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Regulation of Payday Loans: Misguided?

Paige Marta Skiba

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Regulation of Payday Loans: Misguided?

Paige Marta Skiba*

Abstract

Since payday lenders came on the scene in 1990s, regulation of their “predatory” practices has been swift and often severe. Fourteen states now ban payday loans outright. From an economist’s perspective, high-interest, short-term, small loans need not be a bad thing. Payday credit can help borrowers “smooth” consumption, unequivocally improving welfare as consumers borrow from future good times to help cover current shortfalls. These benefits of credit can accrue even at typical payday loan interest rates of 300%–600% APR. The question of whether payday credit actually assists borrowers in this way is an empirical one. In this Article, I review the existing evidence on how borrowers use payday loans. I document the prevalence of rollovers and default, the effect of varying principal amounts and loan durations, the existence of self-control problems and myopia among borrowers, and the demand for payday loans over other types of cheaper credit. I then document the disconnect between this collection of evidence and the existing regulatory frameworks which purport to help consumers avoid misuse of payday loans. These regulations on payday lending include outright bans, price caps, minimum and maximum loan lengths, minimum and maximum loan sizes, and rollover restrictions. I argue that: (1) outright bans are misguided, (2) larger loans can actually help borrowers, (3) loan-length restrictions are ineffective, and (4) rollover restrictions do make sense.

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I. Introduction

The Dodd–Frank Wall Street Reform and Consumer Protection Act,¹ passed in July 2010, rang in a new era of financial regulation. Its reforms will affect financial institutions from big banks to pawnbrokers. Payday loans are no exception. We can expect many changes to the regulatory landscape of these small-dollar, short-term loans from the Consumer Financial Protection Bureau, which opened its doors in July 2011.² Payday loans are about the most expensive form of credit consumers can legally obtain. The originating loan lasts just a matter of days and is used primarily by low- and middle-income households. Given that ten million households use payday loans every year,³ these regulatory changes will have a significant impact on a large group of consumers.

1. See Dodd–Frank Wall Street Reform and Consumer Protection Act, 12 U.S.C.A. §§ 5301–5641 (2010) (codifying the Dodd–Frank Wall Street Reform and Consumer Protection Act, Pub. Law No. 111-203, 124 Stat. 1376 (2010)).

2. See *id.* §§ 5491–5497 (establishing and outlining the powers and duties of the Consumer Financial Protection Bureau); *Learn About the Bureau*, THE CONSUMER FIN. PROTECTION BUREAU (2011), <http://www.consumerfinance.gov/the-bureau/> (last visited Feb. 5, 2012) (explaining the history, mission, and structure of the CFPB) (on file with the Washington and Lee Law Review).

3. See Paige Marta Skiba & Jeremy Tobacman, *Do Payday Loans Cause*

Payday loans are almost universally deemed “predatory” and “usurious” by consumer advocates, policymakers, and the media. Alabama state senator Lowell Barron has stated, for example, that “[t]he consumers being picked on here are the poorest, low-income people . . . there is no reason why anyone should exploit people with a short-term cash problem.”⁴ Others have described payday lending as an “immoral practice” (State Senator Groff, Colorado),⁵ as a “trap” (Michael A. Stegman, Director of Housing and Policy at the John D. and Catherine T. MacArthur Foundation, Illinois),⁶ as “ruin[ing] lives” (State Representative McClure, Arizona),⁷ and as imposing “astronomical interest rates” and “unrealistic payment terms” (Senator Hagan, South Carolina).⁸

Adopting similar views, many state policymakers have worked hard to curb or halt payday lenders’ operations. We can predict even more regulation with the advent of Dodd–Frank and the Consumer Financial Protection Bureau. Recently appointed Bureau Director Richard Cordray gave a lecture on payday loans in January 2012, stating that regulators at the CFPB “recognize the need for emergency credit. At the same time, it is important that these

Bankruptcy? 1 (Vanderbilt Univ. Law and Econ. Research Paper No. 11-13, 2011) (explaining that, despite high interest rates, between three and ten million American households borrow on payday loans each year) (on file with the Washington and Lee Law Review).

4. CASH IN A PINCH (Oct. 9, 2011), <http://cashinapinch.com/index.php/2011/10/09/senator-lowell-barron/> (last visited Jan. 25, 2012) (quoting Alabama State Senator Barron) (on file with the Washington and Lee Law Review).

5. See *Payday Lending Reform Looks Likely to Pass*, COLORADO POLS, Mar. 26, 2008, <http://www.coloradopols.com/diary/5709/> (“Going back to biblical times, governments have tried to deal with this immoral practice.”).

6. See Michael A. Stegman, *Payday Lending*, 21 J. ECON. PERSP. 169, 176 (2007) (referring to rollovers and serial borrowing through payday loans as “debt trap[s]”).

7. See *Proposed Ballot Measure Would Ban Payday Loans in Arizona*, ASSOCIATED PRESS, May 14, 2007, available at <http://ktar.com/?nid=6&sid=480759> (last visited Jan. 25, 2012) (quoting State Representative McClure, who also compared regulation of payday lending to laws governing drug use) (on file with the Washington and Lee Law Review).

8. See *Bill Targets Payday Lending: Legislation Co-sponsored by Hagan Would Tighten Regulation*, CHARLOTTE POST, Apr. 22, 2010, available at <http://thecharlottepost.com/index.php?src=news&srctype=detail&category=News&refno=2577> (last visited Jan. 25, 2012) (quoting Hagan and discussing a new bill to regulate payday lending) (on file with the Washington and Lee Law Review).

products actually help consumers, rather than harm them. . . . [N]ow, the Bureau will be giving payday lenders much more attention.”⁹ At the state level, regulation of payday loans has already taken many forms. In this Article, I argue that current forms of state and federal regulation of payday lending are largely misguided. I summarize the growing body of microeconomic evidence on borrowers’ use of payday loans and assess what their predicted responses to a number of different regulatory schemes—outright bans, price caps, and restrictions on loan size, duration, and renewals—means about the soundness of those types of regulations. I conclude that most current regulations that restrict access to payday loans do not increase consumers’ welfare. Efforts to directly curb loan rollovers¹⁰ are the one type of regulation that does make policy sense, because extending loans for multiple pay periods leads to welfare-damaging behavior in a way that other features of payday loans targeted by lawmakers do not.

The mainstream view seems to be that payday loans are abusive.¹¹ From an economist’s perspective, credit in general allows consumers to smooth consumption over time, meaning that they borrow from future good times to help make it through current tough times. This smoothing is seen as an uncontroversial, good thing, and takes many forms, such as using student loans during graduate school with the expectation that one will later be able to repay the loans with one’s salary; microcredit (small dollar loans initiated in developing countries to provide access to credit for individuals who are turned away from banks);¹² small business

9. Richard Cordray, Dir., Consumer Fin. Prot. Bureau, Remarks at the Payday Loan Field Hearing in Birmingham, Alabama (Jan. 19, 2012), *available at* <http://www.consumerfinance.gov/speeches//remarks-by-richard-cordray-at-the-payday-loan-field-hearing-in-birmingham-al/>.

10. Rollovers (sometimes called “renewals”) allow a borrower to make an interest payment only on the due date of the originating loan in order to extend the loan for an additional pay cycle. After this extension, the borrower can repay in full, or rollover the loan yet again by making an additional interest payment.

