widowed, or never married). The average checking account balance also increased monotonically with income, age, and education. Among checking account adopters, a White consumer had more than three times as much money in their checking account compared with a Black consumer, on average: $6,323 versus $2,037.

Table 1 also shows that three-fourth of consumers (76 percent) had at least one credit card, and credit card adoption also increased monotonically with age, income, and education. While 78 percent of White respondents had a credit card, only 57 percent of Black consumers had one. Among credit card adopters, 41 percent carried an unpaid balance during the preceding month, and 45 percent carried an unpaid balance at some point during the preceding 12 months. Cardholders with an annual household income of $25,000 to $50,000 were more likely to revolve compared with those who had a lower or higher income. Black consumers and unemployed consumers were more likely to revolve compared with White consumers and employed consumers, respectively.

3. Bank Account Fees

In the DCPC survey, bank account holders were asked whether they paid each of the following fees:

1. Overdraft fees
2. Low-balance fees
3. ATM fees for withdrawing cash
4. Bounced-check fees
5. Too-many-transactions fees

6. Teller fees

Table 2 shows the percentage of bank account holders who paid each type of fee, by demographic and financial variables. All the numbers are weighted.[6] Only slightly more than one-quarter of account holders—27 percent—paid any fees on their accounts. However, the prevalence of fees varied across consumers with different income levels and other characteristics.

Looking at the breakdown by income, we see that the percentage of consumers who paid fees for ATM cash withdrawals is similar across income cohorts. We do not find evidence that ATM fees are regressive. This would be expected, because ATM fees are not typically based on the dollar balance in the account; instead, they are charged for using out-of-network ATMs, regardless of the account balance.

Overdraft fees are charged when a consumer spends more money than they have in their account. This happens when the consumer uses a debit card, withdraws cash from an ATM, or writes a check for an amount greater than their account balance. Consumers who hold both a checking and a savings account at the same financial institution may have overdraft protection, which allows the bank to use funds available in both accounts to cover the transactions.[7] While 10.9 percent of consumers paid an overdraft fee in 2021, that number varied across income cohorts: Consumers in the $25,000–$50,000 cohort were more than twice as likely to pay an overdraft fee compared with those in the $100,000-and-above cohort, 16.3 percent versus 7.0 percent.

Low-balance fees are assessed when a bank requires the account holder to maintain a minimum balance in the account and the balance drops below that minimum. Some banks waive the fee if a consumer links their checking and savings accounts, or if other conditions (such as direct deposit of income) are met. Low-balance fees are less common than overdraft fees, with only 2.3 percent of consumers paying the fee in 2021. However, low-income consumers were much more likely to pay low-balance fees, with 4.0 percent of consumers with income of less

[6] The weights are used to adjust the DCPC sample to fit the demographics of the US adult (18 and older) population. For more details, see the section on weighting in Foster and Prescott (2021).

[7] Overdraft protection does not necessarily eliminate fees. A bank may charge a fee for overdraft protection, and many banks assess a fee per overdraft protection transfer, which can result in multiple fees in a single day. Transactions may be declined if a consumer does not have sufficient funds in their linked savings account.

than $25,000 having paid the fee compared with 1.8 percent of consumers in the $50,000–$75,000 income cohort and only 1.1 percent of those in the $75,000–$100,000 income cohort.

A "bounced"-check fee—assessed when the amount on a check exceeds the account balance[8]—was also rare, with only 1.0 percent of all consumers having paid such a fee in 2021. However, 1.4 percent of consumers with an income of $25,000 to $50,000 and 2.4 percent with an income of $75,000 to $100,000 paid the fee, compared with 0.7 percent of consumers with an income of $100,000 more.

Looking at the breakdown by race, Black consumers were significantly more likely to pay overdraft fees and low-balance fees compared with White consumers. Black consumers were more than 50 percent more likely to pay overdraft fees (17.3 percent versus 10.0 percent), and they were more than twice as likely to pay low-balance fees (4.6 percent versus 1.7 percent).

Overdraft fees were also much more common among consumers in the lowest credit score cohort (below 600) compared with those in the highest credit score cohort (over 800): 32.0 percent versus 2.3 percent.

Figure 1 displays the three types of bank account fees paid—overdraft fees, low-balance fees, and any fee—by race and by income. While the differences across income cohorts are not very large, the differences across race groups are more pronounced. Black consumers were substantially more likely to pay bank account fees compared with White consumers.

4. Credit Card Fees

Table 1 shows that approximately three-quarters of consumers had at least one credit card in 2021 (76 percent of the sample, weighted). Credit card adopters were asked whether they paid each of the following types of fees:

1. Late-payment fee
2. Cash-advance fee
3. Balance-transfer fee
4. Annual fee
5. Over-limit fee

[8] Also referred to as an insufficient funds fee or a non-sufficient funds (NSF) fee.

6. Foreign-transaction fee

Table 3 shows the percentage of credit card adopters who paid each type of fee by demographic and financial variables. All the numbers are weighted. As was the case with bank account fees, only one-quarter of consumers paid any credit card fees (25.8 percent). The most common type of credit card fee was the annual fee, with 18 percent of consumers paying it. The proportion of consumers who paid the annual credit card fee was highest for the top income cohort and lowest for the bottom income cohort. Because many credit cards that charge annual fees tend to offer high-level rewards such as airline miles, cash back, and/or free access to airport lounges, those cards are more likely to be owned by high-income consumers.

The next most common type of fee was for late payments, with 5.2 percent of all cardholders paying the fee in 2021. Low- to moderate-income consumers were much more likely to pay a late-payment fee. Those with a household income of $25,000 to $50,000 were most likely to pay the late-payment fee: In that cohort, 9.4 percent of consumers paid the fee, compared with 3.1 percent of consumers with an annual household income greater than $100,000. Black consumers were more than twice as likely as White consumers to pay the late-payment fee: 10.8 percent versus 4.4 percent. Also, consumers with low levels of education were more likely to pay the fee compared with those with high levels of education. Regression analysis enables us separate the effects of income and race from other factors.

Credit scores reflect the likelihood of default, so it is not surprising that the incidence of paying a late-payment fee decreases with rising credit scores. Almost 26 percent of consumers in the bottom credit score bracket (below 600) paid the fee, compared with 2.2 percent of consumers in the top credit score bracket (over 800).

Figure 2 displays the three types of credit card fees—late fees, cash-advance fees, and any fees—by race and by income. As was the case with bank account fees, Black consumers were substantially more likely than White consumers to pay any credit card fees.

5. Regression Results

In this section, we estimate the probability of paying various types of fees as a function of consumers' demographic and income attributes and account balances. We test the hypothesis that low-income consumers and Black consumers were more likely to pay certain types of fees when controlling for other observable characteristics. We estimate the following regression models:

$$\Pr(accountfee_{ij}=1) = f(BALANCE_i, SAV_i, INC_i, DEM_i, EMP_i) \quad (1)$$

$$\Pr(creditcardfee_{ij}=1) = f(BALANCE_i, SAV_i, INC_i, DEM_i, EMP_i) \quad (2)$$

where $accountfee_{ij}$=1 if consumer *i* paid fee type *j* on their bank account during the preceding 12 months and 0 otherwise, *j*={overdraft fee, low-balance fee, ATM fee, any fee} and $creditcardfee_{ij}$=1 if consumer *i* paid fee type *j* on their credit card account during the preceding 12 months and 0 otherwise, *j*={late-payment fee, cash-advance fee, annual fee, any fee}; $BALANCE_i$ is the balance in consumer *i*'s checking account at the time of the survey; SAV_i is a dummy variable indicating whether consumer *i* has a savings account;[9] INC_i is a vector of dummy variables equal to 1 if consumer *i*'s annual household income is in a given cohort {below $25K, $25K–$50K, $50K–$75K, $75K–$100K, above $100K}; DEM_i is a set of demographic variables for consumer *i* (race, ethnicity, age, gender, education, marital status, homeownership, urban/rural); and EMP_i is consumer *i*'s employment status {employed, unemployed, retired}.

