

Does Shaming Pay?: Evaluating California’s Top 500 Tax Delinquent Publication Program

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Introduction

We present new evidence on the impact of shaming on tax compliance, drawing on non-public administrative data from the world’s fifth-largest economy.

Given the limited resources available to tax enforcement authorities around the world, tax agencies are always in search of cost-effective methods for collecting revenue and assuring tax compliance. One common approach is to attempt to “shame” taxpayers into payment or compliance. Around the world, more than twenty countries post tax debtors or tax evaders to the internet, while twenty-three U.S. states post some version of a list of tax debtors (Perez-Truglia & Troiano 2018). Little, however, is known about these programs, even on such basic questions as whether they actually increase payments from posted debtors. Perez-Truglia & Troiano (2018) did find that letters sent on the researchers’ letterhead to individuals who appeared on a tax debtor list reduced the likelihood that the recipients would appear on a subsequent list, but it is unclear what is driving that outcome (e.g. whether recipients actually pay or instead claim financial hardship or another list exemption, as well as whether recipients are responding to the list itself or the letters highlighting their appearance on it), whether there are additional tax-compliance impacts, or whether a public authority on its own could replicate such an intervention. In a study of a program which highlights positive tax compliance, rather than shaming, Slemrod et al. (2019) report that Pakistani high-income taxpayers pay more when top taxpayers are identified publicly.

To help fill these gaps, we study the California “Top 500” list, a semi-annual internet posting of California’s largest tax debtors. We observe outstanding balance, payments, and other administrative outcomes for California taxpayers with outstanding tax debt of roughly \$50,000 or more. In addition, we link these data to individual CA tax return information for all households with debts in excess of \$100,000. These connections allow us to condition responses on observed taxpayer characteristics, and also to measure the extent to which “shaming” and other administrative steps aimed at collection of old tax debts affect reporting and compliance behavior for subsequent tax years.

Our primary source of identification relies on a series of discontinuities. Debtors receive several warnings before their names are posted publicly. The “pre-letter,” or an initial warning about the existence of the Top 500 list and the possibility that any debtor who owes in excess of \$100,000 may appear on it, is sent semi-annually to all \$100,000+

households who do not fall into a statutory exception. We thus use the discontinuity at \$100,000 to test the impact of this initial communication. California sends a second letter two months before posting its final list to the five hundred taxpaying units with the highest debts outstanding at that time. This provides a second discontinuity, and serves as our central treatment of interest. Finally, there is the list itself.

All three of the treatments resemble random assignment. Taxpayers cannot observe in advance where the Top 500 dollar-value cutoff will fall for a given list. Taxpayers may well be aware that owing debts of more than \$100,000 will earn them a pre-letter, but they have no obvious reason to change their behavior to avoid that letter. Thus, whether a given household falls just above or just below a given threshold is essentially random. We also run a series of tests to verify that taxpayers do not cluster to the left of the cutoff points, and while there is no bunching at *current* Top-500 cutoffs, there is some degree of bunching at *prior* cutoffs. We use this tendency as another source of identification, as in Slemrod et al. (2019), to study whether taxpayers close to a historical cut point are more likely to enter into compliance.

Finally, we exploit the random variation in letter cutoffs to estimate the impact of receiving each variety of letter, controlling for debt levels. In this specification, identification is based on observing two people with the same balance, one who is mailed a letter and the other who is not, because the dollar-value cutoff for letter receipt changes randomly over time.

We take these identification methods to a set of compliance outcomes. Most simply, we look at the extent to which treated taxpayers pay more or less than others, both unconditionally and conditioned on lagged reported taxable income. We also examine other behavior of interest to tax administrators, such as (for non-filers) filing any tax return; entering into a repayment agreement; or instead taking steps necessary to qualify for other statuses that exempt them from the list, such as filing for bankruptcy or documenting other significant financial hardship.

Prior research suggests that enforcement activity may result in reduced compliance in subsequent periods. For example, shaming mechanisms may “crowd out” intrinsic taxpayer compliance motivations. We therefore also examine the extent to which the treatment conditions and payment results are correlated with measures of taxpayer compliance. We do not observe post-audit income, but we can estimate tax aggressiveness using simpler outcomes such as the taxable share of gross income (holding gross income constant), or taxpayers’ claim of part-time or non-resident status. [This segment may be deferred to a follow-up paper, however].

