

Supplemental findings on payday, payday installment, and vehicle title loans, and deposit advance products

Organization of this report

This report provides a variety of analyses on payday loans, payday installment loans, vehicle title loans, and deposit advance products.

Single-payment payday loans are high cost, short-term loans offered by non-depository lenders, typically with limited underwriting. The single payment of the amount borrowed plus fees is timed to coincide with the borrower's payday or receipt of government benefits, generally in two weeks or one month. A consumer provides access to her bank account, typically by providing a post-dated check or authorization to electronically debit her account for the loan amount plus fees. Fees are generally expressed in dollars per \$100 borrowed.

In addition to single-payment payday loans, some non-depository lenders offer payday installment loans. Like traditional payday loans, payday installment loans are high cost, repayment is typically tied to the borrower's payday or receipt of income, and borrowers generally provide the lender with access to their bank accounts. Payday installment loan terms vary from slightly longer than a single-payment payday loan to several years. Both single-payment and installment payday installment loans are originated in storefronts and online.

Vehicle title loans are a type of credit product in which the lender takes a security interest in the borrower's vehicle. The value of the vehicle is the primary consideration for the amount that can be borrowed. The borrower retains possession of the vehicle while the loan is outstanding; however, the lender has the option of repossessing and selling the vehicle to satisfy the amount owed if the borrower is unable to repay the loan. Vehicle title loans can be structured as single-payment loans repayable in about 30 days or longer-term installment loans. Like payday loans, vehicle title loans are made by non-depository lenders and the cost is typically expressed in dollars per \$100 borrowed.

A deposit advance product (DAP) is a line of credit offered by depository institutions as a feature of an existing deposit account. They are offered to checking accountholders who receive

recurring electronic deposits and who maintain accounts in good standing. A DAP is repaid automatically from the consumer's next qualifying deposit. If an outstanding advance is not fully repaid by an incoming electronic deposit within about 35 days, the consumer's account is debited for the amount due, which could result in a negative balance on the account. As with payday loans, fees are expressed in dollars per \$20 or \$100 borrowed. The Bureau found that the amounts borrowed and the fees, when expressed as an annual percentage rate, are similar to those characteristic of payday loans. As noted in Chapter 2, this product is generally no longer offered by depository institutions following the issuance of guidance by the Federal Deposit Insurance Corporation and the Office of the Comptroller of the Currency.

Each chapter of this report offers a discrete analysis of one or more of these products, as outlined below.

Chapter 1 reports consumer usage and default patterns for vehicle title installment loans and payday installment loans.

Chapter 2 considers the substitutability among DAP, bank overdraft services, and payday loans by analyzing whether consumers who used DAP overdrew their accounts or took out payday loans more frequently after banks stopped offering the DAP product.

Chapter 3 examines the impact of certain state laws on storefront payday lending. First, we examine the impact of a required disclosure in Texas that provides information on the length of time a borrower is likely to remain in payday loan debt and the total cost of that indebtedness. Our second analysis looks at the extent to which law changes in Colorado, Washington, and Virginia affected consumers' physical access to payday loan storefront locations.

Chapter 4 compares the share of payday loans that are reborrowed across states with varying limits on renewals and requirements for cooling-off periods between loans.

Chapter 5 provides findings on borrowing and default patterns for storefront payday loans for three alternative definitions of the concept of a loan sequence — an initial loan and any subsequent loan made (1) within 14 days, (2) within 30 days, and (3) within 60 days of a previous loan being repaid.

Finally, Chapter 6 describes a series of simulations that estimate the effects of certain lending and collection restrictions on the payday, payday installment, and vehicle title loan markets. The first simulations estimate the impact of two types of lending requirements on the storefront

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payday and vehicle title loan markets. A final simulation estimates the impact of a limit on the number of times a lender could attempt to collect payment to the online payday and payday installment loan market and, accordingly, to online payday and payday installment loan borrowers' bank accounts.

Table of contents

Organization of this report	1
Table of contents.....	4
1. Usage patterns and outcomes for certain high-cost installment loans	6
1.1 Introduction	6
1.2 Data....	10
1.3 Usage patterns and default	13
2. Consumer account activity before and after the discontinuation of deposit advance products.....	35
2.1 Introduction.....	36
2.2 Data and methodology.....	40
2.3 Differences between DAP-users and non-users before discontinuation.....	43
2.4 Consumer outcomes after DAP discontinuation.....	46
2.5 Chapter 2 Appendix: data collection spreadsheet.....	61
3. The impact of certain state laws on the payday lending market	62
Part A: The impact of payday lending information disclosures in Texas.....	63
3.1 Data....	67
3.2 Impact of Texas Disclosure Law	70

Part B: The effect of law changes in Colorado, Virginia, and Washington on consumers' ability to access payday loan storefronts	79
3.3 State law changes and methods	80
3.4 Impacts on state law changes on storefront revenues and proximity ...	82
3.5 Chapter 3 Appendix	98
4. The impact of state restrictions on payday loan reborrowing	100
4.1 Introduction	100
4.2 Data.....	102
4.3 Reborrowing rates by state	102
4.4 Chapter 4 Appendix	106
5. Payday loan usage patterns with varying definitions of loan sequences	109
5.1 Introduction	109
5.2 Data and methods.....	112
5.3 Payday loan usage patterns	114
6. Estimated impacts of certain requirements on the payday, payday installment, and vehicle title loan markets	137
6.1 Introduction	137
6.2 Data and limitations	141
6.3 Estimated impact of lending requirements on the storefront payday and vehicle title loan markets.....	145
6.4 Estimated impact of the limitation on payment collection attempts on the online payday loan market	149

1. Usage patterns and outcomes for certain high-cost installment loans

1.1 Introduction

This chapter examines consumer usage and default patterns for two types of high-cost installment loans: (1) those secured by a borrower’s vehicle title (“vehicle title installment loans”) and (2) loans that have payments timed to the borrower’s payday in which the lender typically has the ability to collect from the borrower’s bank account (“payday installment loans”).¹ While most of the installment loans that are the subject of this chapter have fully-

¹ In the proposed rule on Payday, Vehicle Title, and Certain High-Cost Installment Loans, the term “payday installment loan” refers to a high-cost loan repaid in multiple installments, with each installment typically due at the consumer’s payday and with the lender generally having the ability to collect the payment from the consumer’s bank account as money is deposited or directly from the consumer’s paycheck.

amortizing payments of substantially equal size, some are structured as a series of smaller payments with a larger balloon payment due at the end of the loan term.²

Vehicle title loans are a type of credit product in which the lender takes a security interest in the borrower's vehicle and the loan approval and amount is primarily based on the vehicle's value, rather than a credit check and traditional underwriting. While some vehicle title loans are structured to be repaid with a single payment due in about 30 days, the vehicle title loans that are the subject of this chapter have longer loan terms and are repayable in installments.³ Vehicle title installment loans are available in 18 states, some of which allow both single-payment and installment loan structures.⁴ Our analysis of vehicle title installment loans in this chapter does not include products offered by depository institutions, such as the refinancing of an existing vehicle loan in which the borrower takes cash out, nor does it include loans where a borrower may pledge a car as security, but the loan itself is not underwritten based on the value of the vehicle.

The payday installment loans referred to in this chapter are offered by non-depository institutions that also offer other forms of high-cost credit, such as single-payment payday loans, vehicle title loans, or both. These payday installment loans typically carry triple-digit annual percentage rates (APRs) starting around 200%, with payment frequencies generally tied to a borrower's payday or the date on which benefits are received. Lenders typically verify a borrower's identity, income, and bank account information. They may also perform varying

² These include both loans where all payments until the balloon payment are applied only to interest or loans where part of the principal is repaid prior to the balloon payment.

³ The Bureau has also published a report on single-payment vehicle title loans. See CFPB, "Single-Payment Vehicle Title Lending," (May 2016), available at http://files.consumerfinance.gov/f/documents/201605_cfpb_single-payment-vehicle-title-lending.pdf.

⁴ For a breakdown of states where single-payment and/or installment vehicle title loans are available, see The Pew Charitable Trusts, "Auto Title Loans: Market Practices and Borrowers' Experiences," (Mar. 2016), available at <http://www.pewtrusts.org/~media/assets/2015/03/autotitleloansreport.pdf?la=en>, at p. 4.

degrees of underwriting and obtain information from a credit reporting company.⁵ These loans are offered both online and at storefront locations, with some lenders originating loans through both channels.

The Bureau analyzed over 2.5 million loan records stripped of direct identifiers from seven lenders across at least 17 states offering longer-term vehicle title and/or payday installment loans over a multi-year period. We examine the extent to which loans are refinanced, which occurs when a new loan is used to repay a previous loan or made the same day a previous loan is repaid. We also report whether the borrower takes out additional funds at the time of refinancing, the extent to which loans default, and whether the size of the installment payment relative to a borrower's income is associated with risk of default. Finally, we also compare the borrowing patterns and outcomes for an installment loan product with a large balloon payment at the end of the loan term to a fully-amortizing installment loan product.⁶

The following key findings from this analysis are included in this chapter:

- Default rates are high on both vehicle title and payday installment loans.
 - Vehicle title installment loans have similar default rates as payday installment loans. Nearly a quarter of both loan types default.

⁵ This data point does not include installment loans made by lenders that perform a more complete analysis of a borrower's income and expenses as part of their underwriting and generally do not time payments to coincide with a borrower's payday.

⁶ Some of these analyses do not include loans from all lenders, as noted in subsequent sections of this chapter.

- Online payday installment loans have the highest default rates of all the products in this analysis. Over 40 percent of online payday installment loans and more than half (55%) of all online payday installment loan sequences experience a default.⁷
- Eight percent of vehicle title installment loans and over one-in-ten vehicle title installment loan sequences end in repossession.
- A relationship exists between the size of loan payments relative to a borrower's monthly income and default. The likelihood of default rises as the borrower's payment-to-income ratio increases.
- Refinancing is more common for payday installment loans than for vehicle title installment loans in our data. One-in-five vehicle title installment loans is refinanced, while payday installment loans have a refinance rate of 37%.
 - Borrowers who refinanced were no more likely to be behind on their loan payments than borrowers who repaid their loan without refinancing.
 - Nearly all borrowers who refinance a vehicle title or payday installment loan take out cash as part of the refinancing transaction.
- Vehicle title installment loans with a significant balloon payment due at the end of the loan term are much more likely than fully-amortizing loans of the same length to end in default. If a refinancing or reborrowing occurs, it is more likely to happen around the time the balloon payment is due.
- Balloon-payment vehicle title installment loans that are refinanced near the date when the balloon payment comes due are far less likely to have cash taken out than balloon-payment vehicle title installment loans that are refinanced earlier in the loan term.

⁷ A loan sequence consists of an initial loan and any subsequent loan made within 30 days of a previous loan being repaid.

The next section provides a description of the data used to perform these analyses, and the following sections present our findings related to usage patterns and default in greater detail.

1.2 Data

The Bureau obtained multi-year data stripped of direct identifiers from seven lenders offering either or both vehicle title and payday installment loans.⁸ The vehicle title installment loan data are from 2010 through 2013, and the payday installment loan data are from 2007 through 2014.⁹ Our data include over 2.5 million loans made to over 1.2 million borrowers across at least 17 states.¹⁰ While there are about two million payday installment loans in our data, we can identify whether loans were originated at either a storefront or online for only about half of these records.

Vehicle title installment loans in our data have loan terms that range from a couple of months to several years. The median loan size is just over \$700. The average loan size is significantly higher (\$1,098), reflecting the presence of some loans in our data that are for substantially

⁸ The data for this report were obtained from lenders in three ways: (1) through the confidential investigation process; (2) through a request consistent with authorities outlined in Section 1022(c)(4) of the Dodd Frank Wall Street Reform and Consumer Protection Act of 2010; or (3) on a voluntary basis. For more information about privacy protections for these data, see the Bureau's "Market Analysis of Administrative Data under Research Authorities Privacy Impact Assessment" and "Certain Supervision, Enforcement, and Fair Lending Data used for Market Research Privacy Impact Assessment." Consistent with CFPB's rules, the data findings presented in this report do not directly or indirectly identify the institutions or consumers involved. See CFPB's Final Rule on the Disclosure of Records and Information, 12 C.F.R. § 1070.41(c).

⁹ While our data span a considerable number of years, the data for each of the two types of loans are for a shorter period within the broader timeframe for each lender in our data.

¹⁰ While our data include loans originated across at least 17 states, loans of each type were not made in each of these states. Because some of the loans records do not specify the borrower's state, it is possible that additional states are represented in our data.

larger amounts.¹¹ The median APR for an installment vehicle title loan in our data is 259%.¹² Most of the vehicle title installment loans in our data have monthly payments, although some have payments due on a bi-weekly basis. The median payment amount on a monthly basis is \$230.¹³ While most of the vehicle title installment loans we observe have fully-amortizing payments, some in our data have a series of smaller payments with a larger balloon payment due at the end of the loan term. The data on vehicle title installment loans are for loans that were originated in storefronts, as is typical for this product.

As with vehicle title installment loans, the payday installment loans included in our data have terms ranging from a couple months to several years. A majority of payday installment loans have payments due bi-weekly, while some loans have weekly, semi-monthly, or monthly payment schedules. This may be due to the frequency at which borrowers receive paychecks or benefits (such as Social Security income), since payments are generally timed to coincide with these income streams. While many of the lenders in our data made payday installment loans, fewer specified whether a given loan was made at a storefront or online. Payday installment lenders who specified an origination channel account for half of the payday installment loans in our data. When possible, we report findings for all payday installment loans as well as the sub-set of loans that can be broken out by origination channel.

Overall, the median size of the payday installment loans in our data is \$1,000, which is also the median loan size for the sub-set of loans we identify as originating in storefronts. Online loans in our data tend to be for larger amounts, with a median loan size of \$2,400. The median APR for

¹¹ A quarter of vehicle title installment loans in our data are for \$1,300 or more.

¹² Vehicle title installment loans have APRs ranging from 120-361% at the 10th and 90th percentiles.

¹³ The median payment reported here is the total payment due on a loan over the course of a month, regardless of whether individual loan payments are due on a weekly, bi-weekly, semi-monthly, or monthly basis.

all payday installment loans is 249%.¹⁴ While the median APR for storefront loans was higher than the APR for loans originated online, the mean APR for online loans is higher, suggesting that a portion of online loans carried much higher APRs. Regardless of origination channel, payday installment loans in our data have a higher median loan size and lower median APR than vehicle title installment loans.¹⁵ The median monthly payment on payday installment loans in our data is \$304.¹⁶ Looking at the sub-set of loans in our data for which an origination channel can be identified, we find a median monthly payment of \$306 for storefront loans and a median monthly payment of \$580 for loans originated online.

¹⁴ The range of APRs for the payday installment loans in our data is 197-369%, with the lower bound being the 10th percentile and the upper bound the 90th percentile.

¹⁵ The average (mean) APR is higher for payday installment loans than vehicle title installment loans, particularly for those payday installment loans originated online.

¹⁶ As noted previously, the median payment reported here is the total payment due on a loan over the course of a month, regardless of whether individual loan payments are due on a weekly, bi-weekly, semi-monthly, or monthly basis.

TABLE 1: SUMMARY OF LOAN CHARACTERISTICS AND TERMS

	Loan amount (average)	Loan amount (median)	APR (average)	APR (median)	Payment frequency
Vehicle title installment loans	\$1,098	\$710	250%	259%	Bi-weekly or monthly
Payday installment loans (all)	\$1,291	\$1,000	268%	249%	Weekly, bi-weekly, semi- monthly, or monthly
Sub-set of payday installment loans by origination channel					
Storefront payday installment loans	\$1,295	\$1,000	237%	248%	Weekly, bi-weekly, semi- monthly, or monthly
Online payday installment loans	\$2,122	\$2,400	279%	221%	Bi-weekly or monthly

Our data contain a randomly-generated customer ID that we use to link all loans of a given type to the same consumer by a given lender.¹⁷ In the event a consumer used both a vehicle title and payday installment loan from the same lender, however, these data have not been combined.

1.3 Usage patterns and default

This section first examines loan usage patterns and defaults for each type of these installment loans generally and then reports findings for a sub-set of vehicle title installment loans in our data that have a balloon payment due at the end of the term.

¹⁷ Because the randomly-generated customer IDs in our data are lender specific, we cannot analyze borrowing behavior by individual consumers across multiple lenders.

We consider any loan used to repay a previous loan or made the same day a previous loan is repaid to be a refinance. In some analyses, we also report findings at the “loan sequence” level. For purposes of this chapter, a loan sequence consists of an initial loan and any subsequent loan made within 30 days of a previous loan being repaid.¹⁸ We consider a loan or loan sequence to have defaulted if there is a charge-off (as well as a repossession in the case of vehicle title installment loans) that is identified by the lenders in our data.¹⁹

1.3.1 Loan refinancing rates

We first examine installment loan borrowing patterns. As noted above, a loan is considered to be refinanced if the proceeds of a subsequent loan were used to repay the loan, or if a new loan is taken out the same day that the loan is repaid.²⁰ As part of this analysis, we determine whether borrowers who refinance installment loans stay current in their payments up to the point at which they refinance and whether they receive cash out from the loan as part of the refinance.

One-in-five vehicle title installment loans are refinanced. Refinancing rates are much higher for payday installment loans, particularly storefront loans, which were refinanced at a rate of 37%.

¹⁸ Chapter 5 discusses alternative definitions of loan sequence and explains the rationale for the 30-day definition. This is the definition that the Bureau uses in “The Notice of Proposed Rulemaking on Payday, Vehicle Title, and Certain High-Cost Installment Loans” issued concurrently with this report.

¹⁹ Some vehicle title loan records in our data show a charge-off without a repossession, while others show a repossession without a charge-off. Other records have both a charge-off and a repossession. Because both of these measures signal an extreme difficulty in making payments, a loan with either of these outcomes reported is classified as a default. This is the same default definition used in CPFB, “Single-Payment Vehicle Title Lending,” (May 2016), available at http://files.consumerfinance.gov/f/documents/201605_cfpb_single-payment-vehicle-title-lending.pdf. In our reports on payday lending, including Chapter 5 of this report detailing payday loan borrowing patterns under different loan sequence definitions, we considered any loan with a repayment date missing to have defaulted—a different definition than what is used here for installment loans.

²⁰ In analyses of single-payment payday and vehicle title loans, we report borrowing patterns at the loan sequence level. For this borrowing analysis of installment loans, we report the refinancing of individual loans rather than reporting loan sequence durations because—due to the relatively long term of installment loans in our data—a full loan sequence may not be observable within the sample period for each lender.

TABLE 2: REFINANCE RATES, VEHICLE TITLE AND PAYDAY INSTALLMENT LOANS

	Share of loans refinanced
Vehicle title installment loans	20%
Payday installment loans (all)	37%
Sub-set of payday installment loans by origination channel	
Storefront payday installment loans	35%
Online payday installment loans	22%

1.3.2 Refinancing and payments

To understand the extent to which difficulty making payments may spur refinancing, we examine how well borrowers stay current on loan payments, comparing borrowers that refinanced their loans, borrowers that repaid their loans, and borrowers that defaulted on their loans. We do so by plotting the cumulative total that the borrower has paid as of a given installment payment as a share of the cumulative amount scheduled to be repaid at the time a given installment payment is due.²¹

If a hypothetical borrower with payments due monthly remained current on her loan every month by paying the full amount owed on each payment due date, this repayment pattern would be represented by a flat horizontal line across the top of the chart indicating that 100% of the amount owed was paid consistently every month. In contrast, a borrower that fell further behind on the amount owed to her lender as months went by would have a downward-sloping line, while a borrower who was initially behind on payments and then increasingly caught up on the amount due would have an upward-sloping line. Because a borrower's ability to make payments

²¹ We plot cumulative total payments made as of scheduled due dates. Thus, for example, if a borrower were one day late in making a scheduled payment but made the entire payment the day after it was due, we would nonetheless calculate the cumulative total payment as of the due date to exclude the late payment. However, the payment would be included in calculating the cumulative total payment as of the next due date. This is exclusive of any late fees or other penalty fees borrowers might incur.

on a loan may change over time, the trend line may arc to show periods in which the borrower caught up or fell behind on payments, as well as those periods in which the borrower repaid a consistent share of the amount due.

Figures 1-4 show examples of these plots for two vehicle title loan lenders, one storefront payday installment lender, and one online payday installment lender. To allow for comparison, each figure plots the average ratio of payments made to amount owed over time for loans with the same term and payment frequency: fully-amortizing loans with 12 monthly payments. We present results for three groupings of borrowers in a given lender's overall portfolio—those that ultimately repaid without refinancing, those that defaulted on their loan in month 10,²² and those that refinanced their loan in month 10.²³ Our definition of default includes any loan resulting in a charge-off or repossession.

We consistently see that the repayment patterns of borrowers that refinanced are essentially identical to that of borrowers who ultimately repaid their loans in full.²⁴ In contrast, borrowers who default have a lower share paid of the amount due in most months, meaning those borrowers who ultimately default were, perhaps unsurprisingly, more likely to be behind on their loans than those who ultimately repaid. These figures suggest that the borrowers in our data did not refinance because they were having difficulty making loan payments in the preceding months.

²² Loans are considered to have defaulted if the date the loan was charged off or, in the case of vehicle title installment loans, the date an associated vehicle was repossessed took place in month 10. If the loan was both charged off and had a vehicle repossessed, the earlier of the two dates was used to define default.

²³ We look at repayment performance for loans that are refinanced or default in month 10 in order to allow a sufficient amount of time to observe repayment trends among these three categories of borrowers—those that repaid, refinanced, or defaulted.

²⁴ We report findings for each lender in our data that has payment data associated with each loan.

Figure 1 shows the results for 12-month vehicle title installment loans made by a particular lender. While borrowers who repaid or refinanced their loans had, on average, paid about 90% of the amount due to be paid as of month 9, those with a default had paid less than 60% of the amount owed at that same point in time.

FIGURE 1: RATIO OF PAYMENTS MADE TO AMOUNT OWED, VEHICLE TITLE INSTALLMENT LENDER A

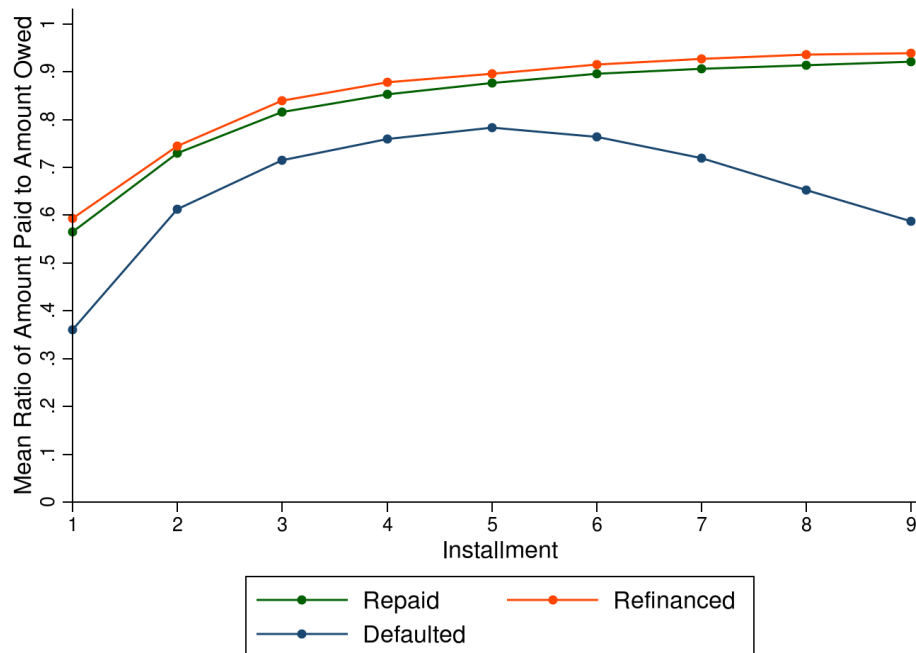


FIGURE 2: RATIO OF PAYMENTS MADE TO AMOUNT OWED, VEHICLE TITLE INSTALLMENT LENDER B

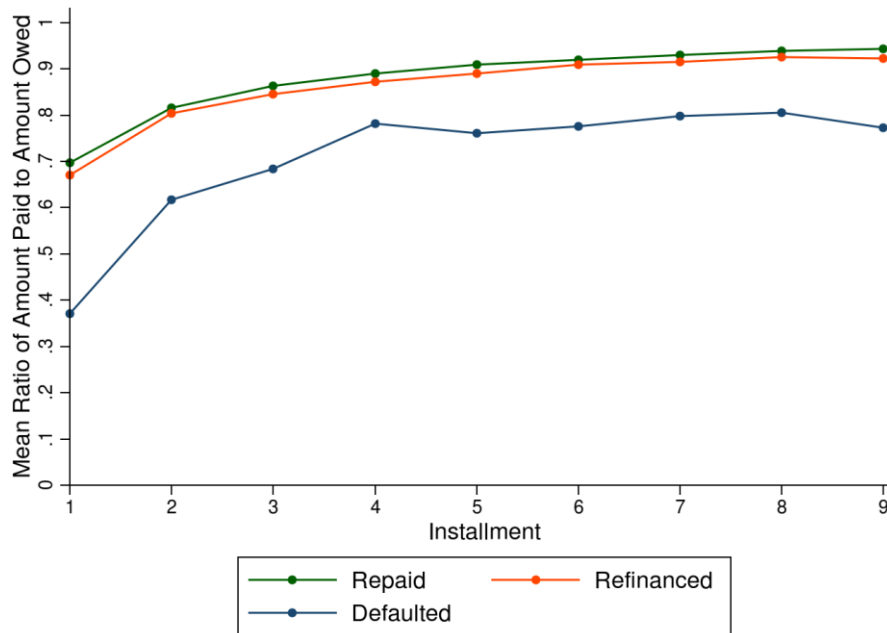


FIGURE 3: RATIO OF PAYMENTS MADE TO AMOUNT OWED, STOREFRONT PAYDAY INSTALLMENT LENDER A

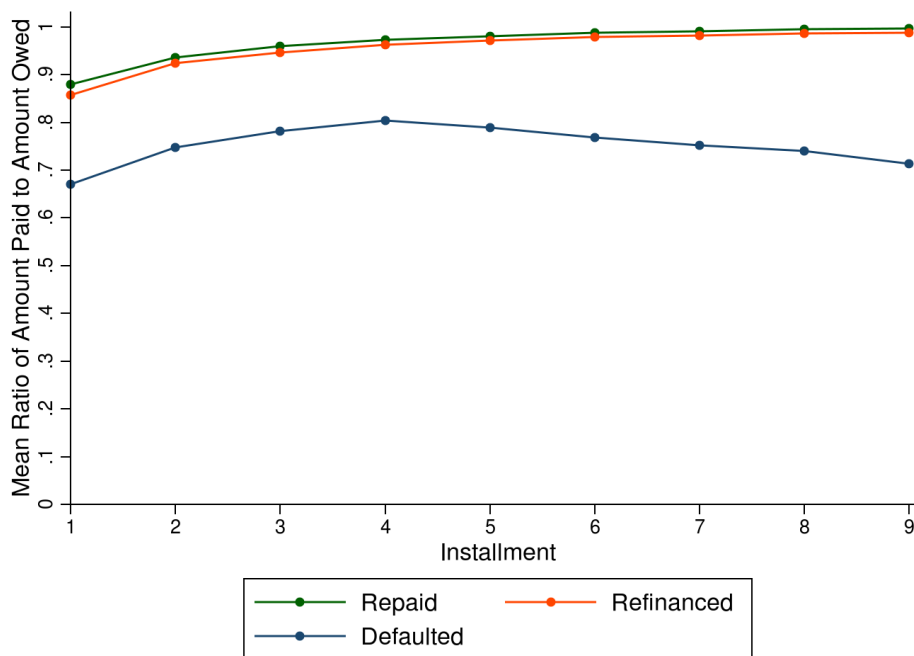
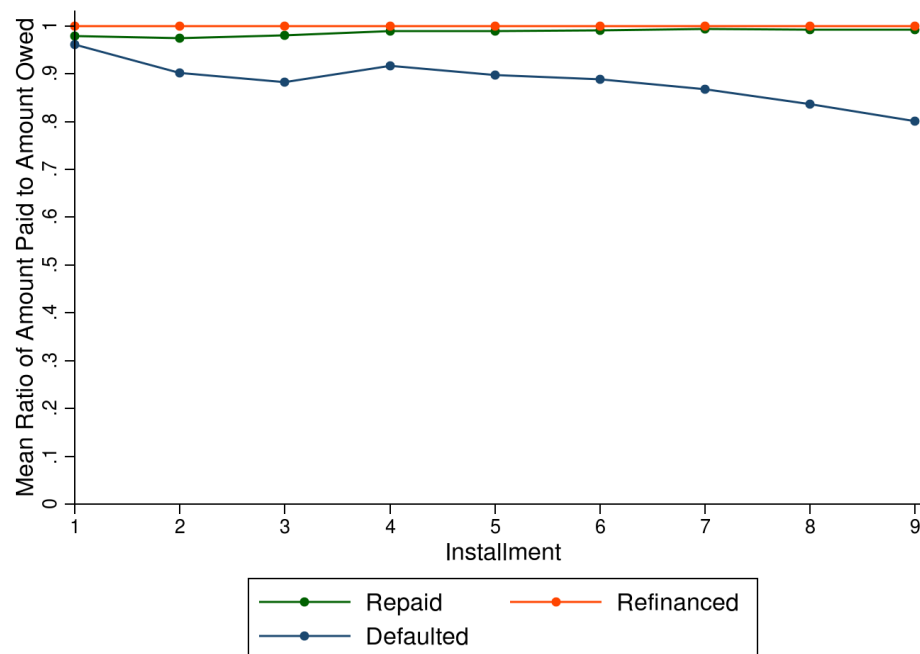


FIGURE 4: RATIO OF PAYMENTS MADE TO AMOUNT OWED, ONLINE PAYDAY INSTALLMENT LENDER A

1.3.3 Refinancing and cash out

Those borrowers who refinance the two types of installment loans that are the subject of this chapter typically take out cash in addition to what is needed to pay off their prior loan. We calculated the amount of cash out, if any, taken as part of a refinance for all loans for which sufficient data were present to make this calculation.²⁵ As Table 3 shows, borrowers in our data almost always took additional cash out. The median amount received—including those loans with no cash out—ranges from \$350 to \$450, depending on the type of loan. The extent to which

²⁵ Only payday installment loans for which an origination channel is specified have sufficient data available to report findings. Our cash out findings represent the amount provided to the borrower after all principal and associated fees and/or interest are repaid to the lender.

borrowers take out more cash is demonstrated by the ratio of cash out to new loan principal, which shows that new cash, rather than the repayment of the principal of a prior loan, accounts for 17-36% of the proceeds of the new loan.

TABLE 3: INCIDENCE OF CASH-OUT REFINANCING, VEHICLE TITLE AND PAYDAY INSTALLMENT LOANS

	Share of refinances with cash-out	Median cash-out	Median ratio of cash-out to new loan principal	Median ratio of previous loan principal to new loan principal
Vehicle title installment loans	95.6%	\$450	0.35	0.95
Storefront payday installment loans	94.3%	\$402	0.36	0.89
Online payday installment loans	99.9%	\$345	0.17	1.00

We also see from this table that refinances occur after several payments have been made on the loan, as shown by comparing (1) the median ratio of cash out to new loan principal to (2) the median ratio of previous loan to new loan principal. Given that most borrowers take out a substantial amount of cash when refinancing, a ratio of old to new loan principal near 1.00 implies that the borrower paid down a substantial amount of her loan before the refinancing occurred.²⁶

²⁶ To further illustrate this point, consider a hypothetical loan for \$1,000 that is refinanced when a balance of \$500 remains. If the borrower refinances that loan with another \$1,000 loan, they would have a 1.00 previous loan principal to new loan principal ratio and receive cash out for the difference between the new loan amount (\$1,000) and the amount owed (\$500). As shown in this example, in order to get cash back from a refinance that maintains the same principal amount, the borrower must have paid back a significant portion of the loan.

1.3.4 Default and repossession

This section provides more detail on the incidence of defaults that occur in the two types of installment loans in our data.²⁷ We also provide repossession rates separately for vehicle title installment loans. For this analysis we look at both loans and loan sequences, defining a loan sequence (as discussed above) to include the initial loan, any refinance of that loan, or any new loan taken out within 30 days of repayment of the prior loan.

As shown in Table 4 below, 22% of vehicle title installment loans and just under one-third of vehicle title installment loan sequences default. Eight percent of vehicle title installment loans and more than one-in-ten loan sequences have a repossession. Default rates are generally higher for payday installment loans, particularly those originated through the online channel. Over half of online payday installment loan sequences default.

Table 4 also breaks out the share of defaulted loans for which no payments were made. Vehicle title installment loan borrowers made no payments on almost a third (32%) of loans that resulted in a default. For payday installment loans originated either online or in a storefront, about one in five defaulted loans did not report a single payment.

²⁷ As noted previously, defaulted loans are those identified as having a charge-off or—in the case of vehicle title installment loans—a repossession.

TABLE 4: VEHICLE TITLE AND PAYDAY INSTALLMENT LOAN DEFAULT AND REPOSSESSION RATES, AT LOAN AND LOAN SEQUENCE LEVEL

	Percent defaulted (loan level)	Share of defaulted loans with no payments made (loan level)	Percent repossessed (loan level)	Percent defaulted (loan sequence level)	Percent repossessed (loan sequence level)
Vehicle title installment loans	22%	32%	8%	31%	11%
Payday installment loans (all) ²⁸	24%			38%	
Sub-set of payday installment loans by origination channel					
Storefront payday installment loans	17%	20%		34%	
Online payday installment loans	41%	19%		55%	

1.3.5 Relationship between payment-to-income ratio and default

Next, we analyze the extent to which a relationship exists between the relative size of loan payments to the borrower's gross monthly income (measured by a payment-to-income ratio)

²⁸ Because we lack payment data for those payday installment loans that do not identify an origination channel, we are unable to report whether any payments were made before a default occurred for the aggregate set of all payday installment loans.

and the likelihood of default. The payment-to-income (PTI) ratio associated with each loan in our analysis is assigned to one of eight bins ranging from loan payments that are 0-5% of monthly income on the lower end to 35-40% of monthly income on the higher end.²⁹ Findings are reported separately for a vehicle title installment lender, a payday installment lender that originated loans online, and a group of payday installment lenders for which the origination channel is not specified.³⁰

Given the heterogeneity of loan products with varying loan terms and payment frequencies, we first present findings here just for fully-amortizing loans with 12-month terms that have payments due on a monthly basis, including both vehicle title installment loans and payday installment loans satisfying these conditions. We then consider the relationship between a borrower's PTI ratio and default for additional loan products.

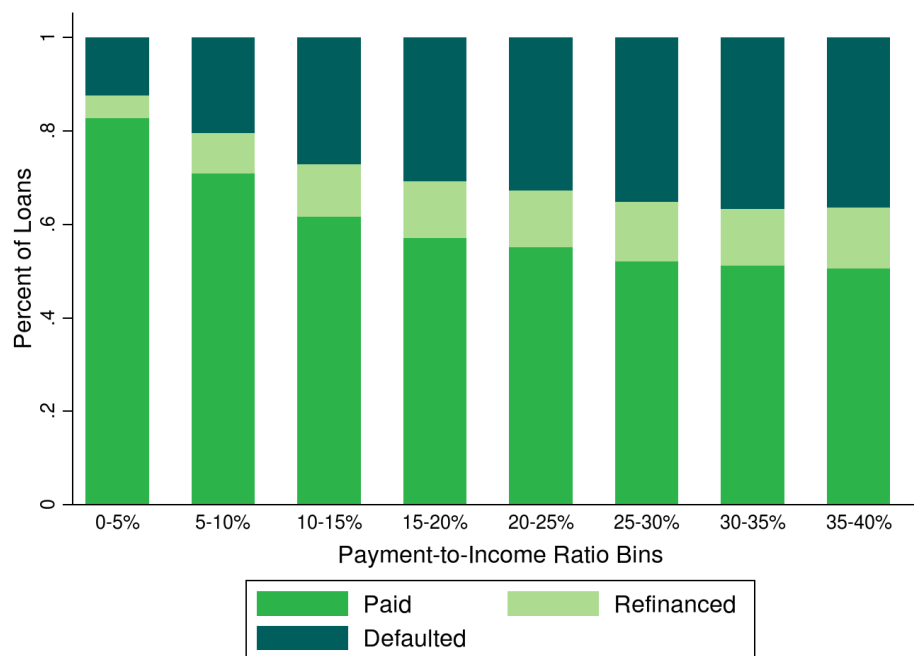
Loans with 12 monthly payments

For loans with 12 monthly payments, higher PTI ratios are generally associated with higher default rates, for both vehicle title and payday installment loans with this structure.

