Consumer Financial Protection Bureau
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Consumer Financial Protection Bureau

December 12, 2023

Memorandum

TO	The Record
FROM	The Office of Research
SUBJECT	Response to the Academic Research Council's Review of the *Property Assessed Clean Energy (PACE) Financing and Consumer Financial Outcomes*

This memorandum responds to the Academic Research Council's (ARC) peer review of the Consumer Financial Protection Bureau's report, Property Assessed Clean Energy (PACE) Financing and Consumer Financial Outcomes.

We thank the Academic Research Council (ARC) members for their time and attention reviewing our report. The ARC's comments consisted of a consolidated summary, with an appendix listing comments from each ARC member. For purposes of this response, we directly respond to the points in the summary.

Many of the ARC's comments suggested useful directions for further research on PACE loans. Although the ARC suggested some changes to the analysis in the report, as we explain below, these changes either would not fundamentally change the findings or conclusions of the report or would address a different question than the one we set out to answer. As such, the CFPB does not plan to re-issue the report with changes based on the ARC's comments. The CFPB will post the final version of the report, which is the same as the version reviewed by the ARC, on its webpage along with this response and the full comments of the ARC.

The report below repeats the comments of the ARC in italics, with our response below.

Background

1. *Additional information about why CFPB is examining PACE loans would help motivate the study. Beyond what anecdotally are characterized as questionable marketing practices, what suspected problems with PACE loans with respect to consumer outcomes make it important to conduct this study?*

The additional information mentioned here can be found in the Notice of Proposed Rulemaking (NPRM), which was released in conjunction with this report. The NPRM details the statutory basis for the rulemaking and for the data collection underpinning the report. The NPRM also provides background on the PACE market, including consumer protection issues. Some of these consumer protection concerns are briefly discussed in the introduction of the PACE Report as well, including references to accounts from media reports and consumer advocates relating to the affordability of loans or consumers who reportedly received misleading information about the nature or terms of the loans (see report page 6 and citations in footnote 5).

2. *More information is needed concerning why PACE loans are repaid through property tax bills and how fees are paid – up front or rolled into the loan? Also, why do these loans exist in the market? What value do they offer consumers that cannot be offered by other forms of credit? What specifically is the reason why the loan is repaid via property taxes?*

The report provides information addressing these questions in part. For additional detail, we would refer readers to the PACE NPRM. In particular, Part II of the NPRM provides more information about the background, market, and structure of PACE loans.

As far as the specific question about fees, our understanding is that fees are generally rolled into the loan balance.

3. *There's no consideration of how PACE loans could provide economic benefits relative to the increased risk of mortgage delinquency, including energy savings and increased property values. In general, the topic is framed in a way that seems to assume negative consumer outcomes.*

The report mentions the possibility of energy savings at several points, including in the discussion relating to Figure 9 and Figure 12. Moreover, the primary difference-in-differences estimates in the report capture the effect of PACE on consumers' finances net of any benefits from the home improvements. This is particularly noted, for example, in the report on page 35, in the discussion of Figure 9. In the Figure, we observe a decrease in the probability of mortgage delinquency during the period corresponding to the months between the origination of the PACE loan (and thus the completion of the project) and the first payment due date.

Other work has analyzed the economic benefits of PACE-funded projects in terms of both energy savings and property value increases.[1] While a full welfare accounting could be of interest this was outside the scope of this report. Moreover, we lack the data to estimate energy savings or property-value increases.

4. *In terms of pricing, PACE loans should be compared to Home Equity Loans or Home Equity Lines of Credit (HELs/HELOCs), which actually have very similar APRs as PACE loans. The key difference with PACE loans is that loan payment is bundled with mortgage payments, and often property tax and insurance payments. In contrast, while HELs/HELOCs, like mortgages, are secured with property, payment problems with HELs/HELOCs do not put the mortgage loan at risk.*

HELs/HELOCs do not have similar APRs to PACE loans. PACE loans had substantially higher APRs than HELs and HELOCs over the same period. For example, HMDA data for 2019 show a median interest rate of 5.34 percent for HELOCs. Although this is higher than the average interest rate for purchase-money mortgages during our sample period, it is still significantly lower than the PACE interest rates documented in the report (averaging 7.6 percent; see Table 2, Page 13).

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[1] *See e.g.* Adam Rose and Dan Wei, Impacts of the Property Assessed Clean Energy (PACE) program on the economy of California. *Energy Policy* Vol 137 (February 2020). Accessible at https://www.sciencedirect.com/science/article/pii/S0301421519306743; Laurie S. Goodman and Jun Zhu, PACE Loans: Does Sale Value Reflect Improvements? J Structured Fin. Vol 21, Iss. 4, (Winter 2016). Accessible at https://www.pm-research.com/content/iijstrfin/21/4/6.