We estimate equations (1) and (2) using probit. Table 4 displays the estimated marginal effects at means for bank account fees, and Table 5 shows them for credit card fees. In addition to testing whether there were significant differences across income and demographic cohorts, we also test whether such differences exist even after controlling for the checking account balance and for whether the respondent has a savings account. Specification (a) is estimated without $BALANCE_i$ or SAV_i, while specification (b) includes both variables.

[9] We cannot establish whether the savings and checking accounts are linked, or whether a consumer has overdraft protection, which might help prevent paying fees on the account.

A. Regression results: Bank account fees

Lower-income consumers were significantly more likely to pay overdraft fees on their account compared with higher-income consumers. Compared with consumers whose annual household income was more than $100,000, those with a household income of less than $25,000 had a 6.9 percentage point higher probability of paying an overdraft fee in the preceding 12 months, and those with a household income of $25,000 to $50,000 had an 8.1 percentage point higher probability (column (1) (a)). Even after holding the checking account balance and savings account adoption constant, we find that lower-income consumers were significantly more likely to pay an overdraft fee, although the magnitude of the effect was smaller: Compared with consumers who had an annual household income of more than $100,000, consumers with a household income of less than $25,000 had a 3.7 percentage point higher probability of paying an overdraft fee in the preceding 12 months, and those with a household income of $25,000 to $50,000 had a 5.3 percentage point higher probability (column (1) (b)). Asian consumers were significantly less likely to pay an overdraft fee compared with White consumers, but there was no significant difference between the probabilities of Black and White consumers paying an overdraft fee.

Holding a larger balance in a checking account significantly reduced the likelihood of paying an overdraft fee, but the effect was small in magnitude. A $1,000 larger balance was associated with a 0.6 percentage point lower probability of paying the fee. Consumers can overdraft even if they typically tend to hold a large balance because they may not be able to control the exact timing of inflows and outflows to and from their checking account. Having a savings account in addition to a checking account also significantly reduced the probability of paying an overdraft fee, and the magnitude of that effect was greater: Consumers who held both types of accounts were 1.6 percent less likely to pay the fee.

Column (4) shows the results of a regression estimating the probabilities of various consumer groups having paid any fee in the preceding 12 months. Controlling for income and other characteristics, we find that Black consumers had a 6.7 percentage point higher probability of paying any fees compared with White consumers. When we hold checking account balances and savings account adoption constant, the effect is even greater: Black consumers had a 7.3 percentage point higher probability of paying any fees compared with White consumers. Asian

consumers had a 10.9 percentage point lower probability of paying any fees (and a 11.6 percentage point lower probability of paying any fees when we control for checking account balances and savings account adoption).

Holding a savings account reduced the probability of paying any bank account fees by 6.4 percentage points. Controlling for income and demographics, we find that homeowners were less likely to pay any type of fee, possibly because homeowners tend to be more conscientious in terms of budgeting and maintaining a minimum balance in their accounts. A homeowner had an 8.3 percentage point lower probability of paying any fee compared with a renter, all else held constant (and a 7.7 percentage point lower probability when we control for account balances). Compared with employed consumers, an unemployed person had a 6.5 percentage higher probability of paying some fee, while a retired person had a 7.1 percentage lower probability of paying a fee, even when we control for age.

B. Regression results: Credit card fees

The results of regressions estimating the probabilities of different consumer groups paying credit card fees are in Table 5. As in Table 4, column (a) shows the specification without the checking account balance, while column (b) shows the specification with checking account balances and savings account adoption included. Lower-income consumers had a significantly higher probability of paying a late-payment fee compared with higher-income consumers (column (1)), regardless of whether we control for their checking account balances and savings account adoption. Compared with consumers with an annual household income of more than $100,000, those with a household income of less than $25,000 had a 5.3 percentage point higher probability of paying a late-payment fee in the preceding 12 months (4.5 percentage points when we control for account balances and savings account adoption), and those with a household income of $25,000 to $50,000 had a 5.2 percentage point higher probability (4.6 percentage points when we control for account balances and savings account adoption).

Annual fees are more commonly paid by higher-income consumers, as those fees are associated with cards that offer high perks such as reward points and airline miles. Compared with consumers whose annual household income is more than $100,000, those with a household income of less than $25,000 had a 9.9 percentage point lower probability of paying an annual credit card fee in the preceding 12 months, and those with a household income of $25,000 to

$50,000 had an 8.9 percentage point lower probability (column (3)). The effect of education on the probability of paying annual credit card fees was even stronger than the effect of income: Less-educated consumers were significantly less likely to pay an annual fee, even when income is held constant.

Income's effect on the probability of paying an annual fee was stronger than its effect on the probability of paying a late-payment fee. As a result, the lowest-income consumers were less likely to pay any fee compared with higher-income consumers, although the overall effect was not highly significant.

Compared with White consumers, a Black cardholder had a 7.3 percentage point higher probability of paying some type of credit card fee (8.4 percentage points when we control for account balances and saving account adoption). Homeowners had a 6.8 percentage point lower probability of paying some type of credit card fee.

6. Conclusion

Bank account fees are one of the main reasons why consumers do not have a bank account, and paying such fees affects consumers' attitudes toward banking. We use data from a 2021 representative diary survey of US adults to test whether lower-income consumers and Black consumers with bank accounts were more likely to pay fees on their accounts or on their credit cards. We find some evidence that lower-income consumers were more likely to pay overdraft and low-balance fees, even when we control for other characteristics such as their bank account balances at the time of the survey and savings account adoption. We also find that Black consumers were more likely to pay some bank account fees compared with White consumers when we hold income and bank account balances constant, although when we control for income in regressions, the effect of race becomes less significant than it is in the summary statistics. Lower-income consumers were also more likely to pay late-payment fees on their credit cards. Tracking the same consumers in future diary surveys will allow us to assess the effect of paying fees on subsequent banking relationships and payment decisions.

References

Cubides, Emily, and Shaun O'Brien. 2022. "2022 Findings from the Diary of Consumer Payment Choice." Federal Reserve Bank of San Francisco *FedNotes*. May 5, 2022.

FDIC. 2020. "How America Banks: Household Use of Banking and Financial Services, 2019 FDIC Survey." Federal Deposit Insurance Corporation. https://www.fdic.gov/analysis/household-survey/index.html.

Foster, Kevin, and Brian Prescott. "Data Guide to the 2020 Diary of Consumer Payment Choice." Federal Reserve Bank of Atlanta.

Greene, Claire, and Joanna Stavins. 2021. "2020 Diary of Consumer Payment Choice." Federal Reserve Bank of Atlanta Research Data Report No. 21-2.

Grodzicki, Daniel, Alexei Alexandrov, Ozlem Bedre-Defolie, and Sergei Koulayev. 2022. "Consumer Demand for Credit Card Services." *Journal of Financial Services Research*. https://doi.org/10.1007/s10693-022-00381-4