11. *See, e.g.*, President Barack Obama, Address at Osawatomie, Kansas (Dec. 6, 2011), *available at* <http://www.nytimes.com/2011/12/07/us/politics/text-obamas-speech-in-kansas.html> (last visited Jan. 25, 2012) [hereinafter Obama, Kansas Address] (describing payday lenders as taking advantage of Americans) (on file with the Washington and Lee Law Review).

12. *See, e.g.*, *What is Microcredit?*, GRAMEEN BANK (Oct. 2011), http://www.grameen-info.org/index.php?option=com_content&task=view&id=28&Itemid=108 (last visited Jan. 25, 2012) (explaining the diverse array of lending practices

owners using credit to invest in money-making capital such as machinery; and consumers using credit to buy durable goods like refrigerators and washing machines that they could not pay for in full up front.

Such benefits of consumption smoothing are not lost at interest rates that many consider usurious. Payday loans are no doubt extremely expensive. Lenders typically charge \$10–\$20 per \$100, equivalent to a 260%–520% annualized percentage rate (APR) on a two-week loan.¹³ APR is calculated by multiplying the interest rate for the two-week loan (typically 10%–20% as mentioned above) and multiplying it by twenty-six, the approximate number of two-week periods in one year. Viewing this fee or interest rate in the form of an APR allows for easy comparison to other types of credit, which are typically much longer-term.

While triple-digit interest rates may sound outrageous, borrowing against future paychecks at such a high APR can be worth it if consumers' marginal utility is raised sufficiently to outweigh the expenditure they will make on interest. For example, if a consumer's car breaks down and she would be fired if she could not get to work tomorrow, it may be rational for her to borrow at extremely high interest rather than forgo all wage income for the foreseeable future.

Accordingly, used in the framework for which they are intended, payday loans can increase a borrower's utility. But lawmakers who look down on payday loans and see their short durations and high interest as flaws appear not to have considered the strong theoretical case for the benefits of credit and the fact that many consumers have no other forms of credit available. Many states have now banned payday lending based on the assumption that it enables borrowing behavior that leads to costly cycles of debt, and other states are not far behind.¹⁴ But there is little evidence

encompassed by the term "microcredit") (on file with the Washington and Lee Law Review).

13. See, e.g., Obama, Kansas Address, *supra* note 11.

14. See, e.g., *Times Topics: Payday Loans*, N.Y. TIMES, Mar. 11, 2010, available at http://topics.nytimes.com/top/reference/timestopics/subjects/c/credit/payday_loans/index.html (last visited Jan. 25, 2012) (stating that twelve states have banned payday lending) (on file with the Washington and Lee Law Review); U.S. REP. GABRIELLE GIFFORDS ACTS TO BAN PAYDAY LENDING NATIONWIDE, (Jun. 30, 2010), <http://www.votesmart.org/public-statement/526382/us-rep-gabrielle-giffords-acts-to-ban-payday-lending-nationwide> (last visited Jan. 25,

that payday loans per se are unequivocally bad for borrowers or that consumers overall are better off without access to payday loans.

Payday loans are by no means *always* utility-enhancing of course. People frequently use payday loans for purposes other than avoiding emergency situations. Research on payday loans, much of which is outlined below, makes clear that the typical payday borrower returns to a lender many times, taking out multiple loans and rolling them over multiple times.¹⁵ Further, one can show that repeated use of payday loans is frequently inconsistent with the standard rational-actor model traditionally used in economic analysis.¹⁶

It is also important to consider the full portfolio of one's finances and the cascading effect of earlier expenditures on one's current or future financial situation. Payday loans are not used in isolation. A consumer may show up to the payday lender ostensibly because of an unusually large utility bill, but may have been unable to pay that bill in the first place because she maxed out her credit card and bought a car she could not afford.

When used in the appropriate circumstances and in moderation, and when paid off promptly, payday loans have the potential to increase individuals' utility in a way that is difficult to achieve using any other form of credit. This is especially true because many forms of credit are seldom available to the population that tends to use payday loans.¹⁷ However, payday loans do

2012) (stating that sixteen states have banned payday lending) (on file with the Washington and Lee Law Review).

15. See, e.g., Paige Marta Skiba & Jeremy Tobacman, *Payday Loans, Uncertainty, and Discounting: Explaining Patterns of Borrowing, Repayment, and Default* 6 (Vanderbilt Univ. Law and Econ. Research Paper No. 03-33, 2008) (explaining that almost half of all the payday loans in our sample were renewed, "resulting in significant durations of indebtedness") (on file with the Washington and Lee Law Review); Susan Payne Carter, Paige Marta Skiba & Justin Sydnor, *The Difference a Day Makes: Measuring the Impact of Payday Loan Length on Probability of Repayment* (Feb. 2012) (unpublished manuscript) (on file with the Washington and Lee Law Review).

16. See Paige Marta Skiba, *Rationality and Regulation of Payday Loans*, in *HANDBOOK OF BEHAVIORAL LAW AND ECONOMICS* (forthcoming) (discussing this argument in greater detail). People do use payday loans to make seemingly suboptimal expenditures like throwing parties. Behavioral economics often identifies this type of behavior—engaging in nonessential spending to one's own (future) detriment—as a self-control problem. See *id.*

17. See Meghan Hoyer, *Who Uses Payday Loans? Not Who You Might Think*, *VIRGINIAN-PILOT*, Jan. 29, 2008, available at <http://hamptonroads.com/>

sometimes seem to invite abuse, leading to a loop of borrowing with repeated renewals involving skyrocketing interest payments. State legislatures often seek to constrain the use of payday loans for this reason,¹⁸ but better policy would permit payday lending at least to the extent it increased utility, and would constrain it only as necessary to prevent the truly negative net effects.

The question, then, is: What is the right regulation? My analysis suggests that regulations focused on restricting rollovers/renewals make sense because they do provide helpful protection to consumers, while other types of regulations (beyond basic information disclosures) generally overreach and inhibit unique opportunities for consumers to increase utility. The current analysis of, and policy conversations around, payday loans tend to ignore the good and instead demonize payday loans. As I document below, however, data show that there is a need for a more nuanced examination of payday loans because, in some circumstances at least, the good outweighs the bad. Any regulations that constrain payday borrowing beyond restrictions on rollovers/renewals are suspect because they remove or inhibit the use of a tool that low-income people use to smooth their income stream.¹⁹ This is something higher-income people rarely need because they typically have more buffers—savings accounts, regular credit cards, etc.—against unexpected shocks. One could argue that payday loans are dangerous in the same way that credit cards are dangerous: Some people max out their credit and pay only their minimum balances for months, to their own detriment.²⁰ But most people are still glad

2008/01/who-uses-payday-loans-not-who-you-might-think (last visited Apr. 9, 2012) (explaining that payday loans are used even by middle-class consumers who are trying to make ends meet and quoting a payday lender who justified the continued demand for payday loans, saying “[t]here’s nobody out there meeting this need with a less expensive product”) (on file with the Washington and Lee Law Review).

18. See, e.g., *id.* (describing payday lending as a major issue in the Virginia General Assembly because some legislators feel it must be constrained to protect the poor).

