

# “Stimulating Housing Markets” by Berger, Turner, and Zwick

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NBER SI Household Finance

# You might not have cared about this topic

- *Existing* home sales don't do a lot for GDP
  - (Big winner: Realtors®)
- Cash for Clunkers gives us the prior that this stuff is all intertemporal substitution
  - Aggregate time series seems to support that
  - Austan Goolsbee admitted to as much
- \$8,000 off on a \$200k purchase? 4% discount?
- Sales and prices seemed to stabilize before credit
- ...and yet this paper suggests your apathy would be misplaced!

# Why you should care

- Need solutions in policy quiver/to prevent ineffective ideas from being repeated
- Housing equity important for aggregate demand through household balance sheets
  - also financial sector + system!
- Lessons about expectations, effective stimulus given we're doing it via tax deduction, seems to have had long-run effects
- The authors' data is easy on the eyes

# Research Questions

1. Did FTHTC causally increase total sales?
  - Or just intertemporal substitution?
2. Did FTHTC bail out distressed owners?
  - Redistributive + aggregate demand motivations
3. Did FTHTC affect market prices?
  - Normally, don't view a price as a policy aim, but important frictions in residential real estate make this important
4. Was this stimulative?

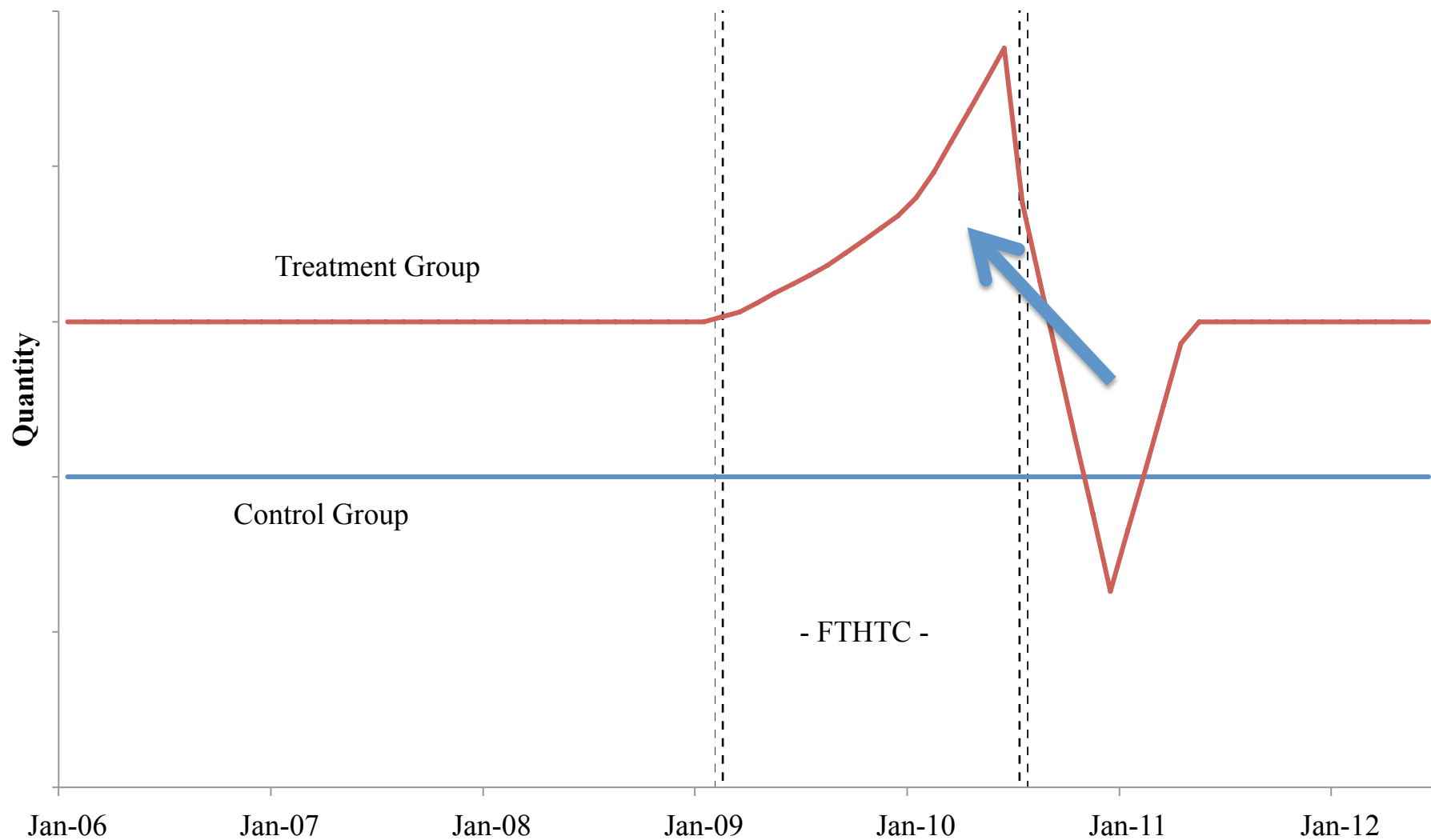
# Research Design

- Construct an instrument for take-up of FTHTC: how first-time homebuyer-happy a given zip code was (“Exposure”)
  - Share of sales in 2000 that were to FTHBs
  - (This measure itself is incredible.)
- Validate first-stage ( $z$  predicts credits claimed)
- Run reduced-form event-study regressions of  $y$  on  $z$  to contrast high vs. low exposure places