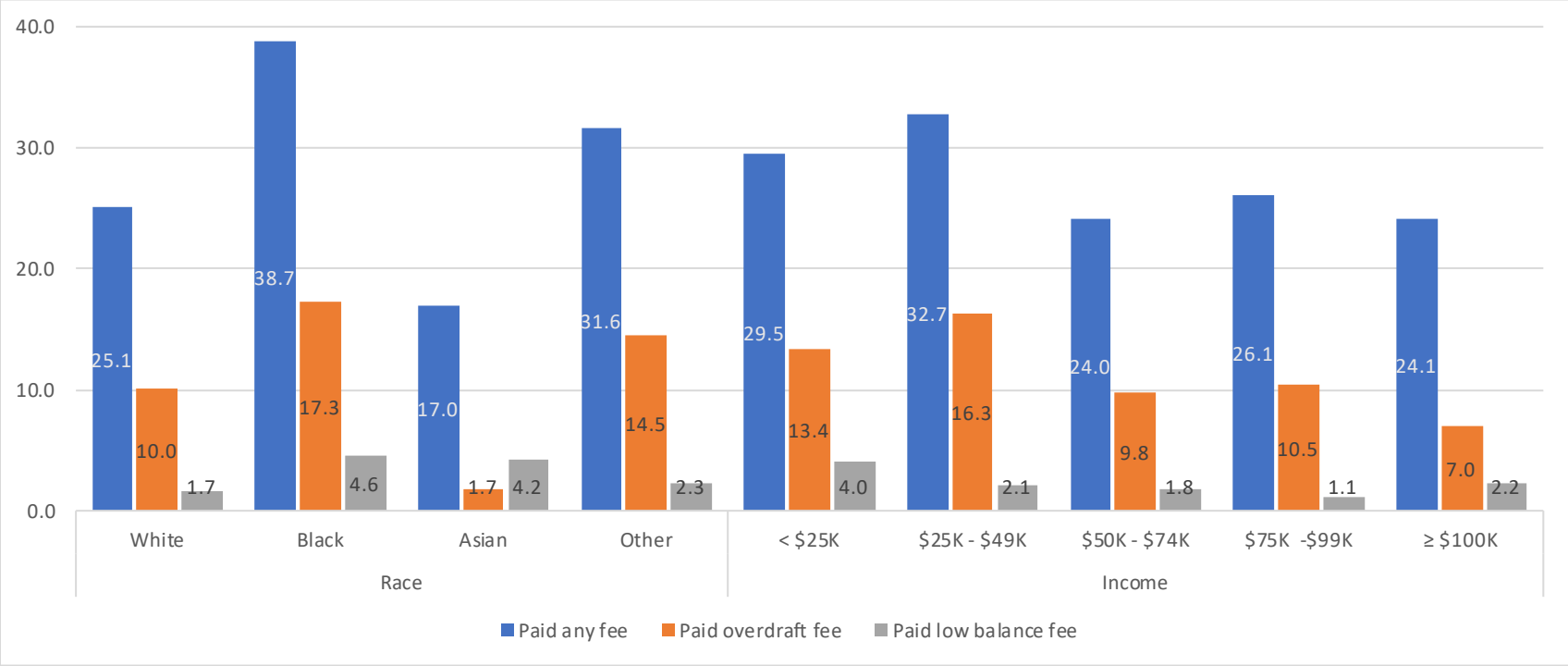
Henry, Christopher, Kim Huynh, and Angelika Welte. 2018. "Methods-of-Payments Survey Report." Bank of Canada Staff Discussion Paper No. 2018-17.

Pew 2012. "Overdraft America: Confusion and Concerns about Bank Practices." The Pew Safe Checking in the Electronic Age Project. https://www.pewtrusts.org/~/media/legacy/uploadedfiles/pcs_assets/2012/sciboverdraft20america1pdf.pdf

Prescott, Edward Simpson, and Daniel D. Tatar. 1999. "Means of Payment, the Unbanked, and EFT '99." *Economic Quarterly* 85(4): 49–70. https://www.richmondfed.org/publications/research/economic_quarterly/1999/fall/prescott.

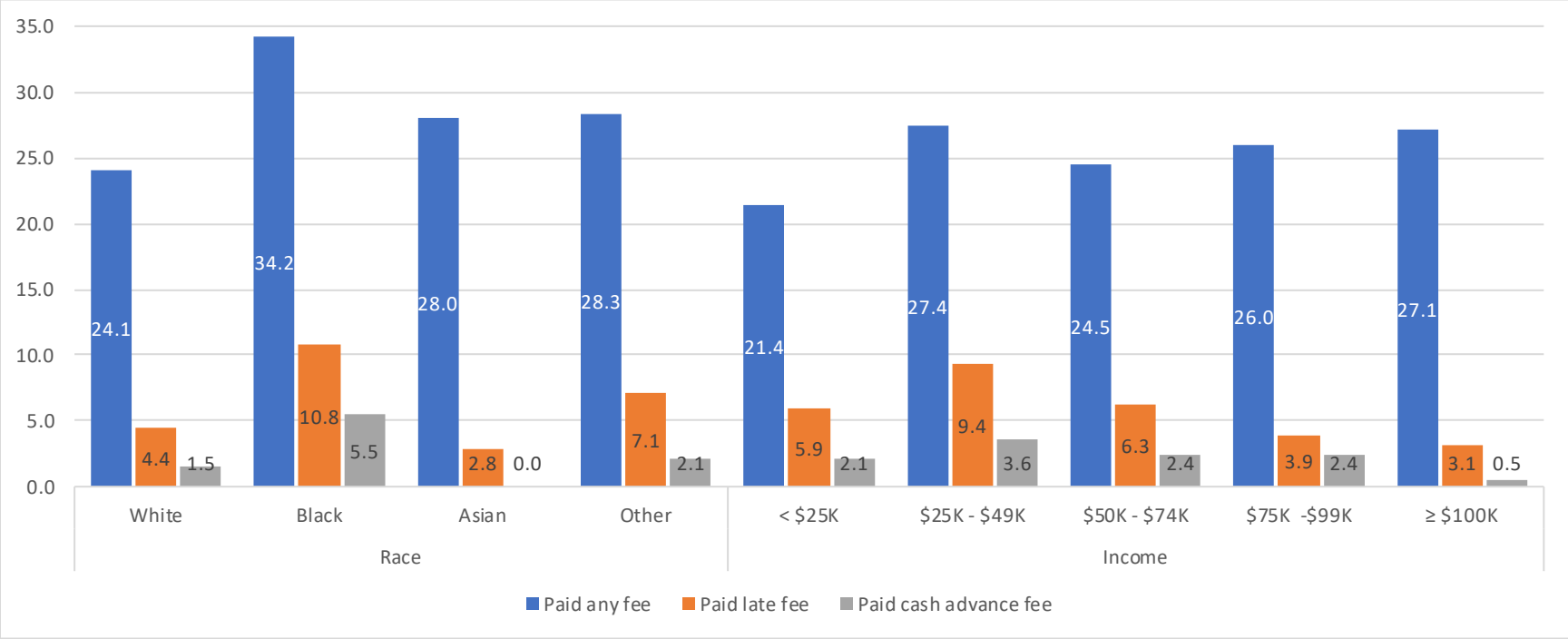
Stavins, Joanna. 2018. "Consumer Preferences for Payment Methods: Role of Discounts and Surcharges." *Journal of Banking and Finance* 94: 35–53.

Figure 1. Percentage of bank account adopters who paid any fee, overdraft fee, and low-balance fee, by race and income



Source: 2021 Diary of Consumer Payment Choice.

Figure 2. Percentage of credit card adopters who paid any fee, late fee, and cash-advance fee, by race and income



Source: 2021 Diary of Consumer Payment Choice.

Table 1. Bank account and credit card variables by demographic and income cohorts