1.0 Background

2.0 Overview of the Top 500 Program

California begins assembly of its Top 500 list with a preliminary list of all taxpayer with current unpaid balances of more than \$100,000, a group that typically numbers about six thousand households. Staff at the Franchise Tax Board then scrutinize this preliminary list in an effort to identify taxpayers who are statutorily exempt from being included in the list. The most common exempt categories are for

taxpayers who have entered into a payment agreement with FTB or been found to suffer from financial hardship. Others include deceased individuals, “innocent spouses” not responsible for the household’s debts, and taxpayers who have commenced federal bankruptcy proceedings.

The winnowing process typically leaves approximately 3,000 eligible taxpayers. We call this group the “pre-letter list.” At this point FTB prepares a mailing list. Taxpayers who remain on the pre-letter list and have never previously been included in the Top 500 receive a letter (Fig. 1) informing them of their status as a potential Top 500 includee.

<Fig. 1>

In general, taxpayers with unpaid balances of this magnitude have already been the subject of extensive collections efforts by the State of California. This accounts for the relatively large share of accounts resolved by payment agreements, hardship findings, or other administrative judgments such as an “innocent spouse” determination.

FTB staff then do another pass at the pre-letter list, looking for and dropping ineligible taxpayers. After this pass has been completed, staff rank the remaining taxpayers. At this point a second mailing list is prepared, addressed to the five hundred taxpayers with highest outstanding balances. This letter (Fig. 2), which FTB labels the “4192 letter,” informs the recipients that if payment is not made in the next 60 days, they will be included in the Top 500 list posted on the web.

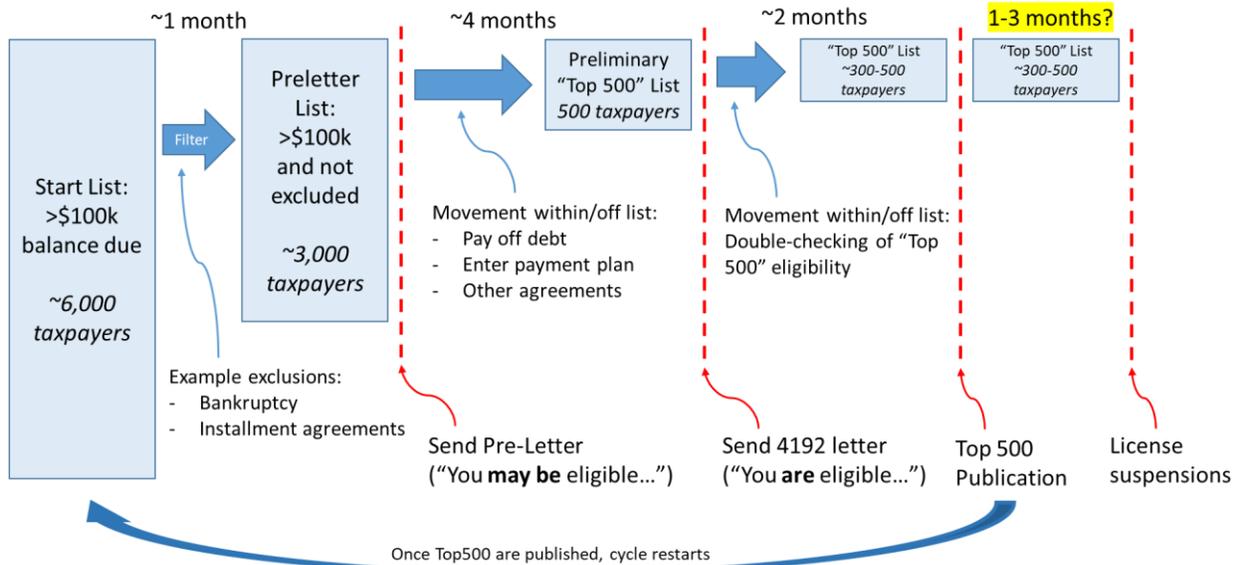
Each letter provides taxpayers with information about how to contact FTB to resolve their tax debt, and FTB’s web site provides a link taxpayers can click to initiate contact. In addition, FTB has a dedicated team devoted to collecting outstanding balances from Top 500 taxpayers. [These team members may have access to the likely 4192 list before that list is mailed, and it is possible they share that information with the taxpayers in their assigned portfolio prior to official mailing.]