# Paper's Takeaways

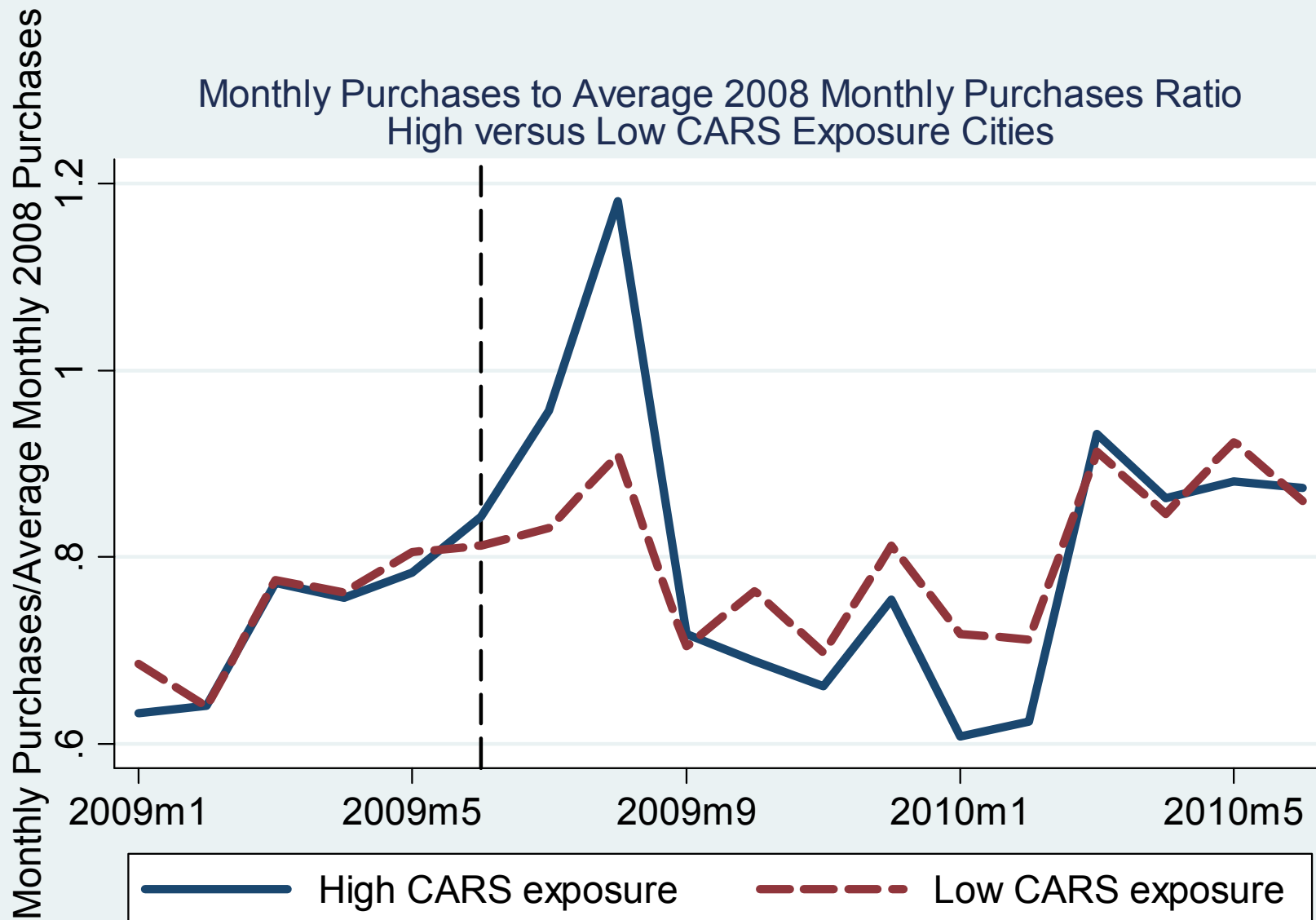
- FT Homebuyer Tax Credit claimed by 1.6m
- Total cost of \$11 billion
- Causally increased sales by 400,000
- 25% of claimants wouldn't have bought o.w.
- On average, credit increased prices by 0.77%
- Direct impact\* on GDP of <\$5 billion
- Could have hastened real estate reallocation and coordinated expectation reversal

# 1. Intertemporal Substitution



# Cash for Clunkers

Source: Mian & Sufi (2010)



# Aggregate time series looks like I.S.

## Sales of existing homes

SEASONALLY ADJUSTED ANNUAL RATE



HERA  
2008

ARRA  
2009

WHBAA  
2009

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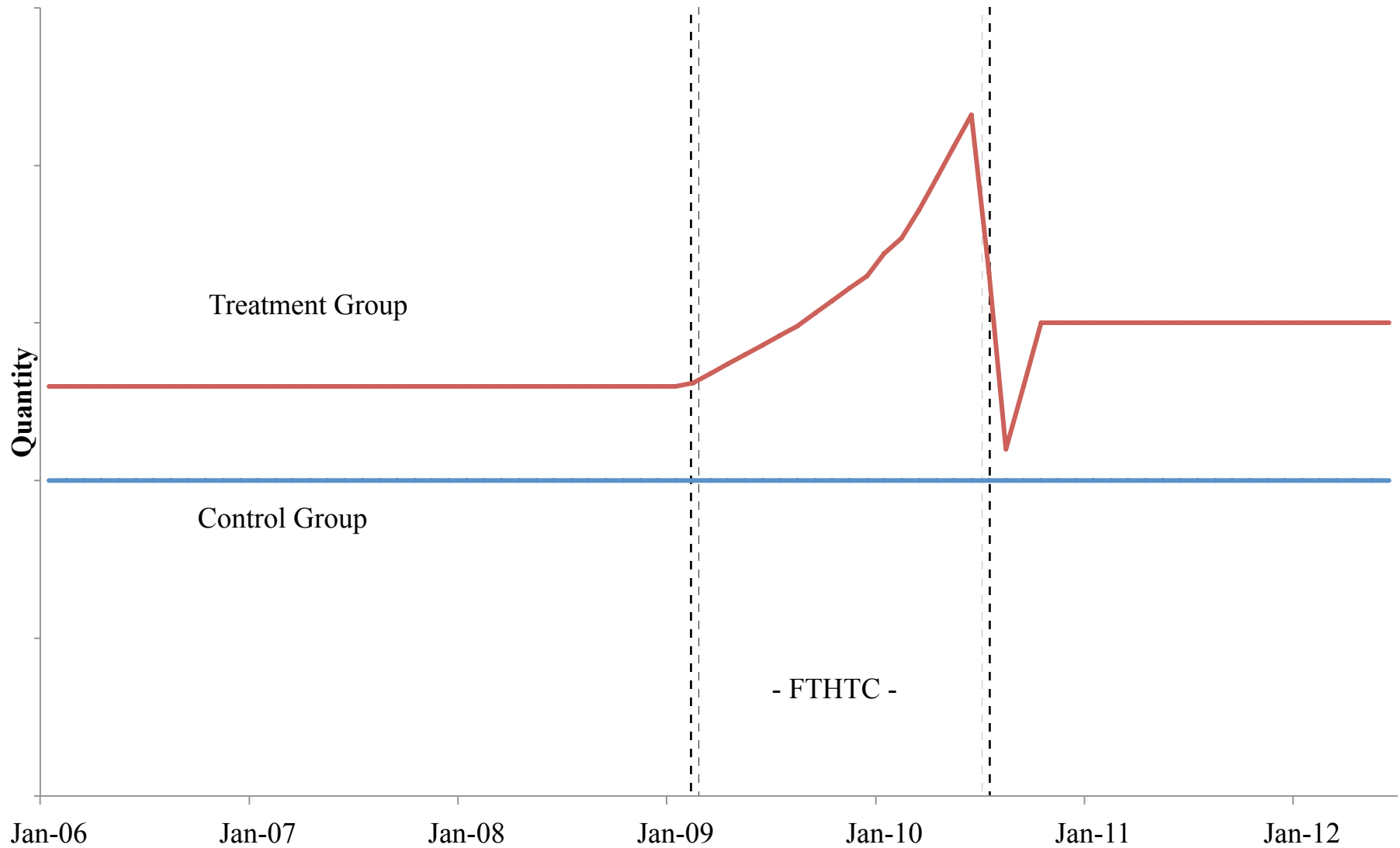