		Has bank account (%)	Has checking account (%)	Checking account balance ($)	Has credit card (%)	Carried positive revolving balance (%)	
						last month	last 12 months
All		94.5	93.3	5798.8	76.1	40.9	45.1
Age	*Under 25*	93.0	85.1	2034.9	56.9	24.9	27.3
	25-34	91.4	90.7	4644.4	70.2	42.0	46.6
	35-44	93.4	92.7	5783.2	73.6	41.7	48.3
	45-54	94.5	93.6	6292.2	77.0	52.4	55.2
	55-64	95.5	94.2	6634.5	78.9	45.5	50.3
	65+	98.2	97.7	6862.0	86.4	32.2	35.5
Income	*< $25,000*	82.1	79.2	2159.6	48.5	43.0	47.7
	$25,000-$49,999	96.1	94.5	2533.6	72.2	53.1	56.9
	$50,000-$74,999	96.6	96.2	4227.5	79.6	46.1	49.4
	$75,000-$99,999	98.1	97.0	5596.7	80.2	43.3	47.7
	≥ $100,000	99.4	99.1	10505.4	93.9	31.4	36.0
Education	*Less Than High School*	73.5	70.3	2650.3	37.6	51.8	53.1
	High School	91.8	89.9	3154.2	65.1	44.8	48.8
	Some College	96.7	94.5	4253.5	74.4	50.4	54.0
	College	98.7	98.6	6823.7	88.4	36.7	41.8
	Graduate	99.7	99.7	11214.3	95.5	32.6	36.8
Gender	*Male*	94.9	93.1	6583.6	74.8	35.4	40.3
	Female	94.1	93.5	5072.3	77.4	45.8	49.5
Ethnicity	*Latino*	91.2	88.9	4495.9	70.0	48.3	56.8
	Non-Latino	94.9	93.9	5954.1	76.9	40.0	43.8
Race	*White*	95.8	94.8	6322.6	78.3	39.4	43.9
	Black	84.8	82.9	2036.9	57.3	65.2	68.2
	Asian	98.0	97.5	11368.3	92.6	12.0	15.3
	Other	96.9	94.3	3358.7	76.7	46.1	50.5
Home Ownership	*Homeowner*	98.1	97.7	7161.2	86.1	38.6	43.0
	Non-homeowner	88.4	85.9	3191.4	59.6	46.3	50.3
Work Status	*Employed*	97.3	97.0	5851.7	82.1	43.3	47.7
	Unemployed	80.8	75.1	1858.9	42.0	50.6	55.5
	Retired	98.6	98.3	8459.7	87.8	27.7	31.9
	Disabled/other	88.0	85.0	4038.2	61.0	45.7	49.1
Marital Status	*Married*	97.0	96.7	7385.7	83.4	38.9	43.4
	Separated	76.7	76.7	2057.5	40.2	37.8	52.4
	Divorced	94.9	93.4	4019.1	73.2	55.6	58.6
	Widowed	96.6	95.7	4116.2	83.4	39.7	43.3
	Never Married	89.8	86.6	3635.8	63.1	38.4	42.5
Urbanicity	*Rural*	95.0	93.8	4249.2	72.7	45.7	49.4
	Urban	93.2	91.4	6278.7	78.2	37.3	41.1
	Mixed	95.1	94.2	6063.1	76.1	41.3	46.0
FICO Score	*<600*	78.1	76.0	601.0	28.2	68.8	68.8
	600-649	94.1	92.3	1194.6	67.1	76.6	77.8
	650-699	97.1	96.0	1486.0	73.1	74.1	77.7
	700-749	99.3	98.4	4722.7	91.6	52.4	57.1
	750-800	99.3	99.0	7907.1	93.1	34.1	39.1
	>800	99.8	99.8	10724.0	97.2	17.5	22.3
	unknown	80.7	76.4	3896.9	33.8	22.1	26.8
Number of observations		3965	3965	3717	3966	3193	3199

Source: 2021 Diary of Consumer Payment Choice.
Note: Results are weighted.

Table 2. Percentage of bank account adopters who paid fees on their primary bank account in the preceding 12 months, by fee type and demographic/financial health variables

		ATM fees for withdrawing cash	Overdraft fees	Bounced -check fees	Low-balance fees	Too-many-transactions fees	Teller fees	Any fee	Number of Obs	Weighted Num of Obs
All		18.2	10.9	1.0	2.3	0.9	0.6	27.0	3786	3786
Age	*Under 25*	23.1	8.3	0.0***	3.1	0.5	0.3	30.0	112	228
	25-34	22.5**	15.4***	1.4	3.0	1.2	0.9	34.4***	434	834
	35-44	23.4***	13.0	1.3	4.2**	1.4	0.6	33.2***	721	603
	45-54	22.8**	13.9*	1.4	2.0	1.1	0.5	32.0**	698	590
	55-64	15.9	9.0	0.5*	1.9	0.4*	0.8	23.7*	807	640
	65+	8.1***	5.2***	0.7	0.7***	0.5*	0.2*	14.0***	1013	891
Income	*< $25,000*	17.2	13.4	0.3***	4.0*	0.4*	1.6**	29.5	682	695
	$25,000-$49,999	19.8	16.3***	1.4	2.1	1.5	0.1**	32.7***	699	711
	$50,000-$74,999	16.2	9.8	0.5*	1.8	0.5	0.2*	24.0	651	624
	$75,000-$99,999	19.7	10.5	2.4*	1.1**	1.0	0.7	26.1	582	529
	≥ $100,000	18.4	7.0***	0.7	2.2	0.9	0.4	24.1**	1167	1226
Education	*Less Than High School*	18.8	13.2	1.2	1.0*	0.3**	0.5	31.8	125	213
	High School	18.1	11.9	0.8	2.3	0.8	0.4	28.3	607	1162
	Some College	17.3	14.3**	1.5	3.1	0.6	1.0	28.6	800	646
	College	19.2	9.8	1.0	2.4	1.1	0.4	26.2	1507	1134
	Graduate	17.6	6.5***	0.5*	1.7	1.2	0.9	22.5**	745	629
Gender	*Male*	18.4	9.3**	1.0	2.5	0.9	0.5	26.3	1565	1834
	Female	18.1	12.3**	0.9	2.1	0.9	0.6	27.6	2220	1951
Ethnicity	*Latino*	20.5	13.1	0.0***	3.0	1.3	0.0***	30.6	238	408
	Non-Latino	18.0	10.6	1.1***	2.2	0.8	0.7***	26.5	3547	3378
Race	*White*	16.9**	10.0*	0.8	1.7**	1.1*	0.5	25.1***	3165	2740
	Black	25.8***	17.3***	1.4	4.6	0.3*	1.0	38.7***	279	461
	Asian	12.1*	1.7***	1.9	4.2	0.0***	1.6	17.0**	112	215
	Other	21.1	14.5	1.0	2.3	0.6	0.3	31.6	219	362
Home Ownership	*Homeowner*	14.7***	8.3***	0.8	1.9	0.8	0.5	22.3***	2744	2461
	Non-homeowner	24.9***	15.8***	1.2	3.0	0.9	0.8	35.6***	1039	1321
Work Status	*Employed*	20.3***	11.8	1.1	2.4	1.1	0.6	29.7***	2059	2192
	Unemployed	31.9***	12.5	1.5	1.8	1.8	0.6	39.1***	177	224
	Retired	6.5***	4.0***	0.4*	1.0***	0.5	0.3	11.1***	833	681
	Disabled/other	18.9	14.4**	0.8	3.4	0.4**	0.9	30.2	713	686
Marital Status	*Married*	17.6	10.7	0.9	1.9	0.8	0.3*	25.2**	2310	2109
	Separated	25.8	18.7	1.3	0.3***	4.9	2.0	49.6**	50	50
	Divorced	18.7	9.6	0.4**	2.5	0.5	0.8	27.2	560	480
	Widowed	7.7***	7.8	1.9	1.0**	1.0	0.0***	17.7***	207	220
	Never Married	21.5*	12.2	1.2	3.6*	0.9	1.1	31.8**	658	925
Urbanicity	*Rural*	13.2***	10.6	0.5	3.3	0.4*	0.3	24.1	794	678
	Urban	20.8*	8.8**	0.9	1.7	1.1	0.9	27.3	974	1102
	Mixed	18.6	12.1*	1.1	2.3	0.9	0.5	27.8	2016	2004
FICO Score	*<600*	24.9**	32.0***	3.5**	5.2*	2.1	1.7	52.2***	277	272
	600-649	28.6***	26.1***	2.4	4.4	0.5	0.8	45.2***	306	376
	650-699	28.8***	16.3**	1.7	3.4	1.8	1.0	41.0***	365	379
	700-749	20.2	11.5	0.5	2.1	1.8	0.2**	29.0	612	640
	750-800	12.1***	3.3***	0.6	1.5	0.3**	0.9	16.4***	847	832
	>800	11.3***	2.3***	0.1***	1.3*	0.2***	0.1***	13.8***	1052	882
	unkown	18.9	10.6	0.6	1.5	0.7	0.3	27.2	326	405
Revolving CC Balance	*in last 12 mo*	23.4***	15.6***	1.2*	2.8	1.1	0.6	35.1***	1447	1375
	not in last 12 mo	11.3***	3.2***	0.4*	1.8	0.5	0.6	15.1***	1730	1656
	in last mo	23.9***	15.9***	1.3**	2.6	1.2*	0.4	35.7***	1319	1244
	not in last mo	11.8***	3.9***	0.4**	1.9	0.5*	0.7	16.1***	1852	1783

Source: 2021 Diary of Consumer Payment Choice.

Notes: Results are weighted. Stars indicate the result of a t-test for difference in mean between members of the demographic group and others. * p<0.10, ** p<0.05, *** p<0.01.