19. See, e.g., Skiba & Tobacman, *supra* note 3, at 1 (describing how credit is used to smooth consumption and cope with short-term shocks).

20. See David Laibson, Andrea Repetto & Jeremy Tobacman, *Estimating Discount Functions with Consumption Choices over the Lifecycle* 7 (Nat’l Bureau of Econ. Research, Working Paper No. 13314, revised and resubmitted, *American Economic Review*, Nov. 14, 2007), <http://bpp.wharton.upenn.edu/tobacman/papers/Estimating%20Discount%20Functions.pdf> (describing credit

the mainstream forms of credit exist. Unlike these traditional forms of credit, payday regulation is a patchwork of rapidly evolving rules that vary drastically by state.

Federal and state regulation of payday loans includes outright bans, interest rate caps, limits on rollovers/renewals, information disclosure rules, regulations specific to military personnel, ceilings and floors on loan amounts, and restrictions on loan duration. Meanwhile, some states have no payday-loan-specific regulation. I explore the consequences (intended or otherwise) of these various constraints on borrowing by analyzing existing empirical evidence on consumers' use of payday loans. I argue that many attempts at constraining borrowing are misguided and decrease the overall welfare of borrowers—and potentially also of third parties through negative externalities. The question is not whether to regulate payday loans, but how to design regulations that protect people from the negative effects of payday loans while preserving the ability of such loans to enhance borrowers' utility by smoothing their income stream. Certain aspects of the regulations are uncontroversial. We want people to have clear, concise information about the loan terms, APR, etc., and we want lenders to abide by the Fair Debt Collection Practices Act, Truth in Lending Act, and other regulations. But when it comes to substantive restrictions on the permissibility or permissible forms of payday loans, we need to look very carefully at the consequences.

The origins of payday lending are an important feature that has affected their subsequent regulation. Payday loans are different from other credit in that they have become popular very quickly and very recently. Nonexistent before the 1990s, payday loans now play an important and regular role in how many Americans manage shortfalls in their finances.²¹ Given their rapid growth, payday lending is hardly a “fringe” activity any longer, as the title of this symposium suggests.²² The regulatory environment mentioned above is evolving just as swiftly as the loans came onto the scene.

card debt patterns).

21. See, e.g., Skiba & Tobacman, *supra* note 15, at 1 (reporting that ten million American households used payday loans in 2002).

22. Payday loans require a steady income and checking account, so they are not used by the poorest of the poor, as many might assume. Payday borrowers are typically low-income with the average borrower having an annual income of \$20,000. See Skiba & Tobacman, *supra* note 3, at 5 (describing attributes of

Perhaps because of how quickly payday lending came onto the credit scene, such legislation has been quick, knee-jerk, and often misguided.

II. Evidence of Consumer Behavior

To understand what, if any, regulation is appropriate for the payday lending market, policymakers need to know how consumers use payday loans. Below I discuss the small but growing body of empirical evidence on the use of payday loans.

A. The Importance of Rollovers and Defaults

Consumer behavior in the payday lending industry can be characterized by two things: defaults and rollovers. One-time usage and prompt payment are not at all typical. Using administrative records from a large payday lender, Jeremy Tobacman and I measure the default rates and rollover frequencies to estimate the self-control problems that might help explain the behaviors of these borrowers.²³ The results are quite striking: Over half of payday borrowers default on a payday loan within one year of their first loan.²⁴ Such defaults are not cheap: Defaulting borrowers have, on average, already repaid or serviced five payday loans, making interest payments equal to 90% of their original loan's principal.²⁵ We use standard models of decision-making over time in an attempt to explain such costly delayed default. We find the behavior is most common for borrowers who have self-control problems and who mispredict their ability to repay in full and their likelihood of taking out subsequent loans.²⁶

payday borrowers). Susan Payne Carter documents the fact that 3.4% of households use payday loans, and it is now well-documented that payday lenders outnumber both Starbucks and McDonalds. By 2009, more than ten million households used payday loans.

23. See Skiba & Tobacman, *supra* note 15, at 2–3 (identifying the dataset used in their study and the study objectives).

24. See *id.* at 1 (summarizing the results of their findings).

25. See *id.* (describing the situation commonly faced by payday borrowers who default).

26. See *id.* at 2–3 (outlining some of the decision paths that contribute to the risk of defaulting on payday loans). That paper uses models of hyperbolic

Facts such as these indicate that rollovers are the norm, not the exception. Payday loans can help consumers if used sparingly and for emergencies—they have never been meant for long-term credit. Because of the excessive use of rollovers, nineteen states have banned them.²⁷ The number of loans that people take out and rollover is evident in another study with Tobacman. We used the dataset from our earlier study to show that payday loans cause personal bankruptcy. An interesting result of the paper is just how frequently people use payday loans.

Our analysis shows that within the first year of borrowing, the average individual takes out 5.48 more payday loans than a similar consumer who applied for, but was ineligible to borrow on payday loans.²⁸ This translates into \$1,841 of payday loan debt over a one-year horizon, and \$2,023 over two years, significant at the 1% level.²⁹ Given these facts, curbing rollovers is a sensible tack for payday loan regulation.

B. Loan Sizes

Will Dobbie and I documented the effects that different loan sizes have on default rates.³⁰ We found that larger loans cause lower

discounting to document these facts. See David Laibson et al., A Debt Puzzle (Nov. 11, 2001) (unpublished manuscript), available at <http://bpp.wharton.upenn.edu/tobacman/papers/A%20Debt%20Puzzle.pdf> (describing the hyperbolic discount model and its implications) (on file with the Washington and Lee Law Review); David Laibson, *Golden Eggs and Hyperbolic Discounting*, 112 Q.J. ECON. 443, 445–46 (1997) (explaining the principles of time discounting generally). See generally Shane Frederick et al., *Time Discounting and Time Preference: A Critical Review*, 40 J. ECON. LIT. 351 (2002) (exploring the foundations of the theory of hyperbolic discounting). Hyperbolic discounting suggests that consumers mispredict their time preferences in the future.

27. See *Rollover Bans Don't Stop Payday Trap: Payday Industry's Support of False Reform Has Preserved Its Predatory Business Model in State After State*, CENTER FOR RESPONSIBLE LENDING (Apr. 9, 2009), <http://www.responsiblelending.org/media-center/press-releases/archives/rollover-bans-don-t-stop-payday-trap.html> (discussing how payday lenders circumvent bans on rollover loans) (on file with the Washington and Lee Law Review).

28. See Skiba & Tobacman, *supra* note 3, at 16 (finding that the “approval of first-time payday loan applications causes 5.48 more payday loan applications within the next year,” and that this result is significant at the 1% level).

29. See *id.* (explaining the results in terms of annual debt accrued).

30. See Paige Marta Skiba & Will Dobbie, *Information Asymmetries in Consumer Credit Markets: Evidence From Payday Lending 2* (Vanderbilt

default rates.³¹ This is surprising because it runs against the traditional phenomenon of moral hazard, which has been documented in many settings for decades.³² We used data from two large payday lenders and exploited the facts that (1) firms offer borrowers loans of no more than half of their net pay, and (2) loans come in increments of \$50.³³ Together these facts mean that two borrowers with nearly identical income (of, say, \$599 and \$600) get different size payday loans (\$250 and \$300, respectively). This allowed us to use a regression-discontinuity approach to estimate the impact of loan amount on default rates.³⁴ A \$50 increase in loan size leads to a 5.8–6.8 percentage point decrease in the probability of default.³⁵

These results suggest, somewhat counterintuitively, that larger loan sizes may actually help borrowers make good on their loan, rather than default. This effect must be weighed against our additional evidence that severe adverse selection exists in this market as well, i.e., those borrowers choosing larger loans for unobservable reasons are more likely to default on their loans.

