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Do Defaults on Payday Loans Matter?

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This essay examines the effect on a borrower's financial health of failure to repay a payday loan. Recent regulatory initiatives suggest an inclination to add an "ability to pay" requirement to payday-loan underwriting that would be fundamentally inconsistent with the nature of the product. Because the premise of that regulation would be that borrowers suffer harm when they fail to repay such a loan, it is timely to examine the after-effects of such a default empirically. This essay examines that question using a dataset that combines payday borrowing histories with credit bureau information.

The essay uses a difference-in-difference approach, comparing the credit-score change over time of those who default to the credit score change over the same period of those who do not default. The essay presents three principal findings. First, credit score changes for borrowers who default on payday loans differ immaterially from changes for borrowers who do not default on

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payday loans. Second, the fall in the year of the default plainly overstates the net effect of the default, because the credit scores of those who default on payday loans experience disproportionately large increases for at least two years after the year of the default. Third, the payday loan default cannot be regarded as the cause of the borrower's financial distress; borrowers who default on payday loans have experienced disproportionately large drops in their credit scores for at least two years before their default.

KEYWORDS: Consumer finance; payday lending; financial health; credit scores

JEL: D1, K35

Do Defaults on Payday Loans Matter?

1 Introduction

Payday lending is at the heart of debates about “alternative” financial products. Since its rise in the early 1990’s, the product has gained widespread traction with consumers. In the typical transaction, an individual borrows \$200-\$500 and commits to repay the borrowed funds, together with a one-time fee of 12-18% of the loan’s principal, out of the individual’s next paycheck. Mann and Hawkins 2006. Payday loans are now available at about 20,000 storefront locations throughout the Nation, where more than ten million Americans borrowed money in 2010. Pew Project 2012. To put their success in context, there are more payday lender locations in this country than there are Starbucks and McDonald’s locations combined. Morgan et al. 2012.

Concerns about payday lending come from its role in the development of “fringe” lending, which has played a major part in the oft-chronicled rise of modern America’s culture of indebtedness. Caskey 1996; Marron 2009; Mayer 2010; Graeber 2011; Hyman 2012. With a vehemence surprising for a product so successful with consumers, consumer advocates are almost uniformly critical of the product. Johnson 2012; Martin and Schwartz 2012; Peterson 2004.

Several attributes of the product have attracted attention. The most obvious is the relatively high interest rates characteristic of the product, which typically are in the range of 400% (a fixed fee of about 15% for a loan of two weeks or less).¹ To supporters of usury limits on consumer lending, a product with interest rates in the range of 400% is necessarily problematic. Criticisms on that point led, for example, to 2007 legislation² prohibiting loans to military personnel and their families at interest rates above 36%; this essentially terminated payday lending to military families. Johnson 2012; Aul 2008. State regulators frequently have responded by limiting the prices payday lenders can charge for their products. Although some of those limits are so strict as to make the product impracticable, for the most part they permit lending at the rates summarized above.³ Further rate regulation at the federal level seems less likely, however, largely because usury considerations are explicitly off the table as the basis for regulation by the Consumer Financial Protection Bureau (the “CFPB”).⁴

Another oft-noted concern relates to persistent use of the product. It is

¹Mann and Hawkins 2006. The relatively high nominal interest rate reflects the cost structure of the industry. On the one hand, operating costs do not decline proportionately with the size of the loan; thus, the administrative costs for small loans are quite high when measured on a percentage basis. At the same time, because the loans are effectively unsecured and typically made with relatively little inquiry into creditworthiness, losses are not insubstantial. Lawrence and Elliehausen 2008. For a detailed numerical analysis of the operating expenses and losses of payday lenders and how those compare to fee revenues, see Elliehausen 2009.

²The Talent-Nelson Amendment, Section 670 of the John Warner National Defense Authorization Act for Fiscal Year 2007, Pub. L. No. 109-364, 120 Stat. 2083, was codified at 49 U.S.C. § 987.

³National Conference of State Legislatures 2013; Pew Project 2012; Morgan et al. 2012.