Table 3. Percent of credit card adopters who paid fees on their primary credit card in the preceding 12 months, by fee type and demographic/financial health variables

		Cash-advance fee	Late-payment fee	Balance-transfer fee	Annual fee	Over-limit fee	Foreign-transaction fee	Any fee	Number of Obs	Weighted Num of Obs
All		1.8	5.2	2.7	18.0	0.9	1.6	25.8	3197	3197
Age	*Under 25*	0.5**	5.5	0.4***	14.0	4.0	1.6	21.1	74	146
	25-34	2.3	7.2	2.3	17.6	0.8	2.3	26.9	334	672
	35-44	0.7***	6.3	3.9	22.3**	1.8	2.2	30.8**	594	497
	45-54	2.7	6.5	4.9**	18.3	0.8	1.5	27.5	587	506
	55-64	2.7	5.4	2.1	17.3	0.5	0.8**	25.2	694	554
	65+	1.2	2.0***	1.6**	16.6	0.5	1.3	22.0**	913	821
Income	*< $25,000*	2.1	5.9	2.6	13.8**	1.2	0.3***	21.4*	440	431
	$25,000-$49,999	3.6*	9.4***	2.3	17.0	1.5	2.5	27.4	542	559
	$50,000-$74,999	2.4	6.3	2.4	14.8*	1.0	1.8	24.5	558	538
	$75,000-$99,999	2.4	3.9	3.2	16.7	1.7	2.6	26.0	526	453
	≥ $100,000	0.5***	3.1***	2.8	21.8***	0.3**	1.2	27.1	1127	1215
Education	*Less Than High School*	2.1	9.7	3.0	13.8	0.0***	0.0***	25.5	66	114
	High School	1.9	3.8	2.8	12.8***	0.9	1.2	20.3***	427	864
	Some College	3.1*	6.4	3.2	15.3	2.2	1.1	26.3	641	521
	College	1.9	5.8	2.5	19.9	0.9	1.9	26.9	1344	1065
	Graduate	0.5***	4.5	2.2	24.9***	0.2***	2.4	31.1***	718	632
Gender	*Male*	2.0	4.1**	3.5*	17.8	1.0	2.0	25.1	1349	1515
	Female	1.7	6.3**	2.0*	18.1	0.9	1.3	26.4	1848	1682
Ethnicity	*Latino*	1.7	5.3	4.0	23.4	1.0	2.5	30.6	191	329
	Non-Latino	1.9	5.2	2.5	17.4	0.9	1.5	25.2	3006	2868
Race	*White*	1.5	4.4**	2.7	16.6**	0.6	1.4	24.1**	2715	2350
	Black	5.5**	10.8**	2.6	22.2	3.4	0.7	34.2**	193	326
	Asian	0.0***	2.8	1.5	22.1	0.0***	2.6	28.0	105	213
	Other	2.1	7.1	3.1	21.6	1.4	3.7	28.3	175	300
Home Ownership	*Homeowner*	1.6	4.3**	2.9	16.8*	0.8	1.4	24.6*	2466	2264
	Non-homeowner	2.5	7.5**	2.0	20.8*	1.2	2.1	28.8*	731	933
Work Status	*Employed*	2.2	6.0*	3.0	19.1	1.0	1.9	28.0***	1807	1937
	Unemployed	1.3	11.3*	3.9	15.6	2.3	5.8	27.4	108	123
	Retired	0.6***	1.3***	1.5**	16.7	0.5	1.0	20.2***	761	635
	Disabled/other	2.2	5.8	2.6	16.0	1.1	0.3***	23.8	518	498
Marital Status	*Married*	1.3*	4.8	3.2*	18.5	1.1	2.0	25.7	2039	1899
	Separated	1.4	3.5	0.3***	17.8	0.0***	1.9	24.9	31	28
	Divorced	2.3	4.8	3.4	17.0	0.3**	0.4***	23.8	447	388
	Widowed	3.2	3.5	2.1	12.5*	0.0***	0.0***	20.3	179	199
	Never Married	2.7	7.2*	1.2***	18.6	1.2	1.7	28.7	501	683
Urbanicity	*Rural*	2.1	3.2**	1.5**	12.7***	1.7	1.0	18.7***	648	544
	Urban	1.9	4.7	2.5	22.1***	0.3**	1.8	29.7**	855	971
	Mixed	1.7	6.2*	3.2	17.3	1.1	1.7	25.9	1692	1679
FICO Score	*<600*	3.1	25.8***	0.1***	23.8	5.4*	0.0***	40.9**	109	103
	600-649	5.3*	11.9***	2.2	31.0***	3.7**	1.4	40.1***	211	281
	650-699	5.2**	10.5**	2.0	22.4	1.9	1.3	33.7**	286	299
	700-749	2.7	4.3	3.5	13.9**	0.4**	1.5	23.3	570	618
	750-800	0.3***	3.0***	4.3**	15.0**	0.3**	2.8*	22.9*	814	819
	>800	0.4***	2.2***	1.6**	18.2	0.0***	1.3	22.8**	1034	899
	unknown	1.3	2.8	0.4***	14.0	2.1	0.4**	18.6*	173	178
Revolving CC Balance	*in last 12 mo*	3.2***	9.4***	5.1***	20.6***	1.9***	1.2	32.8***	1453	1443
	not in last 12 mo	0.7***	1.8***	0.7***	15.8***	0.2***	2.0	20.1***	1744	1754
	in last mo	3.2***	9.4***	5.3***	20.7**	2.1***	1.3	33.2***	1325	1305
	not in last mo	0.9***	2.4***	0.8***	16.1**	0.2***	1.9	20.6***	1867	1888

Source: 2021 Diary of Consumer Payment Choice.
Notes: Results are weighted. Stars indicate the result of a t-test for difference in mean between members of the demographic group and non-members. * p<0.10, ** p<0.05, *** p<0.01.

Table 4. Probit regression results, probability of paying various bank account fees in the preceding 12 months

		(1) Overdraft		(2) Low-balance		(3) ATM		(4) Any	
		(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
Checking acct balance ($1000)			-0.006***		0.000		0.000		0.000
Savings account adopter			-0.016*		-0.003		-0.046***		-0.064***
Age	*Under 25*	0.005	0.000	0.001	0.001	0.077*	0.076*	0.078	0.082
	25-34	0.058***	0.041**	0.012	0.012	0.099***	0.102***	0.135***	0.137***
	35-44	0.069***	0.050***	0.024***	0.024***	0.123***	0.124***	0.159***	0.157***
	45-54	0.063***	0.048***	0.010	0.010	0.084***	0.081***	0.116***	0.114***
	55-64	0.022	0.017	0.011*	0.012*	0.047**	0.047**	0.051**	0.053**
	Over 65	--	--	--	--	--	--	--	--
Income	*Less than $25,000*	0.069***	0.037***	0.012	0.011	-0.024	-0.029	0.044*	0.031
	$25,000-$49,999	0.081***	0.053***	0.003	0.003	-0.005	-0.011	0.053**	0.044*
	$50,000-$74,999	0.035***	0.019*	0.003	0.004	-0.005	-0.006	0.021	0.018
	$75,000-$99,999	0.017	0.008	-0.003	-0.003	0.016	0.016	0.014	0.013
	More than $100,000	--	--	--	--	--	--	--	--
Education	*Less Than High School*	0.016	-0.005	-0.007	-0.007	0.009	-0.005	0.052	0.027
	High School	0.005	-0.010	-0.003	-0.003	0.009	0.002	0.013	0.004
	Some College	0.021	0.004	0.007	0.008	-0.006	-0.008	0.021	0.017
	College	-0.002	-0.012	0.000	0.000	0.015	0.014	0.008	0.005
	Graduate	--	--	--	--	--	--	--	--
Gender	*Male*	-0.026***	-0.016**	0.001	0.001	-0.004	-0.008	-0.018	-0.022
	Female	--	--	--	--	--	--	--	--
Ethnicity	*Latino*	0.003	0.000	0.002	0.002	-0.039*	-0.039*	-0.027	-0.031
	Non-Latino	--	--	--	--	--	--	--	--
Race	*Black*	0.024	0.015	0.012	0.012	0.021	0.023	0.067**	0.073**
	Asian	-0.067***	-0.049***	0.027	0.028	-0.078***	-0.078***	-0.109***	-0.116***
	Other	0.019	0.011	0.003	0.003	0.014	0.009	0.030	0.026
	White	--	--	--	--	--	--	--	--
Home Ownership	*Homeowner*	-0.046***	-0.031***	-0.002	-0.002	-0.075***	-0.074***	-0.083***	-0.077***
	Non-homeowner	--	--	--	--	--	--	--	--
Work Status	*Unemployed*	-0.011	-0.007	0.008	0.008	0.093***	0.085**	0.065*	0.056
	Retired	-0.032**	-0.021	0.002	0.002	-0.045**	-0.045**	-0.071***	-0.068***
	Disabled/other	0.000	0.002	0.003	0.003	-0.005	-0.008	-0.005	-0.006
	Employed	--	--	--	--	--	--	--	--
Marital Status	*Separated*	-0.031	-0.027	0.006	0.005	0.022	0.021	0.069	0.070
	Divorced	-0.023*	-0.020*	0.003	0.004	0.029	0.028	0.022	0.020
	Widowed	-0.022	-0.019	0.003	0.003	-0.026	-0.026	0.008	0.002
	Never Married	-0.018	-0.012	0.011	0.011	-0.023	-0.028	-0.015	-0.018
	Married	--	--	--	--	--	--	--	--
Urbanicity	*Urban*	0.002	0.006	-0.011	-0.011	0.022	0.023	0.007	0.014
	Mixed	0.011	0.011	-0.010	-0.011	0.019	0.023	0.012	0.018
	Rural	--	--	--	--	--	--	--	--
Pseudo R-Squared		0.074	0.099	0.056	0.059	0.051	0.053	0.055	0.057
Number of Respondents		3,762	3,690	3,762	3,690	3,762	3,690	3,762	3,690