C. Loan Lengths

The very short terms of a payday loan contract (just a matter of days or weeks) has been suggested to be detrimental to consumers.³⁶

University Law and Econ. Research Paper No. 11-05, 2011) (discussing the relationship between incremental increases in loan size and default rates) (on file with the Washington and Lee Law Review).

31. *See id.* (finding that “a \$100 increase in loan size decreases the probability that a borrower defaults by 2.8 to 3.8 percentage points”).

32. *See, e.g.*, Lawrence M. Ausubel, Adverse Selection in the Credit Card Market 1–2, 24–25, (University of Maryland, Working Paper, 1999) (distinguishing “adverse selection” and “moral hazard” effects) (on file with the Washington and Lee Law Review).

33. *See* Skiba & Dobbie, *supra* note 30, at 1 (explaining the lending practices of firms in their sample).

34. *See id.* at 2 (describing the application of the regression discontinuity approach).

35. *See id.* at 12 (explaining the decrease in the probability of default).

36. *See, e.g.*, Fed. Trade Comm’n, *FTC Consumer Alert: Payday Loans Equal Very Costly Cash: Consumers Urged to Consider the Alternatives* (Mar. 2008), <http://www.ftc.gov/bcp/edu/pubs/consumer/alerts/alt060.shtm> (last visited Apr. 9, 2012) (warning consumers about the potential risks stemming from the terms of a payday loan) (on file with the Washington and Lee Law Review).

States are now implementing extended repayment plans to give consumers more time to repay.³⁷

Susan Payne Carter, Justin Sydnor, and I studied the effect of loan lengths on the probability of repayment, default, and renewal using transaction data for a sample of payday borrowers between 2000 and 2004.³⁸ To do so, we exploit the fact that states set minimum lengths of time for which a borrower can take out a loan. Most often that minimum is seven days. Therefore taking out a loan six days before one's next payday is not permitted; such a loan would mature two pay dates from now. Thus, a biweekly-paid borrower who arrives at the lender six days before their next pay day will receive a six + fourteen = twenty-day loan contract. Compare this to a borrower who arrives at the lender one day later, i.e., seven days before their next payday. She will receive a seven-day loan. The difference between these two borrowers' loan maturation dates is thirteen days (equal to almost an entire pay period). These effects stemming from state laws are illustrated in Figure 1a, reproduced here.

We used these facts to measure the exogenous impact of taking out a payday loan just one day later and thus having seven to twenty days longer to repay the loan (depending on the borrowers' payday frequency). We restricted our sample to states where minimum loan lengths are seven days and borrowers are allowed to rollover their loans. Our sample was also limited to borrowers who were first-time applicants or who had not taken out a new payday loan for ninety days since their last due date.

Across all specifications, we found either small or insignificant effects of loan lengths on borrowers' likelihood of repaying. Figure

37. See, e.g., The Va. Partnership to Encourage Responsible Lending, *A Borrower's Guide to Changes in the New Payday Loan Law—Know Your Rights*, http://www.virginiafairloans.org/BorrowersGuide06_09.pdf (explaining Virginia's rules for payday loan repayment schedules relative to how frequently borrowers are paid). Virginian lenders are now required to give a borrower two pay periods in which to repay their loan. Borrowers paid weekly now have a minimum of fourteen days to repay loans; borrowers paid biweekly have twenty-eight days; borrowers paid semimonthly have thirty-one days; and borrowers paid monthly have sixty-two days. See *id.*

38. See Susan Payne Carter, Paige Marta Skiba & Justin Sydnor, *The Difference a Day Makes: Measuring the Impact of Payday Loan Length on Probability of Repayment* (Feb. 2012) (unpublished manuscript) (on file with the Washington and Lee Law Review).

1b, reproduced here, shows the average loan length based on the number of days before a borrower's next pay date for borrowers who are paid every other Friday.³⁹ As the figure shows, over this discontinuity there are very minimal effects of loan length on loan outcomes.⁴⁰

These results suggest that allowing borrowers to have an additional pay period (in the case of borrowers paid every two weeks, that means an additional fourteen days), may result in an increase in the number of loans repaid and a decrease in the number of loans renewed. The effect, however, is tiny: 1–2 percentage points. Our results do not support the belief that lengthening the amount of time a borrower has to repay will have a significant impact on repayment rates or rollover rates.

D. The Interaction of Payday Loans and Other Forms of Credit

Research has shown that payday borrowers are liquidity constrained.⁴¹ Carter, for example, documented the interaction of payday loan rollovers and pawnshop use. Using nation-level survey data, she finds that in states where borrowers are allowed to rollover loans at least six times that individuals are more likely to use payday loans and pawnshops together relative to borrowers living in states that prohibit rolling over loans.⁴² In a follow-up

39. We perform a similar analysis for borrowers who are paid every other Thursday, those paid semi-monthly, and monthly. All results are consistent across pay cycles.

40. We confirm that the observable characteristics of our borrowers receiving different loan lengths, such as average credit score, loan amount, and home ownership, do not vary significantly across this discontinuity.

41. See Edward Lawrence & Gregory Elliehausen, *A Comparative Analysis of Payday Loan Customers*, 26 CONTEMPORARY ECON. POL. 299, 300 (2008) (explaining some of the options for liquidity-constrained consumers to obtain credit); see also Skiba & Dobbie, *supra* note 30, at 16 (documenting that payday borrowers would borrow fifty cents off an extra dollar of available credit). This is significantly larger than what has been found in similar previous studies of credit. See, e.g., David Gross & Nicholas Souleles, *Do Liquidity Constraints and Interest Rates Matter for Consumer Behavior? Evidence From Credit Card Data*, 117 Q.J. ECON. 149 (2002) (using credit card data to analyze how consumers respond to changes in credit supply).

42. See Susan Payne Carter, *Payday Loan and Pawnshop Usage: The Impact of Allowing Payday Loan Rollovers* (Jan. 15, 2012) (unpublished manuscript) (on file with the Washington and Lee Law Review).

paper, Carter and I explored the interaction of these two forms of credit more directly.⁴³ Using transaction-level data from a firm that offers both payday loans and pawnshops, we find that borrowers who take out pawnshop loans within one day of the payday loan due date are more likely to rollover the loan rather than repay in full.⁴⁴ These results together provide evidence that borrowers are using pawnshops to help meet payday loan interest payments and extend their payday loans via rollovers.

