Ten-Year Impacts of Individual Development Accounts on Homeownership: Evidence from a Randomized Experiment

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Michal Grinstein-Weiss, UNC
Michael Sherraden, Washington University
William Gale, Brookings
William M. Rohe, UNC
Mark Schreiner, Washington University
Clinton Key, UNC

Introduction

- Alternative approaches to raising living standards for low-income households
  - Consumption transfers
  - Work incentives
  - Saving incentives

- Saving interventions could
  - help with down payment
  - help with emergencies
  - offset other policies
  - inculcate good behavior

Individual Development Accounts

- IDAs are saving accounts with
  - Matching withdrawals for qualified purposes
  - Financial education
  - Case management
- Originally conceived and designed by Sherraden (1991)

IDAs are popular…

- More than 50k IDAs opened in the US in the last decade
  - Every IDA program is different
  - Administered by federal, state, local governments, community centers, etc.
- Many other countries pursuing IDAs or Child Development Accounts

…But there's little evidence

- A Canadian IDA experiment showed positive effects on educational enrollment and small business start-up
- The only previous US experiment took place in Tulsa 1998-2003
  - 2:1 match for home purchases, 1:1 for other qualified purposes
  - Could accumulate up to $6,750 toward down payment (including the match)

Tulsa: Effects as of 2003

- Raised the home ownership rate by 7-11 pp for baseline renters in the treatment group relative to control group
- No effect on other qualified uses (retirement saving, small business start up, education, home repair)
- Decline in liquid assets
- Impact on net worth difficult to discern.
- No impact on financial attitudes, economic status.
- Mills et al. (JPubE, 2008)

Other Evidence

- All other IDA research is non-experimental and subject to concern
  - IDA participants are motivated savers. Comparing a group of IDA participants to a random group of low-income households is not meaningful

Long-Term Issues

- Tulsa 2003 effects are short-term effects
  - Effects measured four years after baseline interview
  - Participants had three years to accumulate funds
- But long-term effects are of greater interest
  - The ultimate goal of saving interventions
  - No evidence to date on long-term effects
  - LT effects could differ from short-term effects in either direction

Why LT Effects could be larger than ST effects

- It takes time to build wealth (especially if initial investment is used for education)
- The impact of financial education and encouragement to save may grow over time

Why LT effects may be smaller than ST effects

- The incentive effects built into the IDA program
  - Treatment group members had incentives to buy before the end of 2003, while they still had a 2:1 match
  - Control group members had incentives to postpone purchase until after 2003, at which point they became eligible for regular HO assistance programs again.

This paper's contribution

- We commission a new survey of the Tulsa IDA sample
  - The survey is taken 10 years after random assignment

- We examine the long-term (10-year) impact of IDAs on homeownership and duration of homeownership

Main Results

- The effect of the IDA on 2009 homeownership rates is economically small (1-3 pp) and statistically insignificant

- The gains made by treatments relative to controls thru 2003 (shown in earlier work) disappear almost immediately by 2004 (incentive effects)

- The IDA has no impact on the average duration of homeownership during the 10-year period

Other results

- IDAs did raise 2009 (and 2003) HO rates and the duration of homeownership among HH with above-sample median income
  - But not in 23 other subgroups

- HO rates for both treatments and controls grew substantially over the time period (not an IDA effect, just evidence on sample selection)

- Interesting situation in which the sample-wide diff-in-diff results are not reliable indicators of program effects (because of sample imbalance at baseline).

Outline

- Experimental Design
- Preliminary Data Analysis
- Methodology
- Results
- Internal and External Validity
- Conclusions

Experimental Design

- American Dream Demonstration (ADD) sponsored 14 IDA sites in the late 1990s
- Only one experimental site – Tulsa
  - Administered by CAPTC
  - Eligibility rules
    - Employed at time of sign-up
    - Prior year income < 150 percent of poverty line

Design, continued

- Treatment group had
  - Access to IDA
  - Required financial education
  - Active case management
- Control group did not
- Neither group had access to existing CAPTC home assistance programs during the experiment

Design, continued

- The actual account was a regular bank saving account
- Treatment group could contribute up to $750 per year for 3 years
- After the 3-year contribution period, 6 months to make a matched withdrawal (or roll the funds into a Roth IRA with match)
- Withdrawals matched
  - 2:1 for Home Purchase
  - 1:1 for Education, Small Business Start-Up, Retirement Saving, Home Repair

Timeline

- **Oct 1998 - Dec 1999**
  - Recruitment of 13 monthly cohorts, Wave 1 survey, random assignment
- May 2000 - Aug 2001
  - Wave 2 survey (about 18 months after W1)
- Jan 2003 - Sept 2003
  - Wave 3 survey (about 48 months after W1)
- **Aug 2008 - Apr 2009**
  - Wave 4 survey (about 10 years after W1)