⁴12 U.S.C. § 5517(o).

well-known that many borrowers use the product frequently; in the common phrasing they are said to “roll over” the loans from pay period to pay period because they lack the funds to pay them off as they come due. This leads consumer advocates to fear that borrowers frequently become “mired” in debt that they could have avoided had they never used the product. Mayer 2010; Peterson 2004; White 2009. The specific concern is that excessive optimism causes users to believe they will pay off their loans rapidly, when in fact they usually will not. Bar-Gill and Warren 2008, 44-46. Indeed, Bar-Gill and Warren go so far as to assert that no rational consumer expecting to roll over the loan would agree to the terms of a payday loan.⁵

Responding to that concern, many states have adopted specific limitations on rollovers. Mann and Hawkins 2006, 897-98. This concern has been particularly noteworthy at the federal level, where the CFPB’s director has publicly suggested Cordray 2013 the propriety of CFPB action against products for which “a substantial percentage of users rol[l] over their debts on a recurring basis” because those products amount to “debt traps.” On that score, a 2013 CFPB white paper on payday loans directly decries the repetitive use of the product and avows an intention to consider mandating cooling-off periods as a matter of federal law. Consumer Financial Protection Bureau 2013. Similar action by the Comptroller of the Currency and Federal Deposit Insurance Corporation against the deposit advance product banks commonly offered presages prompt attention by the CFPB. Federal Deposit Insurance

⁵Alan White’s analysis is similar. White 2009, 159-63.

Corporation 2013; Office of the Comptroller of the Currency 2013.

A third concern relates to the underwriting of the product. Because the premise of the product is that it is available with relatively little investment of underwriting resources by the lender, the product has a higher rate of default than many other consumer financial products. As mentioned above, the loans are extended in the ordinary course minutes after the borrower enters the retail location. To be sure, sophisticated providers can pack quite a bit of risk analysis into those few minutes. Interviews with industry risk managers suggest that the large national providers take the information from the borrower and use it in real-time to develop a risk score reflecting the borrower's likelihood of default; whether the assessment is performed in-house using proprietary software (increasingly the case) or using a third-party provider, in either case the lender will have a good idea of (for example) the customer's past repayment history on payday loans and similar products.⁶ Turning to that aspect of the product, the CFPB's recent "Data Point" notes that about 20% of all borrowers from a payday lender will default in a single year.⁷

The relatively high default rate raises yet another regulatory possibility

⁶Although the large payday lenders do not, so far as I can ascertain, share information with the major credit bureaus, they do share that information with niche bureaus specializing in alternative lending; electronic access to that information in real time is routine.

⁷The rate of default on a per-loan basis is considerably lower, in the range of 5%. But because many borrowers avoid default by obtaining a new loan (rather than repaying the loan from independent sources of repayment), the CFPB's approach counts the rate of default on a per-borrower per-year basis.

- intervention focused on the borrower's ability to repay the loan. Requirements that a lender consider the borrower's "ability to pay" have been common in other countries for many years, but only recently have they come to the forefront in the United States. Pottow 2011. Most obviously, Dodd-Frank imposed an "ability to pay" requirement on home mortgage lenders,⁸ and the Credit CARD Act imposed such a requirement on credit card issuers.⁹

Although the harms from a mortgage foreclosure or the loss of access to credit cards are considerably more pressing and immediate than the collection efforts of a payday lender, the CFPB's focus on payday lenders apparently has caused the CFPB to consider regulatory action against payday lenders based on a failure to give due consideration to a borrower's "ability to pay." To get a sense for how impractical such a requirement would be in the streamlined payday lending process, consider the items to which Dodd-Frank requires that mortgage lenders attend: "the consumer's credit history, current income, expected income the consumer is reasonably assured of receiving, current obligations, debt-to-income ratio * * * , employment status, and other financial resources."¹⁰ Indeed, although the agency has not yet instituted a formal rulemaking, it has begun taking enforcement actions on that basis. Most prominently, in a recent action against ACE Cash Express, the CFPB based its action in part on the allegation that ACE persistently

⁸Dodd-Frank § 1411(b) (codified as Truth in Lending Act § 129C, 15 U.S.C. § 1639c).

⁹Credit Card Accountability Responsibility and Disclosure Act of 2009 § 109 (codified as 15 U.S.C. 1655e).

¹⁰15 U.S.C. § 1639c(3).

made loans to borrowers even when it knew that they had no ability to repay them. Consumer Financial Protection Bureau 2014.