Sumit Agarwal, Jeremy Tobacman, and I found that consumers use payday loans even when they have much cheaper credit card liquidity available, and make significant pecuniary mistakes in doing so.⁴⁵ Using a matched dataset of payday borrowers with credit cards, we first examine how effectively consumers choose between payday loans and credit cards.⁴⁶ One measure suggests a common mistake: Two-thirds of the matched sample had at least \$1,000 of credit card liquidity on the day they take their first payday loans—much more than the average \$300 payday loan.⁴⁷ For a fourteen-day payday loan with a finance charge of 18%, using credit card liquidity first would save these households \$300.⁴⁸ We also find, using credit scores, that liquidity is strongly increasing: Married credit card account holders had almost twice the liquidity of singles, and credit card liquidity was much higher for the elderly.⁴⁹ Across these distributions, most people in the matched sample appear to have

43. See Susan Payne Carter & Paige Marta Skiba, *Borrowing from Peter to Pay Paul? Pawnshops and Payday Loan Debt Cycles 1* (Extended Abstract, 2012) (explaining the goals of the paper) (on file with the Washington and Lee Law Review).

44. See *id.* at 3 (reporting some of the conclusions of their research).

45. See Sumit Agarwal, Paige Marta Skiba & Jeremy Tobacman, *Payday Loans and Credit Cards: New Liquidity and Credit Scoring Puzzles?*, 99 AM. ECON. REV. 412, 412 (2009) (finding that most payday borrowers who also had a major credit card had liquidity available through that credit card on the day that they obtained a payday loan, and that the interest rates on such credit cards were much lower than those on payday loans).

46. See *id.* (outlining their process and arguments).

47. See *id.* at 413 (summarizing a result revealed by their matched dataset).

48. See *id.* (comparing the potential savings of using normal credit cards to the potential savings using payday lending for consumers who obtained a payday loan even though they had available liquidity on a major credit card).

49. See *id.* (reporting relative credit card liquidity for various groups in the dataset).

credit card liquidity exceeding the size of the typical payday loan—a fact quite surprising given the previous suggestion that payday borrowers are credit constrained.⁵⁰

While the fact that payday borrowers do not use their credit cards may be surprising at first, this behavior might make sense. It is reasonable to speculate that some borrowers consciously self-impose the high interest rate of a payday loan instead of a credit card in an effort to commit themselves to pay off the debt very quickly.⁵¹

Use of payday loans over credit cards can also be explained when one looks at the timing underlying credit card users' choice to use payday loans and their circumstances leading up to that decision. Their available liquidity dramatically declines leading up to the time they borrow on payday loans, suggesting they are in fact rationally using other liquidity before they turn to payday loans.⁵² Table 1 in the appendix presents information about the path that credit card liquidity takes during the year leading up to a customer's first payday loan. Several features of the data are apparent in Table 1. First, credit card liquidity drops by an average of \$545 over the previous year, an amount that is much larger than the average \$300 size of a first-time payday borrower's loan.⁵³ Second, most of the deterioration in liquidity happens in the five months before the payday loan is taken.⁵⁴ These results offer some insight into how households end up borrowing on payday loans.

Carter, Tobacman, and I also documented interactions of payday loans and other liquidity sources.⁵⁵ We examined patterns of

50. See *id.* at 413–14 (relating the findings of available credit card liquidity compared to the average payday loan).

51. See for example the work of Ted O'Donoghue and Matthew Rabin on sophisticated hyperbolic discounters, *Doing It Now or Later*, 89 AM. ECON. REV. 103, 103–24 (1999).

52. See Agarwal, Skiba & Tobacman, *supra* note 45, at 412 (finding that payday loan borrowers have experienced “substantial declines in credit card liquidity in the year leading up to the payday loan”).

53. See *id.* (calculating the decrease in mean liquidity over the course of the year, by subtracting the mean liquidity at time *t* from the mean liquidity at time *t*-12, for a decrease of \$1,556–\$1,011=\$545); see also *infra* Table 1.

54. See Agarwal, Skiba & Tobacman, *supra* note 45, at 415.

55. Susan Payne Carter, Paige Marta Skiba & Jeremy Tobacman, *Pecuniary Mistakes? Payday Borrowing by Credit Union Members*, in FINANCIAL LITERACY: IMPLICATIONS FOR RETIREMENT SECURITY AND THE FINANCIAL MARKETPLACE 145 (Olivia S. Mitchell & Annamaria Lusardi, eds., 2011).

financial choices by the members of a large credit union using transaction-level administrative data on checking, savings, and line-of-credit accounts. Credit union members who took out payday loans had substantially lower levels of liquidity available relative to members who did not take out payday loans. Although levels of liquidity were low overall, we still observed substantial payday loan use when cheaper sources of liquidity were available, resulting in average interest losses of about \$88 over six-and-a-half months.

Together, this series of papers shows consumers often prefer payday loans when they have cheaper credit available. Thus, they may be deciding between credit options based on factors beyond the interest-rate margin.

E. Evidence on Consequences of Using Payday Loans

The bigger-picture question that is important for policymakers is the overall welfare effects of payday lending. But although a substantial literature has explored whether payday loans help or hurt consumer welfare, consensus on this question remains elusive.

Donald Morgan and Michael Strain used data on the number of checks bounced from federal credit processing centers, complaints to the FTC about lenders and debt collectors, and state consumer bankruptcy filings from 1997 to 2007 to study how these variables changed in Georgia and North Carolina after payday loans were prohibited in 2004 and 2005, respectively.⁵⁶ The authors found that check bouncing, FTC complaints, and Chapter 7 bankruptcies all increased significantly in Georgia.⁵⁷ They also used data from Hawaii, and found similar results.⁵⁸ Morgan and Strain concluded that limiting payday loan access results in a negative impact on consumer welfare.

Jonathan Zinman applied an event study approach to compare payday borrowers' use of credit and financial situation in

56. See Donald P. Morgan & Michael R. Strain, *Payday Holiday: How Households Fare After Payday Credit Bans* 1, 3 (Fed. Reserve Bank of N.Y. Staff Reports No. 309, Nov. 2007) (explaining the imposition of a ban on payday lending in North Carolina and Georgia and the methods used in their study).

57. See *id.* at 3 (reporting the findings of their study).

58. See *id.* at 4 (explaining how an increase in the maximum permissible amount of a payday loan resulted in a decline of debt problems among Hawaiians).

Washington (where there was no change in payday lending rules) and Oregon from before a change to after a change.⁵⁹ He found that payday borrowers in Oregon substituted to bouncing checks and paying bills late after the law changed, and that these individuals had a significantly greater likelihood of experiencing an adverse event such as job loss.⁶⁰

Adair Morse studied the effects that financial distress has on foreclosures and crime in areas with access to payday loans relative to areas without access.⁶¹ Using data on natural disasters, foreclosures, and crime in California, she found that areas experiencing the random shock of a natural disaster have an increase in foreclosures and some crimes, but that the presence of a payday lender in the zip code reduces these effects.⁶² She concluded that these results demonstrate that payday loans help alleviate problems for people in financial distress caused by a natural disaster.⁶³

Brian Melzer measured access to payday loans using the distance from a county in a state where payday loans are prohibited to the closest state where payday loans are available.⁶⁴ He used household data from the Urban Institute, which asks questions about financial hardship (difficulty paying bills, cutting meals, moving out because of financial problems, and not using a phone for a month) along with questions about health (postponing medical or dental care, and drug purchases).⁶⁵ Melzer found that access to

59. See Jonathan Zinman, *Restricting Consumer Credit Access: Household Survey Evidence on Effects Around the Oregon Rate Cap 2–3* (Fed. Reserve Bank of Philadelphia, Working Paper No. 08-32, 2008) (explaining the context of the study and the type of analysis made possible by the change in the law) (on file with the Washington and Lee Law Review).