Source: 2021 Diary of Consumer Payment Choice.

Notes: Dependent variable = 1 if respondents paid a fee, 0 otherwise. Specification (a) is estimated without checking account balance and whether the respondent has a savings account, while specification (b) includes those variables. Results are reported as marginal effects at means, * p<0.10, ** p<0.05, *** p<0.01. The sample is limited to bank account adopters. "--" denotes the reference group.

Table 5. Probit regression results, probability of paying various credit card fees in the preceding 12 months

		(1) Late-payment		(2) Cash-advance		(3) Annual		(4) Any	
		(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
Checking acct balance ($1000)			-0.001*		-0.001***		0.000		0.000
Savings account adopter			-0.021**		0.000		0.004		-0.024
Age	*Under 25*	-0.005	-0.006	-0.009	-0.004	-0.063	-0.058	-0.111**	-0.111**
	25-34	0.026	0.024	-0.002	-0.002	-0.059*	-0.048	-0.057	-0.049
	35-44	0.026*	0.025*	-0.003	-0.002	-0.031	-0.026	-0.023	-0.020
	45-54	0.035**	0.034**	0.000	-0.001	-0.029	-0.028	-0.012	-0.011
	55-64	0.026**	0.025**	0.002	0.000	-0.020	-0.016	-0.014	-0.008
	Over 65	--	--	--	--	--	--	--	--
Income	*Less than $25,000*	0.053***	0.045***	0.011	0.002	-0.099***	-0.099***	-0.055*	-0.061**
	$25,000-$49,999	0.052***	0.046***	0.020**	0.005	-0.089***	-0.085***	-0.032	-0.034
	$50,000-$74,999	0.023**	0.020*	0.015**	0.004	-0.065***	-0.060***	-0.032	-0.032
	$75,000-$99,999	0.017*	0.015	0.009	0.002	-0.053**	-0.054**	-0.012	-0.013
	More than $100,000	--	--	--	--	--	--	--	--
Education	*Less Than High School*	0.025	0.025	0.005	0.001	-0.097**	-0.099**	-0.046	-0.056
	High School	-0.025**	-0.027**	0.002	0.000	-0.098***	-0.099***	-0.106***	-0.109***
	Some College	-0.003	-0.007	0.012*	0.003	-0.089***	-0.094***	-0.063**	-0.068***
	College	0.005	0.002	0.002	0.000	-0.062***	-0.064***	-0.050**	-0.053**
	Graduate	--	--	--	--	--	--	--	--
Gender	*Male*	-0.021***	-0.020***	0.003	0.002	-0.011	-0.013	-0.026	-0.029*
	Female	--	--	--	--	--	--	--	--
Ethnicity	*Latino*	-0.007	-0.007	0.000	0.000	0.025	0.030	0.010	0.005
	Non-Latino	--	--	--	--	--	--	--	--
Race	*Black*	0.012	0.012	0.025*	0.008	0.062*	0.070**	0.073**	0.084**
	Asian	-0.023*	-0.022			-0.024	-0.035	-0.054	-0.064*
	Other	0.012	0.011	0.002	0.000	0.011	0.012	0.015	0.018
	White	--	--	--	--	--	--	--	--
Home Ownership	*Homeowner*	-0.007	-0.004	-0.006	-0.001	-0.086***	-0.082***	-0.068***	-0.063***
	Non-homeowner	--	--	--	--	--	--	--	--
Work Status	*Unemployed*	0.037	0.034	-0.012	-0.004	-0.009	-0.002	0.007	-0.006
	Retired	-0.027**	-0.025**	-0.017***	-0.005	0.010	0.013	-0.053**	-0.051*
	Disabled/other	-0.008	-0.007	-0.006	-0.002	0.036*	0.035	0.007	0.006
	Employed	--	--	--	--	--	--	--	--
Marital Status	*Separated*	-0.017	-0.019	0.017	0.005	-0.056	-0.053	0.037	0.041
	Divorced	-0.006	-0.008	0.001	0.000	-0.014	-0.013	-0.012	-0.010
	Widowed	0.005	0.005	0.008	0.003	-0.011	-0.021	0.016	0.009
	Never Married	0.005	0.006	0.001	0.001	-0.013	-0.018	0.011	0.011
	Married	--	--	--	--	--	--	--	--
Urbanicity	*Urban*	0.002	0.005	-0.003	0.000	0.075***	0.078***	0.085***	0.084***
	Mixed	0.015*	0.017**	0.001	0.001	0.038**	0.039**	0.057***	0.058***
	Rural	--	--	--	--	--	--	--	--
Pseudo R-Squared		0.071	0.080	0.085	0.117	0.038	0.042	0.021	0.022
Number of Respondents		3,179	3,118	3,074	3,017	3,179	3,118	3,179	3,118

Source: 2021 Diary of Consumer Payment Choice.

Notes: Dependent variable = 1 if respondents paid a fee, 0 otherwise. Specification (a) is estimated without checking account balance and whether the respondent has a savings account, while specification (b) includes those variables. Results are reported as marginal effects at means, * p<0.10, ** p<0.05, *** p<0.01. The sample limited to credit card adopters. "--" denotes the reference group. Asian is omitted from the cash-advance regression because no Asian respondents paid the fee.

Appendix A: Bank Account Fees and Account Balances

We expect that consumers who paid an overdraft fee or a low-balance fee on their bank account did, in fact, keep a lower balance in their account compared with consumers who did not pay such fees, regardless of their income, race, or any other attributes. We do find that consumers who did not pay an overdraft fee maintained a checking account balance that was, on average, about six times the balance maintained by consumers who did pay such a fee: $6,363 versus $1,110. The average balance for those who did not pay a low-balance fee was about twice as high as the average for those who did pay: $5,849 versus $3,129 (Table 6a).

Although we find that the incidence of paying an overdraft or low-balance fee is negatively correlated with the account balance, some consumers who maintained a relatively high balance paid a fee, and some who maintained a low balance avoided paying a fee. Because the data were collected in October and the questions pertained to the preceding 12 months, it is possible that respondents changed the amount of money they kept in their bank account at some point during the year. Among consumers who paid the overdraft fee, 78 percent maintained an average checking account balance that was less than the median value of $1,421, while 22 percent had a balance that was greater than the median (Table 6b). Among consumers who paid a low-balance fee, 69 percent had a balance that was less than the median and 31 percent had a balance that was greater than the median.