Turning to that question, the purpose of this essay is to examine the consequences on borrower financial health of a default on a payday loan. If the justification for regulatory emphasis on ability to pay is the harm that ensues when borrowers receive loans they cannot repay, then the empirical foundation of any such regulation must be the significance of that harm. My previous writing on the subject has suggested that one of the favorable attributes of payday loans, at least as compared to consumer financial products like credit cards, is that the relatively low balances indicate that the products will not cause serious financial harm even if the loans do go unpaid. Mann and Hawkins 2006. That discussion, however, was purely speculative, with no basis in data. The agency's contrary intuition, coupled with the unique opportunity to examine a dataset matching the existence of payday loan defaults to a history of consumer credit scores, motivated me to examine the question empirically.

Section 2 of the essay situates this project against the existing literature on the role of payday lending in financial distress. Section 3 describes the unique dataset that made this essay possible. Section 4 describes the empirical methods and results. Section 5 briefly elucidates the implications of the empirical results for the the continuing policy debates about payday lending regulation.

2 Literature Review

The role of payday loans in the overall health of a consumer's financial position has received considerable attention. Most commonly, the literature questions whether borrowers are rationally selecting the payday loan product, or instead are choosing it because of a behavioral or psychological error that leads them to misunderstand the product and the likelihood that they will be able to repay the loan. In that vein, e.g., Bar-Gill and Warren (2008) and White (2009) suggest that substantially all payday-loan borrowing rests on a misguided assumption that the borrowers will be able to repay the loans. By contrast, the empirical data on the question suggest that borrower predictions of payday loan usage are relatively accurate. Mann 2013; Levy and Sledge 2012; Harris Poll 2013. Zinman (forthcoming 2015) provides a useful summary of that literature, concluding that on balance the "most striking finding" is that forecasts of repayment tend to be unbiased on average: although they often are wrong, the errors are neither systematically optimistic (payment later than expected) nor pessimistic (payment earlier than expected).

A harder problem is to put the payday loan in the dynamic context of the arc of a consumer's financial distress, to understand where payday loans fit in along that continuum. Two intertwined questions are pertinent. First, are payday loans the source of distress or a tool to which borrowers turn because of distress? Second, does the use of the payday loan have a positive

or negative effect on the path of distress?

On those questions, about which this paper is written, the literature is much more sketchy. Using an extensive dataset that allows them to match individual borrowings on credit cards and payday loans, Skiba and Tobacman (2009) show a considerable deterioration in liquidity both before and after the first payday loan. In the same vein, Campbell et al. (2012) conclude that access to payday loans correlates with involuntary bank account closures.

Neither of those papers, however, examines how creditworthiness might change during the period after a default to the payday lender. Probably the most substantial discussion on this point in the existing literature focuses on the small size of the payday loan. Mann and Hawkins (2006) reason that payday loans might be preferable to credit cards because the comparatively small loan amounts mean that the consequences of a default to the payday lender will be (relatively) slight. More expansively, Hawkins (2011, 1395-99) situates the constrained size of the payday loan in a general discussion of the relation between fringe banking and financial distress. In his view, the constrained size of the payday loan is central to ensuring that it not contribute to “excessive debt burden” or ensuing “financial distress.” Neither of those papers, however, has any empirical data to test the “too small to hurt” hypothesis.

3 Data

The data analyzed in this essay combine two distinct sources: data from payday lenders about the borrower’s loan activity (including defaults) and data from a credit reporting agency about the borrower’s credit attributes over time. The unique merger of those data allows this essay to make a distinct combination to the existing literature.

On the first point, three large national payday lenders provided the borrowing data, which include electronic borrower histories for a total of 37,655 individual borrowers. The histories cover the retail outlets of those lenders located in seven states (California, Florida, Kansas, Missouri, Oklahoma, Texas, and Utah). The data cover all borrowers who started borrowing sequences in the first half of 2006 or 2008 after a 90-day period without borrowing. For each borrower, the lender data include (among other things) date of birth, borrower income, the dates on which the loans originated and were repaid, and an indicator of default for any loan that the borrower failed to repay. It warrants noting that the lenders that submitted data for use in the study are all members of the Community Financial Services Association of America (CFSA), a trade association of storefront lenders. CFSA members follow a self-regulatory set of “Best Practices,” which include limitations on rollovers and require the availability of low-cost extended repayment options to troubled debtors. It is likely that compliance with these practices causes the behavior of their borrowers to differ in some respects from those in the

marketplace as a whole.