60. See *id.* at 3–4 (summarizing the findings of changes in consumers' behavior and outcomes after the law changed).

61. See Adair Morse, *Payday Lenders: Heroes or Villains?*, 102 J. FIN. ECON. 28, 29 (2011) (describing the methodology used in her study of the effect of payday lending in mitigating financial shocks caused by natural disasters in California).

62. See *id.* at 42 (discussing findings which relate the presence of payday lenders to decreased foreclosure and decreased larceny in the wake of disasters).

63. See *id.* at 43–44.

64. See Brian T. Melzer, *The Real Costs of Credit Access: Evidence From the Payday Lending Market*, 126 Q.J. ECON. 517, 518–19 (2011) (describing the design and theoretical basis of his study).

65. See *id.* at 524–26 (describing the dataset used in this study).

loans had a positive impact on financial hardship, especially with regard to difficulty paying bills.⁶⁶

Scott Carrell and Jonathan Zinman looked at the impact of the presence of payday loans on Air Force personnel's performance.⁶⁷ Using the assignment of airmen to bases by occupational needs and not choice, along with variation in laws on the prohibition of payday loans between states and over time, they found the presence of payday loans in states where an airman is assigned increases the likelihood of negative outcomes (Reenlistment Ineligibility or the existence of an Unfavorable Information file), especially for the young and financially unsophisticated (proxied for by job assignment).⁶⁸

Dennis Campbell, F. Asís Martínez Jerez, and Peter Tufano used county-level data to show that access to payday loans is associated with an increase in bank account closures.⁶⁹ Lars Lefgren and Frank McIntyre argued that bankruptcy rates are not influenced by the legalization of payday lending.⁷⁰

Tobacman and I found that payday loan applicants barely approved for their first loans file for Chapter 13 bankruptcy significantly more often than barely rejected first-time applicants.⁷¹ The magnitude of the effect is very large, representing an increase of about two percentage points in bankruptcy filing rates, a near doubling from the average.⁷² These results are consistent with the

66. *See id.* at 519 (summarizing findings of the study).

67. *See* Scott Carrell & Jonathan Zinman, *In Harm's Way? Payday Loan Access and Military Personnel Performance 2* (Aug. 2008) (unpublished manuscript) (explaining their methodology and research question) (on file with the Washington and Lee Law Review).

68. *See id.* at 2–3 (defining the metrics used in the study and reporting their findings of the adverse impacts of payday borrowing on Air Force personnel).

69. *See* Dennis Campbell et al., *Bouncing out of the Banking System: An Empirical Analysis of Involuntary Bank Account Closures 6* (Dec. 3, 2008) (unpublished manuscript) (reporting that “the presence of payday lending is positively related to [involuntary bank account] closures”) (on file with the Washington and Lee Law Review).

70. *See generally* Lars Lefgren & Frank McIntyre, *Explaining the Puzzle of Cross-State Differences in Bankruptcy Rates*, 52 J.L. & ECON. 367 (2008).

71. *See* Skiba & Tobacman, *supra* note 3, at 21 (summarizing the conclusions of the study).

72. *See id.* (describing findings on the impact of payday borrowing on bankruptcy filing rates).

interpretation that payday loan applicants are financially stressed; first-time loan approval precedes significant additional high interest-rate borrowing, and the consequent interest burden tips households into bankruptcy.⁷³

In sum, there is no consensus on whether payday lending hurts or helps consumers.

III. Current Regulations and Recommendations

Part II documented a large body of economic research on how consumers use payday loans. From the various research paradigms outlined above, a number of consistent facts emerge. First, evidence is mixed as to whether payday loans aid in consumption smoothing in practice.⁷⁴ In any case, there is no evidence that payday loans are welfare reducing on net.⁷⁵ Part II.E documents that there are as many papers showing that payday loans help consumers as those that show they hurt consumers.⁷⁶ From this mixed evidence, the overwhelming view that payday loans are “toxic” or “predatory” is somewhat surprising.⁷⁷ One need not struggle, however, to find examples of consumers who have suffered damaging consequences of payday loans.⁷⁸ But while there certainly exists evidence that payday loans are harmful to some consumers in some situations,

73. See *id.* at 21–22 (synthesizing the results of the study and explaining the interaction between payday loans and bankruptcy filings).

74. See, e.g., *supra* note 3 and accompanying text (explaining the consumption smoothing hypothesis and studies illustrating its application in observed behavior).

75. See *supra* notes 54–67 and accompanying text (surveying recent studies and noting their different assessments of the impact of payday loans on borrowers' welfare).

76. See *supra* notes 54–67 and accompanying text.

77. See, e.g., Liz Pulliam Weston, *6 Steps to Dumping Toxic Debt*, MSN MONEY (Jun. 16, 2009), available at <http://articles.moneycentral.msn.com/SavingandDebt/ManageDebt/6-steps-to-dumping-toxic-debt.aspx> (last visited Feb. 5, 2012) (referring to payday and car title loans as examples of “extremely toxic debt”) (on file with the Washington and Lee Law Review).

78. See, e.g., Ellen Scultz & Theo Francis, *High Interest Lenders Tap Elderly, Disabled*, WALL ST. J., Feb. 12, 2008, available at <http://online.wsj.com/article/SB120277630957260703.html> (last visited Feb. 5, 2012) (describing the challenges faced by payday borrowers whose income is limited to government benefits such as Social Security) (on file with the Washington and Lee Law Review).

there is as much evidence that payday loans help consumers (although such evidence is not as well-publicized). Overall, then, the evidence does not support outright bans.

Other notable facts also emerge from the empirical evidence. Contrary to what payday lenders often suggest, rollovers are the rule, not the exception.⁷⁹ Default is very common.⁸⁰ Longer loan repayment periods do not seem to help borrowers repay their loans in full.⁸¹ Self-control problems and myopia are prevalent, manifested as miscalculations of subsequent borrowing behavior and ability to repay.⁸² Finally, there are important interactions between payday lending and other forms of credit: Borrowers use payday loans even when other significantly cheaper forms of credit are available.⁸³ People also choose to use payday loans when they have liquidity available in their checking account.⁸⁴ Together these facts can help us determine what an optimal regulatory scheme would look like.

Below I lay out the current ways in which states regulate payday loans and my assessment of the respective types of regulations, based on the empirical evidence outlined above. Table 2 describes the current regulations by state.⁸⁵

79. See *supra* notes 23–28 and accompanying text (reporting findings about the widespread use of rollover payday loans and regulatory backlash against them).

80. See *supra* note 24 and accompanying text (finding that over half of payday borrowers default on a payday loan within one year of their first such loan).

81. See *supra* notes 37–39 and accompanying text (finding no change in default rates when loan repayment terms are extended).

82. See *supra* notes 23–28 and accompanying text (describing how poor self-control contributes to negative outcomes of payday lending).

83. See *supra* note 43 and accompanying text (summarizing results of a study showing that consumers will obtain a payday loan even when they have access to more traditional, cheaper forms of credit).