About a third of loans default when loan payments are more than 20% of monthly income for vehicle title installment loans in our analysis as shown in Figure 5 below. About half of loans default if payments take up more than 25% of a borrower's monthly income.

²⁹ Our PTI analysis is truncated to show this PTI relationship for loans with payments up to 40% of a borrower's monthly income. Less than 1% of loans in our analysis have payments exceeding 40% of monthly income.

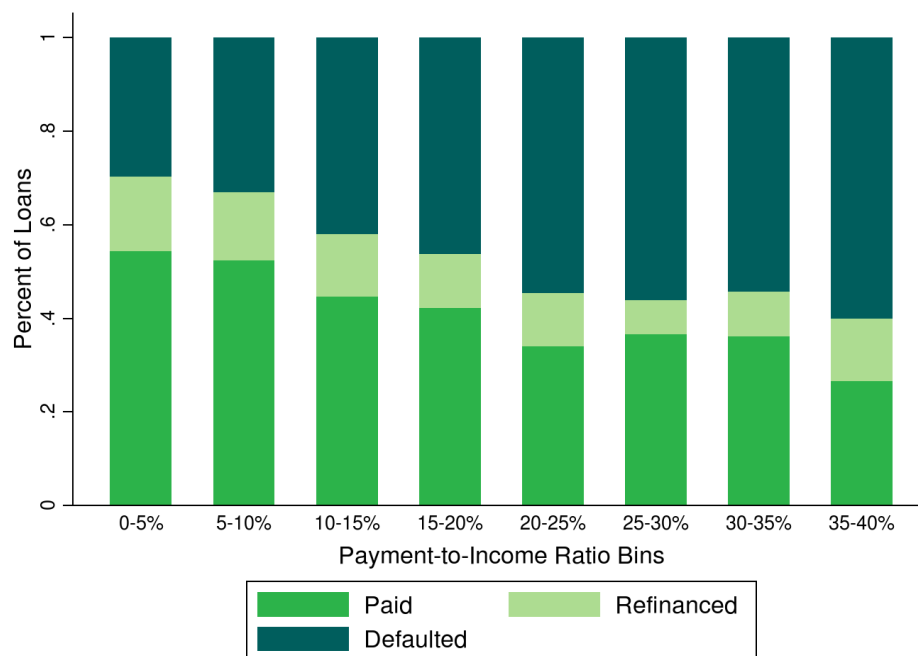
³⁰ This analysis is performed only for loans made by lenders that reported borrower income.

FIGURE 5: RELATIONSHIP BETWEEN LOAN OUTCOME AND PTI, VEHICLE TITLE INSTALLMENT LENDER A, LOAN WITH 12 MONTHLY PAYMENTS

About half of online payday installment loans default when payments exceed 20% of a borrower's monthly income in the analysis shown in Figure 6.³¹ Fewer than half of online payday installment loans are repaid (rather than being refinanced or experiencing a default) once the payment-to-income ratio is higher than 10%.

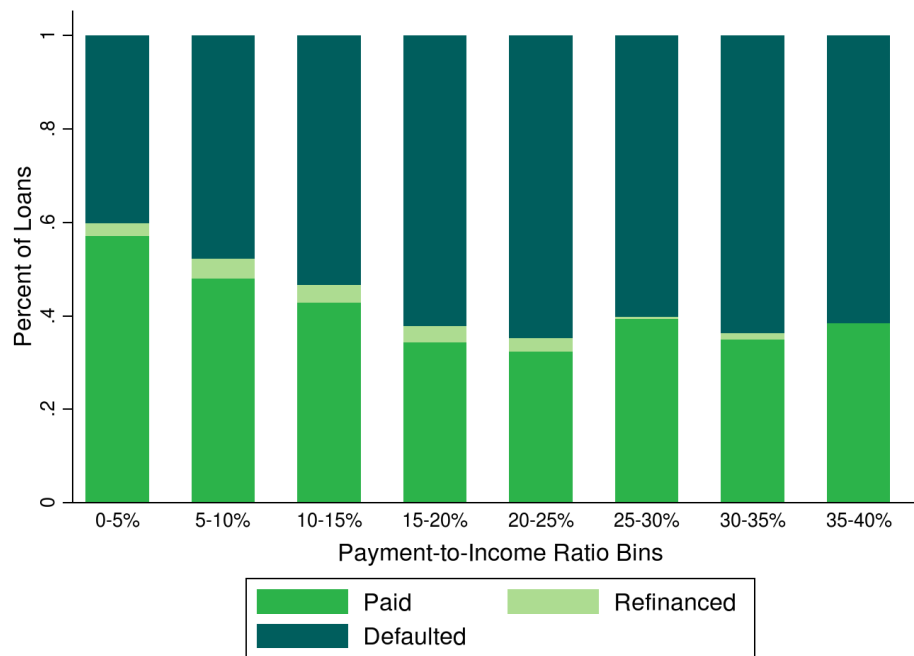
³¹ Loans made by the online payday installment lender with no payments have been excluded from this analysis due to the possibility that some of these loans could be the result of fraudulent activity. Including the loans with no payments does not significantly change the relationship between PTI ratios and outcomes.

FIGURE 6: RELATIONSHIP BETWEEN LOAN OUTCOME AND PTI, ONLINE PAYDAY INSTALLMENT LENDER A, LOAN WITH 12 MONTHLY PAYMENTS



The relationship between PTI ratio and default for our group of payday installment lenders where an origination channel is not reported is consistent (though somewhat less pronounced) with that of the vehicle title and online installment lenders shown above. These payday installment lenders have higher default rates for every PTI ratio bin, relative to the lenders in Figures 5 and 6 above. As with the other lenders in this analysis, the likelihood of default is greater as payments make up a greater share of the borrower's monthly income—40% of loans default when the PTI ratio is 5% or less, while about 60% of loans default when the PTI ratio is 35-40%.

FIGURE 7: RELATIONSHIP BETWEEN LOAN OUTCOME AND PTI, PAYDAY INSTALLMENT LENDERS, LOAN WITH 12 MONTHLY PAYMENTS



All Loans

The relationship between PTI ratios and default rates remains consistent when the analysis is expanded to include all loan types for both the vehicle title installment lender and payday installment lender that originated loans online. As Figures 8 and 9 show, higher PTI ratios are generally associated with higher rates of default.

FIGURE 8: RELATIONSHIP BETWEEN LOAN OUTCOME AND PTI, VEHICLE TITLE INSTALLMENT LENDER A, ALL LOANS

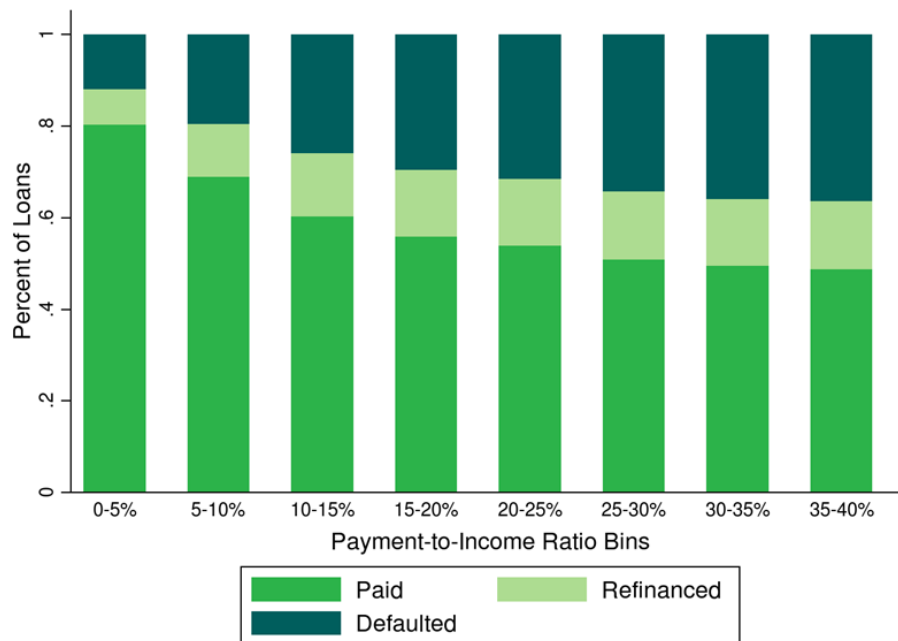
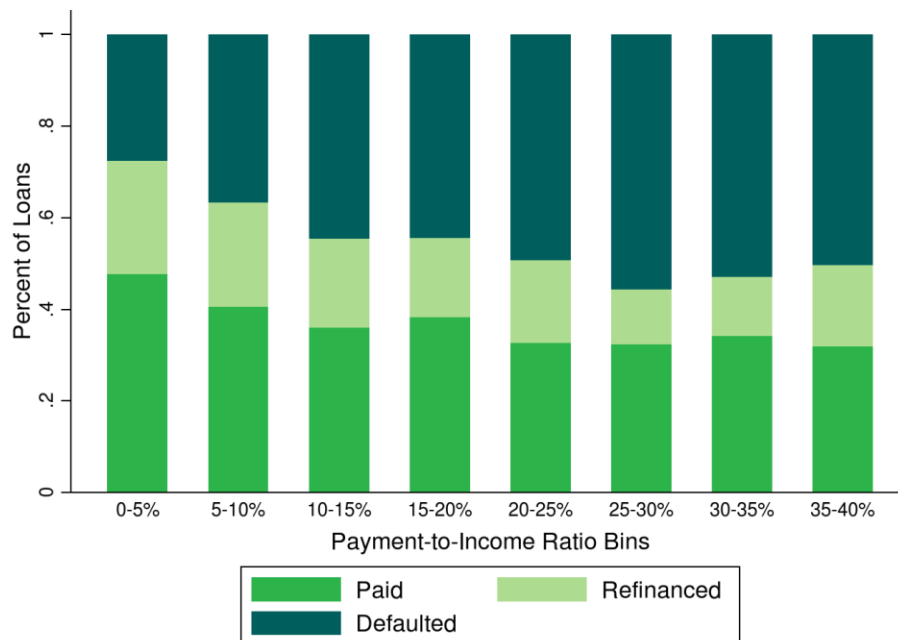
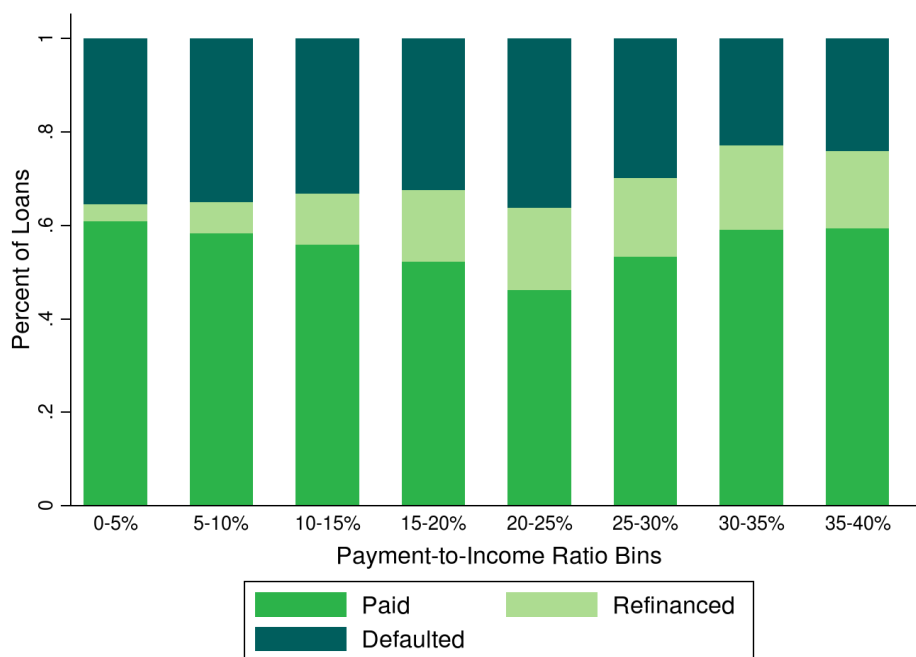


FIGURE 9: RELATIONSHIP BETWEEN LOAN OUTCOME AND PTI, ONLINE PAYDAY INSTALLMENT LENDER A, ALL LOANS



In contrast, we do not observe a relationship between PTI ratio and default rates when expanding to all loans for the group of payday installment lenders in our data for which the origination channel is not specified. Instead, we consistently see that about 60% of loans are repaid—with a varying amount of the remainder refinanced or in default—for each PTI ratio bin.

FIGURE 10: RELATIONSHIP BETWEEN LOAN OUTCOME AND PTI, PAYDAY INSTALLMENT LENDERS, ALL LOANS



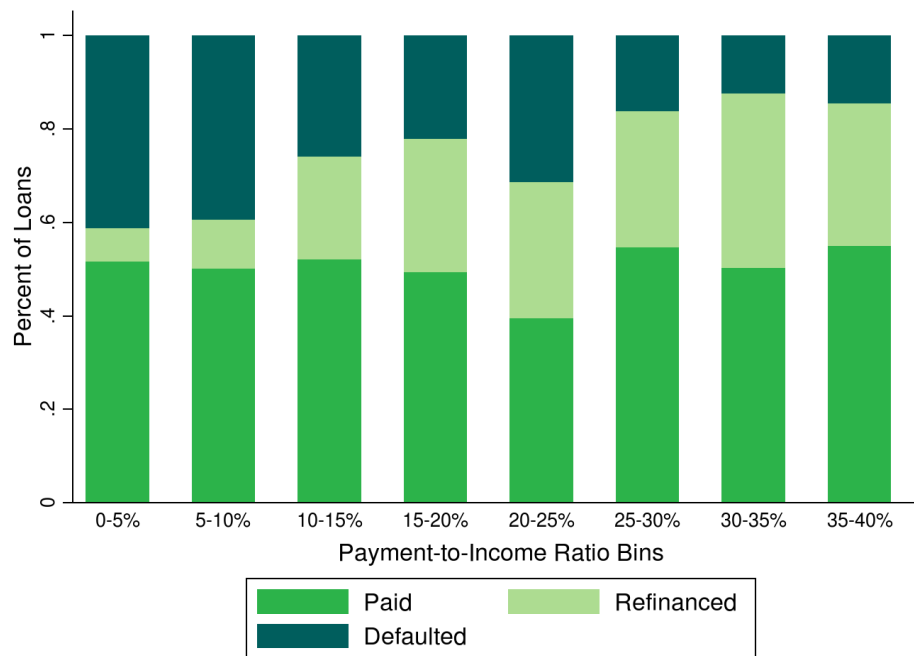
Our data do not allow us to identify which loans or loan products belong to a given lender within this group of payday installment lenders. Because we are unable to look at the relationship by lender for this group, we focus on differences by loan product.

Our data suggest that there are differences in the relationship between PTI ratio and repayment by the type of loan product for this group of payday installment lenders.³² To illustrate, Figure 11 shows the relationship between PTI ratios and repayment for the most common loan product originated by the group of payday installment lenders – loans with 12 bi-weekly payments.³³ In contrast with the loans with 12 monthly payments in Figure 7, the set of loans with 12 bi-weekly payments exhibits no relationship between PTI ratio and repayment and a possibly inverted relationship between PTI and default rates. Taken together, these findings suggest that the relationship between PTI ratio and repayment for loans by this group of payday installment lenders is likely dependent on factors beyond simply the PTI ratio and outcomes alone. A more detailed analysis was conducted by researchers with access to a version of the dataset with a broader set of variables, including lender identifiers. Controlling for various borrower characteristics, loan features, originating lender, and seasonality, their analysis finds that on average, a lower PTI ratio is associated with higher likelihood of paying off the loan.³⁴

³² In contrast, the relationship between PTI ratios and loan repayment does not differ significantly by loan product for the vehicle title installment lender and the online payday installment lender.

³³ For this analysis, we calculated the total payments due in one month to compare with the borrower's monthly income.

³⁴ See Beales and Goel, "Small-Dollar Installment Loans: An Empirical Analysis," (Mar. 2015), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2581667, at p. 48-51.

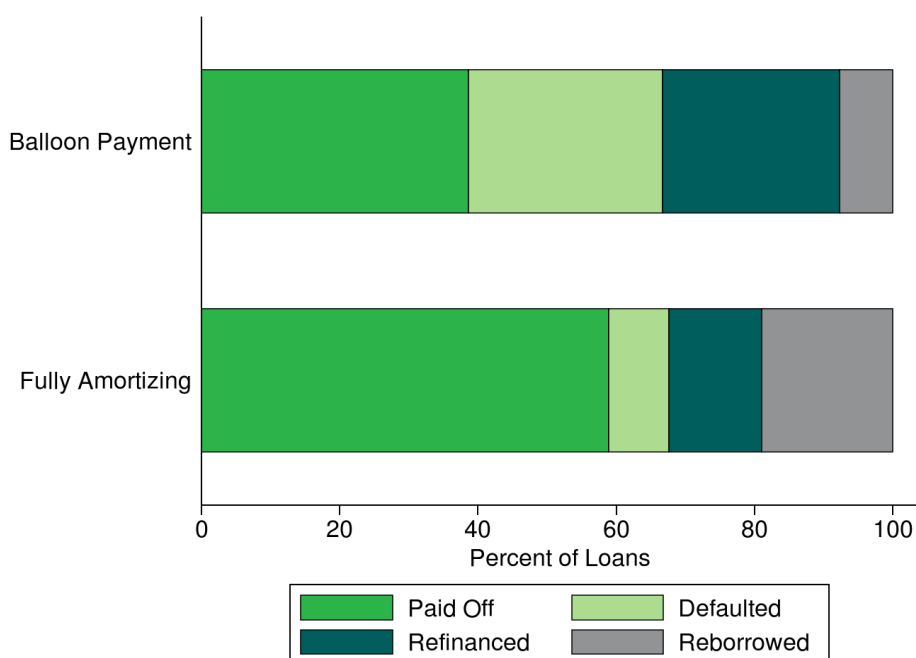
FIGURE 11: RELATIONSHIP BETWEEN LOAN OUTCOME AND PTI, PAYDAY INSTALLMENT LENDERS, LOAN WITH 12 BI-WEEKLY PAYMENTS

1.3.6 Usage patterns and outcomes for installment loans with balloon payments

One vehicle title installment lender in our data offers loans with a series of smaller payments and then a final large balloon payment due at the end of the loan term. We compare these loans with a final, large balloon payment (“balloon-payment installment loans”) to the set of fully-amortizing equal payment vehicle title installment loans of the same term and payment frequency by the same lender (“fully-amortizing installment loans”), focusing on outcomes and borrowing patterns.

Figure 12 shows the distribution of four loan outcomes—repayment, refinancing, reborrowing, and default—for the two sets of loans.³⁵ We find that balloon-payment installment loans in our data are much more likely to default than fully-amortizing loans of the same loan term made by the same lender. About 60% of balloon-payment installment loans default or have a subsequent refinancing or reborrowing; in contrast, nearly 60% of comparable fully-amortizing installment loans are repaid without a subsequent loan.

FIGURE 12: LOAN OUTCOMES, BALLOON-PAYMENT INSTALLMENT LOANS VS. COMPARABLE FULLY-AMORTIZING INSTALLMENT LOANS

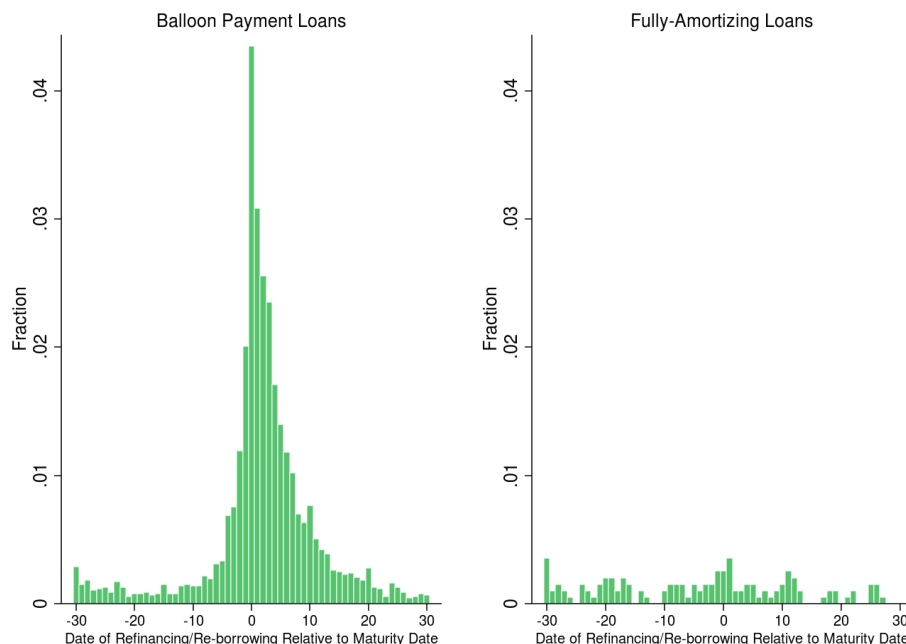


³⁵ As noted previously, for purposes of the analysis in this chapter, we consider a loan to be refinanced if a new loan is used to pay off a previous loan, or if a new loan is taken out the same day as a previous loan is repaid. A reborrowing occurs if a new loan is taken out within 30 days of a previous loan being repaid, but excludes those loans that have been defined as refinancings.

We next compare the timing of refinancing or reborrowing of a balloon-payment installment loan to the timing of refinancing or reborrowing of a fully-amortizing loan of the same length by the same lender. Relative to fully-amortizing installment loans, we find that the refinancing or reborrowing of balloon-payment installment loans is much more likely to occur around the maturity date of the loan. Notably, for balloon-payment installment loans, the maturity date is when the large balloon payment comes due. To illustrate this difference, Figure 13 plots the distribution of the timing of refinancing or reborrowing, conditional on there being such an outcome, in a 60-day window around the maturity date for both sets of loans. The timing is measured as the date of the refinancing or reborrowing relative to the maturity date of the loan (“day 0”).

As this figure shows, a significantly higher share of refinancings and reborrowings (32%) occur within this 60-day window for balloon-payment installment loans, with the refinancing and reborrowing concentrated around the maturity date when the large balloon payment comes due. In contrast, only 7% of refinancings and reborrowings for fully-amortizing installment loans take place during this window, with refinancings and reborrowings exhibiting a much more evenly-distributed pattern over time. Instead, the vast majority (93%) of fully-amortizing loan refinancing takes place before the final month of the loan term.

FIGURE 13: SHARE OF LOANS REFINANCED OR REBORROWED 30 DAYS BEFORE OR AFTER MATURITY DATE, BALLOON-PAYMENT INSTALLMENT LOANS VS. COMPARABLE FULLY-AMORTIZING INSTALLMENT LOANS



Borrowers who refinance within this 60-day window around the date the final balloon payment is due may do so for different reasons than borrowers who refinance their loans before this window. Only 14% of the balloon-payment installment loans refinanced within 30 days before or after the loan's maturity date (the 60-day window) have cash taken out as part of the transaction. In contrast, 87% of balloon-payment installment loans that are refinanced before this 60-day window have cash taken out. This suggests that a borrower refinancing a balloon-payment loan closer to the loan's maturity date may have a different motivation for doing so than a borrower of a balloon-payment loan that refinances earlier. It may also reflect a

June 2016

difference in lender practices with regards to borrowers with balloon-payment loans who seek to refinance when a balloon payment is due.³⁶

³⁶ We also compare the rates at which these balloon-payment and fully-amortizing installment loans have cash taken out during a refinance before the 60-day window. We find that these products have a somewhat similar share of refinanced loans with cash taken out when we look at this earlier time period. Thus, the purpose of refinancing the balloon-payment installment loans in our data around the time the large balloon payment is due appears to be primarily for reasons other than taking additional cash out.

2. Consumer account activity before and after the discontinuation of deposit advance products

The research described in this chapter explores whether users of deposit advance products (DAP), when faced with diminished access to those products, changed their usage of alternative short-term credit products, compared to their counterparts who did not use deposit advance products.

We examine the impact of the discontinuation of deposit advance products by a number of large depository institutions following the 2013 guidance on the product by two federal banking prudential regulators.³⁷ We find that consumers who had previously used DAP did not shift

³⁷ Although a third prudential regulator, the Federal Reserve Board of Governors, did not issue guidance on the matter, it did issue a statement to its member banks highlighting the compliance risks and potential consumer harms associated with deposit advances.

towards overdrawing their accounts or using payday loans³⁸ more frequently, either in absolute terms or in comparison to other accountholders at the same banks who had not used DAP loans.

2.1 Introduction

Deposit advance products are marketed to credit-constrained consumers³⁹ as products that can be used to meet short-term liquidity needs when consumers might, for instance, otherwise overdraw their checking accounts or take other forms of short-term credit such as payday loans. Lenders often tout the benefits of one of these products or account features over another, which suggests these entities may view DAP advances, payday loans, and checking account overdraft as substitutes for one another.

For example, the CEO of an association of large banks has argued that the availability of DAP helps consumers avoid alternatives such as payday loans, which he described as “costly” and “less regulated.”⁴⁰ Similarly, an association representing community banks has warned against restrictions on overdraft services because they might force consumers into “more costly” credit

³⁸ To measure consumers’ use of payday loans, we looked at ACH debits initiated by payday lenders (for convenience, in this chapter, we refer to the loans as “payday loans,” although it is likely that many of the loans are not standard, single-payment payday loans). This method is more likely to identify payday loans made online than through storefronts because storefront consumers tend to pay in cash or another in-person method while online consumers typically repay through ACH debit.

³⁹ Various research has established that consumers of these products generally have low credit scores, with few options for less expensive, revolving credit. For example, Neil Bhutta, Paige Marta Skiba, and Jeremy Tobacman, “Payday Loan Choices and Consequences,” (2014), available at <http://www.calcfa.com/docs/PaydayLoanChoicesandConsequences.pdf> and John Hecht, Jefferies LLC, “The State of Short-Term Credit Amid Ambiguity, Evolution and Innovation,” (2016) (slide presentation).

⁴⁰ See Consumer Bankers Association, “CBA President & CEO Richard Hunt, Testimony ‘Deposit Advance Products,’” (Jul. 24, 2013), available at <http://consumerbankers.com/cba-issues/testimonies/cba-president-ceo-richard-hunt-testimony-%E2%80%99deposit-advance-products%E2%80%9999>.

options such as payday loans.⁴¹ The Bureau is aware of banks tailoring and marketing their DAP programs to appeal to payday loan borrowers, as well as banks internally viewing DAP and overdraft as possible substitute products.⁴²

Likewise, a trade association of payday lenders argues that payday loans are less costly sources of short-term credit than overdrawing a checking account.⁴³ A large storefront and online payday lender advertises its loans as a less costly alternative to overdrawing an account or using other credit products.⁴⁴

We examine whether changes occurred in the incidence of overdraft and returned payment due to insufficient funds (NSF), the use of payday loans, the number of days with a negative account balance, and the charge-off of accounts, following the discontinuation of DAP at the study banks. We examine these metrics by comparing consumers who had used DAP to consumers who had not used DAP.

The discontinuation of DAP

DAP was discontinued by several depository institutions after statements were issued by the Federal Reserve Board of Governors (Board), Office of the Comptroller of the Currency (OCC), and the Federal Deposit Insurance Corporation (FDIC) describing risks of offering the

⁴¹ See Independent Community Bankers of America, “The ICBA Overdraft Payment Services Study,” (Jun. 2012), available at <http://www.icba.org/files/ICBASites/PDFs/2012OverdraftStudyFinalReport.pdf>, at p. 6.

⁴² Based on confidential information gathered in the course of statutory functions.

⁴³ See Consumer Financial Services Association of America, “Short-Term Credit Alternatives,” available at <http://cfsaa.com/our-resources/short-term-credit-alternatives.aspx>.

⁴⁴ See Advance America, “About the Payday Loan Industry: Do Cash Advances have unreasonably high interest rates?,” available at <https://www.advanceamerica.net/questions>.

product.⁴⁵ The Board issued a statement in April 2013 highlighting potential consumer harm and elevated compliance risk. After the release of that statement, one Board-supervised bank eliminated its DAP program while another modified the product and currently only offers the product to those customers who were using DAP prior to the implementation of these modifications. The OCC and FDIC each issued supervisory guidance in November 2013 (hereinafter referred to as the “OCC and FDIC Guidance”) for banks subject to their supervisory authority. The OCC and FDIC Guidance encouraged banks offering DAP to adjust their programs in a number of ways, including applying more scrutiny in underwriting DAP loans and discouraging repetitive borrowing. Following the issuance of the OCC and FDIC Guidance, banks supervised by the FDIC and OCC ceased offering DAP.

Key Findings

This analysis uses the discontinuation of DAP at a number of banks following the OCC and FDIC Guidance and Board statement as an opportunity to examine—by observing their checking account activity--how consumers who had previously taken DAP advances reacted to its elimination, compared to accountholders at the same banks who had not used DAP.

- **DAP-User Characteristics.** During the time that the banks in our study offered DAP, DAP-users were financially less stable than accountholders who did not take DAP advances.
 - Prior to discontinuation, DAP-users were far more likely to overdraw their accounts than non-users. While only 8% of all accounts in our study had used DAP in the

⁴⁵ For the OCC guidance, see “Guidance on Supervisory Concerns and Expectations Regarding Deposit Advance Products,” 78 FR 70624 (Nov. 26, 2013), available at <http://www.occ.treas.gov/news-issuances/federal-register/78fr70624.pdf>; for the FDIC guidance, see “Guidance on Supervisory Concerns and Expectations Regarding Deposit Advance Products,” 78 FR 70552 (Nov. 26, 2013), available at <http://www.gpo.gov/fdsys/pkg/FR-2013-11-26/pdf/2013-28306.pdf>; for the Board statement, see “Statement on Deposit Advance Products,” (Apr. 25, 2013), available at <http://www.federalreserve.gov/bankinforeg/caletters/CALetter13-07.pdf>.

- initial observation period, they incurred 33% of overdraft items and 36% of NSF items during that period.
- DAP-users also experienced more days with a negative account balance and were seven times more likely to have their accounts charged off than their counterparts who did not take DAP advances.
 - DAP-users were disproportionately likely to have taken a payday loan compared to non-users. DAP-users, who made up only 8% of accounts in our study, accounted for 40% of debits by likely payday lenders.
 - **Comparative Activity Post-Discontinuation.** With the discontinuation of DAP, consumers in our study who had previously taken DAP advances did not discernably substitute towards other credit products or exhibit sustained negative outcomes compared to their non-user counterparts.
 - The sample of former DAP-users in our study did not experience increased incidences of overdrafts or NSFs relative to non-users after DAP was no longer offered.
 - DAP-users did not change their use of payday loans in any meaningful way relative to those who did not use DAP.
 - DAP-users also did not experience long-term increases in account charge-off rates following DAP's discontinuation.

2.2 Data and methodology

Pursuant to its authority under section 1022(c)(4) of the Dodd-Frank Act,⁴⁶ the CFPB obtained aggregate level statistics on account use and transaction history from a number of banks that previously offered DAP.⁴⁷ We believe, during the time period studied when DAP was fully available, these study banks served a large proportion of all DAP-users.

Each study bank provided the Bureau with summarized institution-level data, totaling over 14.2 million DAP-eligible⁴⁸ checking accounts across the banks, covering various aspects of account behavior such as DAP use (i.e., taking DAP advances), overdraft incidence, NSF incidence, payday loan activity,⁴⁹ and account charge-offs. The data compare pre-and post-discontinuation activity of DAP-users with that of consumers who were eligible for DAP but did not use the product. These DAP-user and non-user groups were defined based on their activity in an initial period of observation. Consumers who did not make use of DAP during this initial period were

⁴⁶ Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, Title X, Sec. 1022(c)(4)(2010).

⁴⁷ A blank sample questionnaire is included in this Chapter's appendix.

⁴⁸ All accounts included in these statistics were eligible to take deposit advances at the beginning of the initial observation period by being considered accounts in good standing and by fulfilling the tenure, recurring direct deposit, and other requirements for participating in DAP programs at their respective banks.

⁴⁹ Online payday lenders were identified by the Bureau's Office of Research (OR) for the report "Online Payday Loan Payments" cited below. Using a separate transaction-level dataset, OR examined each merchant in the data with 50 or more ACH debit transactions, a total of 14,099 merchants. OR classified 332 of the original 14,099 merchants as online payday lenders. To be classified as an online payday lender, the company must provide high-cost loans and operate strictly online or by phone. Lenders making traditional short-term loans with a single balloon payment, and lenders making high cost installment loans structured with periodic payments that coincide with the borrower's payday, were included. Those with associated storefronts were excluded. Some banks in our analysis did, however, supplement this list with their own list of online and storefront payday lenders. See CFPB, "Online Payday Loan Payments," (Apr. 2016), available at http://files.consumerfinance.gov/f/201604_cfpb_online-payday-loan-payments.pdf, at p. 6-7.

classified as non-users, while those who did were classified as DAP-users.⁵⁰ A complete list of statistics submitted by the banks for DAP-users and non-users is presented in this chapter's appendix.

We requested data on each group of consumer accounts for five multi-month periods: an initial period and four subsequent periods spanning 25 months in 2013 through 2015,⁵¹ enabling us to compare each group's outcomes before and after DAP's discontinuation. The periods are summarized in the table below. Period 1, generally termed the baseline period, provides us with a snapshot of consumer behavior prior to any communication to consumers about planned changes to the DAP program that may have affected their behavior. Period 2 covers the time span between each bank's announcement that it would discontinue offering DAP and the date of the program's discontinuation. Together, these two periods cover 12 months. The next three periods track post-DAP account activity. Period 3 covers the immediate two months post-DAP; we requested summary data for this period because we expected former DAP-users would face the greatest difficulty in maintaining liquidity during the first two monthly income-and-expense cycles to occur immediately after DAP advances were no longer available. Periods 4 and 5 cover the remaining 11 months through June 2015, the last complete month preceding the Bureau's data request.⁵²

⁵⁰ DAP use and non-use persisted as characteristics in our sample across time. During the first two periods of observation, all consumers in our sample were eligible to obtain DAP advances (see following paragraph for a description of the observation periods used in this study). Those who were assigned to the non-user group were those who did not take an advance during the first period. During the second period, these initial non-users were free to take advances but accounted for only 2.7% of all advances made during the second period.

⁵¹ June 2013 was the month farthest back in time for which several of the banks maintained active, rather than archived, records.

⁵² Certain banks were excluded from this analysis, as their DAP policies and resulting time periods regarding discontinuation differed.

TABLE 5: STUDY PERIODS

Period	DAP status
1	pre-discontinuation
2	pre-discontinuation
3	first 2 months post-discontinuation
4	post-discontinuation
5	post-discontinuation

2.2.1 Bank policies

In addition to the account activity data, we obtained information from each of the banks about their DAP programs, including terms, eligibility requirements, and their timelines for announcing discontinuation to their accountholders and terminating availability of the product.

While specific eligibility terms varied among the study banks' DAP programs, all required users to have attained a minimum length of account tenure in good standing and receive recurring electronic deposits. Pricing of the advances also varied, but no program exceeded \$10 per \$100 borrowed. All banks required a "cooling-off period" after a certain number of months of continuous DAP use; the number of months to trigger a cooling-off period ranged from six to nine. At most banks a consumer's DAP credit limit and overdraft limit were connected: for example, if a consumer had a \$200 DAP advance outstanding, her available overdraft limit would be reduced by a corresponding \$200. However, this was not the case at every bank. Generally, DAP credit limits were set at the lesser of 50% of the monthly qualified direct deposit amount or \$500, but some banks utilized different metrics to set credit limits, and product terms evolved over time.

Once they discontinued DAP, the banks also differed in how they permitted customers who had outstanding DAP advances to pay them off. Some offered users the option of repaying in multiple installments with no further finance charges. Such measures may have softened what could have been an otherwise abrupt impact on some DAP-users' finances.

Changes to other bank policies during this time period, including overdraft programs, may have impacted the findings presented below, but these policy changes would have affected both DAP-users and non-users. Likewise, seasonal effects are evident throughout these analyses; however, these would likely have affected both consumers who used DAP and those who did not. For example, for at least one bank in the study, Period 2 encompassed tax time, when overdrafts, NSF's, and payday loan use may be seasonally low due to consumers' receipt of tax refunds.

2.3 Differences between DAP-users and non-users before discontinuation

The first two periods cover intervals during which DAP was still available to consumers at the study banks. We use these time periods to establish consumers' baseline behavior prior to the discontinuation of DAP. Baseline summary statistics are presented in Table 6 below.