More broadly, it is debatable what the best benchmark is for PACE pricing. PACE loans do generally have initial balances that are more similar to HELs and HELOCs than to purchase-money mortgages. However, purchase-money mortgages, HELs, and HELOCs are typically priced based in part on a consumer's individual risk of delinquency or default, while our data (and some public comments received in response to the NPRM) suggest that PACE loans generally are not. Indeed, although PACE loans may be substantially safer for the lender or investor due to the super-priority lien status, they still tend to carry higher APRs than many HELs, HELOCs, or purchase-money mortgages.

One could also arguably compare PACE pricing to that of personal loans, credit cards, or other forms of unsecured credit, all of which might be substitutes for PACE because they can be used to finance home improvement projects eligible for PACE financing. Indeed, in comments responding to the NPRM, some industry stakeholders compared PACE pricing to these unsecured credit options in reasoning that the availability of PACE is beneficial to consumers. The PACE NPRM has some discussion of PACE pricing relative to these other forms of credit. Ultimately, the report focuses on comparisons to the APOR because several aspects of current federal mortgage regulations refer to that rate.

5. *Home energy-related rebates and tax credits under the Inflation Reduction Act could be mentioned. These rebates and tax credits could affect demand for PACE loans.*

Our report focuses on PACE loans originated prior to the passage of the Inflation Reduction Act, but we acknowledge this could be a factor in the future.

6. *PACE loans and property taxes are conflated. The statement on page 13: "This means that on average a consumer's total property taxes likely increased by almost 88 percent as a result" is factually incorrect. The property tax bill increased by this amount, which is unremarkable because it just reflects the bundling of the PACE loan payment.*

We acknowledge that the report uses "property taxes" and "property tax bills" interchangeably in several places. While it may have been more precise to only use the latter, we believe this non-technical usage was understandable to the reader. Among other things, the report clearly explains that PACE is a voluntary transaction, with payments made through the property tax system. In addition, we disagree that a near-doubling of a consumers' property tax bill is an "unremarkable" event for the consumer, particularly because some consumers will make their property tax payments in just one or two lump-sum installments every year.

7. *Interest rate comparisons for PACE loans should not be made with mortgages, but with HELs/HELOCs. This seems like an apples-to-oranges comparison.*

This comment appears to be a repeat of point 4—please see the response to that comment.

Methods

8. ***Comparison group**. Using the Applicant group (those who were approved for, but did not originate, a PACE loan) as a comparison group is helpful in terms of self-selection, yet we don't know whether applicants used some other form of credit like HELs/HELOCs. A clearer signal for the impact estimate would be to compare consumers who took PACE loans with those who took HELs/HELOCs or some other credit option. This would isolate the effects of PACE loans (with respect to structural characteristics as a credit option) on mortgage delinquency.*

We do not agree that Application-Only consumers who took another credit option are a better control group than Application-Only consumers overall. Our goal in this report is to estimate the effect of getting a PACE loan on consumer outcomes, taking PACE loans and PACE consumers as they existed during our sample period. To the extent that some Application-Only consumers do not proceed with a home improvement project, or opt to pay cash instead of financing, we see that as part of the effect we are trying to measure, rather than a source of bias.

Notwithstanding this, we do agree that it could be an interesting extension to disentangle how much of the negative effects we find are due to the increase in debt loads (particularly in light of the limited ability-to-repay analysis conducted for PACE loans during the sample period) as opposed to the payment structure of the PACE loan or the impact of the home improvement project. That is outside the scope of this report, but we will keep this suggestion in mind for future research.

We also note that there are practical challenges to the specific suggestion to limit the control group to Application-Only consumers who opened other types of credit accounts in order to finance similar home improvement projects. We do not observe in the data whether Application-Only consumers went forward with the home-improvement project, or how choosing a different means of financing might have affected the price of the contract. Moreover, certain types of alternative credit, such as unsecured solar loans, may not be furnished to the credit reporting companies, so such loans would not be in our data. Finally, historically and still in some jurisdictions, PACE loans generally have not been subject to ability-to-repay standards that have taken into account the consumer's financial circumstances like income and debts, while other types of mortgage loans were subject to these standards under federal law during the period covered by our data. As such, it is not clear that Application-Only consumers who are able to obtain another loan are good proxies for the counterfactual for Originated consumers as a whole.

9. ***PACE loans as an exogenous predictor***. *Absent a "apples to apples" comparison of PACE loans to other credit products, it may not be PACE loans per se that are predicting mortgage delinquency, but an increase in indebtedness and debt-to-income (DTI) ratios, which we know are strong predictors of delinquency. Whether Applicants accepted another (possibly cheaper) loan for the same project vs. not borrowing at all is a critical distinction. Looking at other debts would help to disentangle whether the effect of the PACE loan provision is to lower the cost of the same project (intensive margin cost), or whether it is to increase the households' debt service burden with an additional lien (extensive margin). In addition, perhaps an outcome might include whether the intended function of PACE loans are met with respect to increases in property values (including among homeowners who improved their properties and sold their homes at a higher price) and/or energy savings.*

As discussed above, the effect we estimate in the report is the overall effect of PACE on consumer outcomes. While it may be an interesting extension to disentangle how much of this effect is about the change in indebtedness vs. the payment timing or other features of the loan, we do not agree that this is critical to our analysis. As noted above, it is not the case that PACE loans only increase borrowers' indebtedness in the abstract.

