

# PACE Loans — Does Sale Value Reflect Improvements?

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*The views expressed in this presentation are those of the authors alone who maintained full control over the methodologies and results. Funding for this project was received from Renovate America.*

# Outline

- Introduction
- PACE Details
- Study -- Purpose & Methodology
- Data
- Empirical Results
- Comparison -- PACE vs. other improvements
- Conclusion

# Introduction

## What is PACE?

- PACE/Property Assessed Clean Energy. This assessment is used to finance energy efficient improvements.

## Why this study?

- To determine if homes with subordinate PACE financing that travels with the property provide as strong collateral for FHA & GSE first lien recoveries in foreclosure sales as do properties without PACE improvements.

## Main results?

- *Resale* = positive PACE net impact (from \$199 to \$8,882)
- *Foreclosure* = nearly \$7000 of PACE premium
- This positive PACE premium of over 100% compares to other studies which demonstrate a 58-66% recovery on costs on average for other improvements (ex. kitchen & bathroom remodeling) during 2012-2015.

# PACE Details

- Finances energy efficient improvements.
- Counties are responsible for billing/collecting PACE assessments. Each assessment is a separate line item on property owner's tax bill.
- PACE assessment remains with a property, irrespective of any intervening sales, until fully paid.
- PACE assessment ranks *pari passu* to liens for taxes on real property, and senior to all non-tax liens.

# Study -- Purpose & Methodology

## Resale value

**#1** PACE improvements & financing vs. similar homes w/o PACE.

**#2** Policy relevance = In foreclosure sale, will homes with subordinate PACE financing (that travels with the property) provide collateral for FHA/GSE first lien recoveries that is as strong as collateral on properties without PACE improvements?

## Our Methodologies

**#1** PACE sales price vs. projected sales price using 3 different house price indices

**# 2** PACE homes vs. random sample of similarly-situated, non-PACE homes

**# 3** Multivariate regression = PACE homes vs. non-PACE homes (controlling for other property characteristics, of all home sales and homes sold out of foreclosure that subsequently obtain PACE financing)

# Data (PACE Loan Data Base)

- Sample = 773 homes with PACE improvements. The homes were purchased as early as 1976, had a PACE improvement after Renovate America entered the market in December 2011 and the homes were sold between 2012 and 2015.
- Data set = prepared by Renovate America (all homes where Renovate America has done a PACE improvement and the home was subsequently sold)
- Loans = all in California; 110 different zip codes
- Takes purchase and resale prices to allow comparison with non-PACE sample. Any discount to the value of the home resulting from PACE assessments that travel with the property through the sales transaction are assumed to be capitalized in the resale price, and any PACE balances that are paid off through the sales transaction are subtracted from the resale price to reflect the lower true resale value and allow for an apples-to-apples comparison to the non-PACE comparison population.

# Data (Additional Data Used in the Analysis)

- 3 Home Price Indices used:
  1. CoreLogic zip code level
  2. FHFA state level
  3. FHFA division level (Pacific Census Division includes California, Washington, Oregon, Alaska and Hawaii.)
- Each loan in PACE sample is matched by zip code, purchase year, and sale year to a random non-PACE loan in CoreLogic property database

# Empirical Results

(Summary Statistics)

## PACE Properties –

### Average Purchase Price, Sale Price & Improvement Cost

| Sale Year    | #          | Purchase Price (\$) | Sale Price (\$) | Cost of PACE Improvement (\$) | Improvement Balance Left On Sale (\$) |
|--------------|------------|---------------------|-----------------|-------------------------------|---------------------------------------|
| 2012-2013    | 88         | 217,823             | 293,034         | 16,895                        | 12,909                                |
| 2014         | 328        | 227,460             | 319,021         | 18,224                        | 10,683                                |
| 2015         | 357        | 249,029             | 376,430         | 20,431                        | 5,202                                 |
| <b>Total</b> | <b>773</b> | <b>236,324</b>      | <b>342,577</b>  | <b>19,092</b>                 | <b>8,405</b>                          |