Trans Union LLC merged the lender data with data from its records, using the borrowers' Social Security numbers. The merger added credit attribute files from Trans Union LLC for four points in time: January of 2006 and January of 2007 for borrowers who had qualifying loans in 2006; January of 2008 and January of 2009 for borrowers who had qualifying loans in 2008. the date one year after that borrowing, the date of the first loan in the 2008 period, and the date one year after that borrowing. For the 29,533 borrowers who had qualifying loans in both 2006 and 2008, there are four credit-score data points; for those with a qualifying loan in only one of the two years of interest, there are two credit-score data points. Before returning the merged file, Trans Union anonymized the file (by substituting a unique identifier for each Social Security Number) and returned it to the investigator.¹¹

Among other things, the data that Trans Union added include the proprietary VantageScore[®]. Developed by the three major credit bureaus (Trans Union, Equifax and Experian), its purpose is to identify loan applicants likely to become 90 or more days delinquent within a 24-month period. The VantageScore ranges from a low of 501 to a high of 990. The computation of the score is based on six general factors of a consumer's credit report, including payment history, line utilization, balances, depth of credit, recent credit, and available credit. One advantage of using the VantageScore over

¹¹I have not had access to the original file that included Social Security numbers, but only the merged file.

the mainstream FICO[®] score is that the VantageScore tends to score more consumers with “thin” credit files because it has lower scoring restrictions than the FICO score. Specifically, where a FICO score requires at least six months of credit history, the VantageScore requires only one month of credit history.

4 Analysis

4.1 Linking Default and Creditworthiness

The question of interest is how a payday loan default affects the borrower’s financial health. Because this dataset includes a series of credit scores for each borrower, it is at least theoretically possible to analyze the relation between a default at one point in time and the borrower’s financial health at a later time. I follow Agarwal et al. (2006) and Zinman (2010) in using changes in credit score as a proxy for financial health, but note several caveats. First, credit scores are only a proxy for financial health; it is likely that they only imperfectly track the attributes of well-being that are important to the daily life of borrowers. To be sure, they probably do correlate closely with access to new credit, but access to new credit is not the same as financial health, which should relate more closely to the ability to repay existing debt.

Importantly, as noted above, payday lenders ordinarily do not report defaults to credit bureaus. Accordingly, any correlation between payday-loan defaults and subsequent declines in credit scores is not caused directly by that

default, but should rest on other attributes of financial health. To be sure, the analysis is complicated by the dynamic relation between the true variable of interest (financial health) and credit scores. Most obviously, alteration of a borrower's financial position does not immediately shift the borrower's credit score; it takes time for the credit-reporting bureaus to receive the information and incorporate it into their scores. Thus, adverse financial events that precede (and perhaps cause) the borrower's decision to borrow from a payday lender can be reflected in a shift in the score *after* the date of the loan rather than *before*.

A second problem arises from the particular data structure that is available. The data structure draws the credit score on the date of the first qualifying loan of 2006, one year after that date, the first qualifying loan of 2008, and one year after that date. For borrowers who have qualifying loans in both 2006 and 2008, that provides credit scores for each of four years. Thus, for defaults during the period of the first credit score to the last, the data provides credit scores one year apart, bracketing the date of default, as well as scores bracketing two additional years either before or after the default, as the case may be. For example, for 2006 defaults, the data provide scores that bracket the date of default (2006 and 2007) and each of the two subsequent years (2007-2008 and 2008-2009); for 2009 defaults, the data provide scores that bracket the date of default (2008 and 2009) and each of two preceding years (2006-2007 and 2007-2008).

To the extent the goal is to identify the immediate consequence of default,

the score at the end of the year in which the default occurs appears to be the best available proxy. To be sure, for each observation some of the events that cause the credit score to change during that year will have occurred before the date of the payday loan default. But there is little reason to expect that circumstance to systematically bias the estimates presented below.

Working from that framework, we can compare the difference between a change in credit score during the year of default for those who defaulted during that year to the change in credit score during that same year, for those that did not default in that year.¹² Thus, although the data are purely observational, the “difference-in-difference” structure allows us to estimate the relation between the default and the change in credit score during the year of default. To enhance the robustness of the estimates, it also is useful to control in the regressions for other variables that potentially might have a systematic relation with those estimates. Buckley and Shang 2003.

4.2 Descriptive Statistics

Table 1 provides summary descriptive statistics for the variables used in the analysis below. It suggests a population of borrowers slightly older than average, with considerably lower income than the average. The borrowers, on average, take out 2.1 loans during each year; 21.1% of all borrowers default during each year; 1.9% of the loans end in default. The states included in the

¹²Following Allison (1990), I use change scores as a dependent variable rather than using the scores at the beginning of the period as control variables.