Wave 4 survey

- Extensive efforts to contact all baseline members
  - No differential treatment of T's versus C's
  - Interviews conducted at even pace for T's versus C's
- Overall response rate of 80%
- Same questions as in earlier surveys, plus new "retrospective" housing questions

Preliminary Data Issues

- T's and C's are balanced with respect to baseline characteristics
  - However, there is an arithmetic difference in baseline home ownership rates, which are higher for C's than T's (affects the sample-wide D in D)
- Some attrition from wave 1 to wave 4
  - But not correlated with treatment status or baseline homeownership status
  - We control for correlates of attrition

Sample Characteristics

- Average age = 36 years
- Median monthly income = $1,320
- 80% Female
- 41% African American
- 26% Married
- > 50% have some college experience
- 84% have a bank account

Methodology

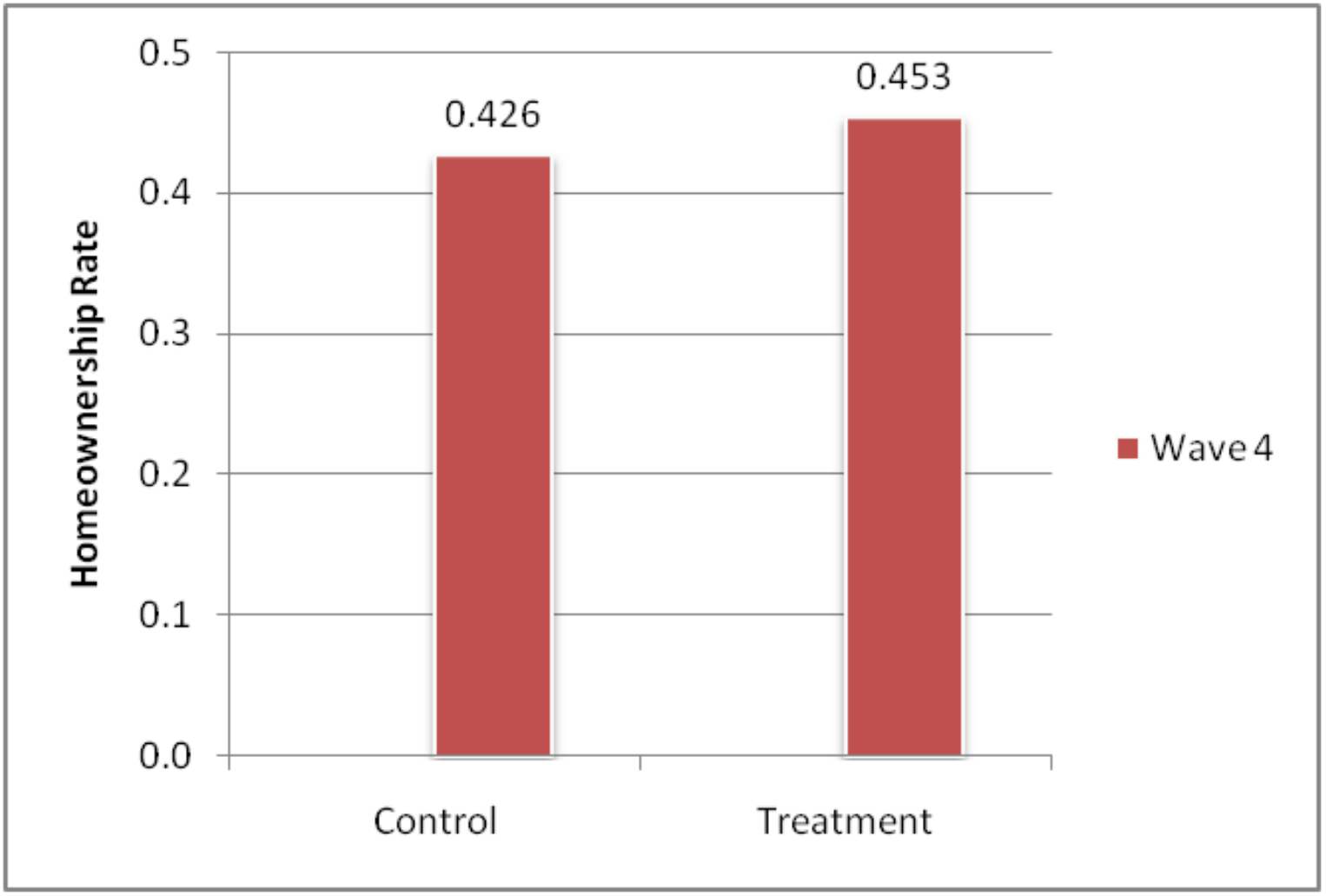
- Three methods
  - Difference-in-Difference Estimates
  - OLS regressions
  - Propensity Scoring

- We estimate the effects of *exposure* to the IDA – Intent-to-treat (ITT) effects – i.e., of being in the treatment group.