84. See *supra* note 45 and accompanying text (explaining that two-thirds of consumers in the survey had, on the day they obtained a payday loan, more available credit through credit card liquidity than the average amount of a payday loan).

85. See *infra* Table 2 (summarizing payday laws by state using data found at <http://www.paydayloaninfo.org/state-information>).

A. Bans

Fourteen states now completely ban payday loans.⁸⁶ However, as discussed in Part II, there is no evidence suggesting that payday loans are on net bad for consumers. Thus, banning payday loans is not appropriate. Better policy would help consumers avoid using payday loans as a long-term credit instrument while maintaining their availability in situations in which they will enhance utility. As my analysis above shows, that likely means limiting rollovers, not banning payday loans altogether.⁸⁷

B. Interest Rate Caps

The typical interest rate caps implemented by policymakers are, in practice, no different than outright bans. This is because lenders are unwilling to lend below a few hundred percent APR.⁸⁸ Payday lenders charge the state-prescribed maximum amount of interest and are unwilling to charge (and apparently unable to make profits) at lower prices.⁸⁹ Prices lower than the typical triple-digit interest rates will essentially eliminate payday lending. Accordingly, my argument about price caps is identical to that regarding bans.⁹⁰

C. Information Disclosures

Payday-loan contracts are simple. Unlike checking accounts, subprime mortgages, and credit cards, contract terms are not

86. See *supra* note 14 and accompanying text (noting the number of states that have banned payday lending); see also *infra* Table 2.

87. See *supra* notes 23–28 and accompanying text (detailing the prevalence of rollovers in payday loans and the negative outcomes associated with this use of payday loans).

88. See John Campbell et al., *Consumer Financial Protection*, 25 J. ECON. PERSP. 91, 103 (2011) (proposing that that “a thirty-six percent interest rate ceiling might not create ‘affordable’ payday loans but might simply lead to the exit of existing vendors”).

89. See *id.* at 103 (“More generally, rate caps could lead to new products or practices that skirt the rules or lead consumers to seek other, possibly even less-attractive, sources of short-term credit.”).

90. An interesting aside is what other elements lenders could or should compete on. Lenders do not appear to compete on price. No risk-based pricing is used. Some lenders advertise that they do not use any credit scoring process.

hidden. Even though there is evidence that payday borrowers (like most consumers) have trouble understanding interest,⁹¹ my summary of the empirical literature on payday borrowing above shows that borrowers' behavior is not caused by information problems but rather is due to mispredictions about their own behavior. Accordingly, additional information (beyond the basics of the Truth in Lending Act) would not be especially helpful to consumers. All the information in the world would not get a borrower past her self-control problems.⁹²

D. Loan Lengths

The latest innovation in state regulation of payday loans is to force lenders to give borrowers additional time to repay a loan. As discussed above, longer loans do not appear to improve borrowers' ability to repay, likely because of myopia.⁹³ As such, loan length is not a useful target of regulation. This is unfortunately because extending loan terms would be a relatively cost effective, easy-to-implement, non-paternalistic policy instrument had it worked.

It should be noted that while longer loan durations may in fact affect neither repayment nor rollover behavior, longer loans do imply lower implied annualized interest payments (assuming interest is not raised proportionately to the increase in loan terms). To the extent that this implied price decrease per se is an important goal of regulation, longer loan lengths will be effective. However, to curb rollovers, a much more direct approach is necessary.

IV. Discussion

Payday loans are not all bad. While, as shown by research cited above, some borrowers choose to use payday loans even when they have cheaper credit available, other borrowers have no other choice

91. See, e.g., *id.* at 91–94 (surveying the array of financial instruments available to consumers and consumers' difficulty in understanding such devices).

92. See Skiba & Tobacman, *supra* note 15, at 3–4 (describing the effect of self-control on payday borrowing and repayment).

93. See *supra* notes 42–43 and accompanying text (explaining the consequences of longer repayment terms on payday loans).

because they are credit constrained. For the latter group of borrowers, payday credit is a crucial tool that enables them to borrow from tomorrow's paycheck to meet today's needs when doing so will help prevent an even bigger loss—the exact situation that payday loans are meant to address. Payday loans' key virtue is that they help credit constrained borrowers avoid financial consequences like overdraft fees or utility shutoffs, which can be more costly than payday loan interest payments. Optimal policy will help all borrowers use payday loans responsibly. As discussed above, the best way to do this is to restrict rollovers⁹⁴ which several states already attempt to do, though it is difficult to monitor borrowers using multiple lenders at a time in practice. Some states are implementing a centralized database to better track borrowers across lenders. There is also a need for maintaining information disclosures to ensure borrowers are aware of loan fees, such as those regulated by TILA.⁹⁵ Beyond that, however, information disclosures are not a useful mechanism to help borrowers in general.

Let's be clear: Borrowers almost surely do not literally optimize decisions in the manner that the standard rational-actor framework assumes. Milton Friedman compared an individual consumer's behavior to that of a pool player who does not know physics or geometry, but whose play appears to have been dictated by very sophisticated calculations, *as if* he or she were solving a complicated math problem.⁹⁶ The same *as if* argument may hold for borrowers. They do not necessarily understand how to calculate APRs or their own marginal utility (few of us do), but they proceed as if they do.⁹⁷ Their behavior sometimes closely approximates the hypothetical behavior of a perfectly rational actor, but sometimes misses the mark pretty widely.

94. See *supra* notes 23–28 and accompanying text (explaining the negative consequences of rollover use among payday borrowers).

95. See Truth In Lending Act, Pub. L. No. 90-321, § 121, 82 Stat. 146, 152 (1968) (codified at 15 U.S.C. § 1631 (2006)) (explaining TILA's general disclosure requirements).

96. MILTON FRIEDMAN, *The Methodology of Positive Economics*, in *ESSAYS IN POSITIVE ECONOMICS* 21 (1953) (presenting the pool player example).

97. See, e.g., Campbell et al., *supra* note 88, at 92–95 (explaining the limits of consumers' understanding and efforts to counter those limits with consumer protection laws).

Payday loans illuminate consumers' general propensity for irrational behavior quite well, because—unlike credit cards, mortgages, and even checking accounts, which typically come with a number of hidden fees—payday loan contracts are transparent and clear. One might think consumers would evaluate the loans' fairly simple terms and then go on to use payday loans in the manner that would maximize utility (it is fairly obvious that this would be to use them only when doing so could prevent an even larger cost, and then to pay them off the moment it becomes possible to do so). But while payday loan terms are clear, borrowers' future behavior is murky and uncertain. Few borrowers predict that they will rollover payday loans multiple times; like most people, they generally imagine their future selves to be rational, patient, and time consistent, and to be able to save rather than spend.⁹⁸ As the research demonstrates, however, things frequently do not play out that way.

No evidence suggests payday loans are unequivocally bad; rather, borrowers sometimes use them in suboptimal ways (as most of us do with financial products at one point or another). Rather than attempting to shut down or severely restrict payday lending, policymakers should acknowledge and examine the discrepancy between the rational-actor ideal and borrowers' behavior in the real world, and craft rules that will enable payday loans to help borrowers in the intended manner despite borrowers' frequently imperfect decision-making. It is clear that payday loans have great potential to carry borrowers through short-term financial shocks, providing quick, accessible credit that may not be available elsewhere. It would be a shame to lose this function.