Variable	Mean (Standard Deviation)
Age	40 (13)
Income	15,500 (17,800)
Loans/Year	2.1 (3.0)
Share of Defaulted Loans	1.9% (13.7%)
Share of Borrowers Defaulting/Year	21.1% (40.8%)

Table 1: Summary Descriptive Statistics. N=29,738-29,921 (borrower attributes), 434,077 (share of defaulted loans). Source: Author. For loans/year and share of borrowers defaulting/year, the table displays the mean (and standard deviation) of the average of that attribute for each borrower for all available years in the sample.

data employ a broad cross-section of different regulatory approaches. They range from Texas (which has one of the most permissive regimes) to Florida (which has one of the most restrictive regimes that permits payday lending at all).

4.3 Assessing the Link Between Default and Subsequent Credit Score

The most difficult problem in analyzing the effects of credit products is determining the appropriate “output” variable to assess the affect of a particular event on the borrower’s overall financial health. As discussed above, this dataset includes information about the borrower’s credit score over time, which makes it practical to assess the differences in the course of financial health, among payday loan borrowers, of those who do and do not default. Compared to an average Vantage score of 736 (a “prime” level borrower), the mean borrower’s score of 578 places the typical borrower squarely in the “F,

Credit Variables	Credit Score Mean (Standard Deviation)
Credit Score	578 (48)
Delinquencies in Prior Year	73% (44%)

Table 2: Credit Variables. Source: Author. Table displays the mean (and standard deviation) for all the credit score observations in each year.

High Risk” group, which roughly includes the bottom quintile by creditworthiness of the population. The different ranges in the VantageScore system are about 100 points in size. It is difficult to generalize (because less sophisticated lenders may truncate credit markedly at particular thresholds), but generally speaking changes in credit score that shift a borrower through a small part of one of those ranges should not materially affect access to credit. Thus, changes of fifty or more points often might produce a noticeable change but changes of ten to twenty points ordinarily would not.¹³ To put the effects of the payday loan behavior in context, I also use (as an alternate right-hand side variable) whether the borrower defaulted on any other loan during the year in question. As Table 2 indicates, about 73% of the payday-loan customers had a delinquency in any given year.

Turning to the data, the central question is whether the path of credit scores during any particular time period shifts differently for defaulters than it does for non-defaulters.¹⁴ At the aggregate level, there plainly is *some*

¹³The general information about credit score levels comes from informal communications with Trans Union about the data and from the discussion of those scores by about.com, at <http://credit.about.com/od/vantagescore/a/vantage-score-overview.htm>.

¹⁴To be sure, it would be easier to detect effects if the data structure were more robustly longitudinal (like the data analyzed by Bhutta et al. (2014)). At the same time, because their data structure requires matching to a census sample, it means that their dataset of payday loan customers is much smaller than the data analyzed in this paper.

difference: over the entire period the credit scores of those who defaulted on a payday loan declined by a mean of 16 points, while the credit scores of those who did not default declined by a mean of 11 points. To put it another way, the difference between the beginning and ending scores for the defaulters is five points larger than the difference between the beginning and ending scores for the nondefaulters.

For several reasons, a more fine-grained analysis of the longitudinal aspect of the data seemed appropriate. Specifically, because the hypothesis under examination is that a default on a payday loan causes a subsequent decline in financial health, it should be illuminating to put the default in a temporal context - examining the relative shifts in credit scores before the year of default, during the year of default, and in the years after default. Table 3 summarizes the data on that point.

As Table 3 indicates, the credit scores shift differently for defaulters than they do for nondefaulters, but the differences are slight and the pattern of shifts is not entirely consistent. In general, though, they tend to suggest three things. First, they suggest that credit scores for defaulters already have begun to drop during the year (or years) before the credit score drop; the only significant change in that category is a drop ten points farther during 2006 for those who would default in 2007 than for those who would not default in 2007 (the “2007 Default” columns of the table). Second, they suggest that the credit scores of defaulters decline more during the year of the default than they do for nondefaulters, although the difference is quite slight

Reference Year	2006 Default		2007 Default		2008 Default	
	Yes	No	Yes	No	Yes	No
Second Year Before	n/a	n/a	n/a	n/a	(4.6)	(4.7)
Year Before	n/a	n/a	(15.4)**	(5.5)**	(9.3)	(10.0)
Year of Default	(17.6)**	(7.3)**	(19.1)**	(3.6)**	(10.9)**	(0.3)**
Year After	1.6**	(3.3)**	12.7**	5.0**	n/a	n/a
Second Year After	7.6**	5.7**	n/a	n/a	n/a	n/a

Table 3: Changes in Credit Scores, by Default Status and Year. For each group, the Table displays the mean change (positive or negative) in credit score during each period. * - 5% ** - 1%.