DAP-users' finances, as judged by their Period 1 activity, appear generally to be more precarious than those of the non-users. They had more difficulty keeping their account balances positive; non-users of DAP had, on average, less than a quarter of a day with a negative account balance in a given month during Period 1. DAP-users, on the other hand, had an average of nearly 1.3 days with a negative account balance per month. DAP-users' average monthly deposits were 27% lower than those of non-users. At the same time, DAP-users initiated nearly 50% more debit transactions in an average month than non-users.

Despite the fact that DAP-users were, by definition, taking DAP advances, they overdrew their accounts at considerably higher rates than the non-users. In Period 1, they incurred overdrafts at approximately 5.5 times the rate of non-users, an annualized rate of nearly 14 per year.⁵³ Similarly, DAP-users had NSF's at their bank at a rate over five times higher than non-users. DAP-users accounted for slightly over 8% of the combined banks' DAP-eligible accounts in Period 1, but their accounts were responsible for 33% of overdraft items and 36% of NSF items.

Further, DAP-users' accounts were about six times more likely to have been debited by a payday lender during Period 1. Thirty-five percent of accounts with an identified payday loan debit

⁵³ This puts the average DAP-users among the 8% of account-holders who are heavy overdrafters and account for 74% of overdraft fees incurred, as documented in CFPB, "Data Point: Checking account overdraft," (Jul. 2014), available at http://files.consumerfinance.gov/f/201407_cfpb_report_data-point_overdrafts.pdf, at p. 12.

belonged to DAP-users, and 40% of all identified payday debits were associated with the approximately 8% of accounts that were held by DAP-users in the period.⁵⁴

Additionally, DAP-users were more likely to have their accounts charged off. During Period 2, DAP-users saw their accounts charged off at a rate seven times that of the non-users.⁵⁵

Finally, in separate analyses not presented here, we found that DAP-users tend to use the product heavily. DAP-users who took advances in three-quarters or more of the months in Period 1 account for over 70% of the advances made in that period and nearly 50% of the DAP-user accounts.

⁵⁴ Note these statistics related to payday lending refer to data from only two of the study banks.

⁵⁵ We measure charge-off rates during Period 2 because our study population was limited to DAP-eligible accounts in good standing at the beginning of Period 1. They would not have experienced charge-offs during Period 1. Charge-offs were bank-defined, but banks generally charge-off overdrawn accounts after they have had negative balances for 60 consecutive days.

TABLE 6: BASELINE COMPARISON OF DAP-USERS AND NON-USERS⁵⁶

Metric	Non-User Group	DAP-User Group
Number of DAP transactions/ account-month ⁵⁷ (Period 1)	0	1.53
Avg. monthly deposits/ account (Period 1)	\$5,001	\$3,649
Avg. number of monthly debit transactions/ account (Period 1)	38.09	57.28
Percent of accounts opted-in to debit card/ATM overdraft ⁵⁸ (Period 1)	15.48%	35.17%
Number of overdraft items ⁵⁹ /account-month (Period 1)	0.21	1.15

⁵⁶ Note that different metrics were calculated in different ways. For example, some consider the percentage of accounts, others consider the rate per month, others the rate per account, and others the rate per account-month. For an explanation of account-months, see Footnote 57.

⁵⁷ We use a metric termed “account-month” when considering the frequency of certain activities, such as overdraft or NSF incidences. Each bank calculated this metric by summing the number of months all accountholders were in the sample, for a given period, taking into account that some accounts were in the sample for less than the full period due to account closures mid-period. This metric serves as a measure of both the number of accounts in the sample, as well as a measure of the amount of time each account spent in the sample.

⁵⁸ Regulation E requires that banks and credit unions offering overdraft coverage services on ATM and/or one-time debit card transactions obtain affirmative consent from the consumer before charging fees for covering such transactions. See 12 CFR § 1005.17(b)(1). Some consumers “opted-in” to overdraft coverage services, while others did not.

⁵⁹ The counts of overdraft and NSF items include all items, not only those for which a fee was assessed.

Metric	Non-User Group	DAP-User Group
Number of NSF items/ account-month (Period 1)	0.02	0.10
Percent of accts with debits from probable payday lenders ⁶⁰ (Period 1)	1.79%	10.65%
Avg. number of days with a negative account balance/ month (Period 1)	0.22	1.29
Percent of accounts charged off/ month (Period 2)	0.05%	0.35%

2.4 Consumer outcomes after DAP discontinuation

Measuring the account activity of DAP-users and non-users during Periods 3 through 5 allows us to compare how these two groups fared after DAP was discontinued. Following the discontinuation, DAP-users did not see greatly increased rates of overdraft or NSF, debits from payday lenders, or days with negative account balances, when compared to their baseline levels during Period 1—either on an absolute basis or relative to non-users. Likewise, DAP-users did not experience sustained increased levels of account charge-off.

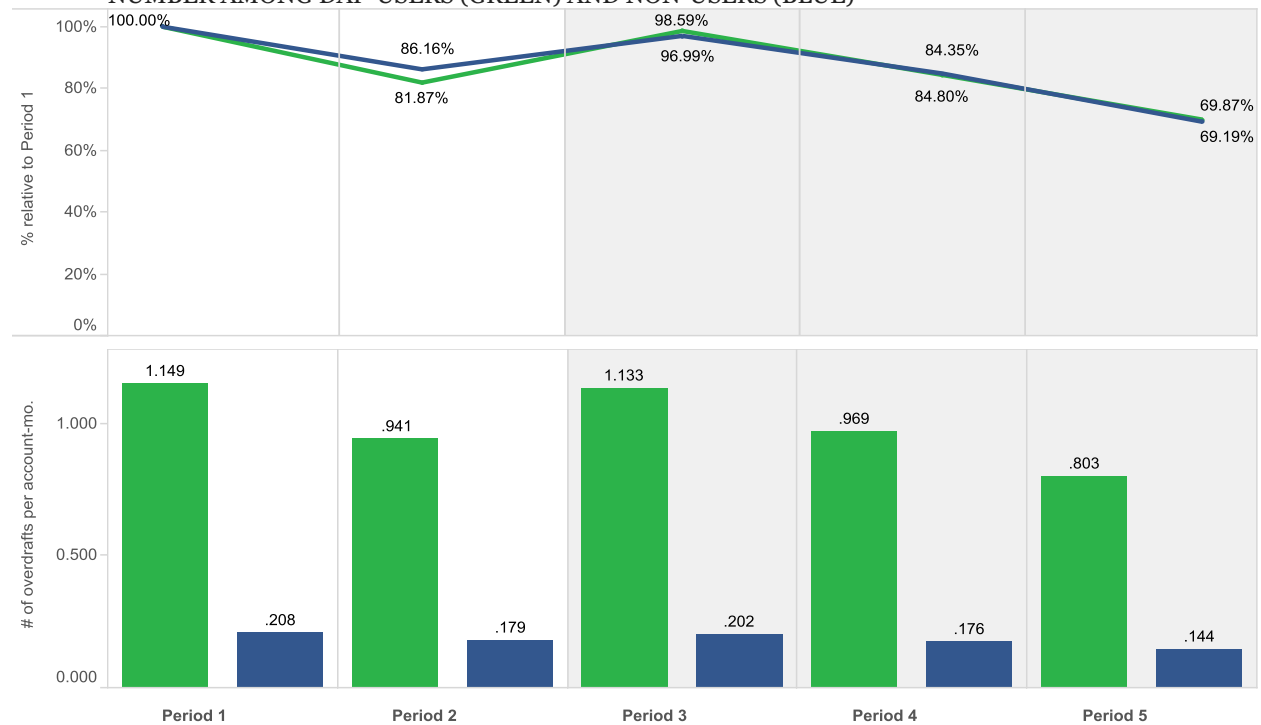
To understand consumer outcomes after discontinuation, we compare results for DAP-users and non-users from the baseline period (generally Period 1, although for account charge-offs, Period 2) through Period 5.

⁶⁰ As stated above, this metric refers to data from only two of the study banks.

Each figure in the remainder of this section contains two graphs. One plots the changes in each metric relative to baseline levels for the non-user and DAP-user groups, respectively; the other graph plots the absolute levels of each metric for each group. The former graph allows for a comparison of change over time between the two groups, while the latter facilitates an understanding of the absolute differences in incidence of each metric within the two groups. In all figures, green lines or bars represent the DAP-users and blue lines and bars, the non-users. Additionally, a shaded background indicates the time during which DAP was no longer available. In each pair of figures, the trends over time tend to be similar for both groups, while the absolute levels of each metric vary substantially between the two groups.

2.4.1 Changes in overdraft activity

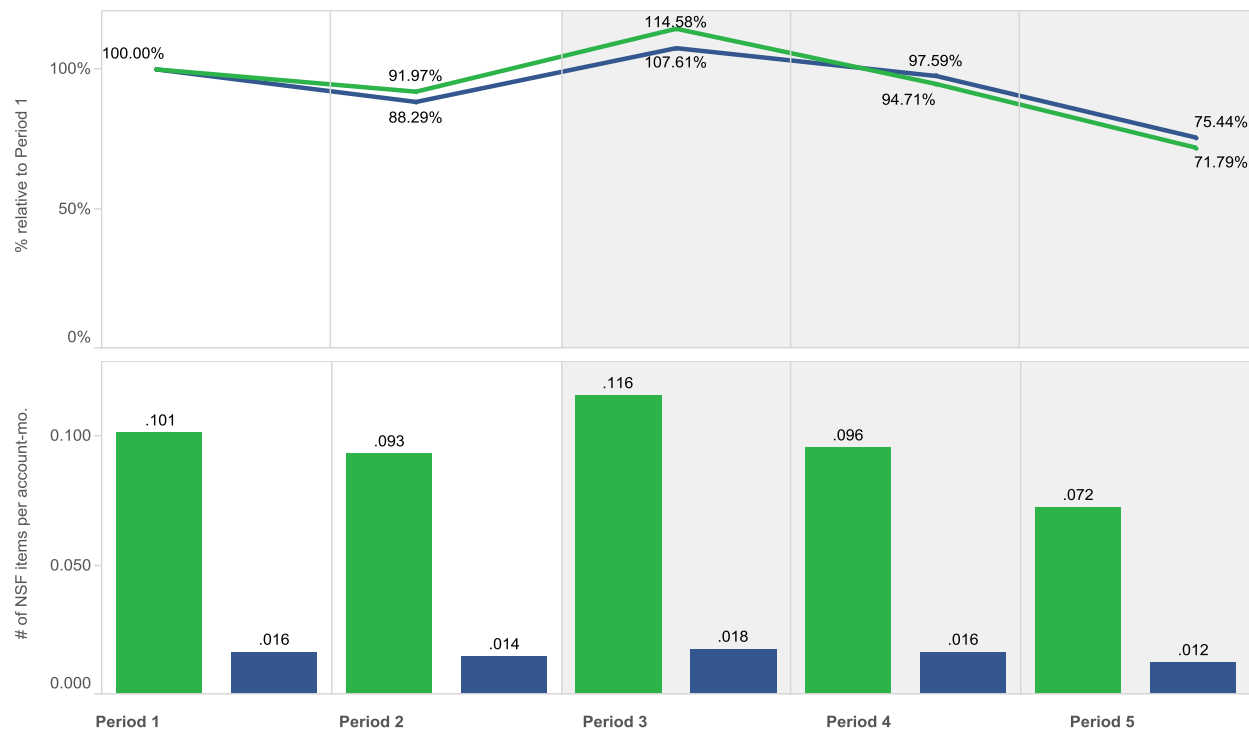
Figure 14 plots overdraft items per account-month for DAP-users and non-users. What is most relevant in this figure is the comparison of the usage patterns of the DAP-user and non-user groups. Between Periods 1 and 2, both DAP-users and non-users experienced declines in the number of overdraft incidences per account-month, with the non-users' level of overdrafting declining by nearly 14% and the DAP-users by 18%. As DAP is discontinued after Period 2, the level of overdraft for both non-users and DAP-users return to nearly their baseline Period 1 levels. They then fall at similar rates from Period 3 through 5, with both groups' levels of overdraft ending at 70% of their respective baseline levels.

FIGURE 14: OVERDRAFT ITEMS PER ACCOUNT-MONTH: PERCENT RELATIVE TO BASELINE AND NUMBER AMONG DAP-USERS (GREEN) AND NON-USERS (BLUE)

2.4.2 Changes in NSF activity

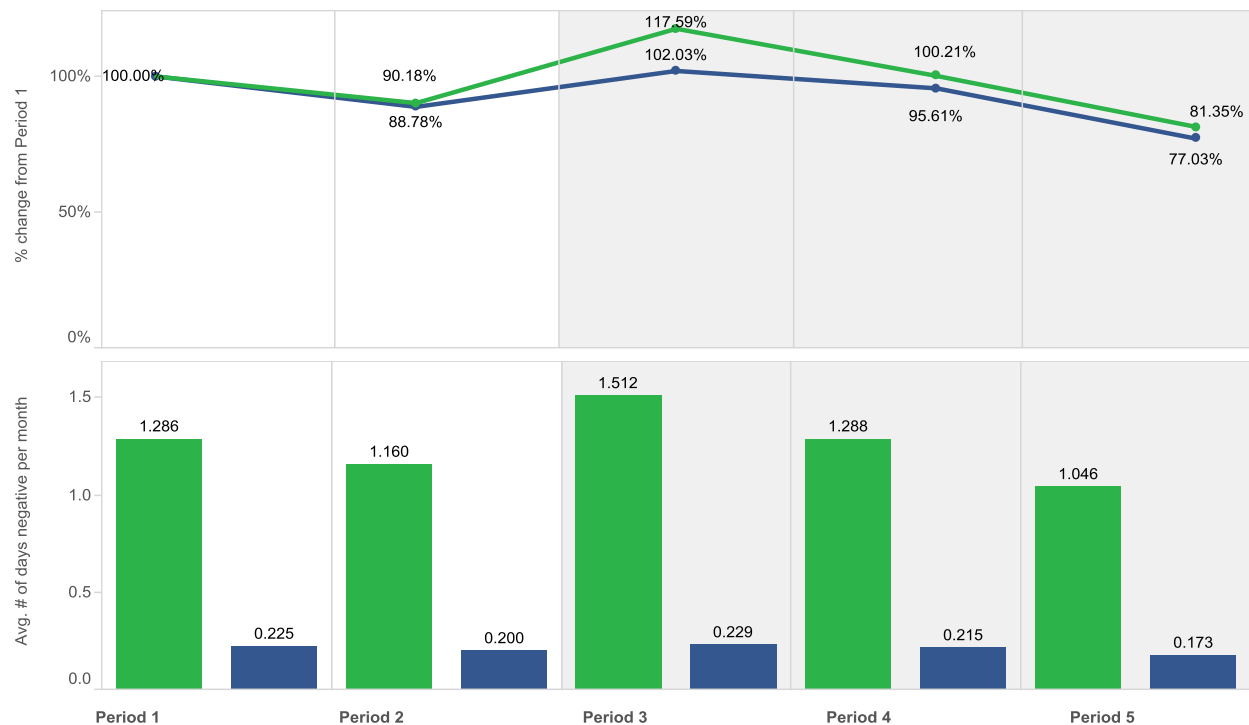
NSFs are generally incurred at the study banks when covering a check or ACH payment would take the account further negative than the bank's overdraft limit for that consumer would allow.

Figure 15 depicts the number of NSF items incurred per account-month, again with the shaded background indicating the periods during which DAP advances are no longer available, the DAP-user group metrics in green, and the non-users metrics in blue. Both the DAP-user and non-user groups follow similar trajectories post-DAP, with NSF rates seeing brief upticks in Period 3, and then falling to about 72% and 75% of their Period 1 baseline levels, respectively.

FIGURE 15: NSF ITEMS PER ACCOUNT-MONTH: PERCENT RELATIVE TO BASELINE AND NUMBER AMONG DAP-USERS (GREEN) AND NON-USERS (BLUE)

2.4.3 Changes in the number of days with a negative account balance per month

The average number of days a consumer's account carries a negative balance during a month reflects the number and/or length of overdraft episodes, and may be another potential measure of financial distress. The more severe a consumer's liquidity challenges, the more difficulty she may have bringing her account back to a positive balance following overdrafts and thus the longer her account may have a negative balance. Figure 16 indicates an absolute increase and a relative (to non-users) increase in DAP-users' average number of days negative during Period 3—the two months immediately following discontinuation—to 15% above Period 1 baseline levels. In subsequent periods, however, the average number of days negative fall below baseline levels for both DAP-users and non-users. By Period 5, the number of days negative per month among former DAP-users is 24% lower than in Period 1. While the non-user group sees a similar decline from the baseline by Period 5 (a decline of 27%), their number of negative balance days is less volatile during the intervening periods.

FIGURE 16: DAYS NEGATIVE PER MONTH: PERCENT RELATIVE TO BASELINE AND NUMBER AMONG DAP-USER (GREEN) AND NON-USER (BLUE) ACCOUNTS

2.4.4 Payday loan activity

Some study banks tracked ACH debits deducted from accounts by payees the banks believed to be payday lenders.⁶¹ Here we present the data from two banks, referred to here as Bank 1 and Bank 2, which identified probable payday lenders using a list of online lenders supplied by the Bureau;⁶² these banks augmented the Bureau-provided list with their own lists of likely online

⁶¹ Most ACH transactions, unlike transactions made by check or cash, have associated merchant codes that identify the unique merchant that originated each transaction.

⁶² See Footnote 49 for an explanation of how the Bureau created this list.

and storefront payday lenders.⁶³ These data are a useful proxy for a consumer's use of payday loans in a given month and the intensity of that use.⁶⁴ We can compare the number of such ACH debits during the baseline periods and in periods subsequent to DAP's discontinuation. Each bank's own list of likely payday lenders differed; because of this, we present each bank's data individually, and the trends at one bank cannot be directly compared to those at the other. However, we can usefully compare DAP-users' and non-users' incidence of payday usage pre- and post-DAP at each bank and see if there is a common pattern between the two groups.

⁶³ ACH debits from accounts may be a more reliable indicator of online payday activity, compared to storefront, as many—or even most—storefront lenders collect loan repayment in cash or some other in-person payment mechanism, rather than through ACH debit. We understand that some storefront payday lenders obtain ACH authorizations from borrowers to use as a means of collection when loans become delinquent, but such payments would not represent the majority of storefront loan repayments. Typically, in an online payday loan, a consumer repays the loan through a lender-initiated ACH debit.

⁶⁴ Note that lenders can vary in how frequently they attempt to collect on a loan through ACH debits. Additionally, consumers who are able to repay more quickly would be subject to fewer ACH debits by the lender. Therefore, we cannot assume a fixed ratio of ACH debits per lender or per loan.

FIGURE 17: DEBITS BY PROBABLE PAYDAY LENDERS PER ACCOUNT-MONTH;⁶⁵ PERCENT RELATIVE TO BASELINE AND NUMBER AMONG DAP-USERS (GREEN) AND NON-USERS (BLUE)

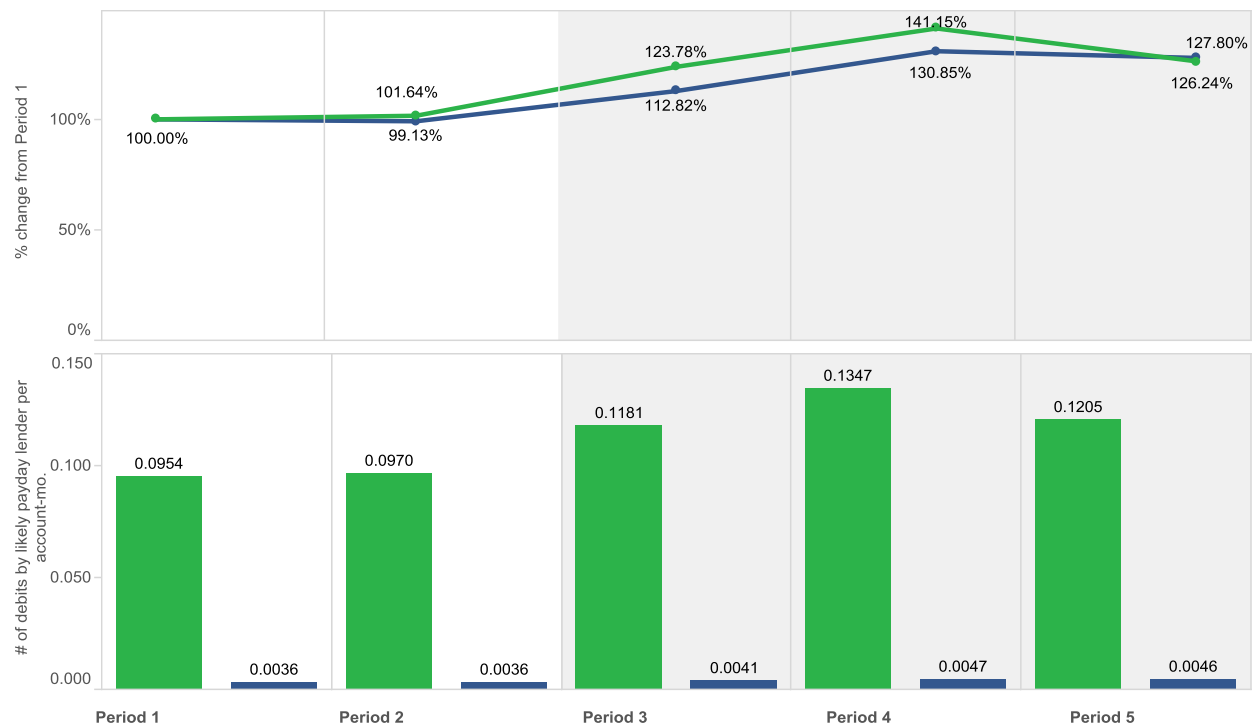


Figure 17a: Bank 1

⁶⁵ The differences between the banks in the evident frequency of payday debits may have to do with the different lender lists and techniques each bank used to measure payday borrowing activity.

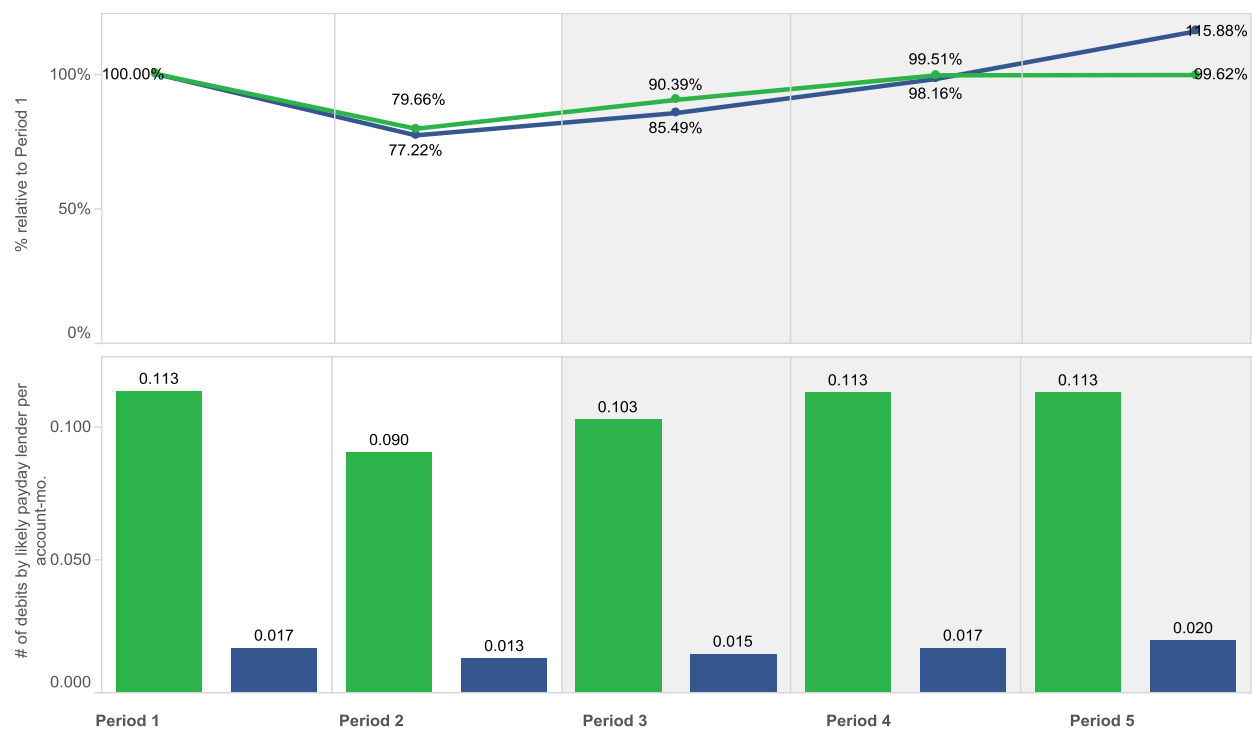


Figure 17b: Bank 2

We examine the comparative trends in payday activity over time for each bank individually, comparing Bank 1's DAP-users to its non-users in Figure 17a, and Bank 2's DAP-users to its non-users in Figure 17b. At each bank, the DAP-users and non-users track similarly to one another. After DAP became unavailable, DAP-users increased their payday activity relative to baseline levels no more than the non-users did. In fact, by Period 5, at both banks, the non-users experienced greater relative increases in debits by likely payday lenders per account-month than

their DAP-user counterparts. In both cases, there was no marked increase in the payday activity of DAP-users relative to that of non-users.⁶⁶

2.4.5 Changes in account charge-off

Charge-offs following closure of accounts with negative balances generally indicate consumer financial distress.⁶⁷ We asked the banks to count the number of accounts closed due to charge-off that occurred during each period. The results are displayed below. During the pre-discontinuation periods, DAP-users' rates of closure were markedly higher than those of non-users during Period 2 (our sample was limited to accounts that were in good standing and therefore DAP-eligible during Period 1, so charge-offs during that period would be artificially low). In Period 2, DAP-users' monthly rates of charge-offs were about seven times greater than non-users' rates, as indicated in Table 6. DAP-users may generally have greater difficulty maintaining their accounts; their more frequent overdrafts and longer periods of negative balances may put them at greater risk of experiencing charge-offs.⁶⁸

⁶⁶ Note that this analysis does not track the dollar volume of payday loans taken by former DAP-users and their non-user counterparts, and therefore we are unable to measure whether one user group borrowed more in dollar volume than the other. Nor are we able to discern whether or not one or both of the groups may have borrowed in progressively higher amounts over time.

⁶⁷ The Bureau has previously found involuntary account closures and associated charge-offs can occur for a variety of reasons, such as “due to fraudulent use of an account or account takeover, due to a consumer’s inability or unwillingness to repay negative balances caused by other fees charged by the bank or by returned deposited items (against which the institution has permitted payments or withdrawals), or for other reasons.” Additionally while not all negative balances are caused by overdraft, the majority are. See “CFPB Study of Overdraft Programs: A white paper of initial data finding,” (Jun. 2013), available at http://files.consumerfinance.gov/f/201306_cfpb_whitepaper_overdraft-practices.pdf, (hereinafter “Overdraft White Paper”).

⁶⁸ For an additional discussion of the relationship between account closures and financial distress see Overdraft White Paper at p. 24-26.

FIGURE 18: MONTHLY RATE OF CHARGE-OFF OF DAP-USER (GREEN) AND NON-USER (BLUE) ACCOUNTS: RELATIVE TO BASELINE AND PERCENT OF ACCOUNTS IN GROUP

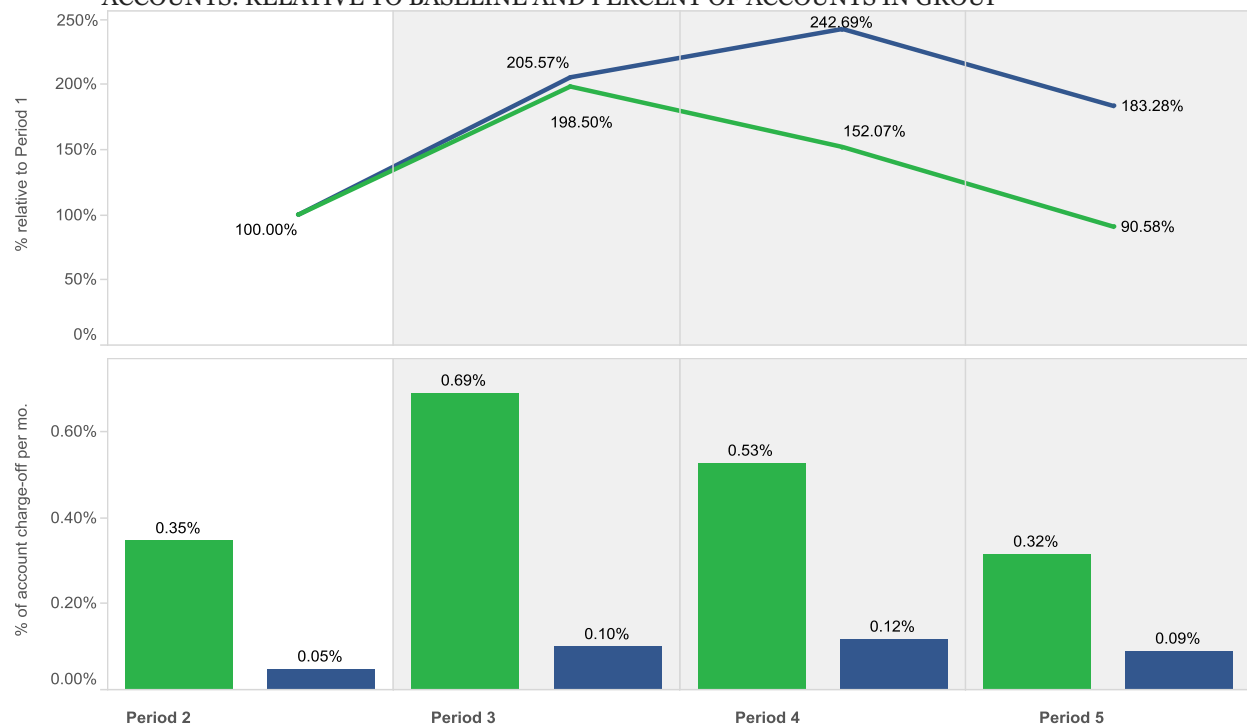


Figure 18 depicts a short-term increase during Period 3 in charge-offs among DAP-users following DAP's discontinuation. The banks in the study generally charge off accounts after they have been negative for 60 days: the spike in closures may represent consumers whose accounts had already gone negative during the preceding period (when DAP was still available) but were then no longer able to use DAP advances as a short-term recovery mechanism to bring their accounts positive. During this initial shake-out, slightly over 1% of the DAP-user accounts open at the start of Period 3 charged off by the end of that period; then charge-offs among DAP-users revert back to levels comparable to Period 2.⁶⁹ In comparison, charge-off rates remain at increased levels relative to Period 2 among non-users, albeit at much lower absolute levels than

⁶⁹ In part, this may be an example of survivorship bias, where the financially weakest accounts close earlier, and the stronger, longer tenured accounts remain in the sample. Survivorship bias is addressed in the next section.

among DAP-users. This increase may reflect the sampling approach which limited the sample of both users and non-users to accounts in good standing during Period 1. Given the time required for an account to charge off, we may see a more representative charge-off rate in later periods, particularly for the non-user group, which accounted for such a large and likely diverse set of accounts. Given the strict definition for inclusion into the sample, charge-off rates in Period 2 may still be artificially low.

2.4.6 Results for a constant group of borrowers

The data used in the preceding analyses follow a static pool of consumers, where no new accounts were added to the analysis over time but attrition of the pool occurred when accounts closed. Therefore, the population of accounts for Periods 2 through 5 includes only those accounts in the period immediately prior, less the number of accounts closed during that prior period. As a result, the number of accounts in the population declines for each group over time.⁷⁰ This static pool approach can lead to a phenomenon called survivorship bias. The characteristics of accounts that close are likely to be different from those of the accounts that remain open, which will cause measured statistics to change over time even if the activity of individual accounts is unchanged. For example, accounts that close due to charge-off would, on average, be accounts that are less financially stable, with higher levels of overdraft and NSF incidence. This would cause the measured rate of overdrafts and NSFs to decline as accounts that tend to have more of these transactions exit the sample. If the effect of the survivorship bias is different across the DAP-user and non-user pool, it could reduce the usefulness of making comparisons across these groups when examining the account usage patterns following the end of DAP. One bank, however, also provided the Bureau with supplemental statistics based on a sample of accounts that remained open throughout the entire study period.

⁷⁰ Young accounts (those with a shorter tenure) are more likely to charge off than more mature accounts. However, the tenure requirements for most DAP programs meant that very young accounts were excluded from the data, which was limited to DAP-eligible accounts.

Here, we compare the results from that survivor-only dataset⁷¹ with those from the static pool dataset for the same bank. Despite the lack of attrition compared to the static pool sample, we find largely similar results using the survivor-only data, indicating that the presence of any survivorship bias is not driving the results presented in the preceding section.

The figures below present overdraft incidence, NSF incidence,⁷² and debits by likely payday lenders comparing the survivor-only sample and the entire sample. These metrics account for the main products towards which consumers may have substituted once DAP was no longer available.

The sub-sets of accountholders who retain their accounts throughout the entire study period start with lower levels of overdrafts, NSF items, and payday debits than the bank's entire sample of DAP-eligible accounts, suggesting these accounts were, on average, facing less frequent liquidity challenges than the excluded accounts that subsequently were closed, either voluntarily or involuntarily. But this holds true for both DAP-users and non-users. We also see that both survivor groups experience short spikes in these activity metrics during Period 3, followed by declines in the subsequent periods, eventually converging on values similar to those of the static pool population by Period 5 (by definition, the full sample, or static pool, excludes most of the closed accounts by this point). Most importantly, accounting for attrition does not reveal any increase in divergence between DAP-users and non-users in how overdrafts, NSFs, or payday debits trend post-DAP.

⁷¹ This dataset has no attrition over time—all accounts present by the end of Period 5 are also present at the beginning of Period 1.

⁷² As above, the figures below track all incidences of overdraft and NSF, regardless of whether fees were assessed or realized.