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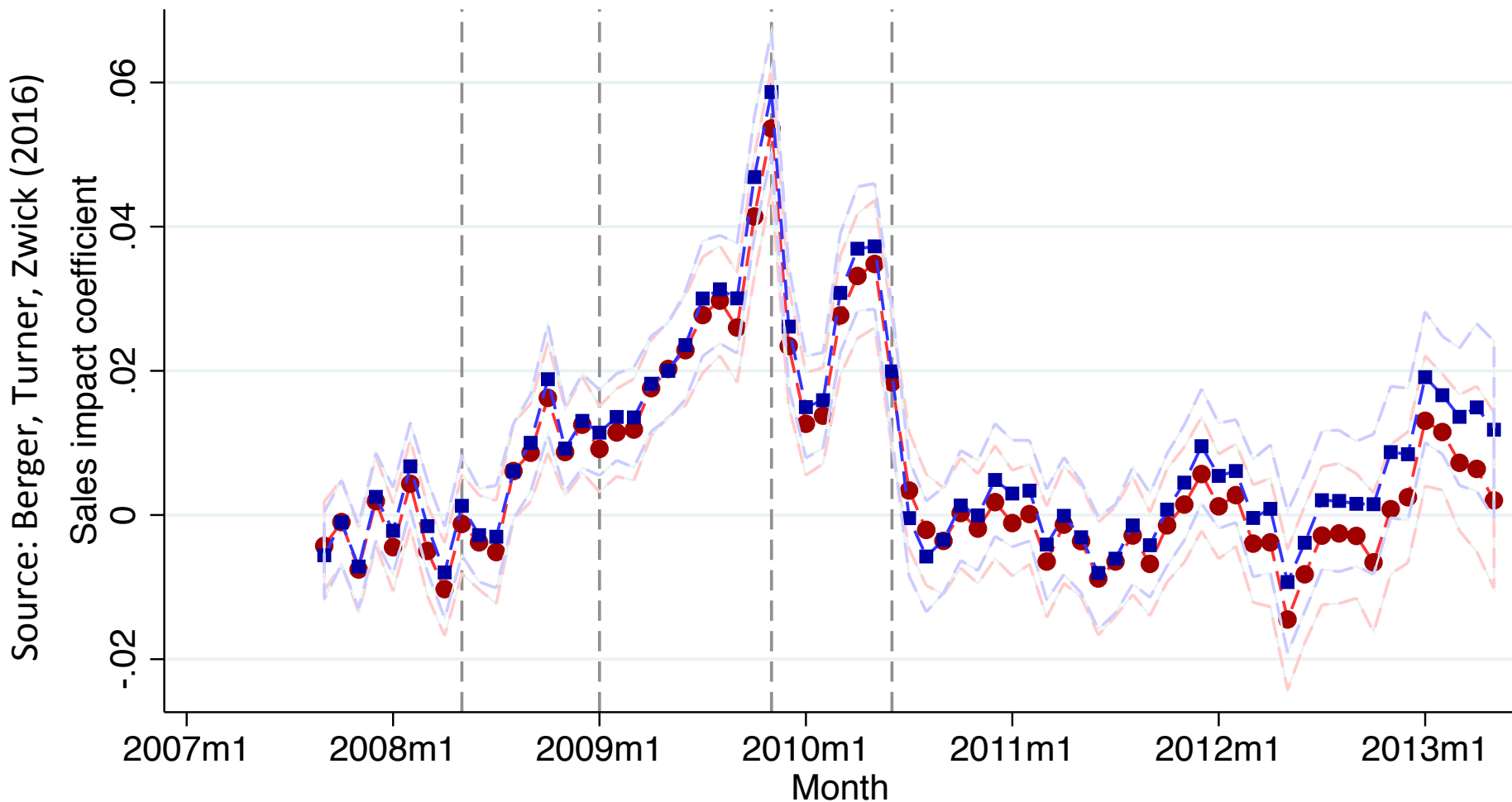
ARRA  
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2009