(10, 15, and 10 points during the three years). Finally, they suggest that the credit scores of those who default rebound more sharply than the credit scores of those who do not default. Specifically, for each of the three post-default observations in the data, the credit scores of those who defaulted went up by comparison to the credit scores of those who did not default during the reference year. The differences are slight (5 points, 7 points, and 2 points), and the number of years during which to observe changes is slight, but the data at least suggest such a pattern.¹⁵

Given the relatively small difference in outcomes discernible from the raw data, the question naturally arises whether the difference relates to some systematic difference between the defaulters and the nondefaulters. Accordingly, the next step is to regress the existence of a default on the explanatory variables available in the dataset (age, income, and state of residence). As

¹⁵Further research might shed light on this phenomenon. It is possible, of course, that a slight improvement reflects the receipt in time of distress of what has turned out to be a loan that needs never to be repaid. That possibility resonates with the findings of Demyanyk (2014), who concludes that the best explanation for credit-score increases after a foreclosure is the borrower's freedom from continuing mortgage payments.

explained above, those regressions use a difference-in-difference approach, estimating the *difference* between the credit-score differences for defaulters and nondefaulters, with a view to quantifying the relation between a default and a credit-score shift in a particular time period related to that default. All of the regressions include state fixed effects and rely on robust standard errors.¹⁶

Table 4 summarizes the results of that analysis. The principal model (the first set of columns (“Aggregate”)) examines the data at the broadest level: regressing the change in credit score over the entire period on the existence of any default on a payday loan (the “P/D” column) or of some other delinquency reported to the credit bureau (the “Other” column). As with the bivariate analysis, it indicates a small but statistically significant decline in credit score associated with the default on the payday loan. To put that in context, the parallel overall decline in credit score associated with any other delinquency is almost four times as large.

Because the bivariate data suggest the possibility that the aggregate regressions conceal cognizable patterns in the years before and after the year of default, the remaining columns of Table 4 present the results of separate regressions for each of the years before or after the year of default. With some caveats, that analysis buttresses three points from the less definitive analysis summarized above. Most obviously, because of the size of the dataset,

¹⁶Alternate specifications used ZIP codes to account for geographical variation; they did not differ significantly from the specifications summarized in the text. Table 5 in the Appendix summarizes those results.

	Aggregate			2nd Year Before			Year Before			Year of Default			Year After			Second Year After		
	P/D	Other		P/D	Other		P/D	Other		P/D	Other		P/D	Other		P/D	Other	
Age	.06	.07*		.01	.01	(.00)	.02**	.06**		.00	.03		(.00)			(.00)		
Income	(.12)	.41**		.01	.02	(.12)	(.04)	.30		.08*	.14		(.12)**			(.07)		
California	(14)**	(13)**		.32	(.28)	(.19)	(1.7)**	(2.9)**		.70**	(.31)		.42			(.38)		
Florida	(18)**	(17)**		(.06)	(.29)	(.65)	(1.0)*	(4.1)**		.57**	(.08)		.21			(.84)**		
Kansas	1.65	.84		.61	(.12)	(.11)	(.73)	2.7**		.89**	1.4		.16			(.34)		
Missouri	(5.1)**	(6.2)**		.04	(.14)	.18	(2.0)**	(1.6)		.68*	.00		.30			(.10)		
Oklahoma	1.7	1.9		.27	(.23)	(.13)	(.99)*	1.7*		.72**	1.8**		.42*			(.01)		
Utah	(7.4)**	(7.8)**		.30	(.49)	.09	(2.3)**	(2.3)*		.73*	(.55)		.29			(.94)**		
Default	(6.9)**	(27)**		(2.2)**	(.78)	(6.2)**	(14)**	(13)**		1.5**	4.9**		3.0**			2.5**		
Constant	(5.9)**	13**		(.18)	.33	.13	1.2**	(8.6)**		(.61)*	7.0**		(.29)			.88**		
N	25,311	25,313		29,154	29,542	29,248	29,079	29,184		29,443	29,512		29,477			29,709		