FIGURE 19: OVERDRAFT ITEMS PER ACCOUNT-MONTH: PERCENT RELATIVE TO PERIOD 1 AND NUMBER AMONG DAP-USERS (GREEN) AND NON-USERS (BLUE), SURVIVORS-ONLY SAMPLE VS. STATIC POOL

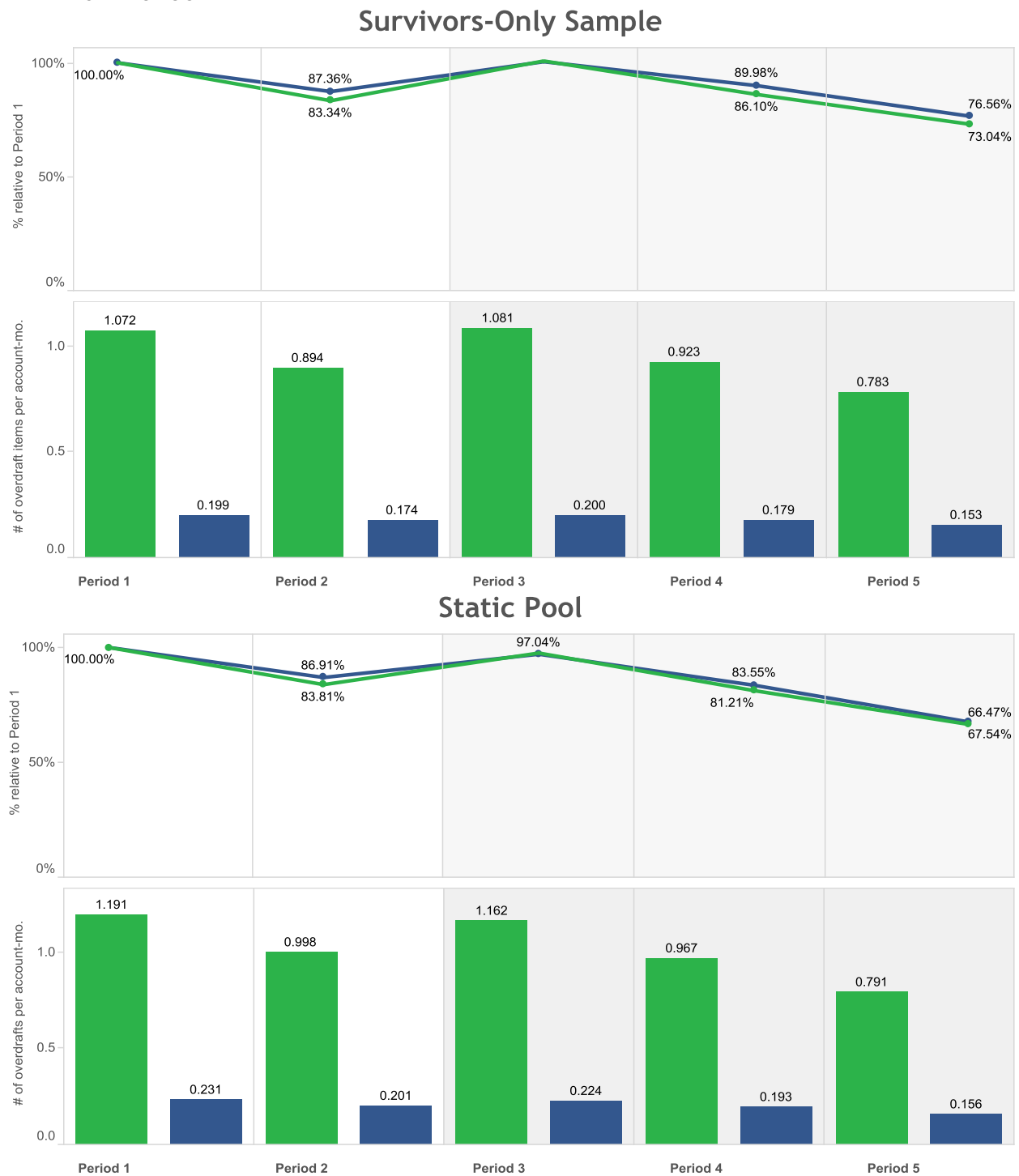


FIGURE 20: NSF ITEMS PER ACCOUNT-MONTH: PERCENT RELATIVE TO BASELINE AND NUMBER AMONG DAP-USERS (GREEN) AND NON-USERS (BLUE), SURVIVORS-ONLY SAMPLE VS. STATIC POOL

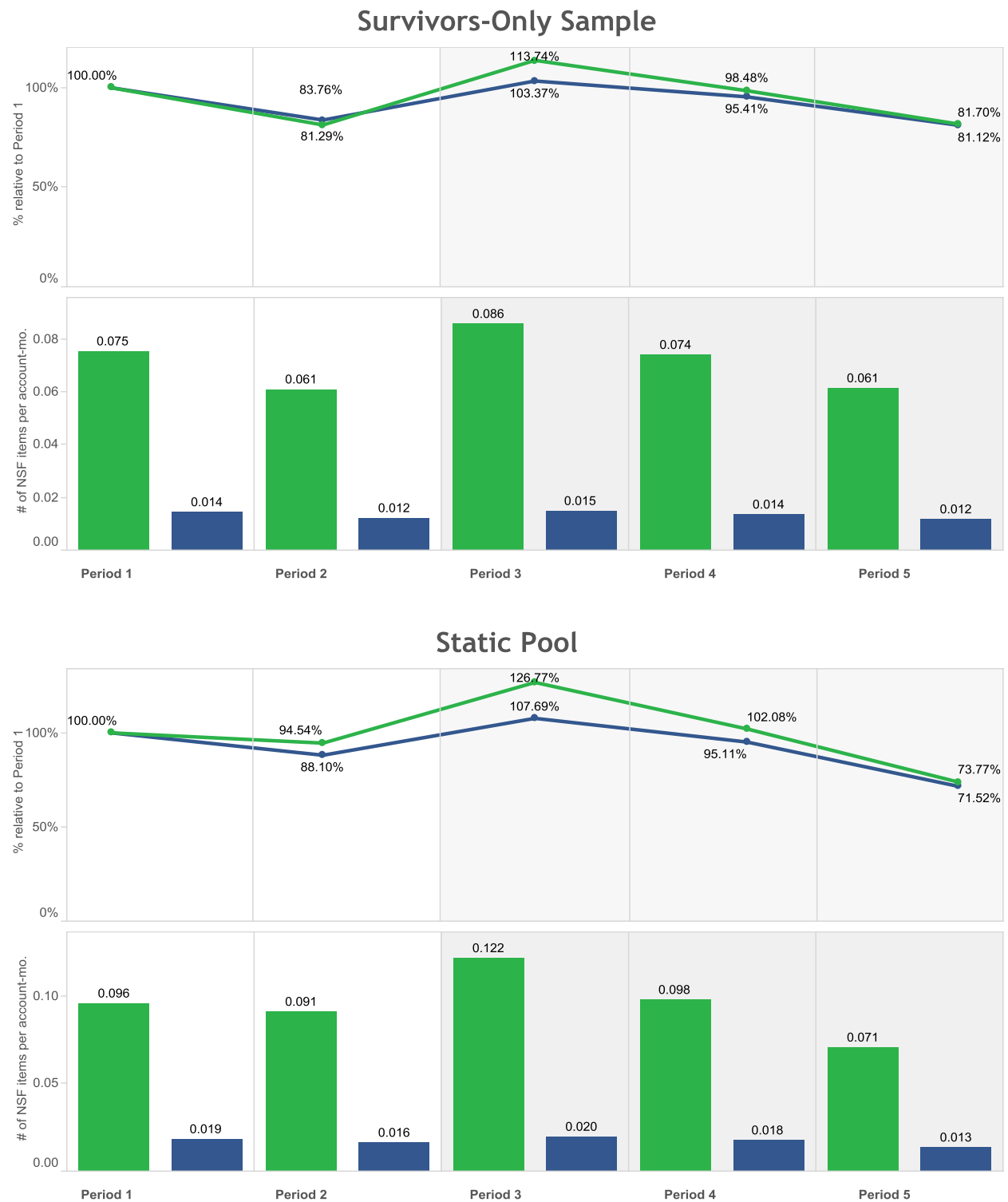
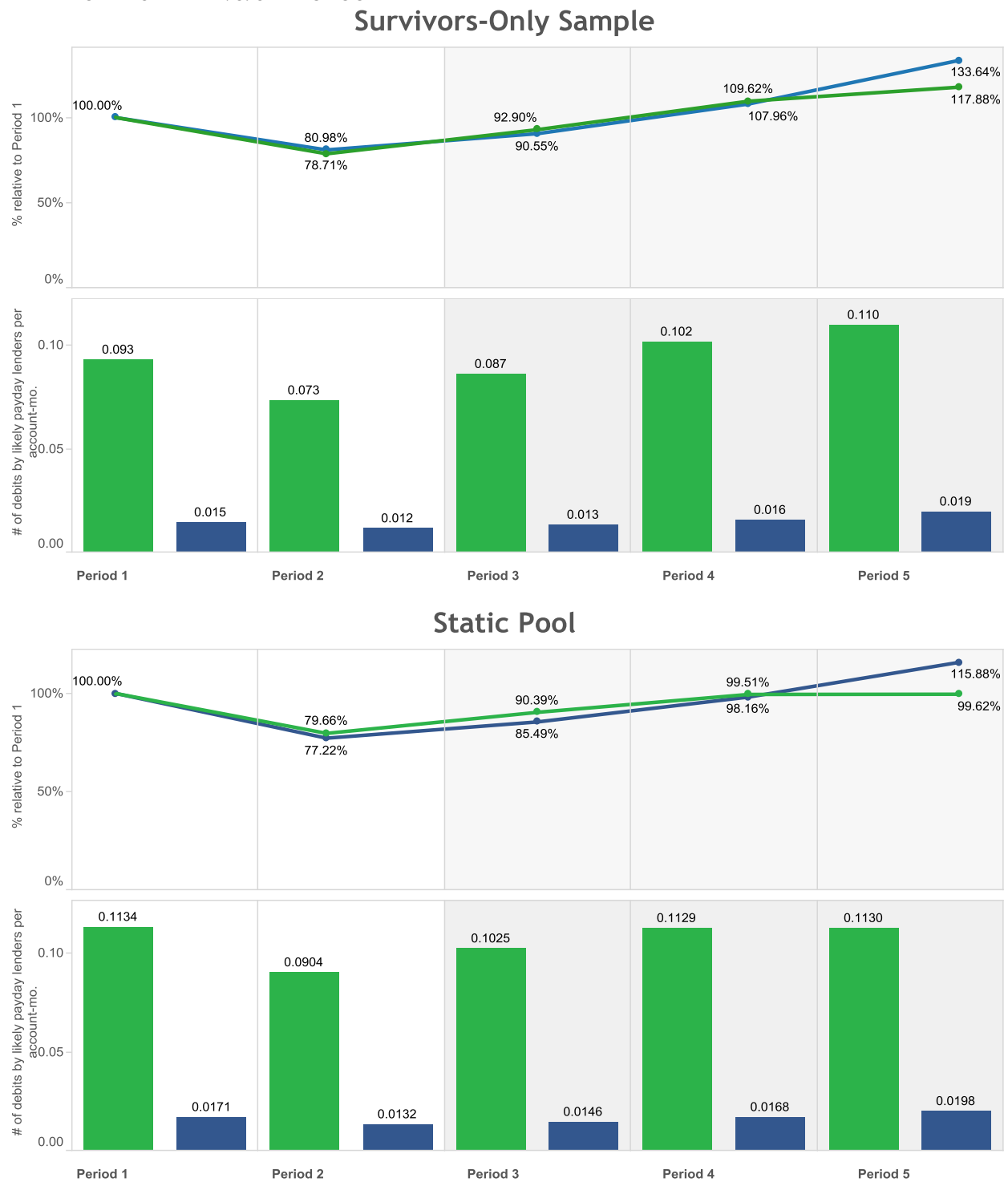


FIGURE 21: DEBITS BY PROBABLE PAYDAY LENDERS PER ACCOUNT-MONTH: PERCENT RELATIVE TO BASELINE AND NUMBER AMONG DAP-USERS (GREEN) AND NON-USERS (BLUE), SURVIVORS-ONLY SAMPLE VS. STATIC POOL



2.5 Chapter 2 Appendix: data collection spreadsheet

Each bank was ordered to provide the Bureau with the following information pursuant to the 1022(c)(4) order referenced above. Not all banks were able to provide every statistic.

TABLE 7: METRICS SUBMITTED FOR EACH TIME PERIOD

Description	Metric
Time period	First day in period
	Last day in period
Number of accounts open and active as of start of period	(#)
Number of account-months	(#)
Deposit advances	Total DAP advances (#) and (\$)
	Total DAP fees paid (\$)
Overdrafts	Total overdraft items (#)
	Total overdraft fees paid (\$)
Average number of days negative in each month of the period	(#) per account
NSFs	Total NSF items (#)
	Total NSF fees paid (\$)
Account Closures	Total accounts closed during period (#)
	Total accounts closed during period due to charge-off (#)
Average monthly number of debit transactions (payments and withdrawals, including all ACH debits)	(#) per account
Average monthly deposits	(\$ per account
Number of unique accounts opted-in to overdraft services at any time	(#)
Payday loan activity	Number of accounts subject to 1 or more ACH withdrawals from likely payday lenders (#)
	Total number of withdrawals made by likely payday lenders (#)

3. The impact of certain state laws on the payday lending market

This section describes two analyses performed to understand the impact of certain state laws on the payday lending market.

First, we examine the impact of required disclosures in Texas that provide information on the length of time a borrower is likely to remain in payday loan debt and the total cost of that indebtedness. There is a decline in loan volume following the implementation of a recent disclosure requirement, suggesting that the type of disclosure used in this state had some impact on consumer use of payday loans. Our findings indicate that the decline in loan volume was largely due to borrowers taking out fewer loans rather than loans of smaller sizes; however, there was only a small decline in the likelihood a consumer would reborrow.

Our second analysis looks at the extent to which law changes in Colorado, Washington, and Virginia affected consumers' proximity to payday loan storefront locations. Washington and Virginia enacted laws that impacted payday loan usage, while Colorado's new law restructured the payday loan product to be offered as an installment loan over a longer period of time. In each state, the total number of storefronts declined dramatically, yet consumers generally retained physical access to payday loans at storefront locations five years after the law change occurred. The revenues of remaining storefronts declined slightly in Washington and Virginia, and increased in Colorado.

The two parts of this chapter provide a more detailed discussion of each of these analyses in turn.

Part A: The impact of payday lending information disclosures in Texas

Consumers may not always have the information necessary to make informed decisions about whether and how to use a particular loan product. Payday loans are typically marketed as a product that should be used only on a short-term basis for financial emergencies.⁷³ However, the CFPB has previously reported that many borrowers take out sequential loans and are indebted for much longer periods than the initial contracted loan term.⁷⁴ Other research suggests that borrowers may be overly optimistic about their ability to repay a payday loan without reborrowing, and that borrowers may focus more on their need for funds today than the difficulty of repayment in the future.⁷⁵ In light of the ease of obtaining a payday loan and the

⁷³ For example, a payday lending industry trade association notes “[a] payday advance is designed to provide short-term financial assistance. It is not meant to be a long-term solution.” See <http://cfsaa.com/what-is-a-payday-advance/is-a-payday-advance-appropriate-for-you.aspx>.

⁷⁴ See “CFPB Data Point: Payday Lending,” (Mar. 2014), available at http://files.consumerfinance.gov/f/201403_cfpb_report_payday-lending.pdf and “Payday Loans and Deposit Advance Products: A White Paper of Initial Data Findings,” (Apr. 2013), available at http://files.consumerfinance.gov/f/201304_cfpb_payday-dap-whitepaper.pdf.

⁷⁵ For more information on how these behavioral biases such as tunneling, present bias, over-optimism, and limited attention may impact payday borrowing, see (for example) Mullainathan and Shafir, “Scarcity: Why Having Too Little Means So Much,” (2013); Skiba and Tobacman, “Payday Loans, Uncertainty, and Discounting: Explaining Patterns of Borrowing, Repayment and Default,” Vanderbilt Law and Economics Research Paper, (2008), at p. 8-33; Carter, Skiba, and Sydnor, “The Difference a Day (Doesn’t) Make: Does Giving Borrowers More Time to Repay Break the Cycle of Repeated Payday Loan Borrowing?” (2013); and Mann, “Assessing the Optimism of Payday Loan Borrowers,” Supreme Court Economic Review, 2013 21(1), at p. 105-132.

lack of underwriting, overly-optimistic consumers may take a payday loan instead of considering other options, or may borrow more than they can afford to repay.

To test whether disclosures might help limit the negative effects of payday loans on borrowers by making them more informed of the associated costs and risks, two researchers ran a series of experiments in which payday borrowers were given behaviorally-informed disclosures.⁷⁶ The most impactful of the experimental disclosures in this study resulted in an 11% reduction in borrowing. In 2011, Texas passed a law requiring that disclosures similar to those given in the research experiments be provided to consumers before every loan transaction.⁷⁷ While this analysis and our findings are specific to payday loans, payday installment and vehicle title loans are subject to similar disclosure requirements.

In this analysis, we examine the change in payday loan volume⁷⁸ after the implementation of this disclosure requirement, which types of borrowers were most responsive to the disclosures, and the extent to which reborrowing was affected.

Texas' payday lending law

Payday lending in Texas is conducted through a “credit services organization,” or CSO, model. While lenders in Texas are limited to charging 10% annual interest, payday loan companies in Texas operate as CSOs and charge borrowers fees to set up loans with a third-party lender. These CSO fees are charged on each loan or loan renewal and expressed as a dollar amount per \$100 borrowed, mirroring the structure of payday loan fees in other states. The third-party

⁷⁶ Bertrand and Morse, “Information Disclosure, Cognitive Biases, and Payday Borrowing,” *The Journal of Finance*, 2011 66(6), at p. 1865-1893.

⁷⁷ This new behaviorally-based disclosure is provided in addition to other disclosures that were required both before and after the law change in Texas. For example, payday loans are considered credit under Regulation Z and therefore creditors must provide disclosures before consummation of the transactions, consistent with the requirements of Regulation Z. See 12 CFR part 1026, Supp. I, comment 2(a)(14)-2.

⁷⁸ Payday loan volume is the amount of credit extended by lenders, measured in dollars.

lender charges the borrower the relatively small rate of interest allowed by Texas law (10%), while the CSO payday lending company typically assumes all risk of loan default. Payday lending still operates through this model in Texas; however, as part of the reforms passed in 2011, CSOs are now called “credit access businesses,” or CABs.

The reforms, passed in 2011 and effective January 1, 2012, have two major parts.⁷⁹ One provision created CABs and brought them under the supervision of the Office of Consumer Credit Commissioner, with new licensing and reporting requirements. As a result, CABs are regulated entities that broker loans that are technically provided by unlicensed third-party lenders.⁸⁰ However, for the purposes of this analysis, we consider CABs in Texas to be the equivalent of a payday lender and thus we refer to the CAB as a “lender” throughout this chapter. The second provision mandated that more information be provided to consumers, both through conspicuously posted fee schedules and a disclosure that is given to the consumer before each transaction. This disclosure includes information on how the cost of the loan is impacted by whether (and how many times) it is renewed, typical patterns of repayment, and alternative forms of consumer credit that a consumer may want to consider, among other information. A sample disclosure for single-payment payday loans, which can be used in its current form or customized by the lender, is included in the appendix.

The cities of Austin and Dallas implemented local ordinances concurrently with the state law changes described above.⁸¹ The ordinances, which are similar to one another, have two major provisions: (1) restricting loans to no more than 20% of a borrower’s gross monthly income and

⁷⁹ Payday loans provided by CABs are subject to Title 5, Chapter 393 of the Texas Finance Code. The state law changes discussed here, which are incorporated into the Finance Code, were passed by the Texas Legislature in 2011 as HR 2592 (which includes the disclosure requirement) and HB 2594 (which includes licensing and reporting requirements). The governor signed these bills into law on July 17, 2011, with an effective date of January 1, 2012.

⁸⁰ Under Texas law, licensing is not required if the loan’s interest rate does not exceed 10 percent per year.

⁸¹ Austin Code of Ordinances, Ch 4-12, “Registration of Credit Access Businesses” and Dallas Code of Ordinances Ch. 50, Art. XI, “Credit Access Business.”

(2) requiring amortization of at least 25% of the original loan principal each time a loan is renewed, such that a loan can only have a maximum of three renewals.⁸²

Key findings

This analysis looks at the impact of the disclosure on payday loan volume in Texas, and how this impact varies across different types of payday loan borrowers. To do this, we look at the change in loan volume after the implementation of the disclosure requirement relative to the change in loan volume occurring during the same time period in comparison states. We also test whether any changes we see in loan volume can be explained by changes in loan terms or lender responses to the state law changes or the local ordinances in Austin and Dallas. Finally, we report the extent to which reborrowing decreased for consumers who borrowed after the disclosure requirement took effect.

Some of the key findings from this analysis include the following:

- Over the six months following the disclosure implementations, loan volume decreased by 13% in Texas relative to loan volume changes in comparison states.
 - This decrease is largely due to borrowers taking fewer loans, rather than borrowing smaller amounts per loan.
 - Borrowers who are paid monthly and thus take out payday loans with a contractual duration of about a month are more responsive to the disclosures than borrowers who are paid more frequently. Previous CFPB research suggests that borrowers paid monthly are more likely to be indebted for long periods of time.⁸³

⁸² Loans taken out within seven days of a previous loan being repaid are considered renewals under these ordinances.

⁸³ “CFPB Data Point: Payday Lending,” (Mar. 2014), available at http://files.consumerfinance.gov/f/201403_cfpb_report_payday-lending.pdf.

- Borrower income and income source do not appear to be major factors for the observed loan volume decreases.
- Other concurrent changes in state law and the ordinances of two Texas cities regulating lenders and imposing certain restrictions on borrowing do not explain the decrease in loan volume throughout Texas during the time period observed.
- Reborrowing rates declined slightly (2.1%) in Texas after the disclosure law took effect, relative to comparison states. Thus, reborrowing rates were only modestly affected by the decline in loan volume.

3.1 Data

This analysis is conducted using data the Bureau obtained from a number of large payday lending companies that operate in multiple states. This data was acquired through the supervisory process and was also used in two previous CFPB publications on payday loans.⁸⁴ We use a sub-sample of this data of storefront payday loans extended from July 2011 to June 2012, six months before and after the Texas law's effective date (January 1, 2012). In order to compare trends occurring in Texas to other states, we exclude loans from states other than Texas that had a law change related to payday lending during this timeframe.⁸⁵ Principal amounts and loan terms are very similar in Texas and the comparison states, with an average loan size of \$463 and term of 17.2 days in Texas and a \$470 average loan size and 18.4 day term

⁸⁴ "CFPB Data Point: Payday Lending," (Mar. 2014), available at http://files.consumerfinance.gov/f/201403_cfpb_report_payday-lending.pdf and CFPB, "Payday Loans and Deposit Advance Products: A White Paper of Initial Data Findings," (Apr. 2013), available at http://files.consumerfinance.gov/f/201304_cfpb_payday-dap-whitepaper.pdf.

⁸⁵ These states are Arizona, Colorado, Delaware, Illinois, Oregon, and Wisconsin.

in comparison states.⁸⁶ Payday loans cost about twice as much in Texas as in the comparison states in our data.

Tables 8 and 9 describe the borrowers in our data and their loan usage over the 12-month period of analysis. Average monthly income in Texas is somewhat higher than in the comparison states (\$2,459 vs. \$2,031).⁸⁷ Because the duration of a payday loan is dependent on how frequently the borrower is paid, we report the distribution of pay frequency and income source. Consistent with the median loan term of 14 days, at least half of borrowers are employed and paid bi-weekly or semi-monthly. A similar share of Texas and comparison state borrowers are monthly Social Security recipients.

Our data includes randomly-generated customer identifiers that allow us to identify all loans made to the same consumer by a given lender. Borrowers in Texas and comparison states had about six loans during the 12-month time period, on average, and were indebted 115-116 days of the year. While the average amount of total credit extended over the course of a year is slightly higher in Texas than in comparison states, Texas borrowers paid more than double what borrowers in comparison states paid over the 12 months we observed.

⁸⁶ The median loan term in Texas and comparison states are identical at 14 days, and median loan size is \$400 in Texas and \$425 in comparison states.

⁸⁷ It is unclear whether the income reported in our dataset is gross or net income; reporting may vary by borrower and lender.

TABLE 8: BORROWER CHARACTERISTICS AND LOAN USAGE, TEXAS VS. COMPARISON STATES

	Texas average	Texas median	Comparison state average	Comparison state median
Total number of transactions	5.9	4	5.7	4
Total credit ⁸⁸	\$2,763	\$1,325	\$2,718	\$1,405
Total fees due	\$553	\$265	\$267	\$143
Total days indebted	115	76	116	82
Monthly income	\$2,459	\$1,872	\$2,031	\$1,724

TABLE 9: BORROWER INCOME SOURCE AND PAY FREQUENCY, TEXAS VS. COMPARISON STATES

	Texas	Comparison states
Employment, weekly	11%	18%
Employment, bi-weekly or semi-monthly ⁸⁹	56%	50%
Employment, monthly	21%	17%
Social Security, monthly	10%	12%
Other ⁹⁰	2%	3%

We use these data to examine the extent to which payday loan volume changed following the implementation of the disclosure requirement in Texas. This change is then compared to any changes occurring at the same time in the comparison states that are grouped into three

⁸⁸ Total credit includes the loan principal for all transactions, regardless of whether a new loan is made on the same day or shortly after a previous loan is repaid, and would thus be considered a reborrowing.

⁸⁹ Borrowers paid bi-weekly (every other week) have 26 pay periods per year, while those paid semi-monthly (twice per month) have 24 pay periods each year.

⁹⁰ Other income sources observed include retirement, unemployment, and disability benefits.

regions,⁹¹ in order to understand what we might expect to see regarding change in loan volume absent the new Texas disclosure requirement. We perform analyses to determine whether borrowers of different income levels, income sources, or pay frequency appear to be more responsive to disclosures, and the extent to which changes in loan volume are the result of fewer loans, smaller loan sizes, or both. We also look at a range of other factors that may explain changes in loan volume. For example, we analyze whether any impact we observe is the result of changes in the supply of payday loans rather than the demand for these loans by consumers, such as store closings or restrictions on lending that occurred in Austin and Dallas following the adoption of local ordinances in these cities regulating payday lending. Finally, we conduct an analysis to determine the extent to which the disclosure is associated with a change in reborrowing rates among consumers who took out a loan after receiving the disclosure form.

3.2 Impact of Texas Disclosure Law

As of January 1, 2012, Texas payday lenders were required to provide a new disclosure to prospective borrowers before each payday loan transaction. In this section, we report our findings on the impact of this law on loan volume. In addition, we provide details on which borrowers are most responsive to these disclosures, discuss whether our findings may be due to other factors such as lender decisions to close stores or change business practices, and the extent to which the impact on loan volume affected reborrowing rates.

⁹¹ The three regions include the following states: (1) Western: California, Idaho, Nevada, Utah, Washington, and Wyoming; (2) Southern: Alabama, Florida, Kentucky, Louisiana, Mississippi, Oklahoma, South Carolina, and Virginia; and (3) Midwestern: Indiana, Iowa, Kansas, Michigan, Missouri, Nebraska, Ohio, and South Dakota. Not all states listed are included in the underlying dataset. We do not disclose the exact states used to protect the confidentiality of lender identities.

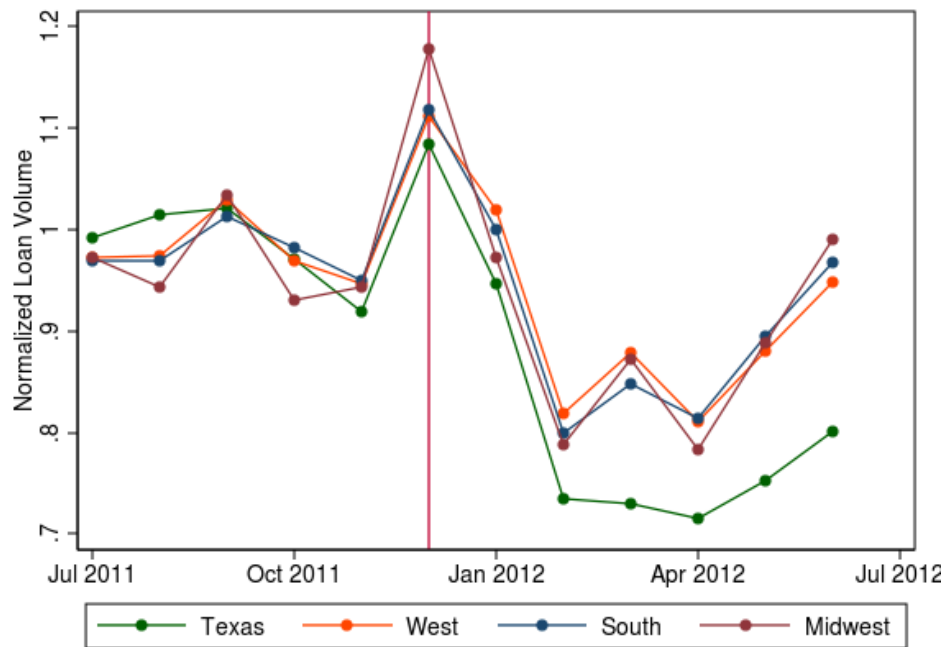
3.2.1 Change in loan volume after disclosure requirement

We determine the impact of the disclosure requirement by looking at the change in loan volume between the six months before and after the law change which went into effect in January 2012, relative to the change in loan volume that occurred in comparison states during the same time period.⁹² Looking at the changes in this relative way allows the comparison states to serve as a control group for what we would expect to happen in Texas absent a law change. We look at loan volume each month in the three regions of comparison states and Texas during the 12-month timeframe. These loan volumes are normalized by average loan volume between July 2011 and December 2011 so that we can look at trends for each region and Texas in parallel, even though the market sizes in individual states and regions can vary due to population and other factors.

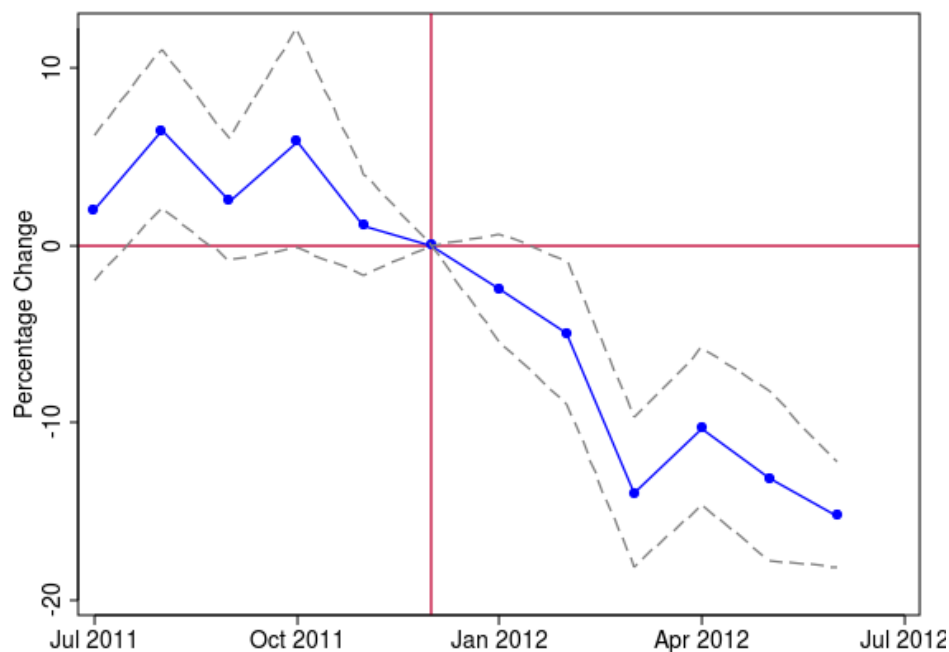
Figure 22 shows that the loan volume in Texas closely tracked the comparison regions in the six months leading up to the statutory change in January 2012. The red vertical line in this figure divides the time periods before and after the new law takes effect. Payday loan volume is generally lower for each region and Texas in 2012; however, the decrease in loan volume in Texas is greater than the comparison regions, which still move in tandem with one another. The shift of Texas' loan volume trend away from those in other regions begins about a month after the law takes effect, and continues through the end of the time period studied. The difference between Texas and other states is small in the first few months of 2012, becoming more apparent in March. Overall, loan volume in Texas is 10 to 15% lower throughout the first six months of 2012 relative to the comparison regions.⁹³

⁹² As noted previously, the comparison states used in this analysis did not have any law changes affecting payday lending during the study timeframe.

⁹³ The difference between Texas and the comparison regions grows over time. In the last month of our analysis, Texas has a 15% loan volume decline relative to states in the Western region, a 17% decline relative to states in the Southern region, and a 19% decline relative to states in the Midwest region.

FIGURE 22: LOAN VOLUME IN TEXAS VS. COMPARISON REGIONS

While the decline in Texas loan volume persists during the entire six month time period we observe after the law change takes effect, the rate of decline is not uniform every month. Figure 23 shows that there is a moderate decrease in loan volume during the first two months that disclosures were provided and then a sharper decline starting in month 3.

FIGURE 23: MONTH-BY-MONTH CHANGES IN TEXAS PAYDAY LOAN VOLUME⁹⁴

Overall, Texas has a 13% decline in loan volume after disclosures are required, relative to the loan volume changes in the comparison states.⁹⁵ We are not able to look out beyond the first six months of the disclosure requirement to determine whether borrowers reverted back to previous higher levels of use or if lenders made efforts to counteract the effects of these disclosures; however, we do not find evidence of either of these changes within the first six months. The decline is largely due to fewer loans being taken rather than loans decreasing in size, which is

⁹⁴ This result is based on a regression model of log loan volume on indicators for state, month, and month interacted with Texas: $\ln(\text{LoanVol}_{st}) = \alpha_s + \alpha_t + \sum_{t \neq 12/2011} \beta_t \text{Texas}_t + \epsilon_{st}$. The dotted line in Figure 23 represents the 95% confidence interval for this finding.

⁹⁵ This result is based on a regression model of log loan volume on indicators for state, month, and an indicator for Texas post-2012: $\ln(\text{LoanVol}_{st}) = \alpha_s + \alpha_t + \beta \text{TexasPost} + \epsilon_{st}$.

consistent with the focus of disclosures on the high cost of using payday loans rather than the lower cost a borrower would incur if they took out a smaller loan.

3.2.2 Changes in borrowing by different types of borrowers after receiving disclosures

Next, we examine the extent to which certain borrowers are more likely to reduce their borrowing after receiving disclosures. Given the information provided in our dataset, we can compare borrowers with different pay frequencies, incomes, and income sources to determine whether there are differences in the way these borrowers respond after they receive disclosures.

The borrowers in our data are typically paid on either a weekly, bi-weekly,⁹⁶ or monthly basis.⁹⁷ While those paid weekly or bi-weekly receive income through employment, borrowers paid monthly either have employment or Social Security income. Since payday loan due dates are generally aligned with a borrower's receipt of income, those paid more frequently than once per month have loan durations of about two weeks and those paid monthly have a longer loan term of about a month.⁹⁸ There is a relatively small difference in the monthly income of the borrowers in our data who are paid weekly (\$2,849) or bi-weekly (\$3,014) when comparing these borrowers to those who are paid monthly, who receive substantially less income. In addition, there is a significant difference between the incomes of those paid monthly depending on the

⁹⁶ Borrowers who are paid semi-monthly are included in the bi-weekly category.

⁹⁷ As shown in Table 9, 2% of borrowers in Texas and 3% of borrowers in comparison states cannot be included in one of these categories and thus their pay frequency and source is categorized as "other." These borrowers are not included in this analysis.

⁹⁸ Texas law mandates a minimum loan duration of seven days. Thus, borrowers paid weekly who borrow at least one day after their last paycheck would have two pay periods to repay the loan instead of having the loan due on their next pay date. The minimum seven-day duration rule thus makes the durations for weekly and bi-weekly borrowers similar.

source of their income, with Social Security recipients having lower incomes than those who are employed (\$1,211 vs. \$2,095).

Table 10 provides a summary of the average monthly income and loan duration for each of these borrower groups, and the relative decline in loan volume observed after the disclosure requirement took effect.⁹⁹ Those paid weekly and bi-weekly have similar declines in loan usage (9% and 11%, respectively), which suggests that disclosures do not have a differential impact by pay frequency when income and loan duration are about the same. Borrowers paid monthly have a higher rate of decline, suggesting the disclosures had a greater impact on these groups. The rate of decline for those borrowers paid monthly is the same for both groups (17%) even though income is significantly higher for those employed than Social Security recipients.

TABLE 10: DECLINE IN LOAN VOLUME AFTER DISCLOSURE REQUIREMENT, BY BORROWER INCOME SOURCE AND FREQUENCY

	Monthly income (average)	Loan duration, in days (average)	Decline in loan volume
Paid weekly, employment	\$2,849	10.5	9%
Paid bi-weekly, employment	\$3,014	13.5	11%
Paid monthly, employment	\$2,095	27.6	17%
Paid monthly, Social Security	\$1,211	27.7	17%

We perform another analysis to take a closer look at whether responsiveness is impacted by the borrower income level. We divide all Texas borrowers, regardless of pay frequency or source, into five groups (or quintiles) by income.¹⁰⁰ Those in the first quintile are in the bottom 20% of income and those in the fifth quintile are in the top 20%. As shown in Table 11 below, the decline

⁹⁹ The decline in loan volume is estimated using regression analysis on each subgroup (see Footnote 95).

¹⁰⁰ The average (mean) monthly income for each quintile of borrowers is as follows: first quintile: \$826; second quintile: \$1,298; third quintile: \$1,750; fourth quintile: \$2,382; and fifth quintile: \$3,805.

in loan volume is more pronounced among borrowers in income quintiles 1 through 4, with those at the highest income level relatively less responsive.¹⁰¹ Other than this difference between those borrowers with the highest incomes and all other borrowers, we do not see any discernable relationship between borrower income and responsiveness to disclosures.

TABLE 11: DECLINE IN LOAN VOLUME AFTER DISCLOSURE REQUIREMENT, BY BORROWER INCOME

Borrower monthly income	Decline in loan volume
First quintile	16%
Second quintile	14%
Third quintile	18%
Fourth quintile	16%
Fifth quintile	8%

Overall, these findings suggest that the frequency at which a borrower is paid may be more of a factor in how well borrowers respond to these disclosures than their income level and source. The Bureau’s previous payday lending research has found that borrowers paid monthly (and therefore with loan durations of a month) are much more likely to be in debt continuously for an entire year and less likely to borrow progressively smaller amounts in a series of consecutive loans, as compared to borrowers paid more frequently, who have shorter loan terms.¹⁰² As noted previously, this long-term use—and the associated costs—is the behavior targeted by much of the disclosure’s information.

¹⁰¹ The decline in loan volume is estimated using regression analysis on each subgroup (see Footnote 95).

¹⁰² See “CFPB Data Point: Payday Lending,” (Mar. 2014), available at http://files.consumerfinance.gov/f/201403_cfpb_report_payday-lending.pdf.

3.2.3 Other factors that may impact loan volume

Next, we examine factors other than consumer demand that may account for a decrease in loan volume after the Texas law change took effect. We specifically seek to determine whether supply-side factors, such as a decline in the number of storefronts or a change in lending practices, might be responsible for the decline in loan volume in 2012 rather than borrowers' responses to the disclosures.