Source: Renovate America PACE Loan Database



# Empirical Results (Methodology 1)

- PACE homes' sale price (adjusted by PACE balance payoff) vs. theoretical sale price, identical "non-PACE" home (using 3 HPIs)
- PACE premiums range from \$199 to \$1,667 to \$8,882.

| Sale Year | #   | Actual Prices  |            | Projected Market Value |                |                       | PACE Balance Paid Off | Sale Price - Projected Market Value - PACE Balance Paid Off |                       |                |                       |
|-----------|-----|----------------|------------|------------------------|----------------|-----------------------|-----------------------|---|-----------------------|----------------|-----------------------|
|           |     | Purchase Price | Sale Price | CoreLogic Monthly Zip  | FHFA Qtr State | FHFA Monthly Division |                       | No HPI Adj  | Corelogic Monthly Zip | FHFA Qtr State | FHFA Monthly Division |
| 2012-2013 | 88  | 217,823        | 293,034    | 287,052                | 280,515        | 273,588               | 3,985                 | 71,226  | 1,996                 | 7,867          | 14,794                |
| 2014      | 328 | 227,460        | 319,021    | 313,292                | 308,325        | 298,381               | 7,540                 | 84,021  | -1,811                | 4,305          | 14,249                |
| 2015      | 357 | 249,029        | 376,430    | 359,599                | 358,814        | 354,115               | 15,229                | 112,173   | 1,602                 | -2,437         | 2,262                 |
| All       | 773 | 236,324        | 342,577    | 331,691                | 327,946        | 320,731               | 10,687                | 95,566  | <b>199</b>            | <b>1,667</b>   | <b>8,882</b>          |

Source: Renovate America PACE Loan Database, FHFA House Price Indices, CoreLogic House Price Indices

# Empirical Results (Methodology 1 - Statistical Relevance)

- Homes with PACE loans fully paced home price appreciation in the area, after accounting for cost of improvements.
- Resale value of homes = positive PACE premium of \$199-\$8,882 via 3 home price indices. For zip code and state level analyses, results are not significantly different from “0”.
- Results = robust using different home price appreciation measures

|                 | No HPI adjustment | Zip level HPA adjustment | State level HPA adjustment | Division level HPA adjustment |
|-----------------|-------------------|--------------------------|----------------------------|-------------------------------|
| Difference (\$) | 95,566            | 199                      | 1,667                      | 8,882                         |
| T value         | 24.01             | 0.06                     | 0.52                       | 2.75                          |
| P value         | <.0001            | 0.9518                   | 0.6011                     | 0.006                         |

# Empirical Results (Methodology 2)

- Resale value of homes with PACE improvement (minus cost of PACE balance payoff) vs. random homes in same areas (without the improvements)

| Sale Year | Count | Purchase Price (\$) |         | Sale Price (\$) |         |   |
|-----------|-------|---------------------|---------|-----------------|---------|---|
|           |       | Non-PACE            | PACE    | Non-PACE        | PACE    | Adjusted PACE, Subtracting Paid Off Balance |
| 2012-2013 | 176   | 205,213             | 217,823 | 253,028         | 293,034 | 289,049                                     |
| 2014      | 656   | 235,281             | 227,460 | 310,643         | 319,021 | 311,481                                     |
| 2015      | 712   | 248,455             | 249,029 | 363,644         | 376,430 | 361,202                                     |
| All       | 1544  | 237,915             | 236,324 | 328,471         | 342,577 | 331,890                                     |

Source: Renovate America PACE Loan Database, CoreLogic Property Database, FHFA House Price Indices and CoreLogic House Price Indices

# Empirical Results (Methodology 2 - Statistical Relevance)

- **PACE premium = \$5,010 (statistically significant)**
- Average difference between sale and purchase price for non-PACE properties = \$90,556; the 773 PACE properties = \$95,566

|            | Purchase Price (\$) | Sale Price (\$) | Dif=Sale-Purchase (\$) |
|------------|---------------------|-----------------|------------------------|
| Non-PACE   | 237,915             | 328,471         | 90,556                 |
| PACE       | 236,324             | 331,890         | 95,566                 |
| Difference | 1,591               | -3,419          | -5,010                 |
| T-value    | 1.44                | 1.37            | 1.99                   |

Note: Sale price for PACE loans is adjusted by PACE improvement payment.