Appendix B: Bank Account Fees and Payment Behavior

We examine whether consumers who paid bank account fees were more likely to exhibit different behavior in their choice of payment methods and the number and value of payments they made in a given period. Table 7 displays the average number of transactions, and Table 8 displays the dollar value of transactions conducted using each payment instrument, broken down by consumers who either paid or did not pay each type of account fee. As would be expected, consumers who paid ATM cash withdrawal fees used cash more frequently and spent more in cash than those who did not pay ATM fees. Consumers who paid overdraft fees made 4.4 credit card transactions with a combined value of $391 in a month, while those who did not pay overdraft fees made 11.5 credit card transactions with a combined value of $942, on average. Thus, consumers who did not pay overdraft fees spent more than twice as much using credit cards compared with those who paid fees. Similarly, consumers who paid bounced-check fees or

"too-many-transactions" fees spent less using credit cards than those who did not pay such fees. Consumers who had low account balances were more likely to pay fees on their bank accounts, but they did not seem to rely on credit cards more heavily compared with those who did not pay such fees.

Appendix C: Credit Card Fees and Account Balances

Even though credit card fees are not directly related to cardholders' bank account balances, consumers who paid a late-payment fee or a cash-advance fee on their credit cards were likely to have a lower checking account balance, on average, compared with consumers who did not pay these fees. That is because consumers who maintain low account balances are more likely to be liquidity constrained and might need to borrow on their credit cards.

As with bank account fees, we find that consumers who did not pay a late-payment fee on their credit cards maintained, on average, more than twice as much money in their checking account compared with consumers who did pay such a fee: $6,926 versus $3,353 (Table 6a). The average balance for consumers who paid a cash-advance fee was about five times higher than for those who did not pay the fee: $6,838 versus $1,404. Among consumers who paid a late-payment fee, 63 percent maintained an average checking account balance that was less than the median value of $1,421, while 37 percent had a balance that was greater than the median (Table 6b). Among consumers who paid a cash-advance fee, 72 percent had a balance that was less than the median and 28 percent had a balance that was greater the median. Again, there is a negative correlation between a consumer's likelihood of paying a fee and their bank account balance, but these variables are not perfectly correlated.

Appendix D: Credit Card Fees and Payment Behavior

Table 9 shows the average number of transactions, and Table 10 shows the dollar value of transactions conducted using each payment instrument, broken down by consumers who either paid or did not pay each type of credit card fee. Consumers who paid a late-payment fee used debit cards more frequently and credit cards less frequently compared with those who did not pay the fee, but the overall amount spent on either credit or debit cards was not significantly different between the two groups.

Table 6a. Average checking account balance ($) among respondents who paid a given fee ("Yes" column) or did not pay a fee ("No" column)

Paid fee?	**Yes**	**No**	
Bank account fees:			
Overdraft fee	1110	6363	***
Low-balance fee	3129	5849	**
Credit card fees:			
Late-payment fee	3353	6926	***
Cash-advance fee	1404	6838	***

Source: 2021 Diary of Consumer Payment Choice.
Notes: Results are weighted. *** indicate that the average checking account balance differed significantly between those who paid a given fee and those who did not pay the fee.

Table 6b. Among respondents who paid a given fee, percentage of respondents who maintained a checking account balance below the median (left column) and above the median (right column)

	Checking account balance	
	Below (≤$1,421)	**Above (>$1,421)**
Bank account fees:		
Paid overdraft fee	78.3	21.7
Paid low-balance fee	68.7	31.3
Credit card fees:		
Paid late-payment fee	62.7	37.3
Paid cash-advance fee	71.8	28.2

Source: 2021 Diary of Consumer Payment Choice.
Notes: Results are weighted. For example, on average during the three-day diary period, 21.7 percent of respondents who paid an overdraft fee in the preceding 12 months had a checking account balance greater than the sample median of $1,421.

Table 7. Average number of monthly payments among bank account adopters who paid or did not pay fees in the preceding 12 months

	ATM fees for withdrawing cash			Overdraft fees			Bounced-check fees			Low-balance fees			Too-many-transactions fees			Teller fees			Any fee		
	yes	no		yes	no		yes	no		yes	no		yes	no		yes	no		yes	no	
All Payments	45.4	35.4	***	38.2	37.1		26.3	37.3	**	46.6	37.0		39.1	37.2		35.2	37.2		43.0	35.1	***
Paper	9.4	8.2		7.4	8.5		7.3	8.4		9.7	8.4		5.5	8.4	*	10.9	8.4		8.9	8.2	
Cash	7.9	6.4	**	6.1	6.7		6.5	6.6		8.2	6.6		5.1	6.7		7.2	6.6		7.4	6.4	
Check	1.1	1.8	**	1.3	1.7		0.7	1.7		1.5	1.6		0.4	1.7	***	3.1	1.6		1.2	1.8	**
Money order	0.3	0.1		0.1	0.1		0.0	0.1	***	0.0	0.1	***	0.0	0.1	***	0.6	0.1		0.3	0.1	
Card	28.5	21.1	***	24.4	22.3		11.1	22.6	***	28.3	22.4		25.6	22.5		20.4	22.5		26.9	20.9	***
Debit	18.2	9.4	***	18.8	10.1	***	9.3	11.0		13.2	11.0		23.8	10.9	**	13.3	11.0		17.7	8.6	***
Credit	9.4	11.0		4.4	11.5	***	1.1	10.8	***	14.5	10.6		1.5	10.8	***	5.6	10.7	*	8.3	11.6	***
Prepaid	1.0	0.7		1.2	0.7		0.7	0.7		0.6	0.7		0.3	0.7	**	1.5	0.7		1.0	0.7	
Electronic	5.6	4.7		4.7	4.9		3.3	4.9		6.2	4.9		3.2	4.9		1.3	4.9	***	5.4	4.7	
BANP	3.2	2.5	*	2.9	2.5		2.9	2.6		3.1	2.6		1.2	2.6	**	0.6	2.6	***	3.1	2.4	*
OBBP	2.4	2.3		1.8	2.4		0.4	2.3	***	3.1	2.3		2.0	2.3		0.7	2.3	***	2.3	2.3	
Other	1.9	1.3		1.7	1.4		4.7	1.4	***	2.5	1.4		4.8	1.4		2.6	1.4		1.8	1.3	*
Mobile payment app	0.2	0.2		0.3	0.2		2.1	0.2	*	1.1	0.2	*	0.3	0.2		1.0	0.2		0.3	0.2	
Account to account	0.3	0.4		0.4	0.4		1.9	0.4		0.6	0.4		0.6	0.4		0.5	0.4		0.3	0.4	
Income deduction	0.3	0.1		0.0	0.1		0.0	0.1	***	0.1	0.1		0.0	0.1	***	0.2	0.1		0.2	0.1	
Other	1.1	0.6	*	0.9	0.7		0.6	0.7		0.6	0.7		3.9	0.7		0.9	0.7		0.9	0.6	*
Number of Respondents	656	3130		384	3402		36	3750		79	3707		40	3746		27	3759		963	2823	

Source: 2021 Diary of Consumer Payment Choice.

Notes: Results are weighted. Stars indicate the result of a test for difference in mean between bank account adopters who paid the fee and those who did not, * p<0.10, ** p<0.05, *** p<0.01. The means are compared by applying a procedure used in the official DCPC tables; we use a SUR model so that we can employ the delta method calculation for standard errors, taking covariance into account.