Sixty days following the 4192 letter, after a last check for ineligibles, FTB posts the updated list. FTB does not replace taxpayers who become ineligible between the time of the 4192 letter and the list, so that taxpayers that pay their balances or enter into payment agreements during this time reduce the size of the list. In practice, most posted lists are between three and four hundred, providing some initial evidence that the 4192 letter is fairly effective.

<Fig. 2>

This process is repeated twice a year. Figure Three summarizes the Top 500 timeline.

Figure Three: Top 500 Assembly Timeline



Immediately after the Top 500 List posts, the process repeats with another gathering of taxpayers who then have \$100,000 or more in debt.

Appearing on the list triggers additional penalties on top of public disclosure of the taxpayer’s name and debt. In most cases listing triggers suspension of professional, occupational, and even driver’s licenses. A license to practice law is not automatically suspended, but the State Bar of California may recommend suspension at its discretion (CA Business & Professions Code § 494.5). In practice, the state bar does not suspend licenses to practice law for nonpayment of taxes. State agencies cannot enter into contracts with taxpayers who appear on the list.

There is an additional process that licensing entities must follow before suspending a license. The licensee must receive a separate notice of license suspension within thirty days of appearing on the list. The licensee can obtain a temporary license for ninety days, but at between ninety and one hundred twenty days after mailing of the suspension notice, the license is suspended. Although we observe whether a licensing entity has notified FTB that a licensed individual is on a list, we do not have additional information on whether the licensing entity complies with the additional notice procedures.

3.0 Data

Our data comprise a merged set of payment and other individual-level tax information for every California taxpayer who has incurred a delinquency of at least \$100,000 (“100k+ taxpayer”). We observe every payment made by each such taxpayer. We also observe each time any 100k+ taxpayer appears on FTB’s initial list, receives a pre-letter, receives a 4192 letter, or makes the Top 500 list. Since we are able to calculate the balance due on any given day, we can compute for each taxpayer their ranking on the date the 4192 letter list is prepared.

FTB also keeps an internal record of the administrative status of each taxpayer account, utilizing four-digit codes. The first two digits are a set of mutually exclusive categories indicating where each taxpayer account is assigned within FTB’s divisions. For example, there are codes for taxpayers who have entered into installment agreements to repay over time, for those with a current bankruptcy filing, and

for those assigned to the dedicated Top-500 unit. The third and fourth digits track important events, such as an offer from the taxpayer to enter into an installment agreement.

Using these codes, we can infer which taxpayers are eligible for inclusion on the Top 500 list. Most of the initial two-digit codes map onto statutory categories for inclusion or exclusion (e.g., installment agreements, bankruptcy, innocent spouse). We observe the dates on which status changes, and so can infer when a taxpayer has taken action to change her eligibility (e.g., entering into an agreement to repay). We also observe “bad address” codes, which helps us to distinguish treatment and intent-to-treat households.

We also match these payment and status records with tax filing information for each 100k+ taxpayer. This provides us with all available fields on the taxpayer’s California (not federal) individual income tax returns, stretching from 2009 to 2018. We also have payment and balance information, but not individual income-tax filing data, for any taxpayers who ever experience outstanding balances between \$50,000 and \$100,000 during our sample period.

To maintain anonymity with respect to data that are not disclosable under the Top 500 statute, we report descriptive and other statistics in bins large enough to prevent individual identification.

4.0 Methods

4.1 Pre-Letter RD Analysis

Our first set of analyses focuses on the pre-letter. This is the notification FTB sends to taxpayers with unresolved balances of \$100,000 or more. Taxpayers who have appeared on a prior Top 500 list and still have an unresolved balance above the threshold do not receive a pre-letter.

For our baseline estimates, we implement a straightforward regression discontinuity design using the \$100,000 cutoff for receipt of the pre-letter as our discontinuity. Our comparison group is the set of taxpayers whose balances fall between \$50 and \$100 thousand.¹ In some specifications we narrow the bandwidth to include only taxpayers closer to \$100,000 above and below the threshold.