# Empirical Results (Methodology 3 - Regression Analysis)

- We pooled loans with PACE improvements and our matched sample of loans w/o PACE improvements and ran multivariate regression analysis (with resale price a function of the indicator of PACE improvement and other control variables).
- **Coefficient before the PACE indicator = “+” . Indicates PACE improvements will increase home resale value by \$4,042.**

| Variables      | Estimate | T-value | P-value |
|----------------|----------|---------|---------|
| Intercept      | 60666.73 | 5.27    | <.0001  |
| PACE           | 4042.29  | 0.61    | 0.543   |
| Purchase Price | 0.74     | 29.18   | <.0001  |
| Living Sqt     | 43.07    | 6.38    | <.0001  |
| Baths          | 3763.58  | 0.61    | 0.5407  |

# Empirical Results (Methodology 3 - Foreclosed Homes)

- We tested if PACE improvement increased sale value for homes purchased out of foreclosure by pooling loans with PACE improvements and a matched sample of loans w/o PACE.
- Properties purchased from foreclosure sold at a discount of \$33,435 compared to normal, non-foreclosure sales.
- For non-foreclosure properties, PACE improvements produced a premium of \$1,394. **PACE improvements produced additional \$5,430 premium for properties purchased from foreclosure for a total PACE home premium of \$6,824.**

| Variables                             | Estimate       | T-value    | P-value       |
|---------------------------------------|----------------|------------|---------------|
| Intercept                             | 63,658.6       | 5.49       | <.0001        |
| PACE                                  | 1,394.6        | 0.2        | 0.8377        |
| Purchase From Foreclosure             | -33,435.8      | -1.99      | 0.0466        |
| <b>PACE*Purchase From Foreclosure</b> | <b>5,430.4</b> | <b>0.1</b> | <b>0.9228</b> |
| Purchase Price                        | 0.7            | 29.14      | <.0001        |
| Living Sqt                            | 43.2           | 6.4        | <.0001        |
| Baths                                 | 3,763.9        | 0.61       | 0.5405        |

# Empirical Results (Summary)

| Methodology  | PACE Premium |
|--|--------------|
| <b>Methodology 1</b> Comparison to Home Price Indices                      |              |
| Corelogic Monthly Zip  | \$199        |
| FHFA Quarterly State   | \$1,667      |
| FHFA Monthly Division  | \$8,882      |
| <b>Methodology 2</b> Comparison to Random Sample of Similar Non-PACE Homes | \$5,010      |
| <b>Methodology 3</b> Comparison with Multivariate Regression               |              |
| All Sales  | \$4,042      |
| Homes Purchased Out of Foreclosure   | \$6,824      |