## 2. Persistent Effect



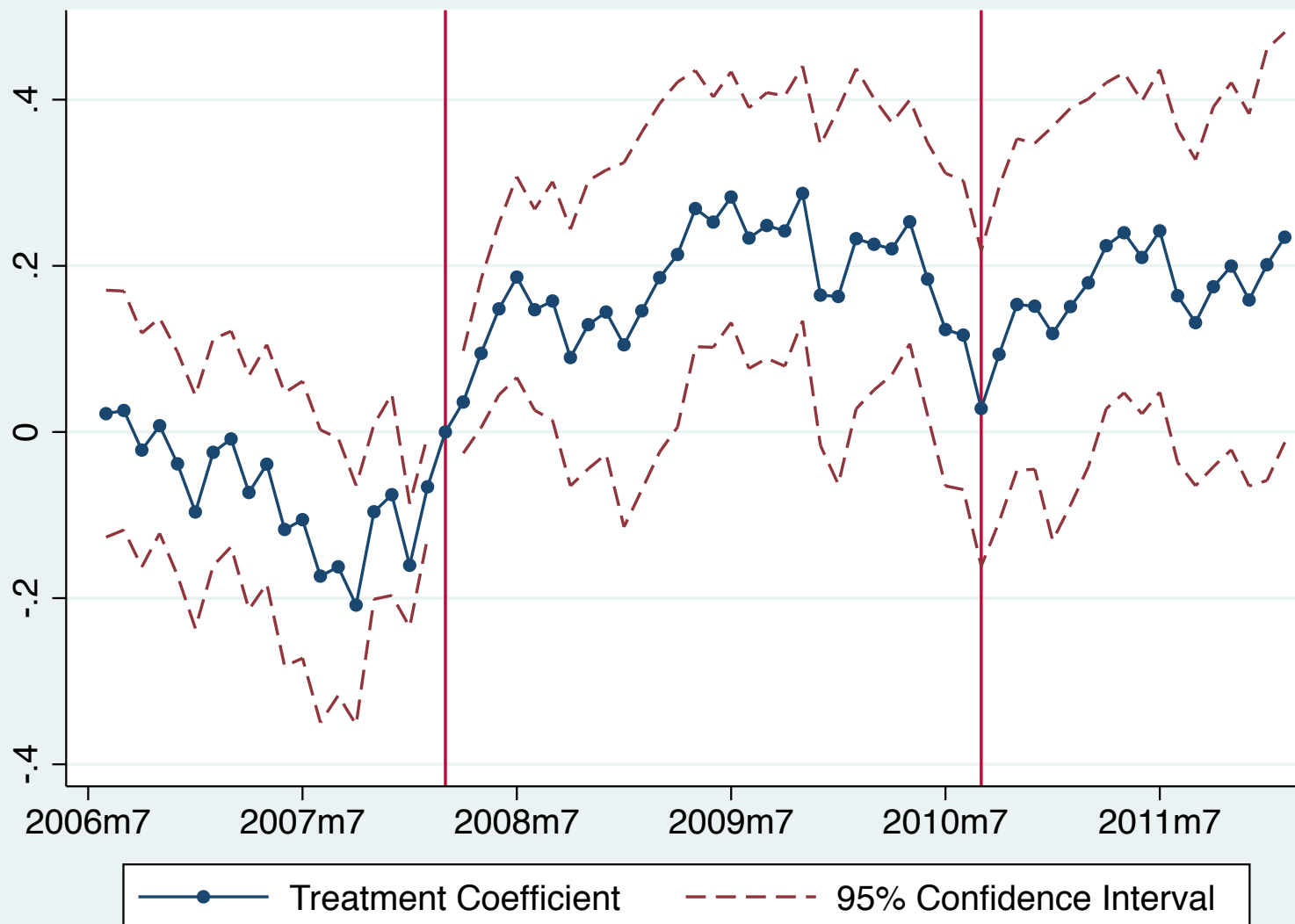
# Empirical Evidence for Persistence



# Replication Exercise

- Measure of # of credits claimed per *CBSA*
- Measure take-up as # credits / # households
- Event study of log monthly sales on take-up measure with CBSA FEs + month FEs
- Intuition: contrast sales over time of places that used the credit more or less intensely
- Not reduced form. RHS is endog. treatment
- Authors start in 2007, I'll start 2006