98. See O'Donoghue & Rabin, *supra* note 51, at 104 (exploring “the behavioral and welfare implications of present-biased preferences”).

Appendix

Figure 1a

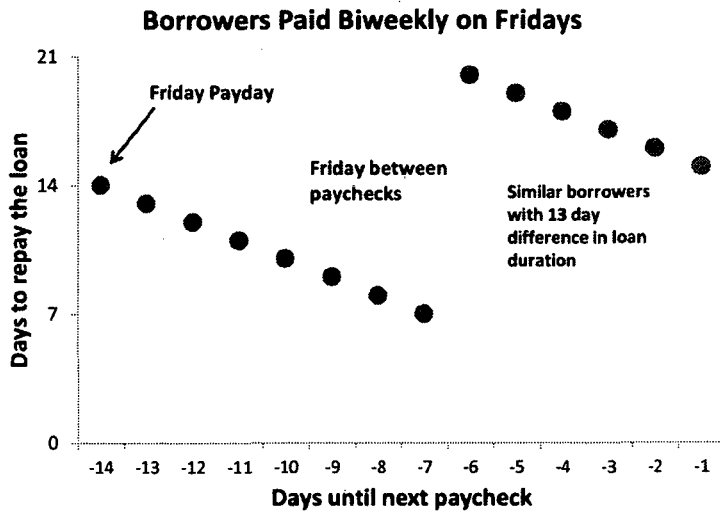


Figure 1b

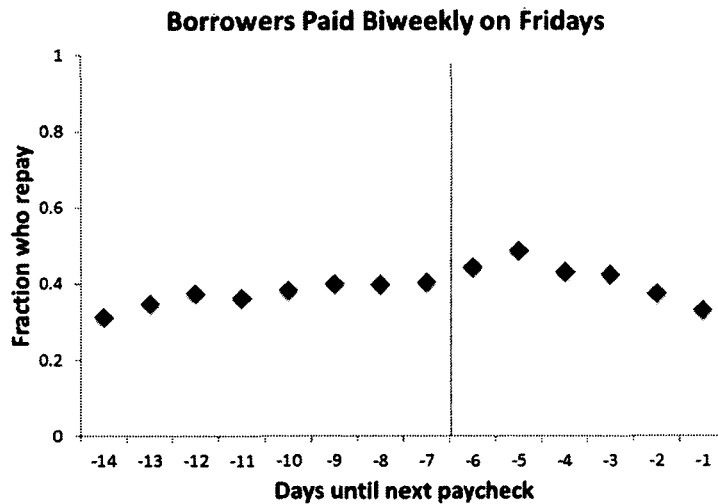


Table 1: Credit Card Liquidity

Lag Time Before the PDL	Liquidity Percentiles				Liquidity	
	90th	75th	25th	10th	Mean	Std. Dev.
t-12	2557	2018	1069	478	1556	1036
t-11	2581	2086	1070	440	1572	1171
t-10	2531	2091	1118	395	1587	991
t-9	2587	1841	1023	382	1413	1205
t-8	2451	1739	867	357	1595	1104
t-7	2460	1643	867	346	1421	1148
t-6	2509	1585	804	334	1380	1118
t-5	2319	1585	793	311	1396	899
t-4	2348	1375	711	282	1284	842
t-3	2280	1395	663	287	1249	818
t-2	2171	1390	664	265	1122	722
t-1	2177	1359	623	262	990	677
t	2102	1244	583	263	1011	653

Table 2: Payday Laws⁹⁹

State	Payday Loans Legal?	Payday Loans	
		Rates	#Renewals Allowed
Alabama	Legal	17.50%; 3%/month after default	1
Alaska	Legal	\$5 + the lesser of \$15 per \$100 or 15%	2
Arizona	Prohibited		0
Arkansas	Prohibited		0
California	Legal	15% of check	0
Colorado	Legal	20%: \$0-\$300 + 7.5%; #301-\$500 plus 45% per annum interest plus monthly maintenance fee \$7.50 per \$100 borrowed, up to \$30 after first month.	Not Specified
Connecticut	Prohibited		0
DC	Prohibited		0
Delaware	Legal	Not Specified	4
Florida	Legal	10% + verification fee	0
Georgia	Prohibited		0
Hawaii	Legal*	15% of check	3
Idaho	Legal	Not Specified	0
Illinois	Legal	\$15.50 per \$100	0
Indiana	Legal	15%: \$0-\$250; 13%: \$251-\$400; 10%: \$401-\$500	0
Iowa	Legal	\$15: \$0-\$100; \$10 per \$100 thereafter	0
Kansas	Legal	15%	Not Specified
Kentucky	Legal*	\$15 per \$100 + \$1 database fee	0
Louisiana	Legal	\$5 documentation fee + the greater of 16.75% of check or \$45 (After default: months 1-12: 36% per year; months 13 and beyond: 18% per year)	0
Maine	Prohibited		0
Maryland	Prohibited		0
Massachusetts	Prohibited		0
Michigan	Legal	15% of first \$100; 14% of second 100; 13% of third \$100; 12% of fourth \$100; 11% of fifth \$100; 11% of sixth \$100 + any database verification fee	0
Minnesota	Legal	\$5.50: \$0-\$50; 10% + \$5: \$51-\$100; 7% (min. \$10) + \$5: \$101-\$250; 6% (min. \$17.50) + \$5: \$251-\$350 (After default: 2.75% per month)	0
Mississippi	Legal*	18% of check	0

99. Table 2 shows the payday loan and pawnshop laws by state as of 2012. Courtesy of Susan Payne Carter.

Payday Loans			
State	Payday Loans Legal?	Rates	#Renewals Allowed
Missouri	Legal	75%	6
Montana	Legal	25%	0
Nebraska	Legal	\$15 per \$100 or pro rata for any part thereof on amount of check	0
Nevada	Legal	Not Specified	Not Specified
New Hampshire	Legal	36% annual interest	0
New Jersey	Prohibited		0
New Mexico	Legal	\$15.50 per \$100: \$.50 verification fee per \$100	0
New York	Prohibited		0
North Carolina	Prohibited		0
North Dakota	Legal	20% + databasing fee	1
Ohio	Legal	28% annual interest	0
Oklahoma	Legal	\$15 per \$100: \$0-\$300: \$10 per \$100: \$301-\$500	0
Oregon	Legal	36% APR interest, \$10 per \$100 fee up to \$30	2
Pennsylvania	Prohibited		0
Rhode Island	Legal*	10%	1
South Carolina	Legal	15% of principal	0
South Dakota	Legal	Not Specified	4
Tennessee	Legal	the lesser of 15% of the check or \$30	0
Texas	Legal	\$10 per loan + 48% annual interest	0
Utah	Legal*	No usury limit	Not Specified
Vermont	Prohibited		0
Virginia	Legal	36% annual interest + \$5 verification fee + 20% of loan	0
Washington	Legal	15%: first \$500: 10% remaining portion of the loan in excess of \$500 up to the \$700 maximum	0
West Virginia	Prohibited		0
Wisconsin	Legal	NO LIMIT	1
Wyoming	Legal	the greater of 20% or \$30	0

*Legal for check cashers only.