The state law requiring payday lenders to become licensed and supervised as CABs took effect at the same time disclosures began to be required. However, we would expect if these changes were to have any impact, it would be to smaller lenders rather than the larger, multi-state lenders that comprise our dataset. Consistent with that expectation, none of the lenders in our data were denied licenses, so we do not believe that the licensing law that took effect concurrently with the disclosure requirement was a factor in loan volume declines we observed.¹⁰³

First, we look at whether local ordinances in Austin and Dallas, which took effect concurrently with the state law changes, might be driving the decline in loan volume that we observe.¹⁰⁴ However, even after excluding the loan volume from these two cities from our analysis, we still observe a decline in statewide loan volume of 12% after the disclosures took effect, demonstrating that the change we see is not explained by the legal changes in these jurisdictions impacting the supply of loans.

We then examine whether lenders adopting different lending practices — for example, offering loans of smaller amounts, for different terms, or at a different price — might explain a drop in loan volume rather than changes in use initiated by borrowers. Table 12 below reports the

¹⁰³ Because some smaller companies may not have obtained licenses, we would actually expect loan volumes to increase for larger payday loan companies over this time period as they absorbed the business of these smaller lenders. However, we observe the opposite, with the decline in loan volume among large companies.

¹⁰⁴ Other cities in Texas subsequently adopted ordinances similar to those in Austin and Dallas; however, only the ordinances in Austin and Dallas were effective during this time period.

change in average loan principal, contract duration, and cost per \$100 borrowed after the disclosure requirement took effect, relative to the averages in the six months of our observation period before the law change. The results show a small decline in average loan size (a decrease of \$9) and negligible changes in contract duration and price.¹⁰⁵ These results are consistent with an earlier finding that loan volume declines were primarily driven by borrowers taking fewer loans rather than loans of smaller amounts.

TABLE 12: CHANGES IN LOAN TERMS AFTER LAW CHANGE

	Before law change (average)	Change after law took effect
Loan principal	\$475	-\$9
Contract duration	17.1 days	-0.1 days
Cost per \$100 borrowed	\$20	-\$0.007

The lack of major changes in contract terms further support our findings that the decline in loan volume was not caused by changes in lender practices.

3.2.4 Change in likelihood of reborrowing

Finally, we examine the extent to which reborrowing rates changed after the disclosure law took effect. For purposes of this analysis, we consider a loan to be reborrowed if it is taken out within 30 days of a previous loan being repaid.¹⁰⁶

In the six months prior to the disclosure law, the probability of a loan being reborrowed within 30 days or a previous loan being repaid in Texas was 79%. We find that, among borrowers who took out a loan after the disclosure law took effect, there was a 2.1% decline in the probability of

¹⁰⁵ Only the slight decreases in loan principal and contract duration are statistically significant.

¹⁰⁶ A loan that is rolled over by paying the fee and extending the loan out an additional term (sometimes called a rollover or renewal) is also considered a reborrowing.

reborrowing.¹⁰⁷ Thus, reborrowing rates were only modestly affected by the decline in loan volume (which was largely driven by fewer loans being originated) reported above.

Part B: The effect of law changes in Colorado, Virginia, and Washington on consumers' ability to access payday loan storefronts

In this second part of the chapter, we estimate the effect of state payday loan laws on consumers' physical proximity to lenders offering these loans. While consumers' overall access to credit may reflect broader factors such as the availability of online loans or other types of credit products, this analysis focuses solely on access to physical stores that offer payday loans. The analysis is based primarily on changes in licensed store locations following state law changes. We analyze law changes in Colorado, Washington, and Virginia in 2009 and 2010 because these states significantly restricted payday lending without banning (or effectively banning) payday loans, and make available the data necessary for the analysis.

Key findings

These legal changes led to significant declines in the number of payday loan stores and overall revenues. However, because payday stores tend to be clustered in close proximity to one another, the median distance between stores increased only slightly, and—depending on the

¹⁰⁷ We measure the effects of the disclosure law on reborrowing rates using a proportional hazard model which controls for state, month, income source, number of prior loans in the same sequence, and an interaction term for Texas post-2012, which determines the effects of the disclosure. To account for sample truncation, we exclude all loan sequences originated within the first 60 days of the sample and all loans maturing within the last 30 days of the sample from this analysis.

state—revenues per store for the remaining locations were either about the same or higher several years after the law changes took effect. Because most store closures occurred within a short distance of nearby stores that remained open, the majority of consumers retained geographical access to payday loans.

Specifically:

- The number of payday loan stores was reduced by 51-73% over a period of five years; however the median distance between stores increased by no more than 1.2 miles.
- In Colorado, revenue per store increased 23% four years after the law change; per-store revenue in Virginia and Washington initially dropped sharply but recovered to near pre-law change levels by the fourth year after the law change.
- Over 90% of consumers retained physical access to payday stores five years after the legal changes were implemented, assuming the consumer would be willing to travel five additional miles to the nearest open store.
 - Consumers in metropolitan statistical areas (MSAs) retained 95-100% of pre-regulation access.
 - Consumers in non-MSA counties experienced more varied impacts following the legal changes: Colorado retained 63% of access for consumers in non-MSA counties after five years, Virginia retained 87-99% of consumer access, and Washington retained 71-91% of consumer access.

3.3 State law changes and methods

The state of Colorado enacted a law that took effect in August 2010 and established a minimum loan term of six months. While not a requirement of the law, a practical effect has been that

loans that were previously contracted with lump-sum payments are now paid through a series of installments. The same law allows for an origination fee,¹⁰⁸ a monthly maintenance fee of \$7.50 per \$100 borrowed,¹⁰⁹ and annual interest of up to 45% to be charged. All fees, including the origination fee, must be returned on a pro-rated basis for loans repaid prior to the end of the loan term.

In January 2009, a new law took effect in Virginia which sought to limit repeat use of payday loans in several ways. The law limits borrowers to one payday loan at a time and requires a minimum term of two pay periods. There is a one day cooling-off period between loans, and a 45-day cooling-off period after the fifth loan in a 180-day period. Once during each consecutive 12-month period, a borrower may request an extended payment plan. At the fifth loan in 180 days, the borrower may opt for an extended term loan. In addition, there is a 90-day cooling-off period after payment of an extended payment plan or extended term loan.¹¹⁰

Effective January 2010, the state of Washington imposed a cap on the number of payday loans for each borrower and expanded the availability of extended payment plans. The law restricts borrowers to no more than eight loans within any 12-month period. Previously, borrowers could request extended payment plans after the fourth loan at no additional cost. The new law made extended payment plans available to borrowers at any time during any loan's contract period.

To measure the impact of these state law changes on payday loan storefront locations, we first report the overall change in storefront locations and payday loan revenues in the five years after

¹⁰⁸ The origination fee is capped at 20% of the first \$300 loaned, plus 7.5% of any amount loaned in excess of \$300.

¹⁰⁹ Capped at a maximum of \$30.

¹¹⁰ Virginia law exempts open-end credit plans from usury regulation and state licensing and prohibits payday lenders from being relicensed for a period of 10 years after surrendering their payday licenses in order to engage in open-end credit plans. There is anecdotal evidence that some previously licensed payday lenders surrendered their licenses and used unlicensed storefront locations to make open-end loans. These open-end credit locations are not included in this analysis as the state does not maintain lists of unregulated entities. If included, these locations might reduce the distance in miles between borrowers and open-end payday stores.

the change. We also report the change in revenue per store to determine the extent to which the changes impacted the revenues collected at stores that remained open.

This analysis is conducted by using publicly available data compiled by state regulators on the number of storefronts and total revenues in each year from five years prior to the legislative changes to four years after. We use “Year -1” to denote the calendar year prior to the law changes, “Year 0” to denote the year the legislative changes took effect, and so on.

Next, we examine how the distance between stores changed in the five years after the state laws were implemented, and the extent to which borrowers have to travel greater distances to access a payday loan store. To perform this analysis, we compiled lists of the branch locations of licensed payday lenders. For Virginia, we obtained licensee lists from 2008 (Year -1) through 2014, and for Colorado and Washington, we obtained licensee lists from 2009 (Year -1 in those two states) through 2015.¹¹¹ The licensee lists in these three states enable us to track each branch location to determine the years during which stores were open and closed.¹¹²

3.4 Impacts on state law changes on storefront revenues and proximity

As noted above, we report the change in the number of stores operating in Colorado, Virginia and Washington in the years following law changes in each state, as well as the impacts to overall revenues and the revenues generated by the stores that remained open. We then analyze the change in the distance between stores and the extent to which borrowers have to travel further to access a storefront.

¹¹¹ The 2015 licensee lists were obtained as of January 1, 2015 in Colorado, and May 11, 2015 in Washington.

¹¹² We consider stores to be “open” if they retained a payday lending license.

3.4.1 Impact on number of stores and revenues

Figures 24, 25, and 26 show the percent changes in the number of stores, revenues, and revenues per store in each state relative to the year before the law change.

As shown in Figure 24, the number of locations in all three states had already started dropping between Years -2 and -1, which could reflect nationwide trends toward storefront consolidation.¹¹³ While declines in store locations were steepest in the first two years after the law went into effect in Virginia and Washington, the number of store locations continued to decline over subsequent years. From Year -1 to Year 4, the number of stores declined by 51%, 70%, and 73% in Colorado, Virginia, and Washington, respectively.

¹¹³ According to an industry expert, the number of stores declined by 25% nationally (including these three states) between 2008 (year -2 for Colorado and Washington) and 2014 (year 4 for these states) and by a similar percentage between 2007 (year -2 for Virginia) and 2013 (year 4 for that state). John Hecht, Jefferies LLC, “The State of Short-Term Credit in a Constantly Changing Environment,” (2015) (slide presentation).

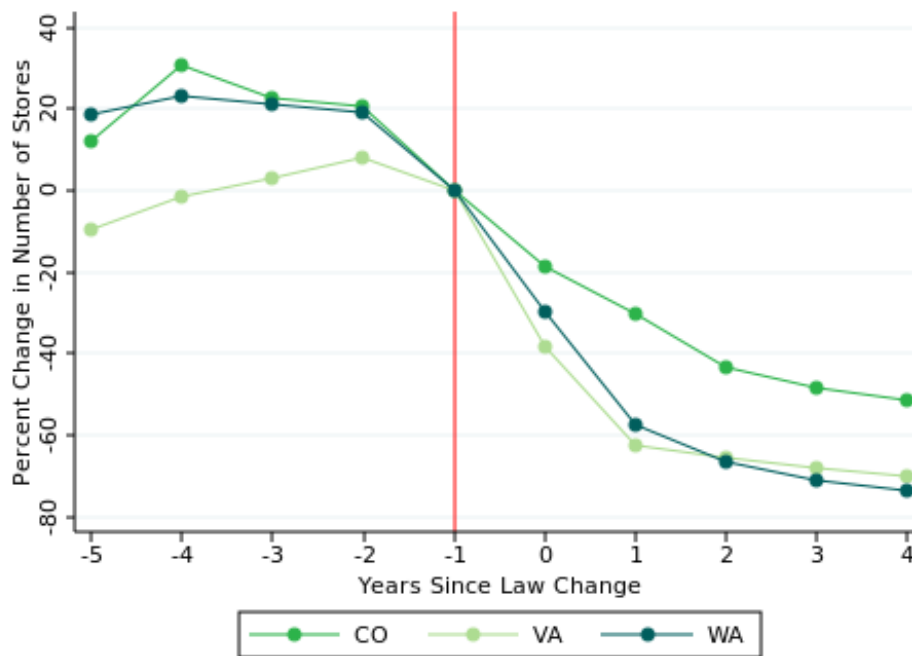
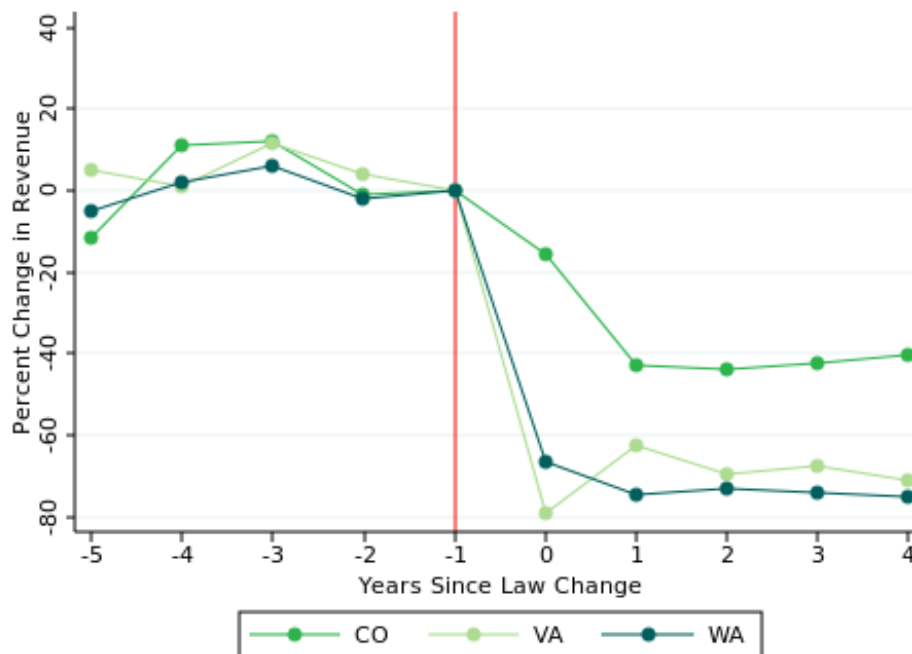
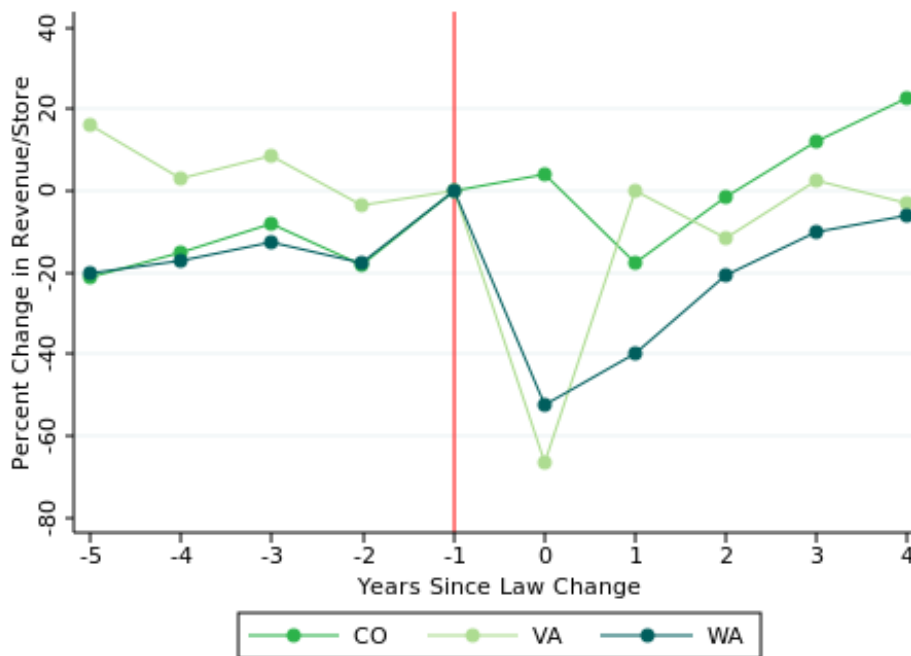
FIGURE 24: PERCENT CHANGE IN NUMBER OF STORES RELATIVE TO THE YEAR BEFORE LAW CHANGE

Figure 25 shows that while total revenues were relatively stable in the five years prior to the legal changes for all three states, revenues declined substantially in the year of the legal changes. In Virginia and Washington, revenues declined sharply by 63% and 75% between Years -1 and 0. Colorado showed a slightly more gradual drop of 16% between Years -1 and 0 and 43% between Years -1 and 1, since its legal change occurred in August of Year 0.¹¹⁴ As of Year 4, Colorado experienced a 40% drop in total revenues, Virginia experienced a 71% drop, and Washington experienced a 75% drop relative to Year -1. The sharpness of the drops observed in the year immediately following the law changes support the interpretation that the revenue drops were due to the law changes rather than other industry trends.

¹¹⁴ Because the law change occurred in August, Year 0 includes seven months before the law change took effect and five months after the law took effect for Colorado.

FIGURE 25: PERCENT CHANGE IN REVENUE RELATIVE TO THE YEAR BEFORE LAW CHANGE

Finally, we examine changes in revenues per store, to see whether the pattern of consolidation after the state legal changes led to increases in revenues for the remaining stores. As shown in Figure 26, revenues per store declined sharply in Virginia and Washington in the year the laws became effective, as consolidation lagged behind the sharp drop in revenues. However, in both states, revenues per store were near pre-law change levels by Year 4. In Colorado, revenues per store were on a gradual upward trend between Years -5 and 5, and did not change sharply in Years 0 and 1. The lack of sharp changes in Colorado may reflect both the lower impact on revenues of that state's law change, as well as the fact that its change was implemented in August instead of in January as in the other states. Overall, revenues per store increased by 23% in Colorado, and decreased by 3% and 6% in Virginia and Washington between Years -1 and 4.

FIGURE 26: PERCENT CHANGE IN REVENUE PER STORE RELATIVE TO THE YEAR BEFORE LAW CHANGE

3.4.2 Impact on payday loan storefront locations

Table 13 shows the median distances between payday loan stores, calculated as the distance in miles from each store to the closest open payday store within the same state.¹¹⁵ It shows that payday stores tend to be located near other payday stores. Across all three states in Year -1, the median store was within 0.2-0.3 miles of another open store. The median distance between

¹¹⁵ For all of the analysis presented in this chapter, borrower and store addresses were mapped using ArcGIS to obtain the latitude and longitude for each location. All distances were calculated using geodetic distance, which is the length of shortest curve connecting two points along the surface of an ellipsoidal model of the earth. This serves as a proxy for the distance a consumer would have to travel to reach a payday store, although the actual distance given road patterns may vary.

stores increased in each subsequent year as stores closed following the state law changes, and stabilized three or four years after the laws went into effect.

TABLE 13: MEDIAN DISTANCE IN MILES BETWEEN NEAREST OPEN STORES BY YEAR

	Year -1	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Colorado							
All	0.2	0.2	0.3	0.4	0.5	0.5	0.5
MSA	0.2	0.2	0.3	0.3	0.4	0.5	0.5
Non-MSA	0.2	0.5	0.6	0.8	0.7	0.6	0.6
Virginia							
All	0.3	0.6	0.9	0.9	0.9	1.1	1.1
MSA	0.3	0.6	0.8	0.9	1.0	1.2	1.2
Non-MSA	0.4	0.6	1.0	0.9	0.8	0.9	0.8
Washington							
All	0.2	0.3	0.4	0.9	1.4	1.4	1.4
MSA	0.2	0.3	0.4	0.8	1.2	1.4	1.4
Non-MSA	0.2	0.3	0.3	13.9	13.9	15.8	13.9

The impact of the state law changes on the median distance between stores was smaller than the impact observed on the number of storefronts. In the fifth year after the legal changes, the median distance in all three states was between 0.5 and 1.4 miles, representing increases of 0.3 to 1.2 miles from the year before the law change. There is no consistent pattern across the three states of the impacts on MSA versus non-MSA counties.¹¹⁶ While the change in median distance was similar across MSA and non-MSA counties in Colorado and Virginia, the median distance in Washington increased from 0.2 miles in the year before the law change to 14 miles five years after the legal changes for non-MSA counties.¹¹⁷

Figures 27-29 show maps of payday loan stores in Colorado, Virginia, and Washington and the changes in store locations between one year prior and five years after the laws were effective. The borders show the boundaries of counties within each state. Blue points show locations that were open prior to the legal changes and remained open five years after. Green points show new locations opened since the year before the law change that remained open five years after the changes. Red points show locations that were open prior to the legal changes and closed as of five years after. Across the three states, areas with significant concentrations of stores retained a number of stores despite closures following the legal changes. Non-MSA counties experienced a mix of impacts, with some counties losing their only store and some retaining at least one store.

¹¹⁶ The fraction of stores in MSA counties in Year -1 was 88% in Colorado, 80% in Virginia, and 90% in Washington. The population shares in MSA counties based on 2014 Census estimates for these three states are 87%, 86%, and 90%, respectively, and 86% for all states.

¹¹⁷ The median distance between stores in non-MSA counties in Washington increased sharply in Year 2 from 0.3 miles to 13.9 miles. This results from the fact that most stores in these counties had only a small number of nearby stores prior to the legal changes. As stores closed after the legal changes, some municipal regions retained only a single store, with the next nearest store being 10 to 80 miles away.

FIGURE 27: CHANGE IN COLORADO PAYDAY LOAN STORES FROM 2009 TO 2015

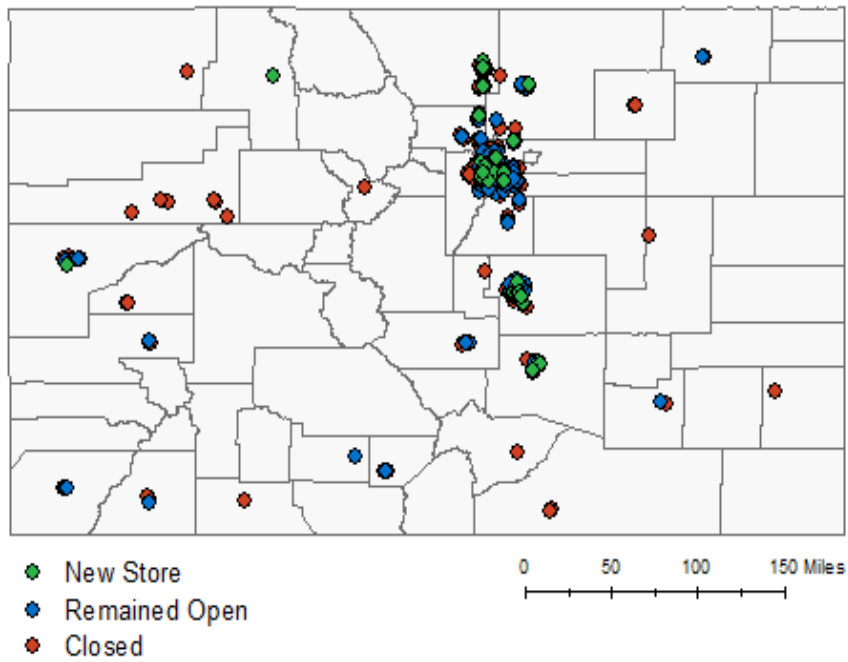


FIGURE 28: CHANGE IN VIRGINIA PAYDAY LOAN STORES FROM 2008 TO 2014

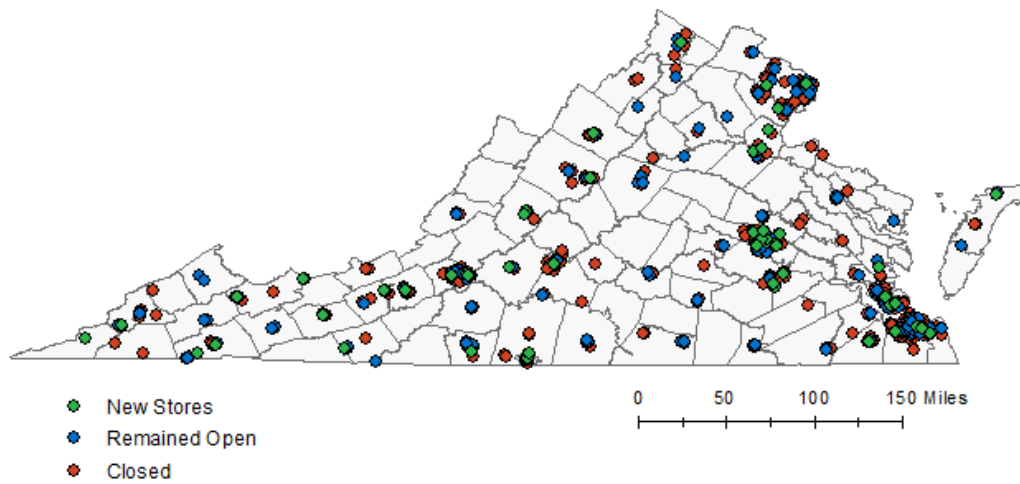
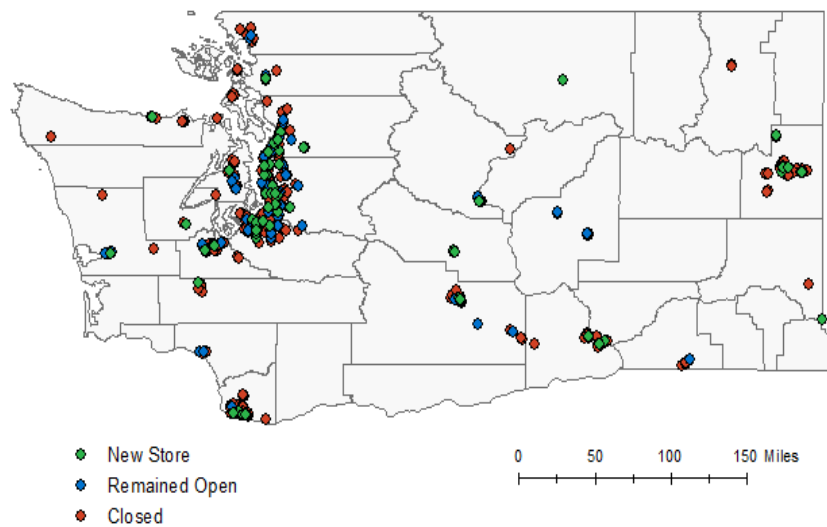


FIGURE 29: CHANGE IN WASHINGTON PAYDAY LOAN STORES FROM 2009 TO 2015

To evaluate whether the changes observed in Colorado, Virginia, and Washington were due to general trends over time, we also compiled the 2014 payday licensee lists from 24 additional states. These states are included based on the availability of address information for each licensed payday location within the state. Table 14 shows the median distance between stores in MSA and non-MSA counties for these additional states. We found that in 2014 (which corresponds to Year 4 for Colorado and Washington and to Year 5 for Virginia), the medians were 0.3 miles for both MSA and non-MSA counties. This is quite similar to the medians in Colorado, Virginia, and Washington prior to the legal changes in those states, and suggests that the increases in median distances observed in Table 13 did not reflect more general market trends.

TABLE 14: DISTANCE IN MILES BETWEEN NEAREST OPEN STORES FOR 24 STATES

	25th percentile	Median	75th percentile	95th percentile
All	0.1	0.3	0.9	4.3
MSA	0.1	0.3	0.8	2.9
Non-MSA	0.1	0.3	0.9	22.9

3.4.3 Changes in borrower proximity to payday loan stores

Store closings mean that some borrowers have to travel further to take out payday loans. The data on store locations before and after the implementation of the state legal changes allow us to identify each store that closed and the nearest store that remained open. From these data, we estimate how much further borrowers who would have borrowed from a store that closed would have to travel to take out a payday loan from a remaining storefront lender. We assess the impact of the increase in travel distance on borrower access to payday stores, where access is defined as being close enough to a store that travel distance does not present a barrier to borrowing.¹¹⁸ Our method assumes that the distribution of customers across stores is uniform, such that each store in the year before the law change serves the same number of customers within each state. The effect of new store openings is taken into account by estimating the share of consumers of closed stores who would be willing to travel to the new stores based on distance.

Our estimates of travel distance and consumer access are subject to certain methodological limitations. Since our distance measures use geodetic distance, we are not able to take into account differences in the composition of travel methods (e.g. mass transit versus personal vehicles) used by customers of different store locations. Because we observe only a customer's stated address and the store's address, we are also unable to take into account situations in which a store is located much closer to a customer's work or grocery vendor than their home. Finally, we consider changes only in consumers' access to storefront payday loans.

To understand consumers' willingness to travel, we compute the distribution of actual customer travel distances to stores using loan-level data matched to store locations from several large

¹¹⁸ Our calculations only consider travel distances between stores within the same state. For some borrowers, stores in adjacent states may be closer than the nearest store in the same state, and this effect would lead to higher estimates of retained access to payday stores.

storefront payday lenders (“loan-level data”).¹¹⁹ The lenders in the dataset provided loan-level information for all loans extended during windows covering at least 12 months in 2011 and 2012. In addition to information on loan transactions, several lenders provided borrower and store addresses that could be linked to each loan. The data used in this report are restricted to lenders that provided linked borrower and store addresses. These lenders report store locations in 34 states.

Table 15 shows the distributions of travel distances between borrowers and stores in Colorado, Virginia, and Washington, as well as these distances across all stores in the loan-level data (including Colorado, Virginia, and Washington). These calculations assume that the borrower traveled from her residence to the store location to obtain the loan. The median travel distance to stores in Colorado, Virginia, and Washington is 5-10 miles. Similarly, the median travel distance among all stores in the loan-level data is five miles. Table 15 also shows the travel distances to stores in MSA and non-MSA counties. Borrowers of stores in non-MSA counties travel further than borrowers traveling to stores in MSA counties. In Colorado, Virginia, and Washington, the median travel distance to stores in MSA counties is 5-10 miles, whereas the median travel distance to stores in non-MSA counties is 6-22 miles. Across all states in the loan-level data, the median travel distance is five miles for stores in MSA counties and eight miles for stores in non-MSA counties.

¹¹⁹ The data were obtained using the Bureau’s legal authority, and come from the same underlying dataset used in the Bureau’s 2013 White Paper and the 2014 Payday Lending Data Point. See CFPB, “Payday Loans and Deposit Advance Products: A White Paper of Initial Data Findings,” (Apr. 2013) available at http://files.consumerfinance.gov/f/201304_cfpb_payday-dap-whitepaper.pdf and “CFPB Data Point: Payday Lending,” (Mar. 2014) available at http://files.consumerfinance.gov/f/201403_cfpb_report_payday-lending.pdf.

TABLE 15: TRAVEL DISTANCES IN MILES BETWEEN BORROWERS AND PAYDAY LOAN STORES

	25th percentile	Median	75th percentile	90th percentile	95th percentile
All payday loan stores					
All states	2.4	5.3	12.8	27.7	45.0
Colorado	2.5	5.0	9.9	20.6	36.3
Virginia	3.4	7.7	18.2	32.4	43.7
Washington	3.8	10.0	21.7	50.1	93.6
Payday loan stores in MSA counties					
All states	2.4	5.1	11.5	25.0	42.5
Colorado	2.5	5.0	9.4	17.8	28.9
Virginia	3.1	6.6	15.8	30.9	43.3
Washington	3.7	9.7	20.4	48.8	94.5
Payday loan stores in non-MSA counties					
All states	2.5	7.6	21.1	37.6	52.7
Colorado	2.1	5.9	27.9	51.6	81.6
Virginia	5.3	13.2	24.0	35.6	44.3
Washington	6.2	21.7	41.5	63.1	75.6

Using the findings in Table 15 as a guide, we estimate the impacts of store closures on storefront access by computing the fraction of consumers who would retain storefront access assuming that customers of closed stores would be willing to travel at least five, 10, or 20 more miles to a neighboring store that remains open. Table 16 shows our calculations. Assuming that customers

of a closed storefront would travel up to five additional miles to the nearest open store, we find that 93%-95% of consumers retain storefront access five years after the legal changes. If the threshold for willingness to travel is increased to 20 additional miles, 96-100% of consumers retain access to stores.

TABLE 16: SHARE OF BORROWERS RETAINING PAYDAY LOAN STORE ACCESS RELATIVE TO THE YEAR BEFORE LAW CHANGE

	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5
Colorado						
within 5 miles	100.0%	98.4%	97.7%	95.3%	94.5%	94.5%
within 10 miles	100.0%	98.8%	98.1%	96.1%	95.3%	95.3%
within 20 miles	100.0%	99.0%	98.2%	96.3%	95.5%	95.5%
Virginia						
within 5 miles	100.0%	94.9%	94.6%	94.3%	94.2%	94.1%
within 10 miles	100.0%	96.9%	96.6%	96.5%	96.5%	96.5%
within 20 miles	100.0%	99.7%	99.7%	99.7%	99.7%	99.7%
Washington						
within 5 miles	100.0%	97.5%	95.4%	94.6%	93.4%	92.8%
within 10 miles	100.0%	98.5%	97.5%	97.4%	96.2%	95.6%
within 20 miles	100.0%	99.5%	99.5%	99.3%	99.3%	98.7%

Table 17 shows the estimates of storefront access for stores in MSA versus non-MSA counties assuming that customers of closed stores would be willing to travel at least five, 10 or 20

additional miles to the nearest open store. Since most stores are located in MSA counties, the impact estimates are similar for MSA counties and the states as a whole.¹²⁰ The impacts in non-MSA counties differ across states. Colorado retained 63% of access for consumers in non-MSA counties as of Year 5. Depending on the consumers' willingness to travel an additional 5, 10 or 20 miles, Virginia retained 87-99% of consumer access, and Washington retained 71-91% of consumer access in non-MSA counties.

¹²⁰ Eighty-eight percent of payday loan storefronts in Colorado are located in MSAs rather than non-MSAs. Similarly, 80% and 90% of payday loan storefronts are located in MSAs in Virginia and Washington, respectively.

TABLE 17: SHARE OF BORROWERS IN MSA AND NON-MSA COUNTIES RETAINING PAYDAY LOAN STORE ACCESS RELATIVE TO THE YEAR BEFORE LAW CHANGE

	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5
Colorado						
MSA						
within 5 miles	100%	99.6%	99.6%	98.9%	98.9%	98.9%
within 10 miles	100%	100.0%	100.0%	99.8%	99.8%	99.8%
within 20 miles	100%	100.0%	100.0%	100.0%	100.0%	100.0%
Non-MSA						
within 5 miles	100%	90.3%	83.9%	69.4%	62.9%	62.9%
within 10 miles	100%	90.3%	83.9%	69.4%	62.9%	62.9%
within 20 miles	100%	91.9%	85.5%	69.4%	62.9%	62.9%
Virginia						
MSA						
within 5 miles	100%	96.5%	96.5%	96.1%	96.0%	95.8%
within 10 miles	100%	98.0%	98.0%	97.8%	97.8%	97.8%
within 20 miles	100%	100.0%	100.0%	100.0%	100.0%	100.0%
Non-MSA						
within 5 miles	100%	88.5%	87.2%	87.2%	87.2%	87.2%
within 10 miles	100%	92.6%	91.2%	91.2%	91.2%	91.2%
within 20 miles	100%	98.6%	98.6%	98.6%	98.6%	98.6%
Washington						
MSA						
within 5 miles	100%	98.9%	96.7%	96.0%	95.4%	95.1%
within 10 miles	100%	99.8%	98.9%	98.7%	98.2%	97.8%
within 20 miles	100%	100.0%	100.0%	99.8%	99.8%	99.5%
Non-MSA						
within 5 miles	100%	84.5%	82.8%	81.0%	74.1%	70.7%
within 10 miles	100%	86.2%	84.5%	84.5%	77.6%	74.1%
within 20 miles	100%	94.8%	94.8%	94.8%	94.8%	91.4%

3.5 Chapter 3 Appendix

FIGURE 30: EXAMPLE OF A TEXAS SINGLE-PAYMENT PAYDAY DISCLOSURE

PAYDAY LOAN—SINGLE PAYMENT

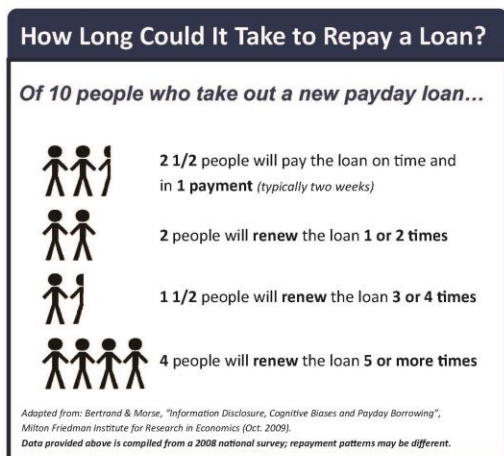
After reviewing the terms of the loan, you are not required to choose this loan, and may consider other borrowing options, including those shown on Page 2 of this document.

Borrowed Amount	\$ 300.00
Interest	\$ 1.50
Contract Rate: 10 %	
Fees	\$ 90.00
Payback Amount	\$ 391.50

The loan information shown here is an example and may not reflect the actual fees and interest charged to a loan provided by the lender or credit access business.

**How much
will a
two week,
\$300.00 payday
loan cost?**

If I pay the loan in:	I will have to pay:
2 Weeks	\$ 391.50
1 Month	\$ 483.95
2 Months	\$ 670.85
3 Months	\$ 860.71



Ask Yourself...