Taxpayers can of course control whether they are assigned to treatment. However, since there is no practical consequence of receiving the pre-letter, and FTB does not publicize the existence of the \$100,000 cutoff, we argue that assignment is effectively random. As we show in the next section, we see no evidence of bunching on either side of the cutoff point. As a further check on the randomness assumption, we run separate estimates in which we limit the sample to taxpayers who have never received a pre-letter before; presumably this group is less likely to be aware of the pre-letter and any associated cutoff.

In our RD design, the main coefficient of interest is the coefficient on an indicator for whether the taxpayer receives a pre-letter. We control for the “running variable,” the taxpayer’s outstanding debt amount, and allow this coefficient to vary on either side of the discontinuity. We also include polynomial terms of the running variable. A typical equation thus looks like:

$$Payment_{ij} = \alpha + \beta_1 Letter_{ij} + \beta_2 NoLetter_{ij} * (Debt_{ij} - Cutoff_j)^n + \beta_3 Letter_{ij} * (Debt_{ij} - Cutoff_j)^n + \epsilon_{ij} \quad (1)$$

where i indexes taxpayers and j indexes each distinct letter date. If treatment is as good as random, controlling for other covariates is unnecessary and may be biasing.

For some specifications we add an additional wrinkle by examining whether the effect of treatment varies within sub-groups. We call these the “differences in discontinuities” regressions. For example, we examine whether the threat of the list is more likely to trigger payment for taxpayers whose taxable income is relatively large compared to their outstanding balance. We include controls for polynomial trends in the treated and control groups on either side of the regression, as in equation two:

$$Payment_{ij} = \alpha + \beta_1 Letter_{ij} + \beta_2 NoLetter_{ij} * (Cutoff_j - Debt_{ij})^n + \beta_3 Letter_{ij} * (Cutoff_j - Debt_{ij})^n + \beta_4 NoLetter_{ij} * Treat_{ij} * (Cutoff_j - Debt_{ij})^n + \beta_5 Letter_{ij} * Treat_{ij} * (Cutoff_j - Debt_{ij})^n + \epsilon_{ij} \quad (2)$$

For both these sets of regressions, we begin by including all taxpayers on both sides of the cutoff who do not meet any of the statutory exclusions. We also run estimates in which we omit taxpayers with balance above \$100k who do not receive a letter, i.e., those who previously appeared on a Top 500 list. Presumably, these taxpayers are different both from the treatment group and from the below-\$100k control in their propensity to respond to treatment.

4.1.1 Pre-Letter DiD Analysis

In addition to the regression-discontinuity approach, we also apply a difference-in-differences analysis of the pre-letter. The pre-letter warns recipients that they may be eligible to appear on the list, and this may motivate recipients to visit the list site and to observe whether their own balance is above or below the lowest balances that appeared in the past. Following Slemrod et al. (2019), we hypothesize that tax debtors who find themselves close to the historic Top 500 cutoff are more likely to make a payment. That is, if a debtor observes that the lowest total balance on the last list was \$150,000, and she owes \$145,000, she may perceive herself as being at risk and so make more effort to pay. Similarly, if she owes \$155,000, she may be more likely to make a *partial* payment than a taxpayer who owes \$195,000. At a balance of \$155,000, she can slip just below the historic threshold with a small payment. In comparison, a taxpayer with a balance of \$195,000 would have to make a relatively large payment in order to escape the list.

This logic suggests that partial payments may be a substitute for entering into a payment agreement. Take our debtor with a balance of \$155k. If her only goal was to escape the list, she could avoid committing to a payment plan by making a modest payment. In contrast, the more feasible path to avoiding the list for the \$195k-balance taxpayer may be to commit to a payment plan.

Accordingly, we implement a difference-in-differences design based on receipt of the pre-letter. In these specifications, taxpayers who can observe that they are relatively close to the historic threshold for the Top 500 are the treated group, while those distant from the threshold are the control. Since of course we cannot actually observe what the debtors believe to be the historic threshold, we implement several alternative definitions, including the value as of the most recent list and a linear extrapolation from the last three lists.