Table 8. Average $ amount of monthly payments among bank account adopters who paid or did not pay fees in the preceding 12 months

	ATM fees for withdrawing cash			Overdraft fees			Bounced-check fees			Low-balance fees			Too-many-transactions fees			Teller fees			Any fee		
	yes	no		yes	no		yes	no		yes	no		yes	no		yes	no		yes	no	
All Payments	5552	5798		4660	5883		8503	5726		6558	5735		4381	5766		3170	5769	**	5498	5847	
Paper	1101	1412		886	1411		1123	1358		512	1375	*	410	1365	*	1103	1357		996	1488	
Cash	399	246		520	244	*	1083	266		275	274		119	275	***	574	272		412	223	**
Check	505	1154		345	1118		40	1045	**	238	1054	*	291	1042		210	1040	*	443	1253	
Money order	197	13	*	21	50		0	47	**	0	48	**	0	47	**	320	45		140	12	*
Card	2032	1677		2190	1689		875	1751	***	3934	1691		2291	1737		1357	1744		2101	1610	*
Debit	1211	755	**	1766	728	*	691	840		3000	788		2202	825		890	838		1407	629	***
Credit	792	904		391	942	***	129	891	***	925	882		82	891	***	455	886		664	964	**
Prepaid	29	19		33	19		55	20		10	21		8	21	*	12	21		29	17	
Electronic	2009	2068		1376	2138	*	6087	2017		1892	2061		1440	2063		357	2068	***	2051	2059	
BANP	1011	1024		581	1074	***	5915	974		967	1023		487	1027		84	1028	***	1096	995	
OBBP	998	1043		795	1064		173	1044	***	925	1038		953	1036		273	1040	***	954	1065	
Other	410	641		208	645	**	418	600		219	607	*	241	602	*	352	600		351	690	
Mobile payment app	15	43		22	40		73	38		97	37		18	38		20	38		24	43	
Account to account	137	474		123	447		318	413		95	420	*	137	415		103	414		138	513	
Income deduction	24	28		4	30	**	0	28	**	8	28		0	28	**	21	28		19	31	
Other	234	95		59	128		28	122	**	20	123	***	86	121		208	120		170	102	
Number of Respondents	656	3130		384	3402		36	3750		79	3707		40	3746		27	3759		963	2823	

Source: 2021 Diary of Consumer Payment Choice.

Notes: Results are weighted. Stars indicate the result of a test for difference in mean between bank account adopters who paid the fee and those who did not, * p<0.10, ** p<0.05, *** p<0.01. The means are compared by applying a procedure used in the official DCPC tables; we use a SUR model so that we can employ the delta method calculation for standard errors, taking covariance into account.

Table 9. Average number of monthly payments among credit card adopters who paid or did not pay fees in the preceding 12 months

	Cash-advance fee			Late-payment fee			Balance-transfer fee			Annual fee			Over-limit fee			Foreign-transaction fee			Any fee		
	yes	no		yes	no		yes	no		yes	no		yes	no		yes	no		yes	no	
All Payments	50.0	40.1	*	43.3	40.1		57.2	39.9	***	50.3	38.1	***	28.5	40.4	**	60.5	40.0	**	48.3	37.5	***
Paper	12.6	8.7		9.4	8.8		13.9	8.7	**	8.3	8.9		1.7	8.9	***	14.0	8.7		9.1	8.7	
Cash	10.2	6.8		8.2	6.7		10.2	6.7		6.9	6.8		1.5	6.9	***	9.0	6.8		7.2	6.7	
Check	1.5	1.9		1.2	2.0	**	3.6	1.9		1.4	2.1	*	0.2	2.0	***	5.0	1.9		1.9	2.0	
Money order	0.8	0.0		0.0	0.0		0.1	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.1	0.0	
Card	27.6	24.2		26.2	24.1		30.2	24.1		32.4	22.4	***	21.4	24.2		38.9	24.0	**	29.9	22.3	***
Debit	14.5	10.2		15.0	10.0	**	17.0	10.1	*	11.6	10.0		19.2	10.2	*	13.0	10.2		12.0	9.7	**
Credit	11.2	13.2		10.2	13.3		12.5	13.1		20.0	11.6	***	2.0	13.2	***	24.8	12.9	**	17.0	11.8	***
Prepaid	1.9	0.8		1.0	0.8		0.7	0.8		0.8	0.8		0.2	0.8	**	1.1	0.8		0.9	0.8	
Electronic	6.9	5.6		6.6	5.6		10.7	5.5	*	7.1	5.3	**	4.3	5.7		5.7	5.7		7.1	5.2	***
BANP	2.3	2.9		4.7	2.8		5.4	2.8	*	3.6	2.8		1.3	2.9	*	3.6	2.9		3.7	2.6	**
OBBP	4.5	2.7		1.9	2.8	*	5.3	2.7		3.5	2.6	*	3.0	2.7		2.1	2.8		3.4	2.5	*
Other	3.1	1.6		1.0	1.7	*	2.4	1.6		2.5	1.4	**	1.1	1.6		1.9	1.6		2.2	1.4	**
Mobile payment app	0.0	0.2	***	0.0	0.2	***	0.6	0.2		0.3	0.2		0.3	0.2		0.7	0.2		0.3	0.2	
Account to account	0.9	0.4		0.3	0.5		0.6	0.4		1.1	0.3	**	0.0	0.5	***	0.2	0.5	**	0.9	0.3	**
Income deduction	0.5	0.1		0.1	0.1		0.2	0.1		0.2	0.1		0.0	0.1	***	0.0	0.1	***	0.2	0.1	
Other	1.7	0.8		0.6	0.8		1.0	0.8		0.9	0.8		0.9	0.8		1.1	0.8		0.9	0.8	
Number of Respondents	61	3136		182	3015		94	3103		568	2629		30	3167		51	3146		841	2356	

Source: 2021 Diary of Consumer Payment Choice.

Notes: Results are weighted. Stars indicate the result of a test for difference in mean between bank account adopters who paid the fee and those who did not, * p<0.10, ** p<0.05, *** p<0.01. The means are compared by applying a procedure used in the official DCPC tables; we use a SUR model so that we can employ the delta method calculation for standard errors, taking covariance into account.

Table 10. Average $ amount of monthly payments among credit card adopters who paid or did not pay fees in the preceding 12 months

	Cash-advance fee			Late-payment fee			Balance-transfer fee			Annual fee			Over-limit fee			Foreign-transaction fee			Any fee		
	yes	no		yes	no		yes	no		yes	no		yes	no		yes	no		yes	no	
All Payments	4453	6721	**	4219	6814	***	6326	6686		12084	5491	**	3642	6706		5148	6701		9828	5589	*
Paper	1023	1540		667	1578		1029	1543		3814	1029		74	1544	**	1079	1537		2986	1027	
Cash	509	267		393	265		214	273		208	285		72	273	***	172	273		248	279	
Check	220	1268	*	274	1303	*	768	1261		3603	731		3	1260	**	907	1253		2710	743	
Money order	293	5		0	11		47	9		2	12		0	10		0	10		28	4	
Card	1721	1899		1880	1896		1936	1894		2650	1730	**	1138	1902	**	1775	1897		2369	1732	**
Debit	980	773		746	779		746	778		714	791		980	775		725	778		707	801	
Credit	669	1093		1123	1083		1181	1083		1924	901	***	154	1094	***	1039	1086		1646	892	***
Prepaid	72	32		11	34		9	34		12	38		4	33	**	12	33		16	39	
Electronic	1306	2542	*	1565	2571	**	2836	2509		3824	2231	**	2365	2519		2242	2522		3141	2303	
BANP	425	1259	***	927	1260		1785	1228		1786	1123	*	101	1254	***	1127	1244		1500	1154	
OBBP	881	1283		639	1311	**	1051	1281		2039	1108	*	2265	1265		1115	1278		1641	1149	
Other	403	741		106	769	***	526	740		1796	501		65	741	***	51	745	***	1331	528	
Mobile payment app	0	46	**	7	47	*	11	46		113	30		38	45		11	45		80	33	
Account to account	178	518		47	537	**	234	518		1335	330		0	516	**	18	519	**	967	353	
Income deduction	67	32		6	35	*	170	29		10	38		0	33	**	0	34	**	25	36	
Other	158	145		47	151	**	111	146		338	103		27	146	**	22	147	***	258	106	
Number of Respondents	61	3136		182	3015		94	3103		568	2629		30	3167		51	3146		841	2356	

Source: 2021 Diary of Consumer Payment Choice.

Notes: Results are weighted. Stars indicate the result of a test for difference in mean between bank account adopters who paid the fee and those who did not, * $p<0.10$, ** $p<0.05$, *** $p<0.01$. The means are compared by applying a procedure used in the official DCPC tables; we use a SUR model so that we can employ the delta method calculation for standard errors, taking covariance into account.