- ♦ Is it necessary for me to borrow the money?
- ♦ Can I afford to pay this loan back in full in two weeks?
- ♦ Will I be able to pay my regular bills and repay this loan?
- ♦ Can I afford the extra charges, interest, and fees that may be applied if I miss or fail to make payment?
- ♦ Are other credit options available to me at this time?

Turn Page



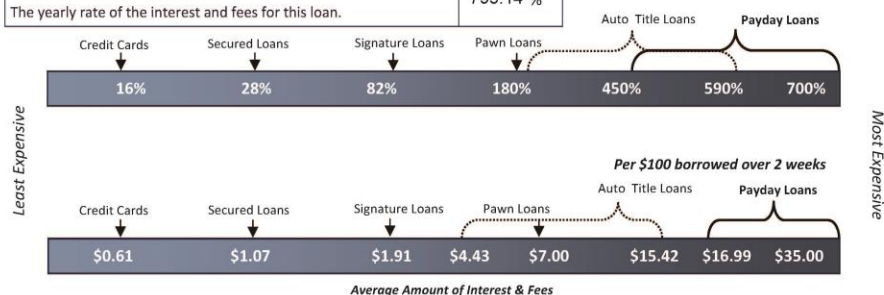
OFFICIAL STATE OF TEXAS NOTICE: This consumer disclosure has been provided in accordance with Section 393.223 of the TEXAS FINANCE CODE.

Form Rev: December 2012

How Does a Payday Loan Compare to Other Options?

CASH ADVANCE / BORROWED AMOUNT	\$ 300.00
INTEREST PAYMENT The amount you will pay in interest for the loan.	\$ 1.50
TOTAL OF FEES The amount you will pay in fees for this loan.	\$ 90.00
TOTAL OF PAYMENTS The amount you will pay if you repay the loan on time.	\$ 391.50
ANNUAL PERCENTAGE RATE (APR) The yearly rate of the interest and fees for this loan.	795.14 %

Loan Calculation & Cost Comparison



Payday loans are cash advances provided to a borrower to meet financial needs. As a borrower, you will be required to sign a loan agreement that tells you the amount you have requested to borrow, the annual percentage rate (APR) for that loan, the amount of interest and fees that may be charged for that loan, and the payment terms of the loan. Payday loans may be one of the more expensive borrowing options available to you. *Payday loans may also be referred to as cash advance, delayed deposit or deferred presentment loans.*

Complaint or Concern?

If you would like to file a concern or complaint regarding a payday loan, contact the

**Office of
Consumer Credit
Commissioner**

800-538-1579

Looking for Information on
Budgeting, Personal
Savings, Credit Card
Management, or other
personal money
management skills?

**Visit the OCC's Financial
Literacy Resource Page**

[http://www.occc.state.tx.us/
pages/consumer/education/
Financial_Literacy_Resources.html](http://www.occc.state.tx.us/pages/consumer/education/Financial_Literacy_Resources.html)

Additional Information

- ◆ You may be required to write checks or authorize withdrawals from personal checking accounts to cover payments for the loans.
- ◆ You can compare all loan options available and select the option that is best for you.
- ◆ You can avoid extra fees and loan renewal costs by not missing payments and by repaying loans on time.



OFFICIAL STATE OF TEXAS NOTICE: This consumer disclosure has been provided in accordance with Section 393.223 of the TEXAS FINANCE CODE.

Form Rev: December 2012

4. The impact of state restrictions on payday loan reborrowing

4.1 Introduction

In this chapter, we examine the extent to which state policies that aim to restrict repeated use of payday loans impact reborrowing rates. When a borrower takes out a payday loan, the amount borrowed and the associated fee are generally due in about 2-4 weeks, when the borrower is scheduled to receive a paycheck or other source of income. Many states have enacted limits on “rolling over” a loan, which occurs when a borrower pays only the fee on the loan’s due date and, in exchange, the lender agrees to extend the due date.¹²¹ Some states that prohibit rollovers or limit the number of times a loan can be rolled over also mandate cooling-off periods, either after each loan or after a certain number of loans or days of indebtedness. A lender is prohibited from making a new payday loan to the borrower until the cooling-off period expires.

¹²¹ In some states, rollovers are called “renewals.” As our findings illustrate, many states that limit rollovers nonetheless permit reborrowing, in which a consumer repays a loan including the fees and subsequently takes out a new loan. Such transactions replicate the economics of a rollover for the borrower and the lender.

In the analysis below, we consider a loan to be reborrowed if it is rolled over or if a subsequent loan is taken out a short period of time after a previous loan is repaid. Specifically, we report the share of loans that are reborrowed on the same day and within 7, 14, 30, and 60 days of a previous loan being repaid. We compare the reborrowing rates in 22 states—some with the restrictions described above and others that do not limit reborrowing.

Our key findings include the following:

- In states that prohibit rollovers of payday loans, over half of loans are reborrowed on the same day and three-quarters of loans are reborrowed within 14 days.
 - Over 80% of loans are reborrowed within 30 days for states in our data, regardless of the state’s rollover or cooling-off period regulations.
- In two states—Florida and Virginia—that prohibit rollovers and require a cooling-off period between each loan, a significant share of loans are reborrowed once the cooling-off period expires.
 - In Florida, nearly three-quarters (73%) of loans are reborrowed within seven days, over 80% of loans are reborrowed within 14 days, and nearly 90% are reborrowed within 30 days. These reborrowing rates are on par with (or exceed) reborrowing rates in states such as Idaho, Missouri, Ohio and Texas which have fewer lending restrictions.
 - Reborrowing rates are relatively lower in Virginia than in Florida; however, over half of loans are reborrowed within 14 days and over two-thirds of loans are reborrowed within 60 days.

4.2 Data

The data used in this report consists of records of payday loans without direct identifiers originated by storefront lenders that the Bureau obtained through the supervisory process. The payday loan data set used for this analysis consists of 15 million loans made to 2.5 million borrowers in 22 states over one-year time periods between 2011 and 2012.¹²² Using these data, we calculated a state-level reborrowing rate, reporting the share of loans that were reborrowed on the same day or within 7, 14, 30, and 60 days of the repayment of a previous loan over the course of 12 months.

As was the case with the previous reports that used these data,¹²³ a randomly-generated customer ID links all payday loans made to the same consumer by a given lender. Because the randomly-generated customer IDs in our data are lender specific, we cannot account for potential reborrowing that may occur when a consumer borrows from multiple lenders.

4.3 Reborrowing rates by state

A payday loan in our data may have one of three outcomes: (1) it could be repaid without a subsequent reborrowing; (2) it could default; or (3) it could be reborrowed, either by rolling over the loan or paying off the loan and taking out a new one shortly thereafter. As noted above, we calculated what share of storefront payday loans at the state level fall into this third category of

¹²² We limit our analysis to states for which we have a number of lenders sufficient to permit us to reliably maintain the anonymity of the lenders. Consequently, Table 21 in this chapter's appendix is limited to the states that were included in our analysis.

¹²³ These data were also used to perform analyses in previous reports on payday lending by the Bureau. See CFPB, "Payday Loans and Deposit Advance Products: A White Paper of Initial Data Findings," (Apr. 2013), available at http://files.consumerfinance.gov/f/201304_cfpb_payday-dap-whitepaper.pdf and "CFPB Data Point: Payday Lending," (Mar. 2014), available at http://files.consumerfinance.gov/f/201403_cfpb_report_payday-lending.pdf. These data were also used to perform analyses in Chapters 3, 5, and 6.

being reborrowed. Our full results for each state, as well as each state's policies related to rollovers and cooling-off periods, are provided in the appendix.

Table 18 shows our summary findings for all states in our analysis, and then reports findings broken out for states that do not allow rollovers and for states that allow a loan to be rolled over at least once.¹²⁴ Over three-quarters of loans were reborrowed within 14 days in the states for which we have data. This reborrowing rate increases gradually as the time period expands to 30 days (82%) and 60 days (85%).

Looking at the reborrowing rate on the same day as the repayment of a previous loan, states that prohibit rollovers have an average reborrowing rate that is 16 percentage points lower than states that allow rollovers. This difference, however, quickly narrows. Within two weeks—about the length of a pay period for many borrowers—three-quarters of loans in states that prohibit rollovers have been reborrowed.

TABLE 18: AVERAGE SHARE OF LOANS REBORROWED WITHIN A CERTAIN PERIOD OF TIME

	Same day	Within 7 days	Within 14 days	Within 30 days	Within 60 days
Average for all states in our dataset	59%	73%	78%	82%	85%
State average for those states prohibiting rollovers ¹²⁵	51%	69%	75%	80%	84%
State average for those states allowing at least one rollover ¹²⁶	67%	77%	80%	84%	87%

¹²⁴ While all 22 states are included in the average reborrowing rate, we do not include Kansas as a state that prohibits or allows rollovers. Kansas does not explicitly prohibit rollovers but it does restrict a loan from being repaid with the proceeds of another loan, therefore—according to our methodology—it could arguably be included in either category. The inclusion of Kansas in either category would result in minimal changes to our results.

¹²⁵ States that prohibit rollovers in our data include California, Florida, Illinois, Indiana, Kentucky, Michigan, Mississippi, Nebraska, Oklahoma, Tennessee, Virginia, and Washington State.

Next, we provide a comparison of two states—Florida and Virginia—that prohibit rollovers and mandate cooling-off periods, to four other states—Idaho, Ohio, Missouri and Texas—in which consumers can rollover loans multiple times. Idaho and Missouri allow loans to be rolled over three and six times, respectively. Ohio and Texas lenders do not have limits on the number of times they can roll over a loan.¹²⁷ In Florida, rollovers are not permitted and the borrower must wait at least 24 hours after paying a loan back to take a new loan. In Virginia, loans are not permitted to be rolled over and borrowers must wait one day before taking a new loan. Virginia also requires a 45-day cooling-off period after a fifth loan within a 180-day period, and a 90-day cooling-off period if a borrower opts to use an extended payment plan to repay her loan. In addition to Florida and Virginia’s rollover restrictions and cooling-off periods, both states have a number of other borrowing provisions that could impact reborrowing rates.¹²⁸

Our results for this comparison are shown in Table 19 below. Due to the cooling-off periods in Florida and Virginia, neither has reborrowing on the same day as a previous loan being repaid. In contrast, 58% of loans in Idaho and over 70% of loans in Missouri, Ohio, and Texas are reborrowed on the same day. Once the cooling-off period expires in Florida and Virginia, we see significant reborrowing rates. Reborrowing rates in Florida are about the same or even exceed

¹²⁶ States that allow at least some degree of rollovers in our data include Alabama, Idaho, Louisiana, Missouri, Nevada, Ohio, Texas, Utah, and Wisconsin.

¹²⁷ While Texas does not limit rollovers at the state level, certain jurisdictions within Texas have passed ordinances that restrict loans to no more than 20% of a borrower’s gross monthly income and require amortization of at least 25% of the original loan principal each time a loan is rolled over, such that a loan can have a maximum of three rollovers. In addition, a change was made to the law affecting payday lending in Texas during the time period analyzed; however, Texas allowed rollovers and did not have cooling-off periods both before and after this law change.

¹²⁸ In addition to these provisions related to rollovers and cooling-off periods, Florida limits borrowers to one loan of up to \$500 at a time, and caps fees at \$10 per \$100 borrowed, plus a \$5 database verification fee. Virginia also limits borrowers to one loan of up to \$500 at a time. While Virginia allows a fee of \$20 per \$100 borrowed, plus 36% annual interest and a \$5 database verification fee, it requires a longer minimum repayment period of two borrower income periods. Thus, a Virginia borrower paid every two weeks would have a minimum loan term of about one month.

those in Idaho, Missouri, Ohio and Texas when we look at loans taken within 14, 30 or 60 days of a previous loan being repaid. Virginia's reborrowing rates are consistently lower than the other states in this analysis; however, over half of loans are reborrowed within 14 days and over two-thirds are reborrowed within 60 days.

TABLE 19: SHARE OF LOANS REBORROWED WITHIN A CERTAIN PERIOD OF TIME FOR SELECTED STATES, COMPARING DIFFERENT REGULATIONS RELATED TO ROLLOVERS AND COOLING-OFF PERIODS.

	Same day	Within 7 days	Within 14 days	Within 30 days	Within 60 days
Florida	n/a*	73%	83%	89%	92%
Idaho	58%	72%	77%	81%	85%
Missouri	79%	83%	85%	88%	90%
Ohio	73%	79%	83%	86%	89%
Texas	80%	84%	85%	87%	89%
Virginia	n/a*	48%	54%	61%	68%

*borrowing not allowed within 24 hours (Florida) or one day (Virginia) of a previous loan due to cooling-off period.

4.4 Chapter 4 Appendix

TABLE 20: STATE LAWS RELATED TO PAYDAY LOAN ROLLOVERS AND COOLING-OFF PERIODS

	Number of times a loan can be rolled over	Cooling-off period ¹²⁹
Alabama	1	1 business day after a rollover is repaid
California	None	None
Florida	None	24 hours after each loan
Idaho	3	None
Illinois	None	7 days after 45 consecutive days indebted
Indiana	None	7 days after 5 consecutive loans
Kansas	None ¹³⁰	None
Kentucky	None	None
Louisiana	Allowed with partial payment ¹³¹	None
Michigan	None	None
Missouri	6	None
Mississippi	None	None
Nebraska	None	24 hours after each loan ¹³²
Nevada	Allowed within time limit ¹³³	None

¹²⁹ Some states have cooling-off periods that apply after a borrower opts for an extended repayment plan. Those provisions, where they exist, are not included in this table.

¹³⁰ Kansas does not allow a loan to be repaid with the proceeds of another loan.

¹³¹ While rollovers are not permitted, a lender can accept a partial payment of 25% of the loan amount plus fees and provide a new loan.

¹³² Cooling-off period waived if borrower signs form indicating previous loan was completed.

	Number of times a loan can be rolled over	Cooling-off period¹²⁹
Ohio ¹³⁴	Unlimited	None
Oklahoma	None	2 business days after the 5th consecutive loan is repaid
Tennessee	None	None
Texas ¹³⁵	Unlimited	None
Utah	Allowed within time limit ¹³⁶	None
Virginia	None	1 day after each loan; 45 days after a 5th loan made in 180-day period is repaid
Washington	None	None
Wisconsin	1	24 hours after a rollover is repaid

¹³³ While there is not a specific limit on the number of times a loan can be rolled over in Utah, a loan cannot be extended beyond 60 days after the expiration of the initial loan period.

¹³⁴ Many payday lenders in Ohio make loans through the state's Credit Service Organization Act or Mortgage Loan Act. These laws do not include rollover restrictions or cooling-off periods on payday loans.

¹³⁵ Payday lending in Texas is conducted through a "credit services organization," or CSO, model in which payday lenders are referred to as credit access business that charge borrowers fees to set up payday loans with third-party lenders. A new law related to payday lending in Texas was enacted effective January 1, 2012 (during our period of analysis); however, the new state law did not change regulations related to rollovers or cooling-off periods.

¹³⁶ While there is not a specific limit on the number of times a loan can be rolled over in Utah, a loan cannot be extended or renewed more than 10 weeks from the original loan date.

TABLE 21: STATE REBORROWING RATES, SAME DAY OR WITHIN 7, 14, 30 AND 60 DAYS OF A PREVIOUS LOAN BEING REPAYED

	Same day	Within 7 days	Within 14 days	Within 30 days	Within 60 days
Alabama	80%	84%	87%	89%	91%
California	67%	77%	82%	87%	90%
Florida	0%	73%	83%	89%	92%
Idaho	58%	72%	77%	81%	85%
Illinois	15%	27%	41%	50%	56%
Indiana	60%	68%	77%	82%	86%
Kansas	78%	83%	85%	88%	91%
Kentucky	78%	83%	85%	88%	90%
Louisiana	79%	85%	87%	90%	92%
Michigan	70%	82%	86%	89%	91%
Missouri	79%	83%	85%	88%	90%
Mississippi	79%	83%	85%	88%	90%
Nebraska	72%	81%	84%	88%	90%
Nevada	66%	78%	82%	85%	88%
Ohio	73%	79%	83%	86%	89%
Oklahoma	55%	75%	80%	85%	88%
Tennessee	84%	87%	89%	91%	92%
Texas	80%	84%	85%	87%	89%
Utah	51%	66%	72%	76%	81%
Virginia	0%	48%	54%	61%	68%
Washington state	30%	46%	54%	63%	70%
Wisconsin	36%	58%	65%	71%	76%

5. Payday loan usage patterns with varying definitions of loan sequences

5.1 Introduction

In previous publications, the CFPB has analyzed borrowing patterns to understand the extent to which consumers repay payday or vehicle title loans without quickly borrowing again. This has been done primarily by examining the duration of a borrower’s “loan sequence,” which consists of an initial loan and any subsequent loans that occur within a certain period of time after the previous loan is repaid. We use the term “reborrowing” to refer to situations in which a borrower takes out a new loan shortly after paying back a prior loan, including back-to-back transactions conducted on the same day and transactions separated by a short period of time. Putting the two concepts together, a second and any subsequent loans in a sequence are considered to be reborrowings of an initial loan.

There are various ways in which a loan sequence could be defined. One approach would be to include any loan made before a borrower receives her next regularly scheduled income in the same sequence, i.e, to treat any such loan as a reborrowing. In the case of payday loans, the due date generally coincides with the date of the borrower’s receipt of income. This would imply that for borrowers paid weekly, sequences would be defined as an initial loan and subsequent loans made within a week after the previous loan is repaid; for borrowers paid bi-weekly or monthly, sequences would be defined using a two-week or 30-day time frame, respectively.

Another approach would be to define a loan sequence as 30 days for all borrowers, on the grounds that a consumer’s typical expense cycle lasts about one month. Or, a third approach

would be to further expand the definition to 60 days to cover two expense cycles to provide greater assurance that the borrower can afford both the repayment of the loan, as well as her other expenses.

The Bureau has employed each of these varying loan sequence definitions in previous publications. Noting that payday borrowers are most commonly paid bi-weekly or semi-monthly, we first used a 14-day loan sequence definition in our 2014 Payday Lending Data Point.¹³⁷ The Bureau subsequently considered including all loans made within 60 days of a previous loan being repaid as part of the same sequence in its Small Business Review Panel Outline.¹³⁸ Finally, the Bureau published a report on single-payment vehicle title loans that included findings for each of the three loan sequence definitions described above: an initial loan and any subsequent loans made within 14, 30, and 60 days after a previous loan was repaid.¹³⁹

This chapter provides findings for each of these three alternative loan sequence definitions—loans made within 14, 30, and 60 days of a previous loan being repaid—so that the impact of alternative definitions can be readily evaluated for payday loans. Using data without direct identifiers on over 12 million loans, we look at borrowing patterns and changes in loan size for payday loans across a 10-month period. Because payday loan terms (and thus the possible

¹³⁷ “CFPB Data Point: Payday Lending,” (Mar. 2014), available at http://files.consumerfinance.gov/f/201403_cfpb_report_payday-lending.pdf.

¹³⁸ See CFPB, “Small Business Advisory Review Panel for Potential Rulemakings for Payday, Vehicle Title, and Similar Loans,” (Mar. 26, 2015), available at http://files.consumerfinance.gov/f/201503_cfpb_outline-of-the-proposals-from-small-business-review-panel.pdf.

¹³⁹ CFPB, “Single-Payment Vehicle Title Lending,” (May 2016), available at http://files.consumerfinance.gov/f/documents/201605_cfpb_single-payment-vehicle-title-lending.pdf.

number of payday loans a borrower can take) are tied to pay frequency, we break out findings for borrowers paid monthly and those paid less frequently.¹⁴⁰

Key findings from this analysis include the following:

- Over 80% of payday loans are reborrowed within 14 days from the same lender, 85% are reborrowed within 30 days, and 88% are reborrowed within 60 days. The remaining loans are either repaid without reborrowing, or end in default.
- As the sequence definition expands from 14 to 30 days, the average number of loans in a loan sequence increases.
 - Loan sequences consist of an average of five loans under a 14-day definition, and six loans under a 30- or 60-day definition.
 - The share of sequences that consist of a single loan that is repaid is 30% using a 14-day sequence definition, 22% using a 30-day definition, and 17% using a 60-day definition.
 - Since more loans are contained within a particular loan sequence as the definition expands, the share of borrowers with a single loan sequence in our 10-month period grows from just over half (55%) using the 14-day definition to 80% in the 60-day definition.
 - Consistent with our overall findings, loan sequences lengthen for both monthly borrowers and borrowers paid more frequently as the sequence definition expands.

¹⁴⁰ References to the frequency at which borrowers are paid in this chapter refer to the income received through a job or other source that is used to repay a payday loan. In the 10-month period of payday lending observed, a borrower paid monthly would have a loan term of about a month and thus be able to take up to about 10 loans. In contrast, a borrower paid more frequently (weekly, bi-weekly, or semi-monthly) would have a loan term of about two weeks and thus be able to take up to about 20 loans.

- The share of loan sequences that end in default increases gradually as the sequence definition expands. Sixteen percent of loan sequences default under a 14-day definition, 20% of loan sequences default under a 30-day definition, and one-quarter of loan sequences default under a 60-day definition.
 - While fewer loan sequences default for borrowers paid monthly compared to borrowers paid more frequently, both sub-sets have a gradually increasing default rate as the sequence definition expands from 14 to 60 days.
- Regardless of the sequence definition used, we consistently find that more than half of all loans are in sequences of 10 loans or more. Among borrowers paid weekly, bi-weekly or semi-monthly, about one-quarter of all loans are in loan sequences that are at least 20 loans long.
- Looking at loan sequences of more than a single loan, loan size is most likely to remain the same between the first and last loan and relatively unlikely to decrease in size. This is especially true for borrowers paid monthly. As the sequence definition expands from 14 to 30 or 60 days, it becomes slightly more common for loan sizes to increase in multi-loan sequences.

5.2 Data and methods

The data used in this report consist of records of payday loans stripped of direct identifiers originated by storefront lenders. The data include over 12 million payday loans made in 30 states within a 12-month window during 2011-2012. The Bureau obtained the data from a number of storefront payday lenders through the supervisory process. These same data were

previously used in the CFPB's 2013 White Paper and 2014 Data Point on payday lending.¹⁴¹ As was the case with the previous reports that used these data, a randomly-generated customer ID links all payday loans made to the same consumer by a given lender. In the event a consumer used payday loans from multiple lenders, these data have not been combined.¹⁴²

As noted previously, there are multiple ways in which sequence can be defined. One approach is to only consider those loans made within 14 days of a previous loan being repaid to be part of the same loan sequence.¹⁴³ While the intention of this measure is to determine whether a borrower can afford to repay a loan without taking another within the same pay period, the 14-day definition is limited in that it does not account for borrowers who are paid on a less frequent basis, such as those paid monthly.¹⁴⁴ In addition, many recurring expenses, such as housing payments, are on a monthly cycle. To understand the extent to which borrowers can afford to repay a payday loan without reborrowing, a 30-day definition provides a useful measure of whether borrowers go a full expense cycle without taking out another loan. Finally, a more expansive 60-day definition is likely to capture a still greater number of instances of reborrowing, as it excludes only subsequent loans that are taken out after two full expense cycles. In this report, we detail findings for payday loans for each of these possible loan sequence definitions—14, 30, and 60 days.

¹⁴¹ "CFPB Data Point: Payday Lending," (Mar. 2014), available at http://files.consumerfinance.gov/f/201403_cfpb_report_payday-lending.pdf and CFPB, "Payday Loans and Deposit Advance Products: A White Paper of Initial Data Findings," (Apr. 2013), available at http://files.consumerfinance.gov/f/201304_cfpb_payday-dap-whitepaper.pdf.

¹⁴² Because the randomly-generated customer IDs in our data are lender specific, we cannot analyze potential borrowing behavior by individual consumers across multiple lenders.

¹⁴³ In our 2014 Payday Lending Data Point, only loans taken within 14 days of a previous loan were considered part of the same loan sequence in the findings reported.

¹⁴⁴ Likewise, the 14-day definition is over-inclusive for those borrowers paid weekly.

5.3 Payday loan usage patterns

In this section, we report findings on the reborrowing of payday loans, the extent to which loan sequences are repaid or default, and whether the amount borrowed changes over time. We consider a loan to have defaulted if no repayment date is shown.¹⁴⁵ First, we calculate the share of payday loans in our sample that are reborrowed within a certain number of days. We then report the distribution of loan sequence lengths for loan sequences repaid and defaulted and the share of loans that comprise sequences of varying lengths.¹⁴⁶ Finally, we determine whether borrowers take out loans of the same, larger, or smaller size between the first and last loan in a sequence.¹⁴⁷

We report findings for all borrowers and then break out findings for borrowers based on pay frequency. Because loan due dates (and thus loan terms) are tied to a borrower's payday or other receipt of income, the overall number of loans that are possible to observe in the data's 10-month time period will depend on the borrower's pay frequency. For example, a borrower paid monthly taking 10 loans may be indebted continuously over the sample period, while those paid more frequently that use 10 loans may be indebted for just half that time. Thus, breaking out findings by borrower pay frequency can provide greater context for the duration of indebtedness observed.

¹⁴⁵ A loan sequence may extend beyond the time period we observe, and it is possible that a loan sequence that is classified as repaid in our data may later default.

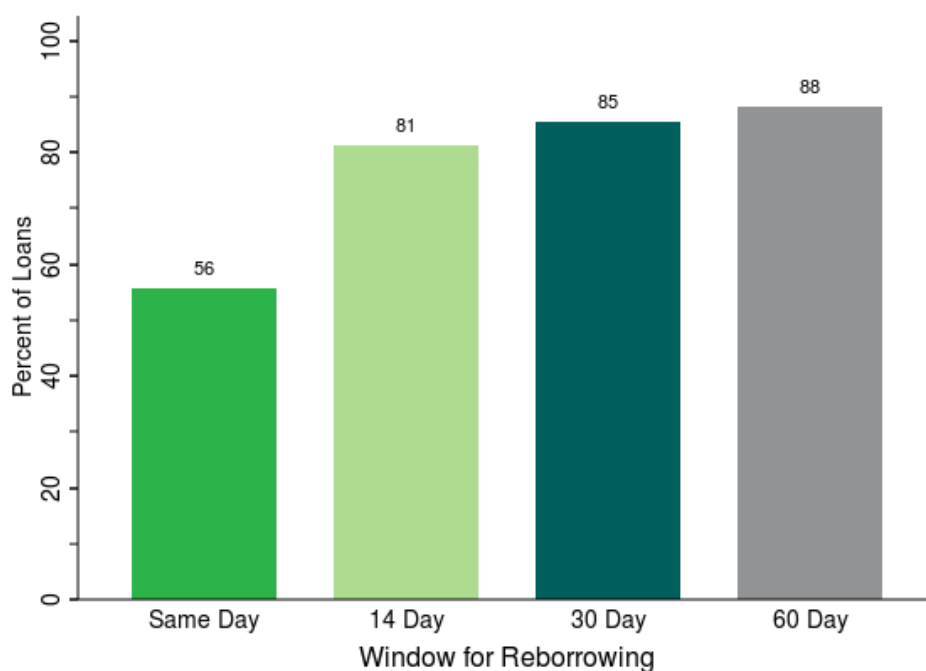
¹⁴⁶ Loan sequences may actually be longer in some cases than what we report here, if the loan sequence continues beyond our 10-month timeframe for payday loans.

¹⁴⁷ For those loan sequences that consist of more than one loan.

5.3.1 Timing of payday loan reborrowing

The loans in our dataset have three possible outcomes: (1) they could be repaid without a subsequent reborrowing, (2) they could end in default, or (3) they could be followed by a reborrowing either the same day or within a specified period of time after repayment. In Figure 31 below, we report on the share of loans in our dataset that are reborrowed the same day,¹⁴⁸ or within 14, 30, or 60 days of repayment.¹⁴⁹

FIGURE 31: PAYDAY LOAN REBORROWING RATES



¹⁴⁸ A same day reborrowing occurs if a previous loan is rolled over by paying a fee and extending the loan term or if a new loan is originated the same day a previous loan is repaid.

¹⁴⁹ Any loans outstanding at the end of the time period for which an outcome cannot be observed are assumed to have not been reborrowed in this analysis, potentially causing the reborrowing rate to be understated.

The most dramatic difference in reborrowing rates occurs when looking at loans reborrowed the same day and within 14 days. While 56% of loans are reborrowed on the same day, about four out of five loans are reborrowed within 14 days of the previous loan being repaid. From that point, the increase in the share of loans reborrowed slows dramatically, with 85% of loans reborrowed within 30 days and 88% of loans reborrowed within 60 days. Thus, expanding the window captures a growing share of loans, but that growth is smaller as the window continues to increase.

The differences in the reborrowing rates may be explained by the fact that in many states, lenders are prohibited from allowing borrowers to roll over a loan or to take out a new loan on the same day as the previous loan is repaid. Borrowers in states with such restrictions who cannot afford to repay the loan and meet their other expenses may wait for a short period of time to reborrow and, as shown in Chapter 4 and previously in the 2014 Payday Lending Data Point, reborrowing rates after seven or 14 days are nearly identical in states with and without these restrictions.

5.3.2 Duration, outcome, and number of payday loan sequences

As described earlier, we look at the length of loan sequences and the share of loans that are included in sequences of varying length in order to better understand how consumers use payday loans. Comparing our findings across our three alternative loan sequence definitions, we can determine how these definitions impact our view of the extent to which consumers reborrow, and thus are indebted for longer than their original loan term.

To ensure that we observe the beginning of loan sequences, we identify initial loans that begin in the third month of our 12 months of data. Because of this, we report usage patterns for a time

period spanning 10 months.¹⁵⁰ Our calculations thus underestimate the total length of loan sequences to the extent some borrowers' sequences continued past the last month covered by our data.

Overall, we find that the mean (average) loan sequence lasts for five to six loans, depending on the loan sequence definition used. The average loan sequence length increases when we expand the sequence definition from 14 to 30 days, but remains the same if the window expands further.

The share of loan sequences that default increases as we expand the loan sequence definition. While 16% of loan sequences default using the 14-day definition, this steadily increases to 20% of loan sequences under the 30-day definition and one-quarter of loan sequences under the 60-day definition.

TABLE 22: AVERAGE PAYDAY LOAN SEQUENCE LENGTH AND DEFAULT RATE, BY LOAN SEQUENCE DEFINITION

	14-day definition	30-day definition	60-day definition
Average loan sequence length	5.1	5.9	5.9
Percent of loan sequences with a default	16%	20%	25%

¹⁵⁰ Because one of our loan sequence definitions uses 60 days, we look at loan sequences that begin in month 3 of the 12 months of data used to help ensure we observe an initial loan in a sequence instead of a loan that belongs to a sequence that is already in progress. The 2014 Payday Lending Data Point included 11 months of usage patterns because the narrower 14-day definition used in that report allowed us to use initial loans made in month 2 of the 12 months of data used. This change in our sampling approach results in the sample used in this analysis being composed of a different mix of months in which borrowing is observed. We also look at borrowing patterns for 10, rather than 11, months. For these two reasons, the findings using the 14-day definition in this chapter differ somewhat from the findings reported in the 2014 Payday Lending Data Point.

As illustrated in Table 22 above, more loans are contained within the same loan sequence as the sequence definition expands from 14 to 60 days. Accordingly, the number of loan sequences a borrower has over the 10-month period declines as the loan sequence definition becomes more inclusive. Figures 32-34 below show that while just over half (55%) of borrowers have a single loan sequence using the 14-day loan sequence definition, two-thirds of borrowers have a single sequence of loans under the 30-day definition and 80% have a single loan sequence of borrowing when under a 60-day definition.

FIGURE 32: NUMBER OF PAYDAY LOAN SEQUENCES PER BORROWER DURING 10-MONTH PERIOD, 14-DAY DEFINITION

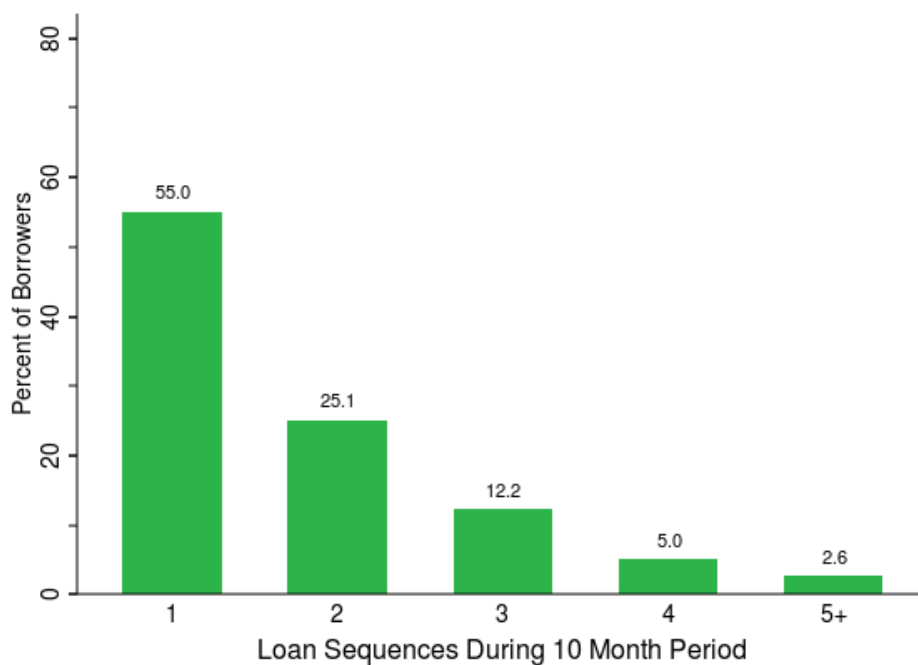


FIGURE 33: NUMBER OF PAYDAY LOAN SEQUENCES PER BORROWER DURING 10-MONTH PERIOD, 30-DAY DEFINITION

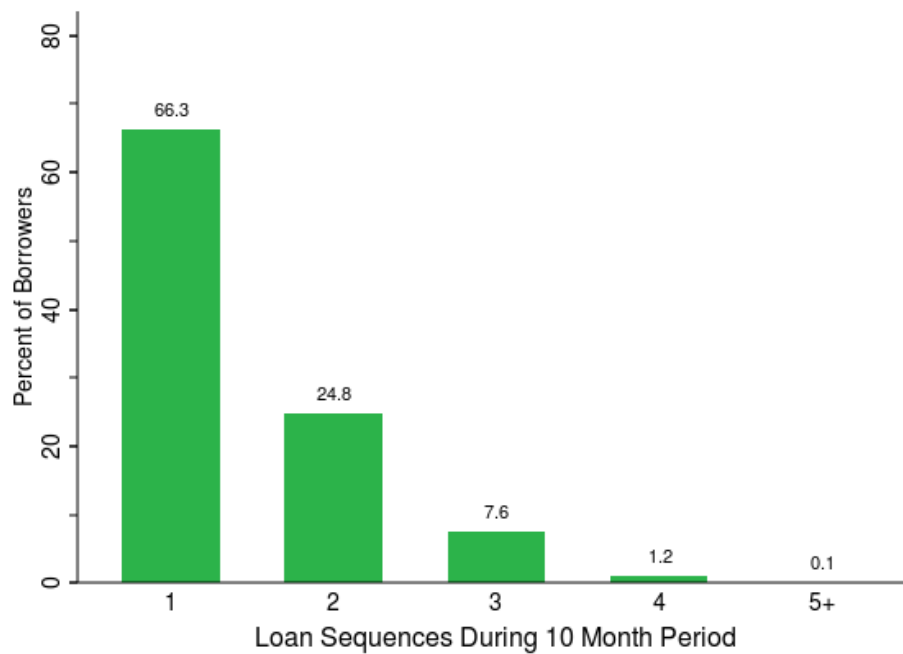
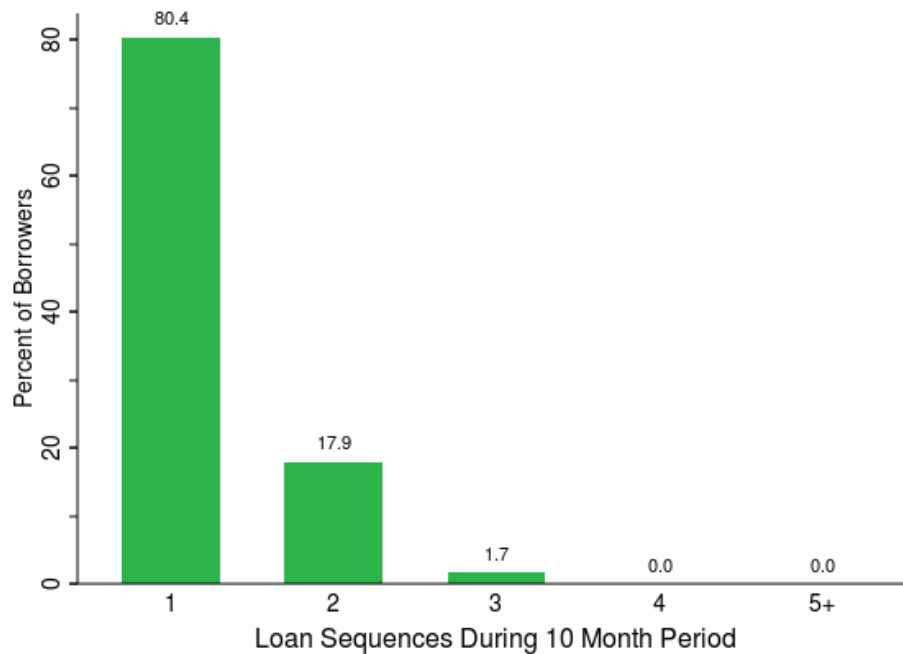


FIGURE 34: NUMBER OF PAYDAY LOAN SEQUENCES PER BORROWER DURING 10-MONTH PERIOD, 60-DAY DEFINITION



There are four possible outcomes for loan sequences: (1) a sequence consisting of a single loan that is repaid, (2) a sequence consisting of a single loan that defaults, (3) a loan sequence consisting of multiple loans that is ultimately repaid or (4) a loan sequence consisting of multiple loans that ultimately defaults. The table below shows how the distribution of these outcomes shift as the loan sequence definition expands from 14 to 60 days. While 30% of loan sequences under the 14-day loan sequence definition consist of a single loan that is repaid, this share drops to about one-in-five loans (22%) when expanding the definition to 30 days and just 17% when using the 60-day definition. Looking at this another way, of the borrowers who repay a single loan without reborrowing for at least 14 days, 27% reborrow by the end of a 30-day period, and 43% reborrow within 60 days of repayment.¹⁵¹

TABLE 23: DISTRIBUTION OF PAYDAY LOAN SEQUENCE OUTCOMES, BY LOAN SEQUENCE DEFINITION

	14-day definition	30-day definition	60-day definition
Single loan sequence, repaid	30%	22%	17%
Single loan sequence, defaulted	5%	6%	8%
Multi-loan sequence, repaid	55%	58%	58%
Multi-loan sequence, defaulted	11%	14%	17%

Figures 35-37 below provide more details about the distribution of loan sequences by sequence length during the 10-month period observed and the share of sequences of each length that are repaid or result in a default. As the sequence definition expands, the share of loan sequences on

¹⁵¹ In addition, we find that 31% of defaults occur in loan sequences consisting of a single loan, and an additional 27% of defaults occur in loan sequences consisting of two or three loans, using the 30-day loan sequence definition. The share of defaults in loans sequences of these durations are similar using the 14- day and 60-day definitions. These findings are similar to those for our single-payment vehicle title loan data used in CPFB, “Single-Payment Vehicle Title Lending,” (May 2016), available at http://files.consumerfinance.gov/f/documents/201605_cfpb_single-payment-vehicle-title-lending.pdf. Using a 30-day loan sequence definition, we find that 29% of defaults occur in single-payment vehicle title loan sequences consisting of a single loan, and an additional 26% of defaults occur in loan sequences consisting of two or three loans.

the opposite ends of the spectrum nearly reach parity, with about the same share of loan sequences being for a single loan or at least 10 loans using the 60-day definition.