Table 4: Predictors of Credit Score Changes. Table displays coefficients from an ordinary-least-squared regression of the credit-score shift in the year of default on age, income (units of \$10,000), and the year of default. Age and income are centered. “P/D” columns show coefficient from a default on a payday loan; “Other” columns show coefficient from a delinquency on other debt. All models include state fixed effects; the omitted state is Texas. Significance estimates are based on robust standard errors. * - 5% ** - 1%

the models readily identify as statistically significant shifts that are unlikely to reflect a substantial shift in reality. Having said that, the data do suggest a small, though statistically identifiable, drop in the year of default (as compared to those who did not default in that year); taking account of age, income, and the state in which the customer is located, the drop is a mere 14 points. Second, the data also suggest that the debtor's problems have not begun in the year of default, but rather years earlier - the data indicate small (2 points and 6 points), but statistically significant drops in each of the years *before* the year of default (as compared to those who did not default in the base year). Third, the data confirm the idea that the credit scores of defaulters rebound in subsequent years: in each of the two years *after* the year of default, the credit scores of those who default perform significantly better (2 points and 3 points better) than the credit scores of those who did not default in that year. Recognizing that the minuscule size of the effects makes any discussion of a long-run pattern speculative,¹⁷ is at the same time particularly difficult to reconcile the results with the idea that a default on a

¹⁷Having said that, it is instructive that the pattern I observe is similar to the pattern that Bhutta et al. (2014) observe in their more robustly longitudinal analysis of the effects of payday borrowing (rather than default). Specifically, they observe that the customer's financial health has been declining steadily for several years before the first payday loan and that it continues to improve steadily for several years after the date of the first payday loan. That suggests, of course, that the use of payday loans is a response to the financial distress rather than its cause. The combination of that pattern with the data analyzed here suggests not only that the use of payday loans is largely trivial in the overall arc of the consumer's financial distress, but that the event of default is largely trivial in whatever role payday lending plays in that arc. Demyanyk (2014) observes a similar pattern in her analysis of mortgage foreclosures - the credit scores have declining for a considerable period before the foreclosure and improve substantially after foreclosure.

payday loan is likely to tip a borrower over the edge into financial calamity. On the contrary, if anything the access to credit of those who default on payday loans seems likely to *improve* in the years that follow, not decline. At least in part, this presumably reflects the rarity of reporting payday-loan defaults to the mainstream credit bureaus; if the default is not reported to those bureaus, then the default itself will not factor into the defaulter's score going forward.¹⁸

The parallel analysis of the effects of other types of delinquencies on a borrower's financial health is instructive. As with the payday lending data, the data indicate a small, but statistically significant decline in the year of delinquency, preceded by a statistically significant decline during the preceding years (as compared to those who were not delinquent during the base year), and followed by two years of statistically significant increases (as compared to those who were not delinquent during the base year).

5 Implications

This brief essay has a modest purpose, to consider the consequences of the payday products' relatively streamlined underwriting: are the defaults characteristic of the product a dominant event in the financial distress of affected borrowers? The findings presented above suggest that the default on a pay-

¹⁸I explored using other metrics of post-default creditworthiness (such as excessive bank-card utilization), but found no relation between a payday loan default and those measures of creditworthiness.

day loan plays at most a small part in the overall timeline of the borrower's financial distress. Most obviously, it is plain that the effect of a default on the borrower's overall financial health is trivial at best - associated with a trivial drop of 15 points or less (as compared to those who did not default). Moreover, because of rebounds in credit scores in the years following the default, the regressions indicate that the "all-in" credit-score decline associated with a default is considerably smaller, in the range of 5-7 points.

Although the data analyzed here provide no explanation for the small size of the effect, they are consistent with the "too small to hurt" hypothesis discussed above. Where a default on a mortgage loan can result in immediate financial catastrophe: loss of the equity in a house, as well as a risk of a loss of residence entirely. By contrast, the immediate results of a default on a payday loan are much less consequential. The lender's effective means of recourse are probably limited to collection calls and efforts to draft the borrower's account by means of ACH. If the borrower can withstand those efforts, the principal long-term consequence is that the borrower gets to keep the funds without repaying the loan. Because defaults to a payday lender are reported to credit bureaus only rarely, they are unlikely to have any direct effect on the consumer's credit score or otherwise constrain other sources of credit. Formal litigation is rarely cost-effective. Indeed, the most serious adverse consequence is the loss of access to borrowing from the payday lender. All in all, experienced borrowers familiar with those realities might undertake "strategic" defaults to avoid protracted borrowing; the default immediately

terminates the costs associated with the protracted borrowing that has been the center of so much of the attention to payday loans in recent years.¹⁹ Whatever the ultimate shape of that pattern, it is difficult to reconcile with the idea that any substantial improvement to borrower welfare would come from the imposition of an “ability-to-repay” requirement in payday loan underwriting.