4.2 Section 4192 Notice Analysis

We next examine the impact of a taxpayer’s receiving notification that they are slated to appear on the Top 500 list. Again, this notice is sent four months after the pre-letter mailing. It is sent only to

the five hundred taxpayers with the highest balances among those eligible to appear on the list. [At this time it is not clear to the authors whether information about potential 4192 receipt is shared with some taxpayers prior to mailing. FTB agents work individually with taxpayers with very large balances, and administrative compilation of the list of course begins a number of weeks before the letter is sent. Agents might warn taxpayers in their portfolio about the forthcoming letter as a way to induce payment or negotiations. Thus, it is possible that we will observe some pre-trends, which likely would also somewhat dilute the measured impact of treatment.] [We can potentially widen the “treatment” window to include outcomes in the period, say, -2 to +2 months from letter.]

Although the 4192 list offers a clean cutoff at 500, we likely cannot implement a standard RD design. We do believe that it is essentially random whether a given taxpayer has debts that place her 498th or 504th. Yet the 498th taxpayer receives the 4192 letter, while the 504th does not. If indeed this ordering is random, the disparate treatment on either side of the 500th place cutoff is equivalent to a randomized controlled trial in which those close to but above 500th place are the control. We examine more closely whether assignment to treatment in fact is random in the next section.

However, some taxpayers with outstanding balances greater than the 500th place on the list do not receive a letter. To repeat, the list is a ranking only of taxpayers who are statutorily eligible to appear on the list. Thus, if the cutoff were \$200,000, a taxpayer who owes \$250,000 but has a pending bankruptcy case would not receive a letter.

One possible response to this issue would be simply to apply an eligibility screen to taxpayers below the 500th place cutoff, so that we could apply an RD analysis to the subset of taxpayers who are eligible. We do present estimates using this approach. An apparent difficulty [as of this date] is that the observable markers of eligibility in our data—the taxpayers “status” codes—do not perfectly predict 4192 receipt. Some taxpayers who appear to be eligible, and whose balances are above the 500th place cutoff, do not receive letters. We believe that this is because there is some discretion on the part of FTB staff to determine whether a taxpayer is likely to become ineligible by the date of the Top 500 list posting. These taxpayers are apparently excluded from the 4192 list as well. Since we observe no comparable exercises of discretion for lower-balance taxpayers, we do not have a perfect apples-to-apples comparison.

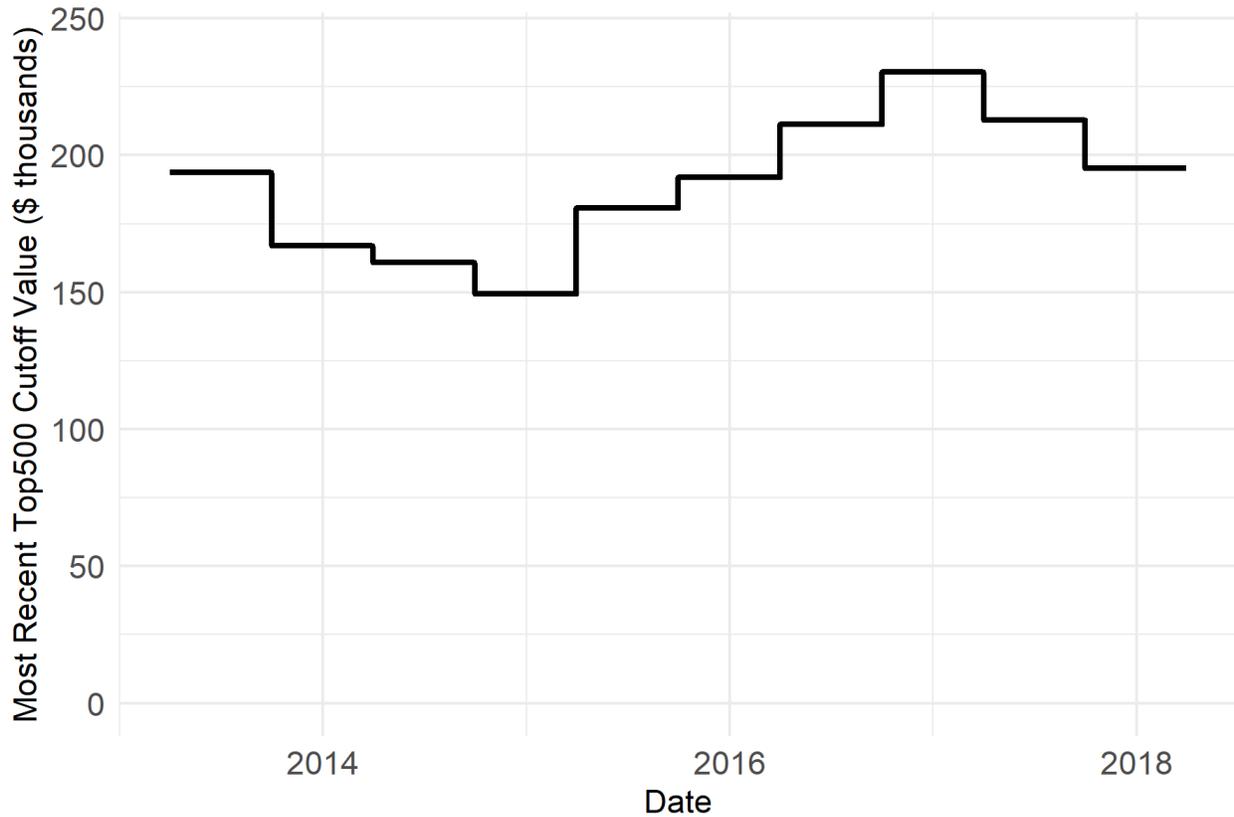
We are able to observe the lowest dollar-value balance of 4192 recipients. Using this, we can infer that those with balances above that cutoff who do not receive a 4192 are ineligible. We then observe the status codes for these 4192-ineligible, high-balance taxpayers, and apply those codes to taxpayers below the 4192 cutoff, with the assumption that those taxpayers too would be ineligible. We are left with an approximation of an apples-to-apples, eligible-to-eligible comparison above and below the 4192 cutoff.