In Figure 15 in the report, we estimate the effect of PACE loans on mortgage delinquency separately for borrowers with higher and lower DTI. As we discuss in the report, this analysis has important limitations, since we only observe income for a subset of PACE consumers, and primarily only in California after the 2018 California PACE Reforms took effect. That said, our point estimates of the effect of PACE loans on mortgage delinquency are very similar across high- and low-DTI consumers.

We do not have data on property values or energy bills, although we agree this would be an interesting outcome to study.

10. ***Parallel Trends/heterogeneity.*** *While the parallel trends assumption seems mostly intact to support DiD estimates, it may still help to consider sample balancing on pre-PACE characteristics, including the differences between originators and applicants in pre-PACE mortgage delinquency and home equity (if available). There may be further issues with the parallel trends when looking at sub-populations, as subprime borrowers may be less likely to have an outside option for borrowing, for instance. The differences in outcomes are much more heterogeneous by credit score than by other attributes, such as tract income. Also, might outcomes vary with respect to PACE loan characteristics? Is it possible to compare outcomes between borrowers whose loan payments are bundled with their mortgage payments versus repaid separately with their property tax bills (quarterly, semi-annually, annually)? Similarly, do you have any additional data on property characteristics that might help explain variation in the outcome, e.g., the nature and scope of the property improvement project? What about rates of change in property tax assessments?*

While there are always more robustness checks one can run, we feel that the report contains sufficient checks to justify the parallel trends assumption. Figure 8(b) in particular demonstrates that Originated and Application-Only borrowers had very similar levels and trends in mortgage delinquency prior to their PACE Experience Date. We do not observe home equity, but we have no reason to believe that conditioning on home equity would change our results.

With respect to our subgroup analysis, we note that all of these analyses limit both treatment and control groups to borrowers in that subgroup. Thus, if there are differences across credit score groups in outside options for borrowing, these differences should be the same across treatment and control groups and would not pose a challenge for parallel trends. We also note that we do not find it surprising or concerning that we find stronger heterogeneity across credit score compared to other demographics. We observe credit score at the individual level and only observe census tract-level characteristics for other demographics. We would expect individual characteristics to be more predictive of heterogeneous effects than neighborhood level characteristics in most contexts.

We do not have data on which consumers with pre-existing mortgages escrowed their property taxes as opposed to paying themselves (annually or semi-annually are the only frequencies in the two states we study). To our knowledge, such data are not readily available in any commonly used mortgage datasets. We do agree this would be useful data to have, as consumers would typically make PACE payments through this type of mortgage escrow account when applicable, and such accounts are subject to particular laws and practices that could affect repayment.

We also do not have any data on the consumers' properties or their property tax assessments outside of PACE. We do know the broad type of home improvement project funded by each loan, but do not generally observe any clear patterns as to which types of projects are more or less problematic (see Figure 12 in the report, which also includes heterogeneity analysis by loan terms).

Conclusions

11. *Be careful about causal interpretations. For example, regarding the claim that PACE loans "caused" increases in credit card balances among those without a pre-existing mortgage, there are many plausible reasons. For example, homeowners without mortgages tend to own older homes, energy-related improvements for which (e.g., replacing original windows, replacing cast iron pipes, insulating a home built prior to 1940) are more costly and may exceed PACE loan amounts, hence the spike in credit card balances to finance the entire project.*

The causal interpretation follows from the parallel trends assumption made in the report, which we test at some length in the main text and appendix. The previous point from the ARC members' comments indicate that they generally agree that the assumption seems to hold, given our tests. As such, causal language is warranted here. As discussed above, the various subsample analyses in the report use only consumers in those subsamples for both the treatment and control groups. To take the example of the effect of PACE on credit card balances for consumers without a pre-existing mortgage, we are comparing consumers without mortgages who originated a PACE loan to consumers without mortgages who applied but did not originate a PACE loan. To the extent that consumers without mortgages have homes for which repairs would be more costly than the homes of consumers with mortgages, this applies to both the treatment and control group for that analysis and would not affect our estimates.

In addition, our understanding is that PACE loans are generally used to fund the entire cost of a project.

12. *Re-consider conclusions concerning results from the California study. There does not seem to be sufficient evidence to surmise that changes in marketing practices had more of an impact than changes in ability-to-repay (ATR) standards.*

The report does not say that changes in marketing practices had more of an impact than the ability-to-pay standards in the 2018 California PACE Reforms. Rather, the report makes a smaller point that the decline in the *number of applications* is more consistent with changes in marketing practices than it is with consumers applying and being denied due to lack of ability-to-pay. Both effects plausibly could be caused by the 2018 California PACE Reforms—contractors leaving the PACE market because they don't want to collect underwriting information is a potential effect here. The point the report is making is simply that the change in originated loans is not only due to consumers who cannot meet an ATR analysis applying and being denied.