What is more interesting about the findings is how they situate the payday loan default in the timeline of the borrower’s financial distress. The premise of a regulatory regime that targets the payday loan as the central cause of financial calamity is that borrowers are slipping along in circumstances that are tight but manageable, but that the default on the payday loan tips them over the edge into unmanageable impecunity. The data analyzed here, albeit sketchy, undermine that vision in several ways. The first is that the payday loan is plainly not the *beginning* of serious financial problems. As summarized above, the credit scores of payday loan defaulters experience disproportionate declines for at least two years *before* the payday default; these data cannot discern the full timeline of the default because two years is the longest “lookback” that they facilitate. In context, that finding places the payday loan as a step to which the defaulters turn after years of steadily increasing financial difficulty.²⁰

Finally, the most interesting finding relates to the years *after* the payday

¹⁹For empirical examination of those costs, see Priestley 2014.

²⁰As mentioned above, Bhutta et al. (2014) provides strong support for that perspective.

loan default. As summarized above, the data analyzed here indicate that payday loan defaulters (as compared to other payday loan customers) experience an disproportionately large rise in their credit scores for at least two years following the year of default, evidence suggesting some cognizable rebound in the financial health of the post-default borrowers, and considerably mitigating the decline associated with the initial default.

Much more work is necessary to untangle the full timeline of consumer financial distress. It would be particularly useful for later researchers to explore other measures of financial health to gauge the reliability of credit scores as a proxy for the underlying reality. But the findings summarized above do help to fill in one small part of the picture by situating the payday loan default in its place in that timeline. It is at most a single step in a protracted experience, and by no means a particularly important one.

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	Aggregate			2nd Year Before			Year Before			Year of Default			Year After			Second Year After		
	P/D	Other		P/D	Other		P/D	Other		P/D	Other		P/D	Other		P/D	Other	
Age	.07*	.07*		.01	.01		(.01)	(.00)		.03**	.06**		.00	.03		(.00)	(.00)	
Income	(.18)	.31		.05	(.01)		(.03)	(.01)		(.08)	.19		.12**	.15		(.07)	(.10)	
California	8.9	7.4		8.8	(6.5)		(12)	(13)		10	38*		.55*	(.56)		.49	(1.2)	
Florida	20	21		7.8	(5.1)		(10)	(2.7)		10	56**		.28**	4.7		.79*	7.1	
Kansas	27	17		9.7	(6.8)		(10)	(2.4)		8.1	45**		2.3*	(11)		.85	.18	
Missouri	14	18		11	(7.1)		(11)	.30		3.1	(6.7)		1.5	48**		2.8	(27)**	
Oklahoma	24	17		8.0	(5.1)		(9.6)	(3.3)		9.0	43*		.84	(10)		(.16)	2.1*	
Utah	5.4	9.9		8.1	(5.4)		(10)	(4.8)		10	53**		.62**	(15)		.56	(.42)	
Default	(7.4)**	(26)**		(2.1)**	(.83)		(6.2)**	(3.7)**		(14)**	(13)**		1.5**	4.7**		2.9**	2.4**	
Constant	(34)*	(11)		(7.9)	5.5		10	4.7		(10)	(51)**		(.43)*	16		(.71)	.19	
N	25,311	25,313		29,154	29,542		29,248	29,473		29,079	29,184		29,443	29,512		29,477	29,709	

Table 5: Predictors of Credit Score Changes (ZIP Code Controls). Table displays coefficients from an ordinary-least-squared regression of the credit-score shift in the year of default on age, income (units of \$10,000), and the year of default. Age and income are centered. "P/D" columns show coefficient from a default on a payday loan; "Other" columns show coefficient from a delinquency on other debt. All models include state and ZIP Code fixed effects; the omitted state is Texas. Significance estimates are based on robust standard errors. * - 5% ** - 1%