We may also consider implementing a “fuzzy” RD design. The premise of the fuzzy RD is that having a balance above the 4192-cutoff balance is correlated with, but does not perfectly predict, treatment. Treatment probability jumps from zero to a number between zero and one [in our data, about 1/8] as the taxpayer’s balance increases above this amount. We thus can use the discontinuity at the 4192-cutoff balance amount as an instrument for treatment. As in Angrist & Pischke (2014), we also include as instruments polynomials of each taxpayer’s distance from the cutoff balance.

4.3 Testing the RD Assumptions

Identification via the RD design requires that assignment to the treatment group be as good as random. In our context, that means taxpayers cannot be able to control their exact ranking. As we show in Figure Four, the Top 500 cutoff changes in each iteration of the letter, making it difficult for tax debtors to know what the cutoff will be.

Figure Four: Top 500 Threshold Cutoff Values Over Time



We also find no evidence that taxpayers' balance amounts bunch to the left of the *current* Top 500 cutoff, although we do see evidence that they bunch to the left of historic values of the cutoff.

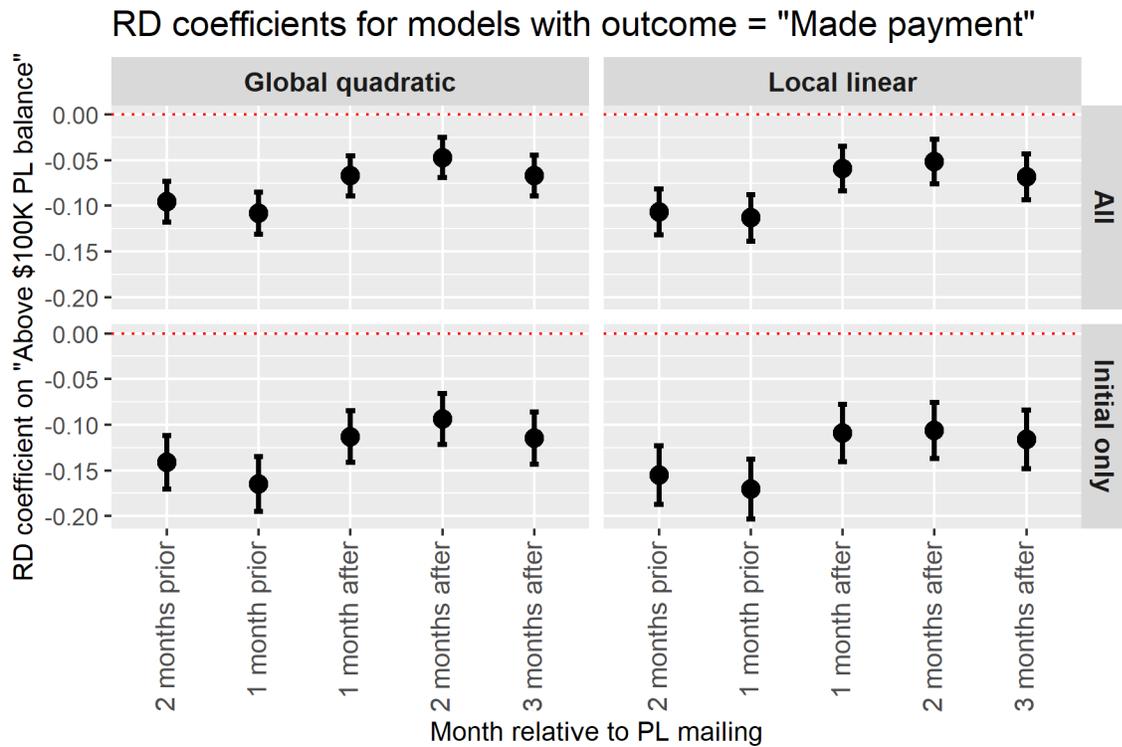
<Fig. 5> [two panels, current bunching left and historic bunching right]