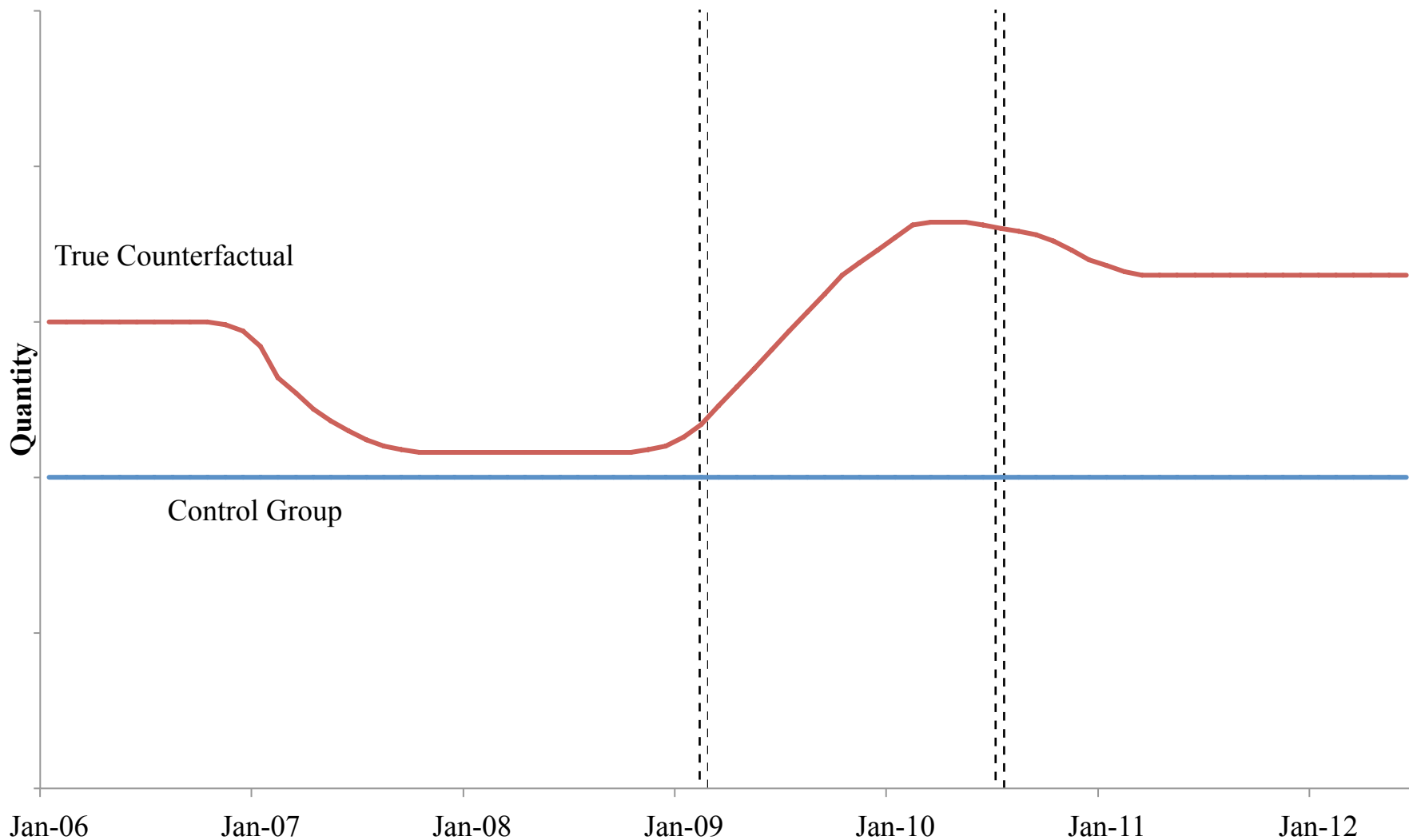
# Again, no evidence of reversal



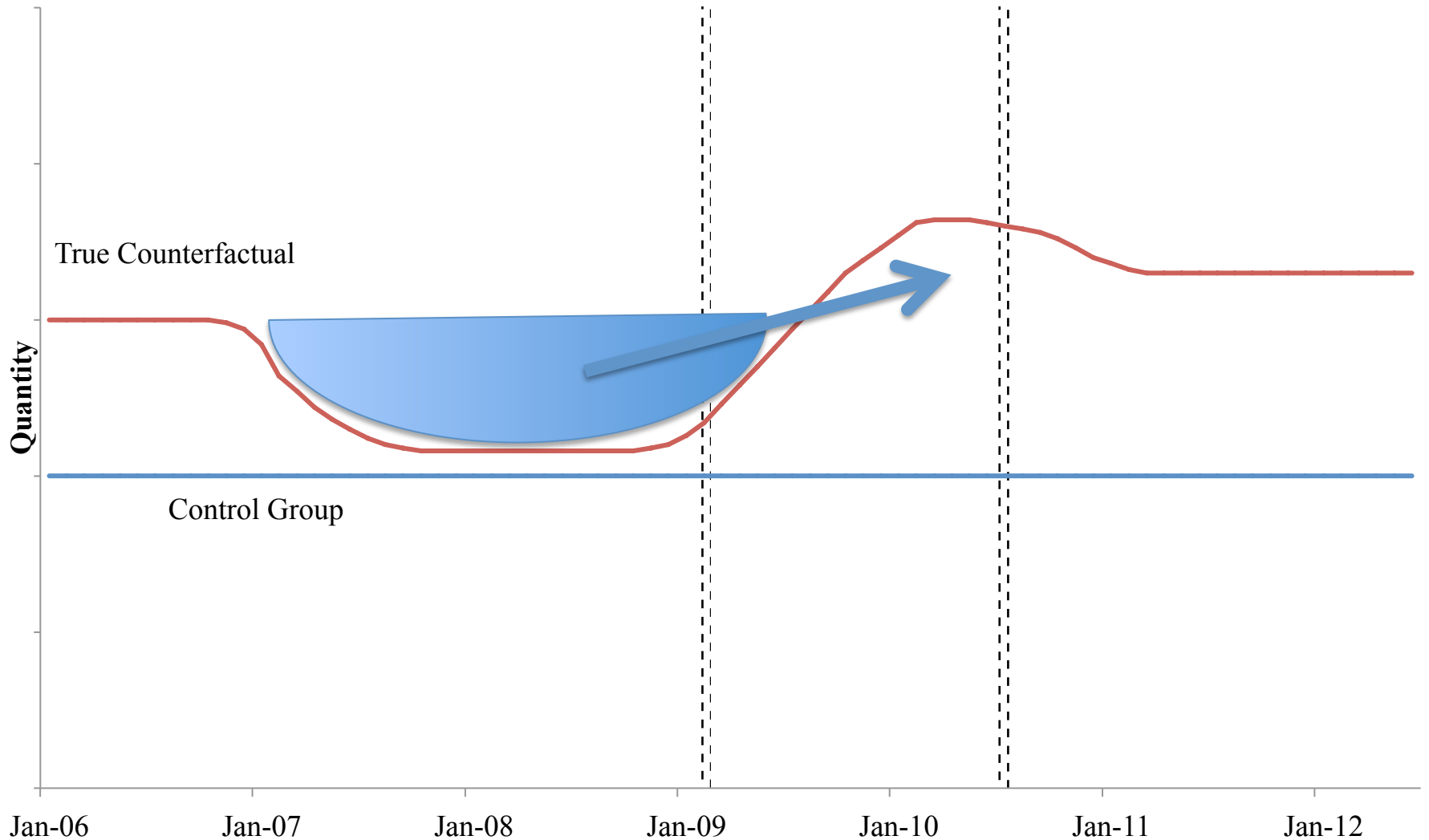
### 3. Pent-up Demand Story

- Diff-in-diff requires control group with parallel trends.
- FT homebuyer areas/segments just countercyclical?
- FTHB areas cut back more during boom + aftermath?
- Pent-up demand story: high exposure areas due for a big recovery *anyway*, esp. when house prices stabilized and sidelined households no longer spooked
- Conceptually impt. for evaluation of stimulus policy
- But hard to identify: when would FTHB area differential debt overhang have unwound?
  - Need control group that *also* had pent-up demand