# Empirical Results (Summary)

**All 3 methodologies and 6 data points demonstrated PACE's positive net impact on home resale value.**

- **Positive PACE Premiums of \$199 to \$8,882**

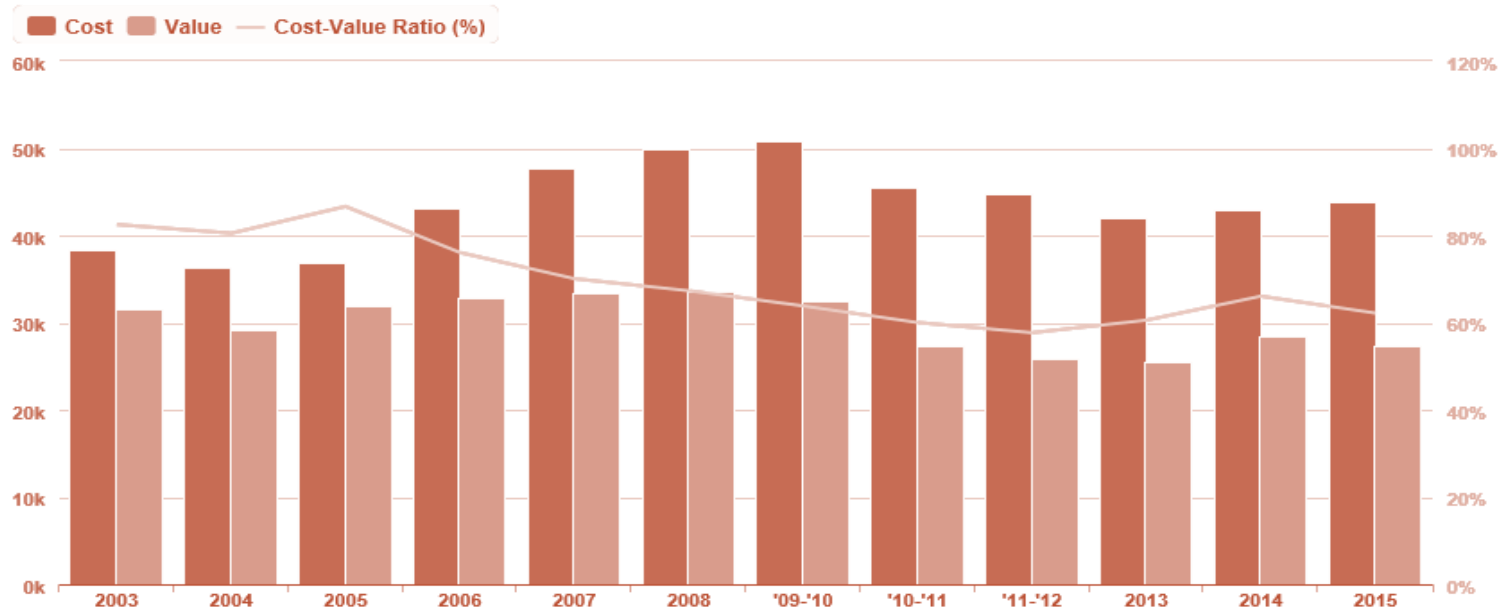
The positive premium for sales on homes with PACE renovations and financing ranged from \$199 to \$8,882. Value premiums using alternative methods were \$1,677, \$4,042 and \$5,040.

- **Nearly \$7,000 PACE Premium for Homes Sold out of Foreclosure**

The premium for PACE properties purchased out of foreclosure compared to similar non-PACE homes was \$6,824. *This is very relevant for GSE and FHA policy issues.*



# Comparison (PACE vs. Other Improvements)



Source: 2015 Cost vs. Value Report, <http://www.remodeling.hw.net/cost-vs-value/2015/>

- Investments in other improvements (ex. kitchen & bathroom remodeling) on average recovered at resale 58-66% of cost during 2012-2015.
- Our results show that for 2012-2015 resales, PACE improvement recovered on average more than 100% of cost.

# Conclusion

- Results = robust in comparing PACE properties with similarly-situated non-PACE properties.
- Every methodology and data point in the analysis showed positive PACE premium at resale (which ranged \$199 to \$8,882).
- PACE improvements actually produced a premium for properties purchased from foreclosure (our sample showed \$6,824 PACE premium).
- On average, PACE improvements' cost can recover at least 100% at resale; most of other improvement can only recover 60%.
- **We may be underestimating value of PACE improvements upon resale**
  1. Many homeowners opt for improvement when original equipment breaks.  
**If improvement did not occur, home value may well have been lower.**
  2. Energy efficient improvements are a relatively recent phenomenon. Home buyers may be reluctant to fully capitalize into prices the present discounted value of lower energy costs, being unsure how long they will last. Over time, we may observe higher capitalization rates.