5.0 Preliminary Results

[In this agency-cleared version of the draft, we report only very preliminary results. We presently have in hand much more extensive and detailed results exploring the effects of the two discontinuities, and of the program as a whole, in DD, event study, RD, and difference-in-discontinuities frameworks. These results have not been cleared for public release at this time but we anticipate receiving clearance well in advance of the conference date.] We can tentatively report evidence consistent with an economically large impact of pre-letter receipt on propensity of taxpayers to make any payment. In the Figure below, we plot coefficients from RD estimates of the effect of receipt of the pre-letter on the probability of taxpayer making any positive payment in the observed period. We

estimate a coefficient across time, ranging from two months prior to receipt (which we take to be a placebo period) to three months after.

Although the plot suggests negative and significant coefficients in all periods, there is a notable difference in the pre- and post-treatment periods. For periods after delivery of the letter, the likelihood of payment is consistently around five percentage-points higher (on a base rate of 30%) than during the pre-period. We think of this estimate as a difference-in-discontinuities, where the incremental effect of the RD in the post-letter period is the outcome of interest.



Ideally, however, we will identify why we observe that there is uniformly lower payment rates below the \$100,000 cutoff. We suspect that this difference is due to differential screening of the data according to criteria we cannot currently observe; we do know that prior to delivery to the researchers a screen was applied to below-\$100k observations but not to above-\$100k observations. For this reason we urge the reader to take even the preliminary difference-in-discontinuities result with a grain of salt.

Appendix

Sample Top 500 Listing Page

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Top 500 past due balances

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One of our main responsibilities is to collect state income tax and corporate franchise tax. Sometimes, people don't pay their taxes. Those who don't pay their state income taxes contribute to California's tax gap — the difference between taxes owed and taxes paid.

i For 2018, the estimated annual tax gap for California is \$20 billion to \$25 billion.

The law

FTB is [required by law](#) to publish a list of the 500 largest tax delinquencies in excess of \$100,000 twice a year and update the list when names are removed. The list is replaced when updated. Updates are ongoing, with major updates occurring twice a year.

The intent of this list is to encourage those who are on the list (or may be placed on the list) to pay their taxes.

Name	Address	Subtotal	Total	Lien	License	Status	Number
Bleyenber, Brian	Yucaipa, CA 92399	\$116,768.90	\$116,768.90	04/16/2019	Alcoholic Beverage Control	Active	560616
					Alcoholic Beverage Control	Active	562849
Lozano, Andrew & Daniella M	San Jose, CA 95138	\$139,899.11	\$139,899.11	06/03/2009	Board of Medical Quality Assurance	Active	38738
Escalante, Jose	Bakersfield, CA 93312	\$218,144.01	\$218,144.01	06/13/2018	Alcoholic Beverage Control	Active	391864
					Alcoholic Beverage Control	Active	510040
Peppard, Jeff D	Santa Barbara, CA 93109	\$221,227.17	\$221,227.17	03/17/2016	Board of Dental Examiners	Active	0037003