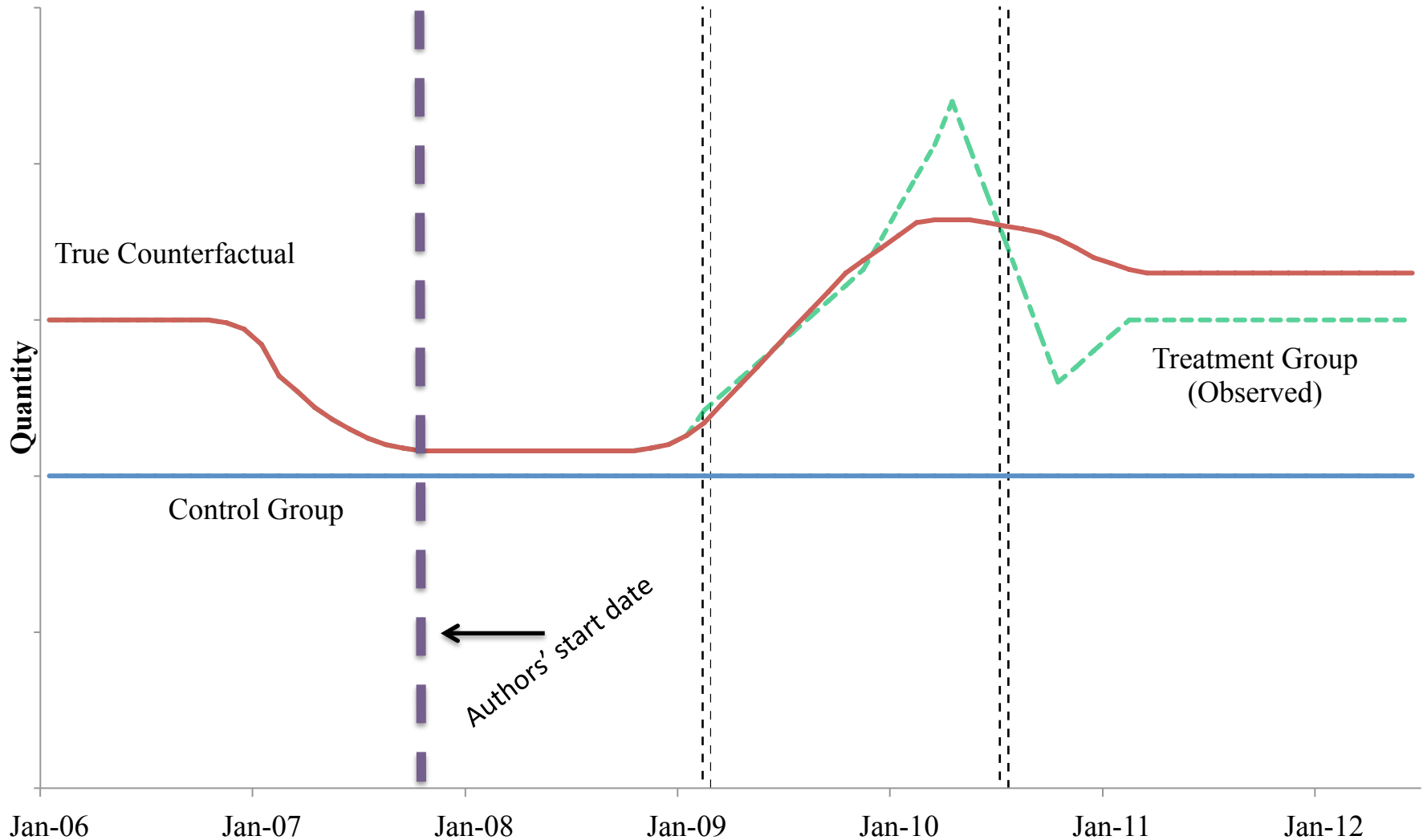
# Pent-up Demand Story in Pictures



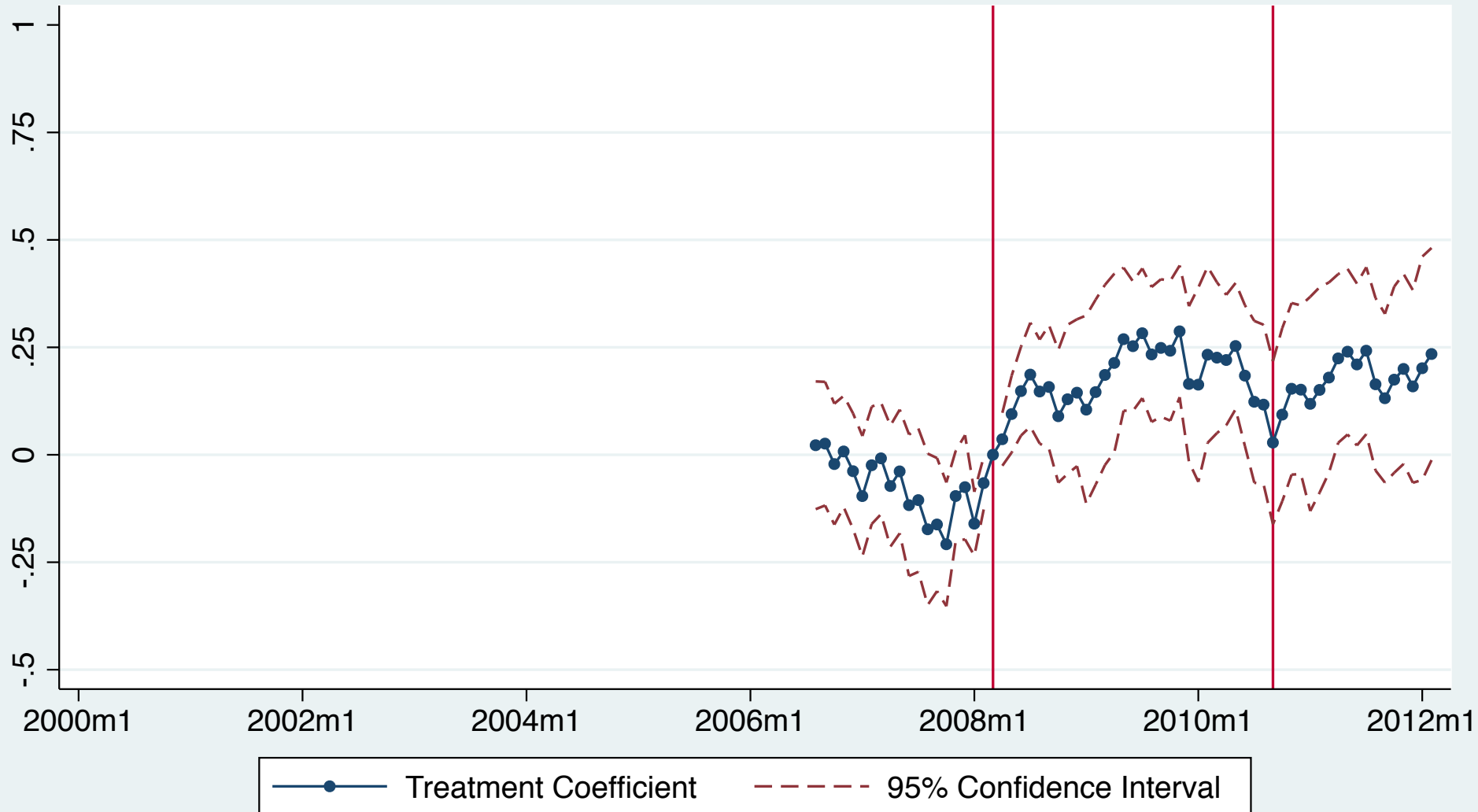
# Stealing from the ~~Future~~ Past



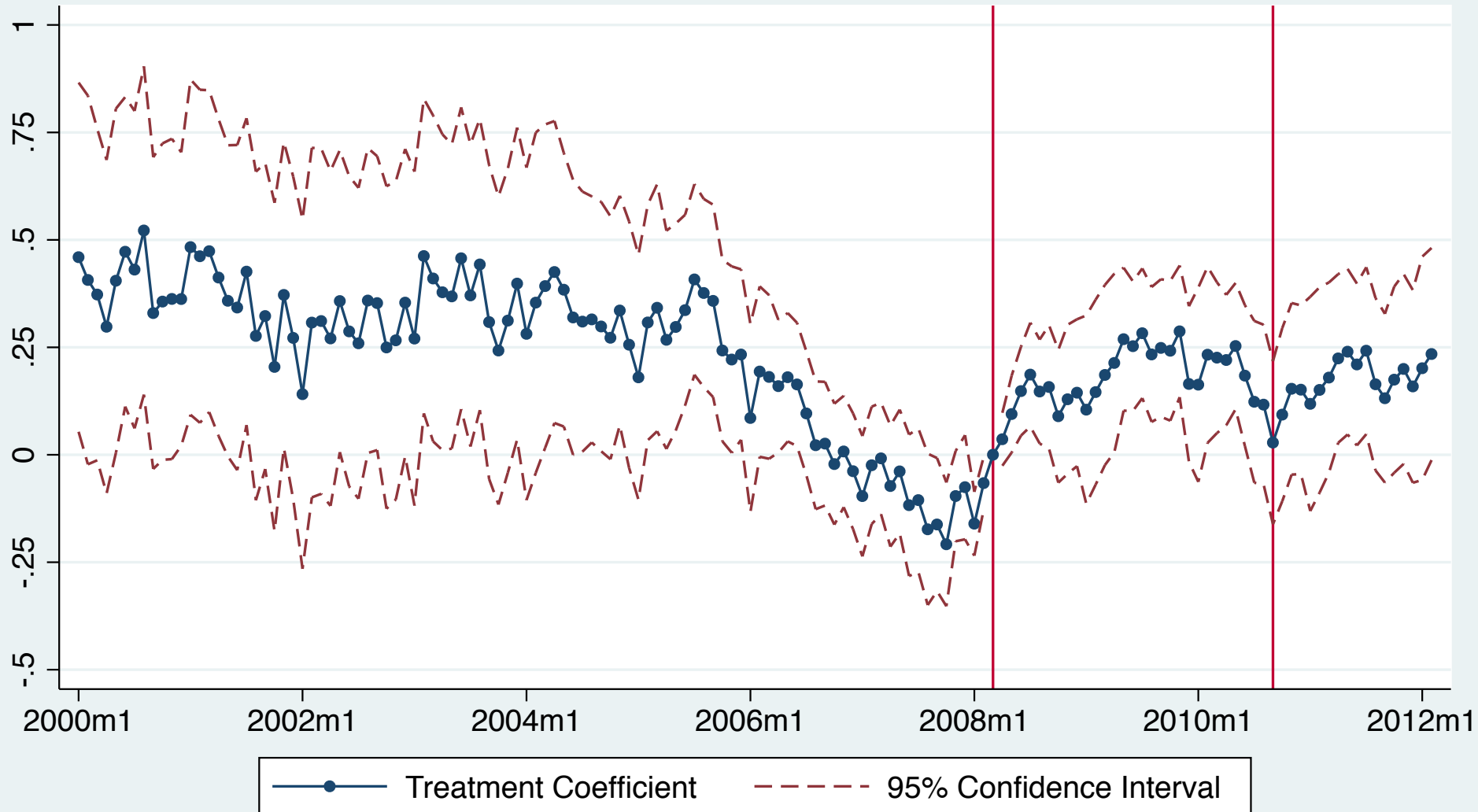
# Pent-up Demand Story with Tax Credit



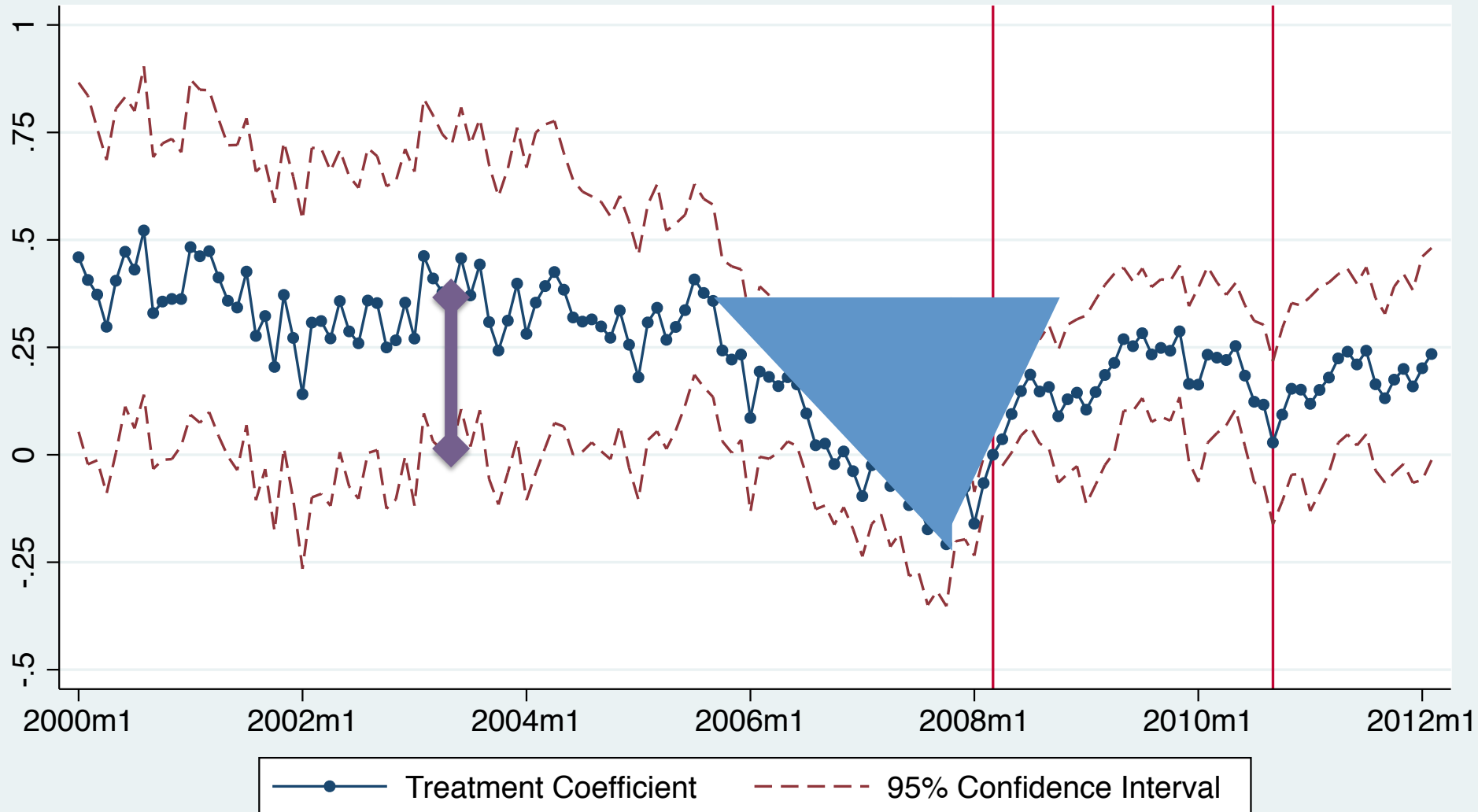
# Pent-up Demand: Suggestive Evidence



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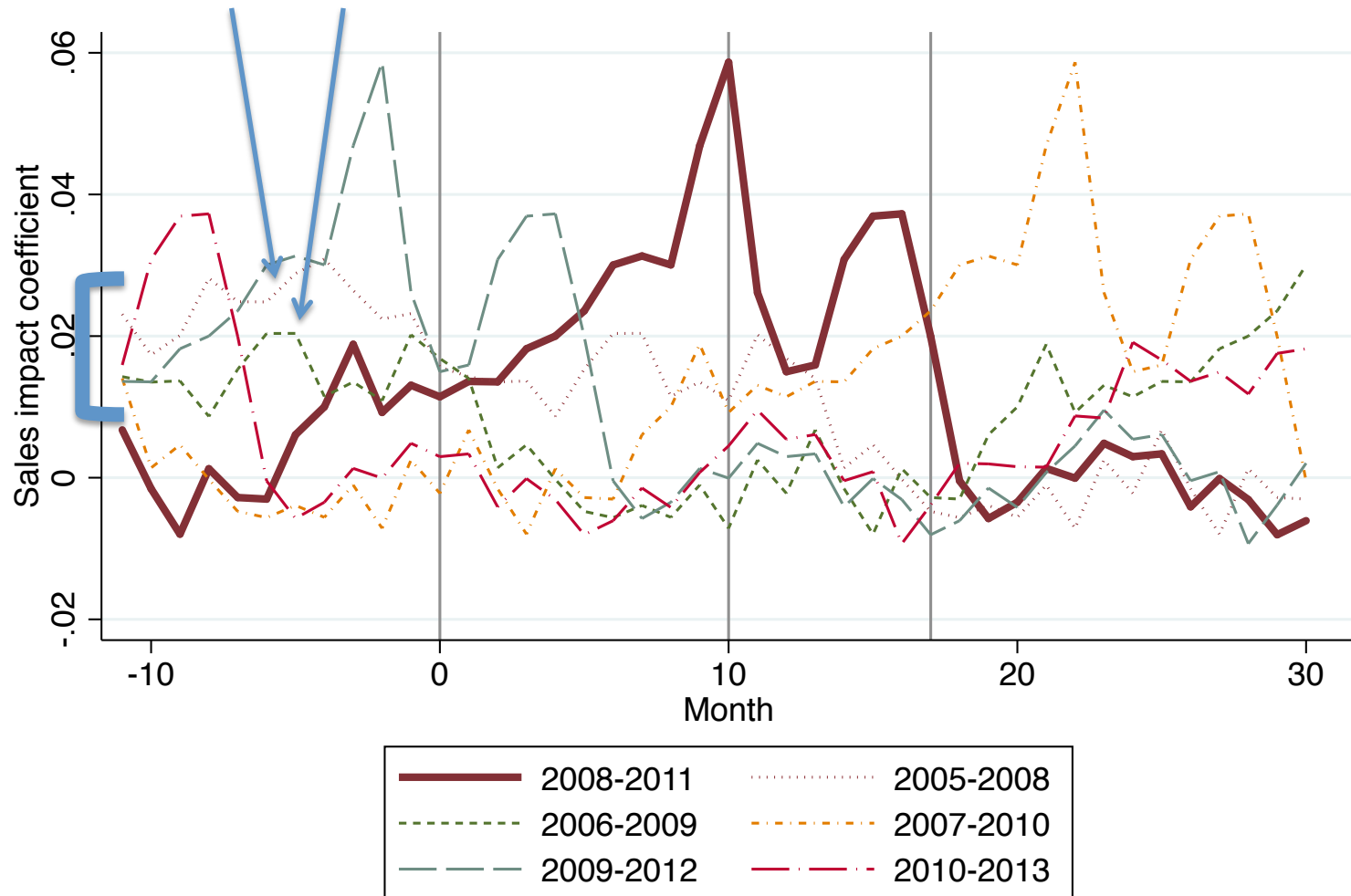


# Evidence Against Pent-up Demand

- Pre-trends analysis? Doesn't go back very far
- Placebo? Shows evidence of pre-period decline
- Age distributions? Densities don't show # changes
- Starter homes? Consistent with pent-up demand especially in those segments