FIGURE 35: DURATION OF PAYDAY LOAN SEQUENCES, 14-DAY DEFINITION

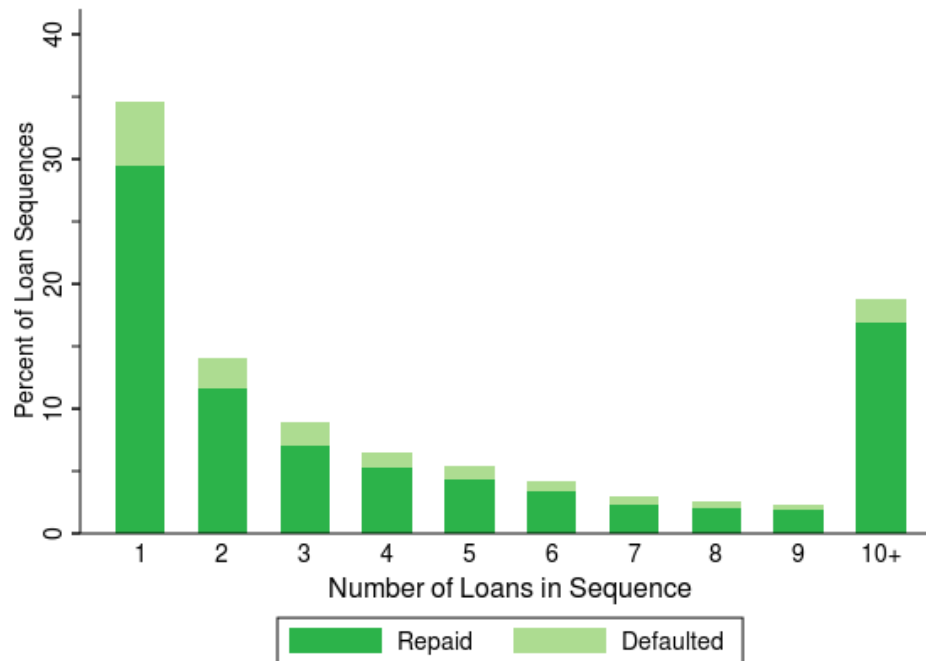


FIGURE 36: DURATION OF PAYDAY LOAN SEQUENCES, 30-DAY DEFINITION

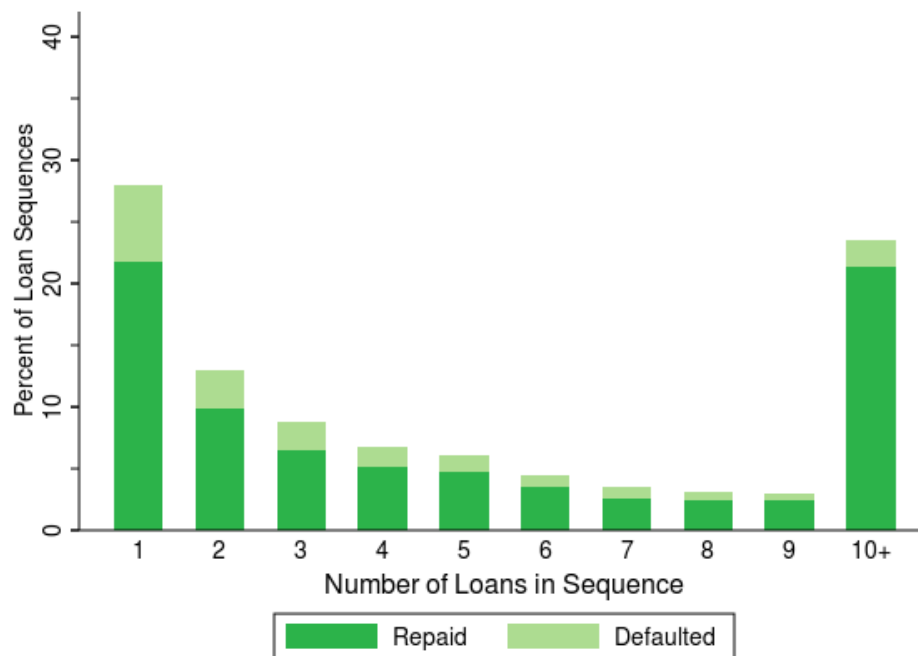
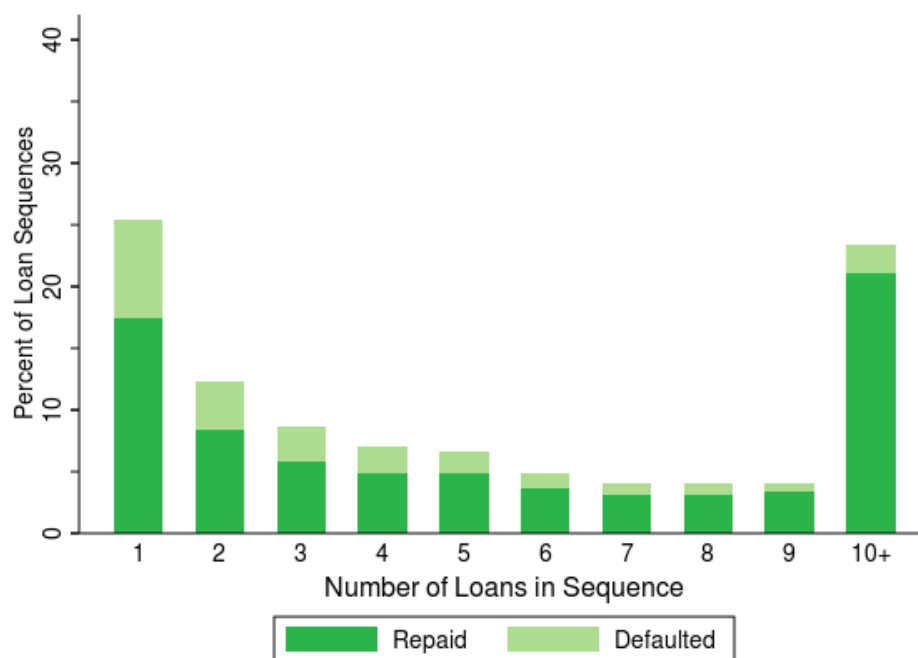


FIGURE 37: DURATION OF PAYDAY LOAN SEQUENCES, 60-DAY DEFINITION



More than two-in-five loan sequences (43%) are for four or more loans under the 14-day definition. This increases to half or more loan sequences when using longer windows for the loan sequence definition, with the greatest change observed when expanding the definition from 14 to 30 days. During the 10-month time period we observe, 19% of loan sequences are for 10 loans or more using the 14-day definition, and almost a quarter of loan sequences are for 10 loans or more using the other two definitions. These findings are summarized in Table 24 below. We again find that the change in results between the 14-day to 30-day definition is much greater than the change in results when expanding the definition from 30 to 60 days. Overall, these findings suggest that many loans are reborrowed between 14 and 30 days after the previous loan is repaid.

TABLE 24: SHARE OF PAYDAY LOAN SEQUENCES OF VARYING LENGTHS DURING 10-MONTH TIME PERIOD, BY LOAN SEQUENCE DEFINITION

	14-day definition	30-day definition	60-day definition
4+ loans	43%	50%	54%
7+ loans	27%	33%	35%
10+ loans	19%	24%	23%

Results by borrower pay frequency

As noted previously, we next report findings for two sub-sets of borrowers: (1) those paid weekly, bi-weekly, or semi-monthly who generally have loan terms of about two weeks and (2) those paid monthly, who generally have loan terms of one month. Thus, borrowers from the first group could potentially have up to about 20 transactions during the 10-month time period observed, while those paid monthly could have up to about 10 transactions.

Table 25 shows the average loan sequence length and the share of loan sequences with a default broken out by borrowers of different pay frequencies. Loan sequences average 4-5 loans for borrowers paid monthly and 5-6 loans for borrowers paid more frequently. As with our overall findings, the results are most changed when the sequence definition expands from 14 to 30 days. Loan sequence default rates steadily increase as the sequence definition expands from 14 to 60 days. Overall, borrowers paid weekly, bi-weekly, or semi-monthly experience higher rates of default.

TABLE 25: AVERAGE PAYDAY LOAN SEQUENCE LENGTH AND DEFAULT RATE, BY LOAN SEQUENCE DEFINITION AND BORROWER PAY FREQUENCY

	14-day definition	30-day definition	60-day definition
Average loan sequence length			
Borrowers paid weekly, bi-weekly, or semi-monthly	5.4	6.2	6.2
Borrowers paid monthly	4.2	4.9	5.2
Percent of loan sequences with a default			
Borrowers paid weekly, bi-weekly, or semi-monthly	17%	21%	26%
Borrowers paid monthly	14%	18%	21%

The distribution of the four possible outcomes for each loan sequence definition is shown in Table 26 below. Among borrowers paid weekly, bi-weekly, or semi-monthly, 29% of loan sequences under the 14-day definition are for a single loan that is repaid, but this share drops to 22% using the 30-day definition and to 18% using the 60-day definition. Similar trends exist for the sub-set of borrowers paid monthly. Within this sub-set, 30% of loan sequences under the 14-day definition are for a single loan that is repaid, but this share drops to 21% using the 30-day definition and to 16% using the 60-day definition.

TABLE 26: DISTRIBUTION OF PAYDAY LOAN SEQUENCE OUTCOMES, BY LOAN SEQUENCE DEFINITION AND BORROWER PAY FREQUENCY

	14-day definition	30-day definition	60-day definition
Borrowers paid weekly, bi-weekly or semi-monthly			
Single loan sequence, repaid	29%	22%	18%
Single loan sequence, defaulted	5%	7%	8%
Multi-loan sequence, repaid	54%	58%	56%
Multi-loan sequence, defaulted	11%	14%	17%
Borrowers paid monthly			
Single loan sequence, repaid	30%	21%	16%
Single loan sequence, defaulted	4%	5%	7%
Multi-loan sequence, repaid	56%	61%	63%
Multi-loan sequence, defaulted	10%	12%	15%

Table 27 and Figures 38-43 below provide more detail on the distribution of loan sequences by pay frequency. For borrowers paid weekly, bi-weekly, or semi-monthly, at least half of loan sequences are for four or more loans once the sequence definition expands to 30 or 60 days. Sequences of 10 or more loans make up 19% of all loan sequences using the 14-day definition, but about one-quarter of all loans using the 30- and 60-day definitions. About 5-6% of loan sequences are for twenty loans or more, the most loans a borrower paid weekly, bi-weekly, or semi-monthly could likely take in this 10-month time period.

For borrowers paid monthly, about one-in-five loan sequences are for at least 10 loans, the most loans a borrower with a monthly income could likely have over 10 months.¹⁵² This is consistent with our previous findings that borrowers paid monthly are more likely to be indebted continuously than those paid more frequently.¹⁵³

TABLE 27: SHARE OF PAYDAY LOAN SEQUENCES OF VARYING LENGTHS DURING 10-MONTH TIME PERIOD, BY LOAN SEQUENCE DEFINITION AND BORROWER PAY FREQUENCY

	14-day definition	30-day definition	60-day definition
Borrowers paid weekly, bi-weekly, or semi-monthly			
4+ loans	42%	50%	52%
7+ loans	27%	33%	35%
10+ loans	19%	24%	25%
Borrowers paid monthly			
4+ loans	43%	52%	57%
7+ loans	26%	33%	37%
10+ loans	17%	21%	20%

¹⁵² Specifically, 17% of loan sequences are for 10 or more loans using the 14-day definition. This rises to 21% and 20% using 30- and 60-day definitions, respectively.

¹⁵³ “CFPB Data Point: Payday Lending,” (Mar. 2014), available at http://files.consumerfinance.gov/f/201403_cfpb_report_payday-lending.pdf.

FIGURE 38: DURATION OF PAYDAY LOAN SEQUENCES FOR BORROWERS PAID WEEKLY, BI-WEEKLY, OR SEMI-MONTHLY, 14-DAY DEFINITION

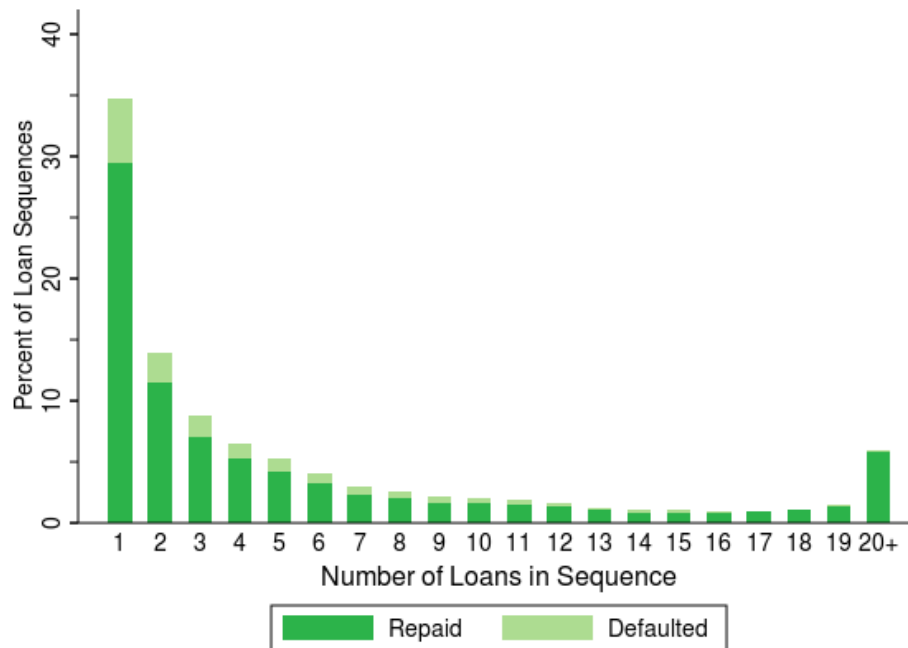


FIGURE 39: DURATION OF PAYDAY LOAN SEQUENCES FOR BORROWERS PAID WEEKLY, BI-WEEKLY, OR SEMI-MONTHLY, 30-DAY DEFINITION

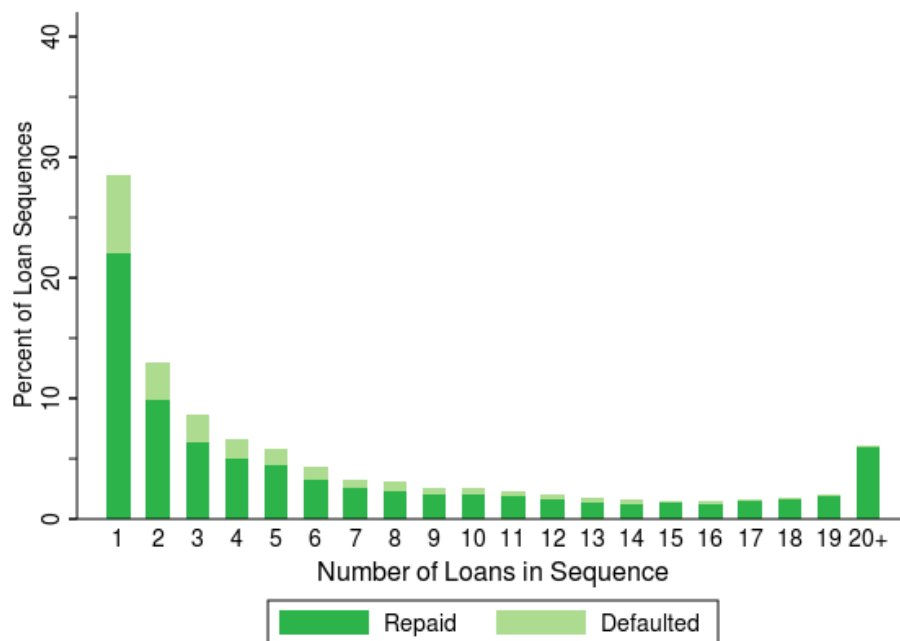


FIGURE 40: DURATION OF PAYDAY LOAN SEQUENCES FOR BORROWERS PAID WEEKLY, BI-WEEKLY, OR SEMI-MONTHLY, 60-DAY DEFINITION

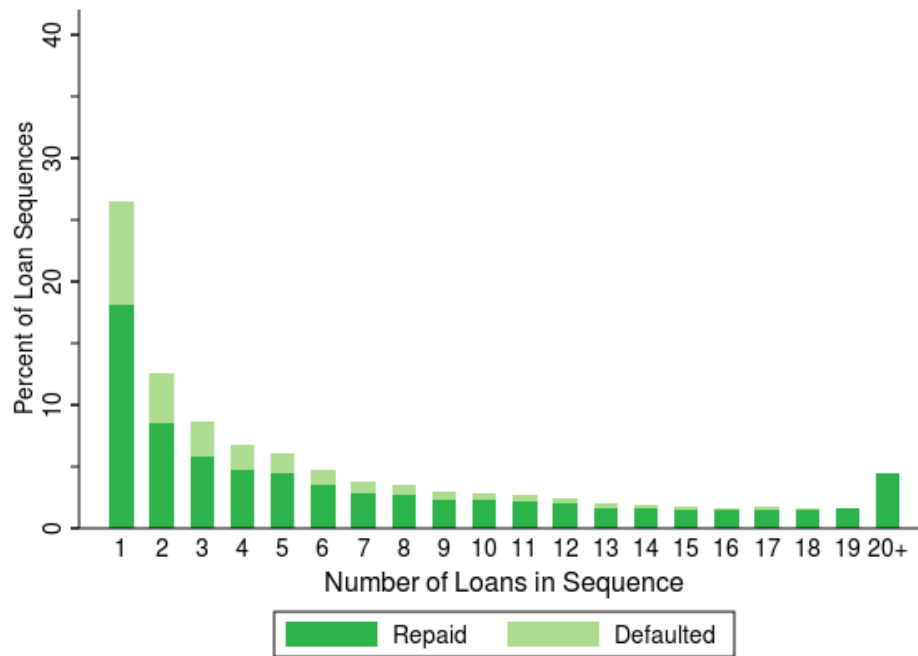


FIGURE 41: DURATION OF PAYDAY LOAN SEQUENCES FOR BORROWERS PAID MONTHLY, 14-DAY DEFINITION

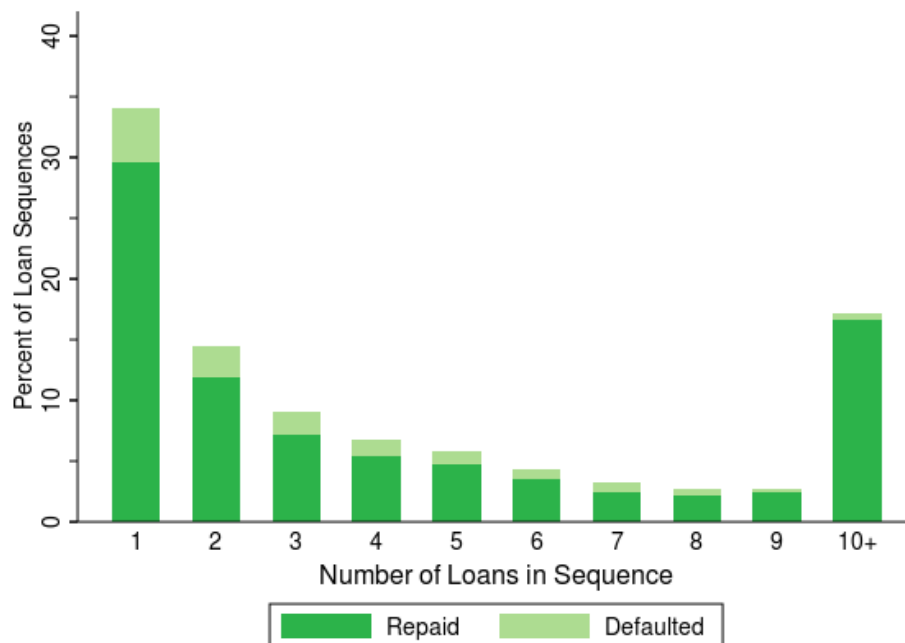


FIGURE 42: DURATION OF PAYDAY LOAN SEQUENCES FOR BORROWERS PAID MONTHLY, 30-DAY DEFINITION

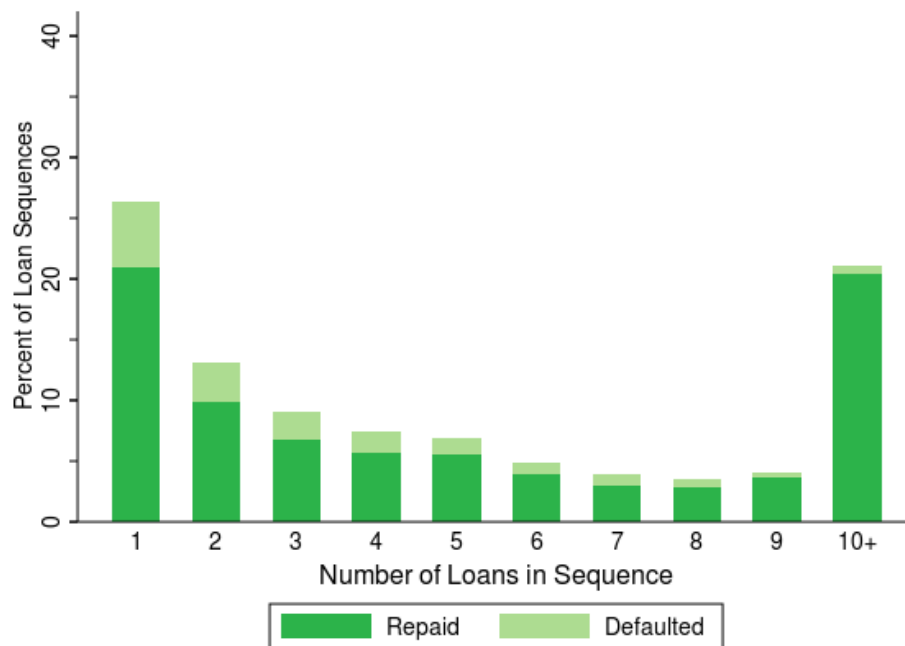
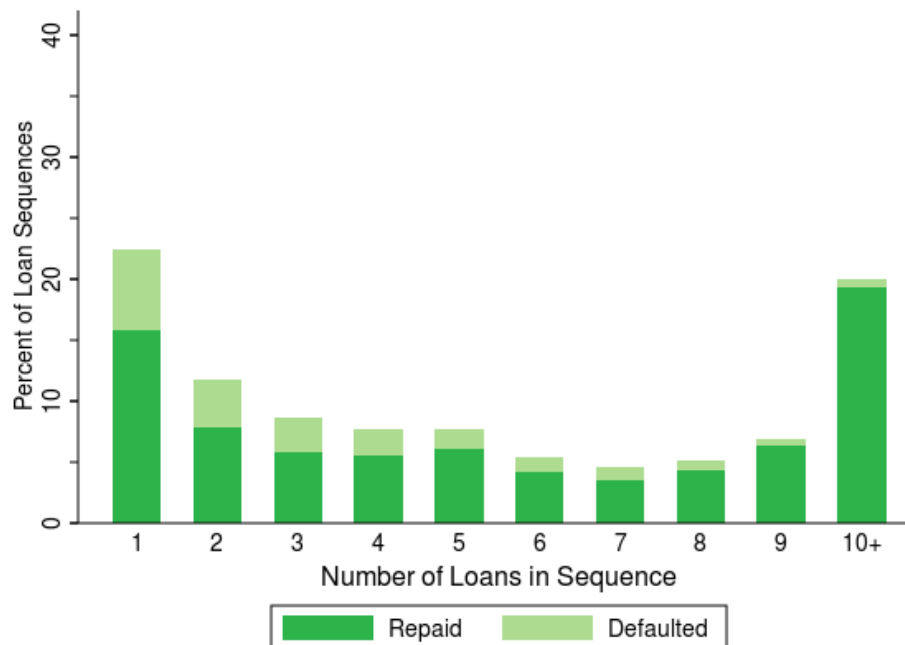


FIGURE 43: DURATION OF PAYDAY LOAN SEQUENCES FOR BORROWERS PAID MONTHLY, 60-DAY DEFINITION



5.3.3 Distribution of payday loans by loan sequence length

Next, we look at how loans are distributed across sequence lengths. While our findings varied in the previous section based on the sequence definition used, our findings here are much more uniform. We consistently see that more than two-thirds of all loans are in sequences of at least seven loans, and more than half of all loans are in loan sequences of 10 loans or more, regardless of sequence definition. The remaining loans are distributed somewhat evenly with about 4-6% of loans in sequence lengths of one to nine loans.

FIGURE 44: SHARE OF PAYDAY LOANS ORIGINATED IN LOAN SEQUENCES OF DIFFERENT LENGTHS, 14-DAY DEFINITION

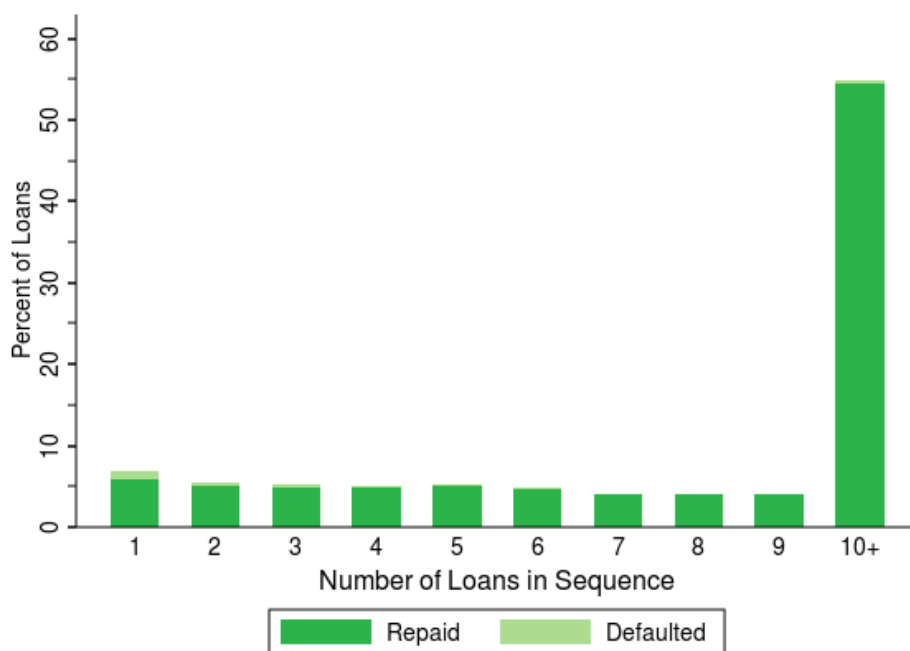


FIGURE 45: SHARE OF PAYDAY LOANS ORIGINATED IN LOAN SEQUENCES OF DIFFERENT LENGTHS, 30-DAY DEFINITION

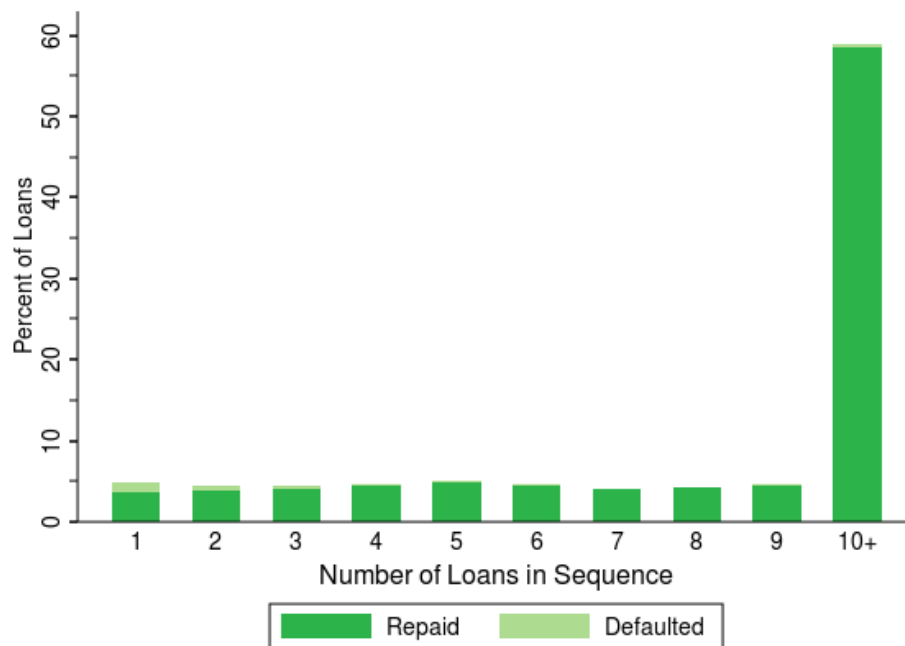
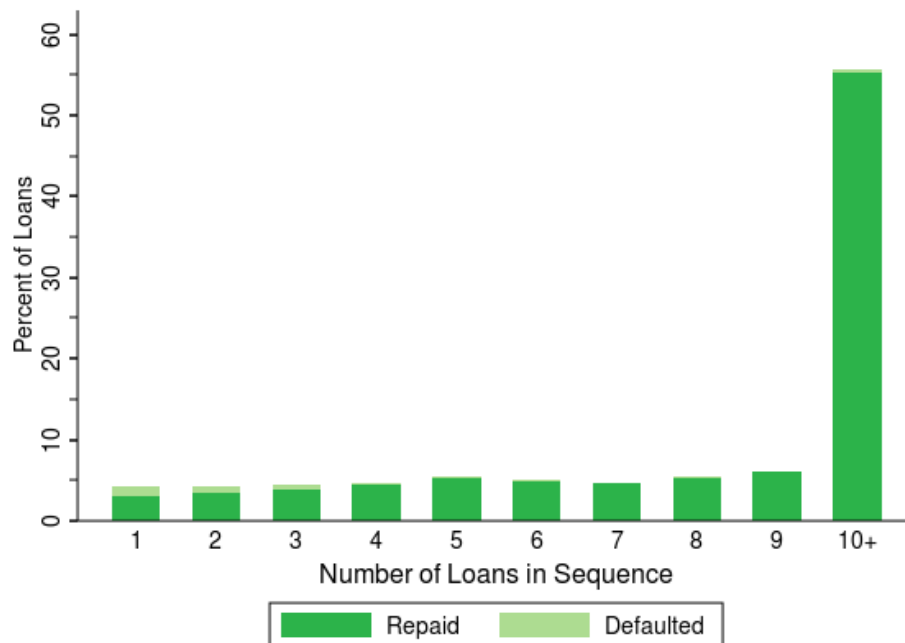


FIGURE 46: SHARE OF PAYDAY LOANS ORIGINATED IN LOAN SEQUENCES OF DIFFERENT LENGTHS, 60-DAY DEFINITION



Results by borrower pay frequency

Breaking this finding out for borrowers paid weekly, bi-weekly, or semi-monthly, we find that about one-fifth of all loans are in loan sequences that are at least 20 loans long,¹⁵⁴ half of loans are in loan sequences that are at least 12-13 loans long and two-thirds of loans are in loan sequences at least 8-9 loans long, depending on the sequence definition used. Among borrowers paid monthly, more than 40% of all loans are in sequences that are at least 10 loans long. In addition, half of loans are in loan sequences that are at least 8-9 loans long and two-thirds are in loan sequences at least 6-7 loans long.

¹⁵⁴ Specifically, 23% of loans are in sequences of 20 or more loans using the 14-day definition. This drops to 21% using the 30-day definition and 15% using the 60-day definition.