- Sharp timing? Google Trends? REO sales? Still could be intertemporal substitution
- Strong FHA effects? Consistent with tight credit, FHA as stabilizer, and pent-up demand

# Placebo Supports Pent-Up Demand

Figure A.1: Placebo Coefficients



Source: Berger, Turner, Zwick (2016)

# Little Things

- Mian & Sufi decile reduced-form counterfactual clunky. Why not run 2SLS on cumulative sales?
  - If instrument invalid, RF instead of 2SLS doesn't solve any problems
- Seasonalizing by taking out CBSA x Month-of-Year FEs first is
  - conceptually unnecessary with control group,
  - non-standard in diff-in-diff,
  - and yet unlikely to matter.
  - Still, could benefit from footnote assuring the reader the results hold even without this.
- Footnote that normalization by 2007 sales doesn't matter?
  - (in logs wouldn't)

# Conclusion

1. Beautiful data work + presentation
2. Preliminary results suggest positive effects on Q
3. Pent-up demand story seems consistent with all results
  - Silver lining: easy to check!
4. Subsidizing existing home sales definitely not a high-return *GDP* stimulus
  - But may have had hard-to-identify knock-on effects
  - (And may have done more for homeownership than the mortgage-interest tax deduction)
5. Points to expectations being important, little things can matter (consistent with Bailey et al., 2016)