FIGURE 47: SHARE OF PAYDAY LOANS ORIGINATED IN LOAN SEQUENCES OF DIFFERENT LENGTHS FOR BORROWERS PAID WEEKLY, BI-WEEKLY, OR SEMI-MONTHLY, 14-DAY DEFINITION

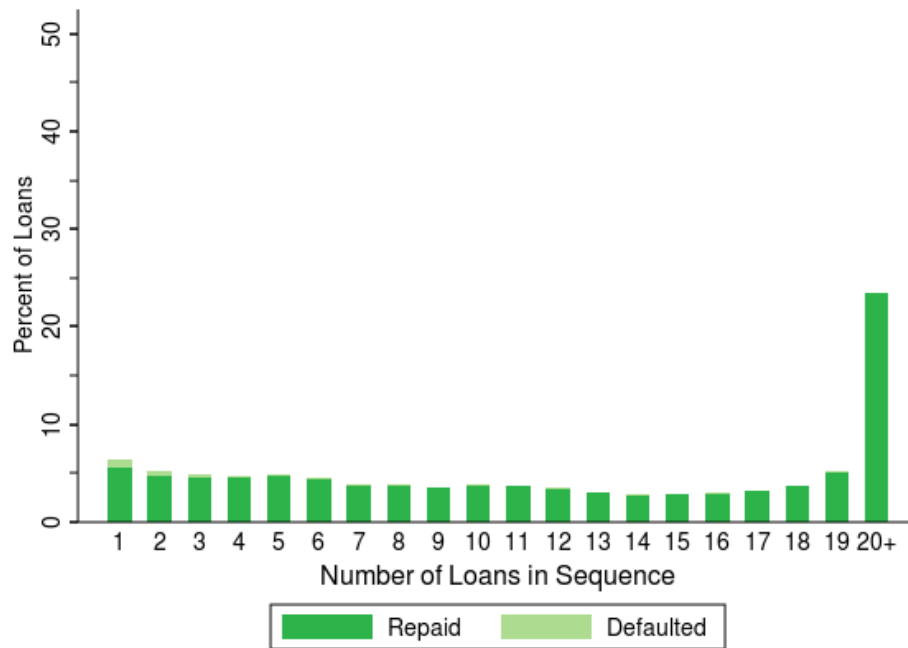


FIGURE 48: SHARE OF PAYDAY LOANS ORIGINATED IN LOAN SEQUENCES OF DIFFERENT LENGTHS FOR BORROWERS PAID WEEKLY, BI-WEEKLY, OR SEMI-MONTHLY, 30-DAY DEFINITION

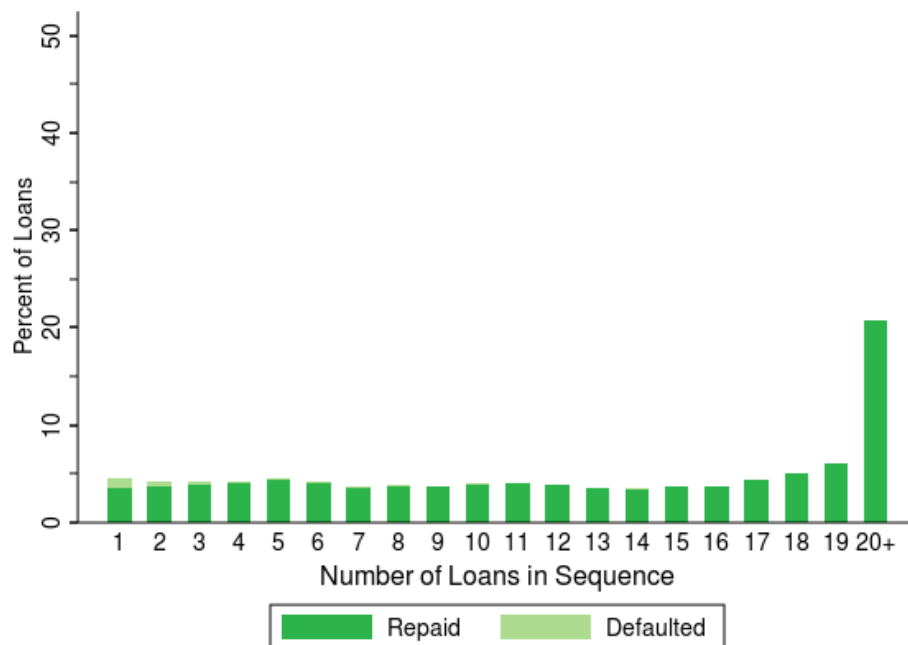


FIGURE 49: SHARE OF PAYDAY LOANS ORIGINATED IN LOAN SEQUENCES OF DIFFERENT LENGTHS FOR BORROWERS PAID WEEKLY, BI-WEEKLY, OR SEMI-MONTHLY, 60-DAY DEFINITION

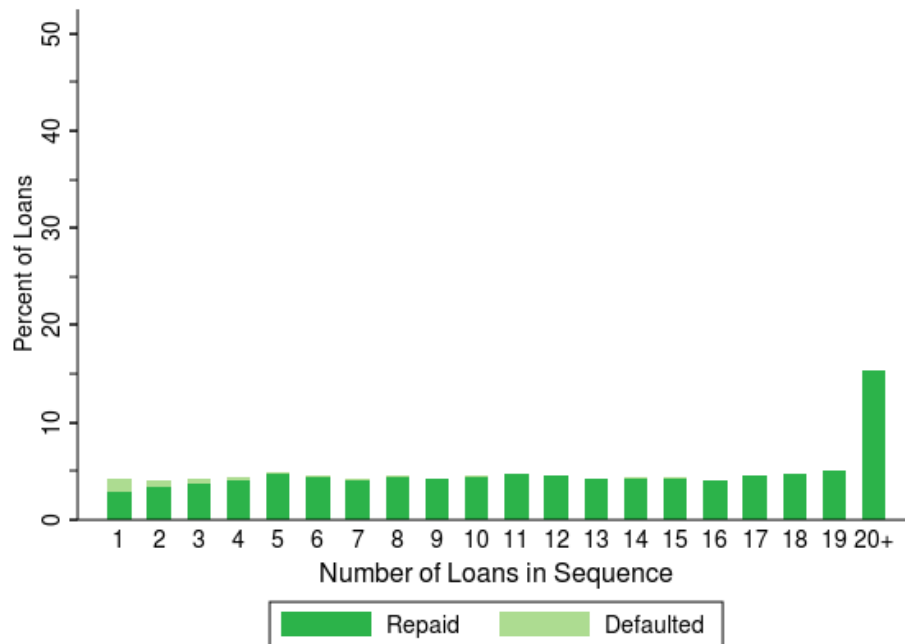


FIGURE 50: SHARE OF PAYDAY LOANS ORIGINATED IN LOAN SEQUENCES OF DIFFERENT LENGTHS FOR BORROWERS PAID MONTHLY, 14-DAY DEFINITION

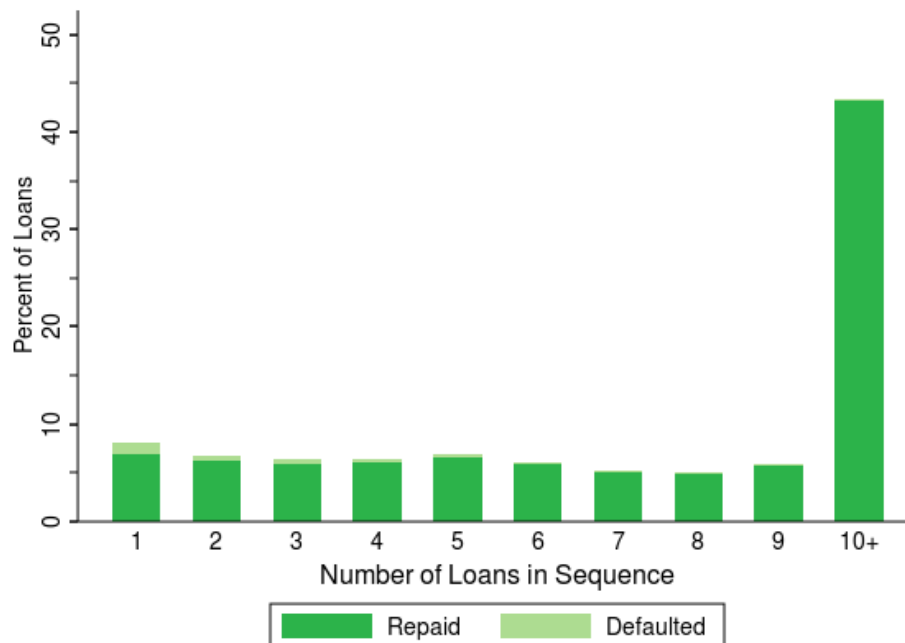


FIGURE 51: SHARE OF PAYDAY LOANS ORIGINATED IN LOAN SEQUENCES OF DIFFERENT LENGTHS FOR BORROWERS PAID MONTHLY, 30-DAY DEFINITION

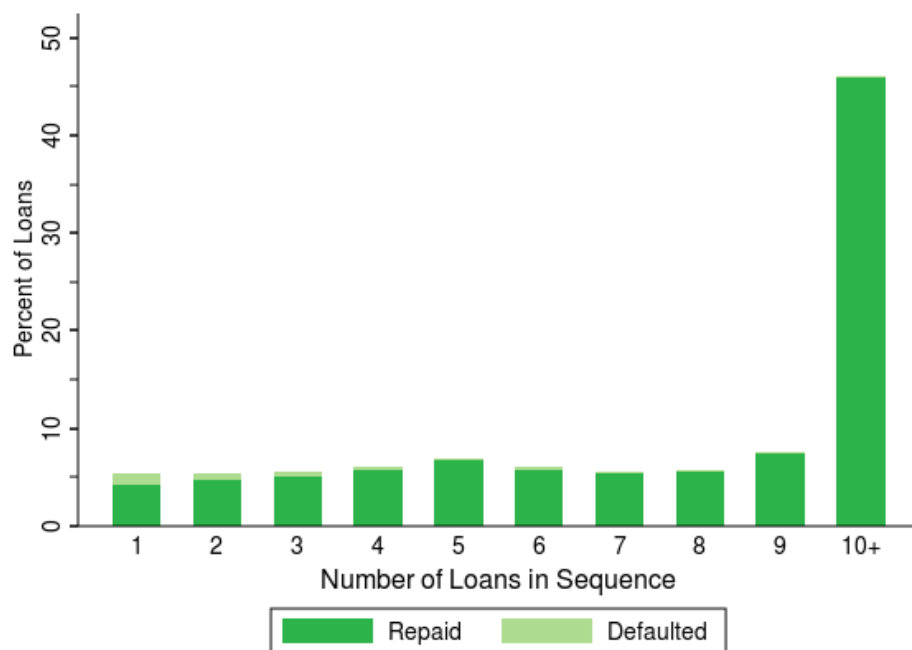
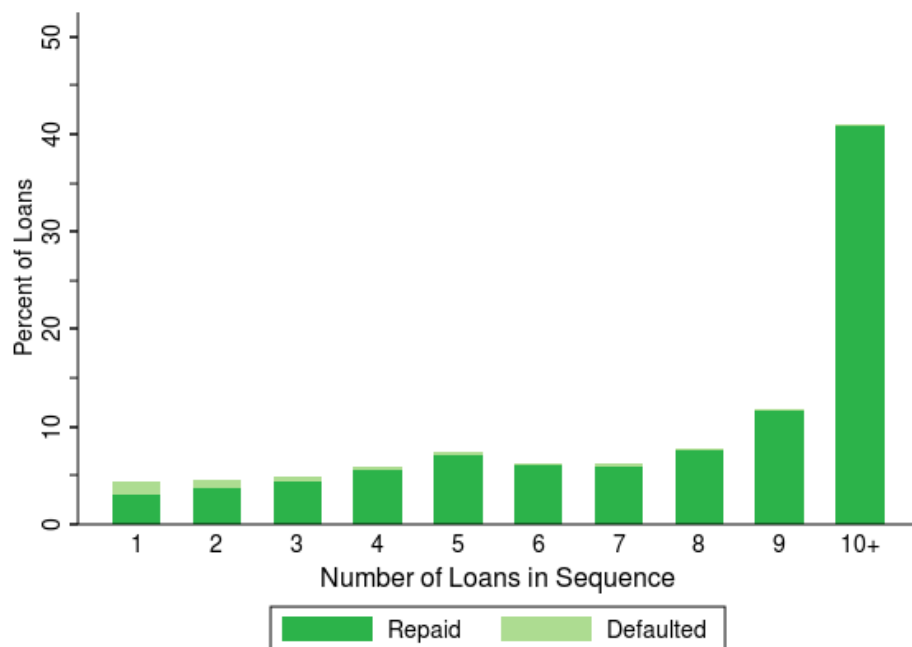


FIGURE 52: SHARE OF PAYDAY LOANS ORIGINATED IN LOAN SEQUENCES OF DIFFERENT LENGTHS FOR BORROWERS PAID MONTHLY, 60-DAY DEFINITION



5.3.4 Changes in amounts borrowed over time

Borrowers who take out multiple payday loans in a loan sequence may reborrow the same amount each time, or they may increase or decrease the loan amount over time. Those who decrease their loan size over the course of a loan sequence may be attempting to effectively self-amortize their debt by gradually paying it down. Others whose loan size increases may be at greater risk of defaulting. In this section, we compare the first and last payday loan in a sequence to determine the share of loan sequences with amounts borrowed that increase, decrease, or stay the same. We report these findings for all borrowers and then broken out by borrower pay frequency.

Consistent with the previous section, a smaller share of payday loan sequences consist of a single loan as the loan sequence definition expands to include all payday loans made within 30 or 60 days of a previous loan being repaid. This analysis is only relevant for loan sequences that consist of two or more payday loans, and, for such sequences, it is relatively uncommon for the loan size to decrease over time. Instead, it is most likely for the loan size to stay the same during a multi-loan sequence and slightly less likely for the loan size to increase, regardless of which loan sequence definition is used.

Similar to our loan sequence distributions in the previous section, we find that the largest change in findings exists when the definition is expanded from 14 to 30 days. However, as Table 28 shows, findings do not vary dramatically between any of our definitions, with a clear trend of payday loans either staying the same size or increasing.

TABLE 28: SHARE OF MULTI-PAYDAY LOAN SEQUENCES THAT INCREASE, DECREASE, OR REMAIN UNCHANGED, BY LOAN SEQUENCE DEFINITION

	14-day definition	30-day definition	60-day definition
Increased loan size	38%	40%	41%
Unchanged loan size	48%	45%	44%
Decreased loan size	14%	15%	15%

Results by borrower pay frequency

We perform the same analysis comparing borrowers paid weekly, bi-weekly, or semi-weekly to those paid monthly.

While multi-loan sequences are generally unlikely to have decreases in loan size, this is even more true for payday borrowers who are paid monthly. Instead, they are more likely than payday borrowers paid more frequently to have loan sizes that remain unchanged.

Comparing findings using the different sequence definitions for these two groups of payday borrowers, we find that the share of multi-loan sequences with a decrease in loan size is about the same regardless of the definition used. However, as the definition expands from 14 to 60 days, payday loan sequences are more likely to increase in loan size rather than remain unchanged, as shown in the table below.

TABLE 29: SHARE OF MULTI-PAYDAY LOAN SEQUENCES THAT INCREASE, DECREASE, OR REMAIN UNCHANGED, BY PAY FREQUENCY AND LOAN SEQUENCE DEFINITION.

	14-day definition	30-day definition	60-day definition
Borrowers paid weekly, bi-weekly, or semi-monthly			
Increased loan size	39%	41%	43%
Unchanged loan size	45%	42%	40%
Decreased loan size	16%	16%	17%
Borrowers paid monthly			
Increased loan size	34%	36%	37%
Unchanged loan size	56%	53%	52%
Decreased loan size	10%	11%	11%

6. Estimated impacts of certain requirements on the payday, payday installment, and vehicle title loan markets

6.1 Introduction

In this chapter, we describe the results of two simulations that provide estimates of the changes in loan volume (in dollars), revenue, and the number of loans that would be expected to occur in the payday lending and single-payment vehicle title lending¹⁵⁵ markets if certain lending requirements were imposed.¹⁵⁶ In addition, we describe the results of a simulation that provides

¹⁵⁵ Hereinafter in this chapter, single-payment vehicle title loans are simply referred to as “vehicle title loans.”

¹⁵⁶ The Bureau’s proposed rule on Payday, Vehicle Title, and Certain High-Cost Installment Loans would impose these types of lending restrictions, along with other interventions. A more detailed discussion of the impacts of the proposed rule is contained in Section 1022(b)(2) analysis in part VI of “The Notice of Proposed Rulemaking on Payday, Vehicle Title, and Certain High-Cost Installment Loans.”

an estimate of the impact of a limit on the number of times a lender can attempt to obtain payment on an online payday or payday installment loan directly from a borrower's account.

The first simulation estimates the impacts of lender compliance with the ability-to-repay (ATR) provisions of the proposed rule,¹⁵⁷ hereinafter referred to as the "ATR approach." When a lender makes loans using the ATR approach, there would be a presumption that a payday or vehicle title loan is unaffordable for a borrower if she takes out a similar new loan within 30 days of repaying a previous loan. This reborrowing within a short period of time after a previous loan is repaid may signal that the consumer is unable to repay her loan while meeting other major financial obligations and basic living expenses during the same month without taking out a new loan. Because this presumption can be overcome in certain circumstances, it would not prohibit the making of additional loans within 30 days of a prior loan. Accordingly, it is not possible to determine with precision the ATR approach's impact. For purposes of this simulation, we assume that lenders would not make additional loans within the 30-day period covered by the presumption.¹⁵⁸ In effect, then, we simulate the impact of a 30-day cooling-off period between loans, which would be more restrictive than the Bureau's proposal.

Key findings of this simulation include:

- If lending was restricted through a requirement that the borrower wait at least 30 days after repaying a loan before taking a new one, the storefront payday and vehicle title loan markets would experience large declines in loan volume, the number of loans originated, and revenues.

¹⁵⁷ "The Notice of Proposed Rulemaking on Payday, Vehicle Title, and Certain High-Cost Installment Loans," (June 2016).

¹⁵⁸ Because of this assumption, we likely overstate the impact of the ATR approach on the storefront payday and vehicle title lending markets.

- Payday loan volume and revenues would decline between 60% and 81-82% under a 30-day cooling-off period between loans. The decline in the number of loans would be similar, with decreases estimated between 59% and 80%.
- Vehicle title loan volume, revenues, and loan originations would decline between 48-49% and 77-78%.

Next, we look at the impact of lenders making loans in compliance with the alternative to the ATR approach that is included in the proposed rule (“Alternative approach”). The Alternative approach would allow lenders that comply with a set of requirements to make short-term loans without first determining that the borrower has the ability to repay the loan while paying for other major financial obligations and basic living expenses. This Alternative approach is not available for vehicle title loans. The requirements include limiting borrowers to no more than an initial loan and two subsequent loans made within 30 days of a previous loan being repaid—a loan sequence consisting of three loans. Once a borrower has taken out three loans in a sequence, the lender cannot make an additional loan of this type to that borrower for at least 30 days. The first loan in such a sequence is capped at \$500, and the loan amount must be reduced by at least one-third of the original principal for each subsequent loan in the same loan sequence. In addition, there is an ultimate limit of six loans or 90 days indebted within a 12-month period. This second simulation reports the cumulative impact of these provisions.

Key findings of this simulation include:

- We estimate that storefront payday loan volume and revenues would decrease by nearly three-quarters and over half of all loans would not be made if lenders originated loans only under the Alternative approach.
- While we estimate that the overall loan volume would decrease substantially, this is primarily due to a reduction in the reborrowing of an initial loan, rather than a decrease in initial loans taken out by a consumer. Using the Alternative approach, between 6%

and 9% of loan sequences would no longer occur and between 7% and 11% of payday loan borrowers would be impacted by the prevention of these initial loans.

Finally, we estimate the impact of limiting the number of times a lender could attempt to collect payment directly from a borrower's account. In order to obtain a payday or payday installment loan, a consumer generally must provide a lender with a post-dated check or authorization to debit her bank account for payment.¹⁵⁹ The proposed rule would restrict lenders from attempting to withdraw payment from a borrower's bank account if two consecutive prior payment attempts made through any channel were to fail due to insufficient funds, unless the lender obtained a new and specific authorization from the borrower to collect payment from the borrower's account. Using data on online payday and online payday installment loan payment requests, we estimate the share of attempted payment requests that would be prevented by this limitation. We also estimate the average amount that would otherwise be withdrawn from the borrower's account, and the amount of overdraft and non-sufficient funds (NSF) fees that would be prevented.

Our key findings include the following:

- Limiting the number of times a lender could attempt to obtain payment would prevent between 7% and 10% of attempts by the lender to collect a payment on a borrower's online payday or payday installment loan.
- This would result in between \$55 and \$219 not being withdrawn from a borrower's account by that lender, absent a new and specific authorization, and would prevent the borrower from being assessed between \$64 and \$87 of overdraft or NSF fees as a result of those prevented collection attempts.

¹⁵⁹ This limitation would also apply to withdrawal attempts on a borrower's prepaid card.

6.2 Data and limitations

Impact of lending requirements on the storefront payday and vehicle title loan markets

Our simulations of the ATR approach and its alternative are performed using loan-level data stripped of direct identifiers acquired from multiple storefront payday and vehicle title lenders.¹⁶⁰ The payday loan data are comprised of over 12 million payday loans made in 30 states in 2011-2012, while the vehicle title data are comprised of nearly 3.5 million loans made in 10 states during 2010-2013. For this analysis, we use a 12-month sub-sample of data from each lender. These are the same data used in other Bureau reports on payday and vehicle title lending, including several other chapters of this report.¹⁶¹

The dataset contains a randomly-generated customer ID that allows us to link all loans made to the same consumer by a given lender. However, we cannot link loans made to the same consumer by different lenders, nor do we link any payday and vehicle title loans made to the same consumer by the same lender.

Each loan record includes the loan amount and the associated finance charges. These data are used to estimate the loan volume and revenues that remain if certain loans are not made due to the lending requirements simulated. Loan amounts and finance charges are also used to simulate the effects of the loan size limits of the alternative lending approach – the \$500 limit

¹⁶⁰ This data was obtained through the confidential investigation and supervisory processes, and through an order pursuant to the Bureau's authority in section 1022(c)(4) of the Dodd Frank Wall Street Reform and Consumer Protection Act of 2010. The lenders whose loans are included in this report are not identified.

¹⁶¹ Other reports using this data include CFPB, "Payday Loans and Deposit Advance Products: A White Paper of Initial Data Findings," (Apr. 2013), available at http://files.consumerfinance.gov/f/201304_cfpb_payday-dap-whitepaper.pdf; "CFPB Data Point: Payday Lending," (Mar. 2014), available at http://files.consumerfinance.gov/f/201403_cfpb_report_payday-lending.pdf; and CFPB, "Single-Payment Vehicle Title Lending," (May 2016), available at http://files.consumerfinance.gov/f/documents/201605_cfpb_single-payment-vehicle-title-lending.pdf.

on the first loan of a sequence and the requirement that the loan amount is reduced by at least one-third on each subsequent loan in the same sequence. To simulate the impacts of those requirements, we reduce the principal amounts and finance charges of loans that exceed loan size limitations but could otherwise be made.¹⁶²

There are a number of sources of uncertainty in the estimates generated by these simulations. First, the data used to carry out these simulations are from large storefront payday lenders. These lenders and their customers may differ in important ways from the behavior of other storefront lenders and their customers that might otherwise impact our findings for the overall storefront market.¹⁶³ They may also differ from the behavior of lenders who make loans online and their customers. Second, as noted above, because our data do not allow us to link loans made by multiple lenders to the same borrower, we may somewhat understate the impact of these lending restrictions.¹⁶⁴ Finally, consumer and lender behavior may be different than the behaviors we are simulating or may change in response to these restrictions in ways we do not

¹⁶² Payday loan fees are often expressed as a fee per \$100 borrowed. So, if a loan in our data was made for \$600 and carried a \$90 fee (\$15 per \$100 borrowed), a simulation that reduced the principal amount to \$500 would also reduce the fee to \$75.

¹⁶³ The overall pattern of borrowing, however, is very similar to that reported by other researchers who have studied storefront lenders, which suggests that the impact of the proposed regulations would be similar for those other storefront lenders. For example, see Charles River Associates, “Economic Impact on Small Lenders of the Payday Lending Rules Under Consideration by the CFPB,” (May 12, 2015), available at <http://www.crai.com/publication/economic-impact-small-lenders-payday-lending-rules-under-consideration-cfpb>. Because these simulations estimate impact for the storefront payday lending market, the results of this analysis cannot be used to determine the impact for the online payday loan market, which may have different lending patterns.

¹⁶⁴ Linking loans from other lenders made to the same borrower would likely have a relatively modest impact on our findings. A study of over four million borrowers using five storefront lenders from 2010-2013 (which purports to cover 20% of the total storefront payday lending market) found that only a quarter of storefront payday loan borrowers used more than one lender during that four-year time period. See Nonprime 101, “How Persistent is the Borrower-Lender Relationship in Payday Lending?” (Sept. 2015), available at https://www.nonprime101.com/wp-content/uploads/2015/10/Report-7A-How-Persistent-Is-the-Borrow-Lender-Relationship_1023151.pdf.

quantify through these simulations.¹⁶⁵ For example, lenders may elect to make non-covered loans or covered longer-term loans in response to the limitations on their ability to make covered short-term loans.

Impact of payment collection restrictions on the online payday loan market

Our simulation of a limit on the number of attempts a lender may make to collect payment uses checking account data from several large depository institutions. We use these data to analyze ACH payment requests by a number of online payday lenders with payments scheduled for a borrower's payday.¹⁶⁶ The data span 18 months in 2011 and 2012, and are the same data used for a previous Bureau publication which analyzed online payday lender payment collection practices.¹⁶⁷ A subset of the depositories provided information identifying the merchant initiating electronic transactions, including ACH transactions, and the data used in this analysis are limited to that subset of depositories.

With these data, we simulate the share of payment collection attempts that would be prevented with this limitation in the online payday loan market. In addition, for those loans that have collection attempts that would be prevented, we also provide a (mean) average amount in

¹⁶⁵ For example, a borrower may alter their decision to take out an initial loan, when they take out a subsequent loan, or the amount that they borrow. A lender may change their pricing (to the extent allowed by state law), change the type of products offered, consolidate locations, or cease operations entirely.

¹⁶⁶ This data was previously used in two Bureau publications, CFPB, "Payday Loans and Deposit Advance Products, a White Paper of Initial Data Findings," (Apr. 2013), available at http://files.consumerfinance.gov/f/201304_cfpb_payday-dapwhitepaper.pdf and CFPB, "Online Payday Loan Payments," (Apr. 2016), available at http://files.consumerfinance.gov/f/201604_cfpb_online-payday-loan-payments.pdf. The Bureau obtained the data from institutions through the supervisory process. The CFPB considers all supervisory information to be confidential. Consistent with CFPB's rules, the data findings presented in this report do not directly or indirectly identify the institutions or consumers involved. See CFPB's final rule on the Disclosure of Records and Information, 12 C.F.R. § 1070.41(c).

¹⁶⁷ CFPB, "Online Payday Loan Payments," (Apr. 2016), available at http://files.consumerfinance.gov/f/201604_cfpb_online-payday-loan-payments.pdf.

dollars of payments that would not be withdrawn from the borrower's account and the average amount in dollars of overdraft and/or NSF fees that would no longer be assessed by the bank on the borrower's account. As with the first set of simulations, we provide lower- and upper-bound estimates, depending, in this case, on whether the borrower provides a new and specific authorization to the lender to obtain payment after two consecutive failed collection attempts.

Similar to our first simulation, these estimates also have uncertainties and limitations. First, these data were obtained from certain, larger depository institutions, and reflects their account policies and customers' activity.¹⁶⁸ Second, the data show the activity of certain online payday lenders and may not reflect the practices of other online lenders that are not included in our data. It also does not reflect the practices of storefront payday lenders, who typically only present the borrower's check for payment or submit an ACH payment request if the borrower fails to make a payment in person. Third, practices of online lenders may have changed over time in response to regulatory and enforcement pressure and to changes in rules governing the ACH system.¹⁶⁹ Finally, as with the first set of simulations, consumer and lender behavior may be different than the behaviors we simulate or may change in response to these restrictions in ways we do not quantify through these simulations.

¹⁶⁸ This analysis only identifies lender attempts to collect payments through an ACH authorization; lenders may use other means to attempt to collect a payment, such as a remotely-created check, that are not captured here.

¹⁶⁹ See NACHA Rule 2.17.2, which provides NACHA the ability to begin an inquiry process if an originator's total return level exceeds 15 percent).

6.3 Estimated impact of lending requirements on the storefront payday and vehicle title loan markets

Our findings from the simulations on the impacts of two types of lending requirements on the storefront payday and vehicle title loan markets are presented here. In each of these simulations, we provide lower- and upper-bound estimates to reflect different extremes of potential borrower behavior.

6.3.1 Simulations of reborrowing restrictions of the ATR approach

Many consumers in our data took out a series of payday or vehicle title loans in which new loans are taken within 30 days of a previous loan being repaid, often resulting in a large number of loans in a sequence.¹⁷⁰ We provide lower- and upper-bound estimates of the impact of a restriction that would not allow consumers to take a new loan until at least 31 days after a previous loan is closed, thereby simulating a 30-day cooling-off period between each loan.¹⁷¹ The

¹⁷⁰ Other CFPB research has found that 50% of payday loan sequences are for four or more loans, 33% of payday loan sequences are for seven or more loans, and 24% of payday loan sequences are for 10 or more loans over a 10-month period. See Chapter 5 of this report. Similarly, our research on single-payment title lending found that 56% of vehicle title loan sequences are for four or more loans, 36% of vehicle title loan sequences are for seven or more loans, and 23% of vehicle title loan sequences are for 10 or more loans over a 12-month period. See CFPB, “Single-Payment Vehicle Title Lending,” (May 2016), available at http://files.consumerfinance.gov/f/documents/201605_cfpb_single-payment-vehicle-title-lending.pdf.

¹⁷¹ Note that the proposed rule does not impose such a restriction, but rather creates a presumption of unaffordability that lasts for a period of 30 days unless it is overcome. The simulation makes a “worst case” assumption that no loans are made subject to the presumption so that the presumption has the effect of a restriction on lending during the 30-day period.

upper-bound estimate assumes that consumers who took out multiple loans in a sequence do not return to borrow after the cooling-off period, and therefore only loans that were taken out 31 or more days after a prior loan (i.e., the first loan in a sequence) would have been made. The lower-bound estimate assumes that consumers would borrow any loan that we observe in the data that is allowed to be made despite the 30-day cooling-off period. Thus, our simulation retains those subsequent loans that would continue to be allowed under the proposed rule. As an example, consider a consumer who takes out 10 loans that each have 14-day terms. After the initial loan, the consumer then takes out nine subsequent loans that are all taken on the same day the previous loan is repaid. The upper-bound estimate would eliminate every loan except for the initial loan of that 10-loan sequence, while the lower-bound estimate would assume that the initial, fifth, and ninth loans would be made.

Our findings, summarized in the table below, are expressed as a percent change in the loan volume and revenues collected¹⁷² (in dollars) as well as the number of loans made given the two different types of lending requirements we simulate.¹⁷³ The simulations predict a decrease in both storefront payday loan volume and revenues of 60% if consumers borrow again once they are eligible to do so and 81-82% if borrowers do not return after the simulated cooling-off period. The number of storefront payday loans originated would fall by between 59% and 80%. The storefront vehicle title loan market would also experience sharp declines—with loan volume,

¹⁷² Revenues are defined as the amount charged at loan origination, and thus do not include any late or penalty fees that might be assessed if a payment is not made on time.

¹⁷³ The estimates assume that all loans would be made under the simulated restriction. Thus, with respect to the estimate of the effect of a 30-day cooling-off period between loans (ATR approach), the simulation assumes that lenders would not make any loans under the Alternative approach. Likewise, the estimate for the Alternative approach assumes a lender would make all loans following the parameters of that approach.

revenue, and the number of loans cut by about half (48-49%) as a lower-bound and by 77-78% as an upper-bound.¹⁷⁴

TABLE 30: LOWER- AND UPPER-BOUND ESTIMATES OF THE IMPACT OF A 30-DAY COOLING-OFF PERIOD BETWEEN EACH LOAN TO THE STOREFRONT PAYDAY AND VEHICLE TITLE LOAN MARKETS

	Change in loan volume (\$)	Change in loans (#)	Change in revenue (\$)
Payday loans			
Lower-bound	-60%	-59%	-60%
Upper-bound	-82%	-80%	-81%
Vehicle title loans			
Lower-bound	-49%	-48%	-48%
Upper-bound	-78%	-78%	-77%

6.3.2 Simulations of the Alternative approach

Next, we simulate the impact of the requirements that lenders would need to comply with to make loans without determining the borrower has the ability to repay. This Alternative approach includes the following requirements: (1) limiting the initial loan in a sequence to a maximum principal amount of \$500; (2) reducing the principal amount on each subsequent loan in a sequence by at least one-third of the principal amount of the initial loan;¹⁷⁵ (3) limiting borrowers to no more than three loans in a sequence,¹⁷⁶ at which point no additional loans can

¹⁷⁴ The estimated lower-bound impact on vehicle-title loans is lower because loans have a higher average term than do payday loans, so fewer loans are prevented by a 30-day cooling-off period.

¹⁷⁵ For example, if the initial loan was for \$100, a subsequent loan in the same sequence (made within 30 days of the initial loan being repaid) could be for a maximum of \$66. A third loan in the same sequence (made within 30 days of the second loan being repaid) could be for a maximum of \$33.

¹⁷⁶ A three-loan sequence consists of an initial loan and then two subsequent loans made within 30 days of the previous loan being repaid.

be taken for a cooling-off period of 30 days; and (4) an ultimate limit of six loans or 90 days indebted within a 12-month period. As a condition of making loans using this approach, a lender would not be permitted to take a security interest in a borrower's vehicle. Therefore, we do not provide estimates for vehicle title loans in this simulation.

We estimate an upper-bound of the impacts of these lending requirements on the storefront payday lending market by assuming that borrowers in our data who took out three or more loans in a sequence do not return for any additional loans after the 30-day cooling-off period. For the lower-bound, we assume consumers who in our data took out more than three loans in a sequence resume borrowing after the 30-day cooling-off period ends, so long as this does not result in them taking out more than six loans or being indebted more than 90 days in a 12-month period. As an example, consider the impact for a consumer who takes 10 loans—an initial loan and then nine subsequent loans. Each subsequent loan is taken the same day a previous loan is repaid. Our lower-bound approach would result in the consumer having only a three-loan sequence and not returning after the 30-day cooling-off period to take any additional loans. Thus, borrowing is reduced from 10 to three loans. In contrast, assuming again that each loan is for a 14-day term, our upper-bound approach would result in a three-loan sequence, the fourth, fifth, and sixth loans not being taken due to the 30-day cooling-off period, another three-loan sequence, and the 10th loan not taken because of both the cooling-off period and the limitation on the number of loans and days indebted in a year.

As with the first simulation, we estimate the change in the number of loans made, loan volume, and fees collected by the lender resulting from these lending restrictions. Loan volume and fees are impacted by both the reduction in loans that can be made and by the \$500 maximum initial loan size and the requirement that each subsequent loan in a three-loan sequence be reduced by one-third of the initial loan amount. Table 31, below, reports our findings for the storefront payday loan market. We estimate a reduction of between 71% and 76% in loan volume and

revenue. The number of loans would be reduced by more than half, with a lower-bound decrease of 55% and an upper-bound decrease of 62%.

TABLE 31: LOWER- AND UPPER-BOUND ESTIMATES OF THE IMPACT OF THE ALTERNATIVE APPROACH ON THE STOREFRONT PAYDAY LENDING MARKET

	Change in loan volume (\$)	Change in loans (#)	Change in revenue (\$)
Lower-bound	-71%	-55%	-71%
Upper-bound	-76%	-62%	-76%

While the requirements of the alternative approach result in a significant reduction in lending, this is primarily due to a reduction in the reborrowing of an initial loan, rather than a decrease in initial loans in a sequence taken out by a consumer. We estimate the share of loan sequences that would no longer occur with these restrictions in place and the share of borrowers that are represented by these sequences, again providing an upper-bound that assumes the borrower does not return to take out additional loans when possible and a lower-bound that assumes that borrowing resumes when permitted. We find that only between 6% and 9% of loan sequences would no longer occur as a result of these restrictions. This represents between 7% and 11% of consumers in our data. Thus, these restrictions largely result in the elimination of some of the storefront payday loans that are reborrowings of an initial loan rather than the initial loan itself.

6.4 Estimated impact of the limitation on payment collection attempts on the online payday loan market

Finally, we simulate the impact of the limitation on the number of times a lender could attempt to collect a payment on a loan on the online payday loan market and borrowers. As discussed in a previous section, a lender would be prevented from attempting to collect payment on a loan directly from a borrower's account after two consecutive failed attempts. After these attempts, the lender would have to obtain a new and specific authorization from the borrower to access her account before additional attempts at collection of that loan could be made. Our simulation identifies payment requests that would be prevented by this limitation. As a lower-bound, we

assume that after two consecutive failed payment requests the lender would receive a new and specific authorization to withdraw payments from the borrower's account at the time of the first subsequent successful payment request by the lender that we observe in the data. As an upper-bound, we assume after two consecutive failed payment requests the lender would not obtain a new and specific authorization to withdraw payments from the borrower's account for the remainder of the period.

In our data, the limitation on continuing to attempt to collect from a borrower's account after two consecutive failed attempts would prevent between 7% and 10% of payment requests by online payday lenders. Of the payment requests prevented, the lender would have otherwise withdrawn an average of between \$55 and \$219 from the borrower's account. In addition, on the payment requests prevented by the presentment cap, the online payday loan borrower would otherwise be charged an average of between \$64 and \$87 in overdraft and non-sufficient funds fees by the depository institution on payment requests by the lender.

TABLE 32: LOWER- AND UPPER-BOUND ESTIMATES OF THE IMPACT OF A LIMITATION ON PAYMENT COLLECTION ATTEMPTS TO THE ONLINE PAYDAY LOAN MARKET AND BORROWERS

	Share of payment requests prevented	Average amount prevented from being withdrawn from a borrower's bank account*	Average overdraft/NSF fees prevented from being charged to a borrower*
Lower-bound	7%	\$55	\$64
Upper-bound	10%	\$219	\$87

*Average amount per borrower for a given lender that has at least two consecutive failed attempts at repayment (for which this limitation would apply).

Additionally, borrowers with two consecutive failures by the same lender are significantly more likely to experience an involuntary account closure¹⁷⁷ by the end of the sample period than accountholders generally (43% versus 3%, respectively).

¹⁷⁷ An account closure is involuntary if the account is closed by the depository institution rather than the accountholder.