- Effects of the IDA on those who *opened* an account (effect of the treatment on the treated, or TOT) would be only slightly larger since 90% of T's opened an account.

- We estimate one-tailed tests.

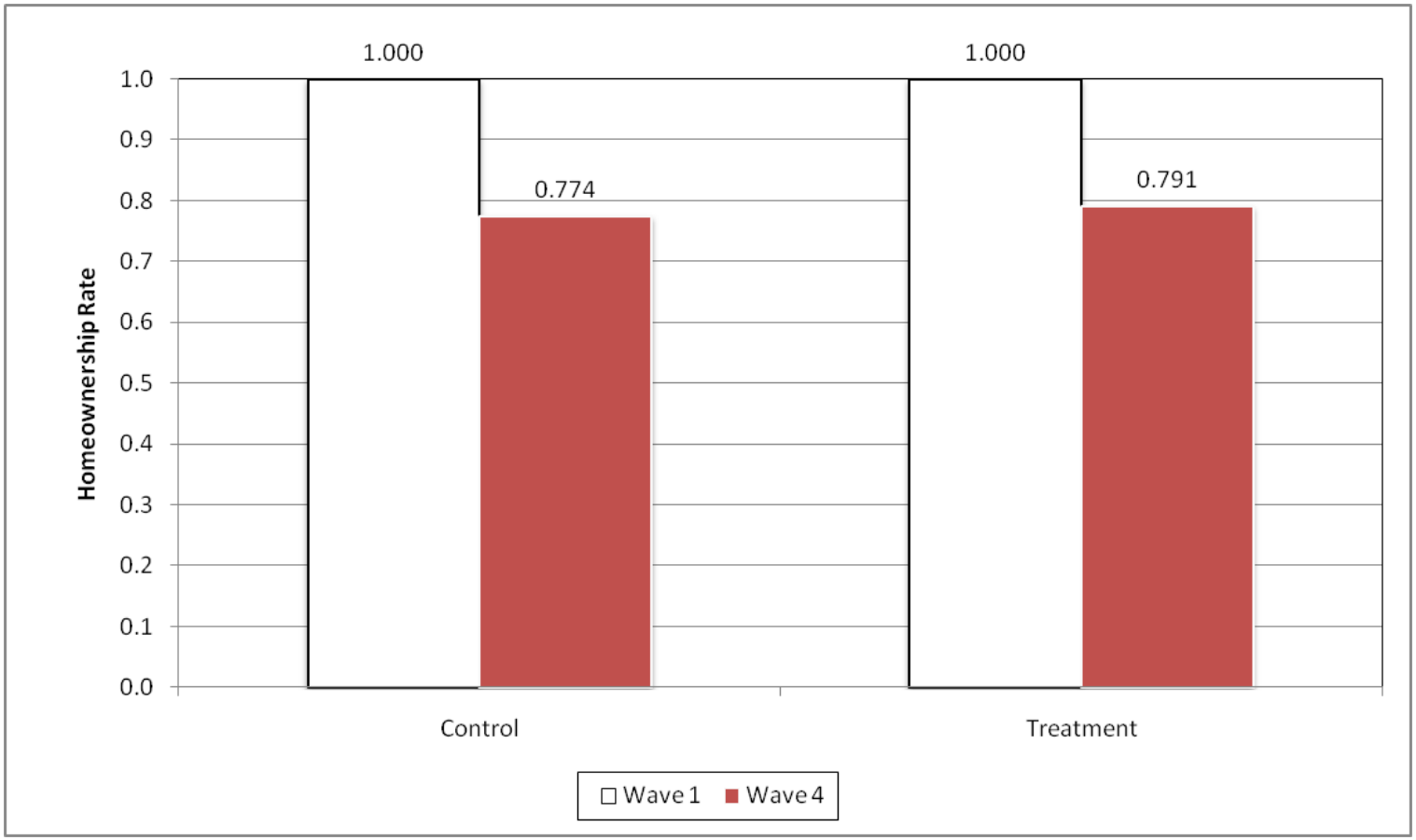
Homeownership Rates over Time: Baseline Renters



DiD = 0.027
p = 0.243

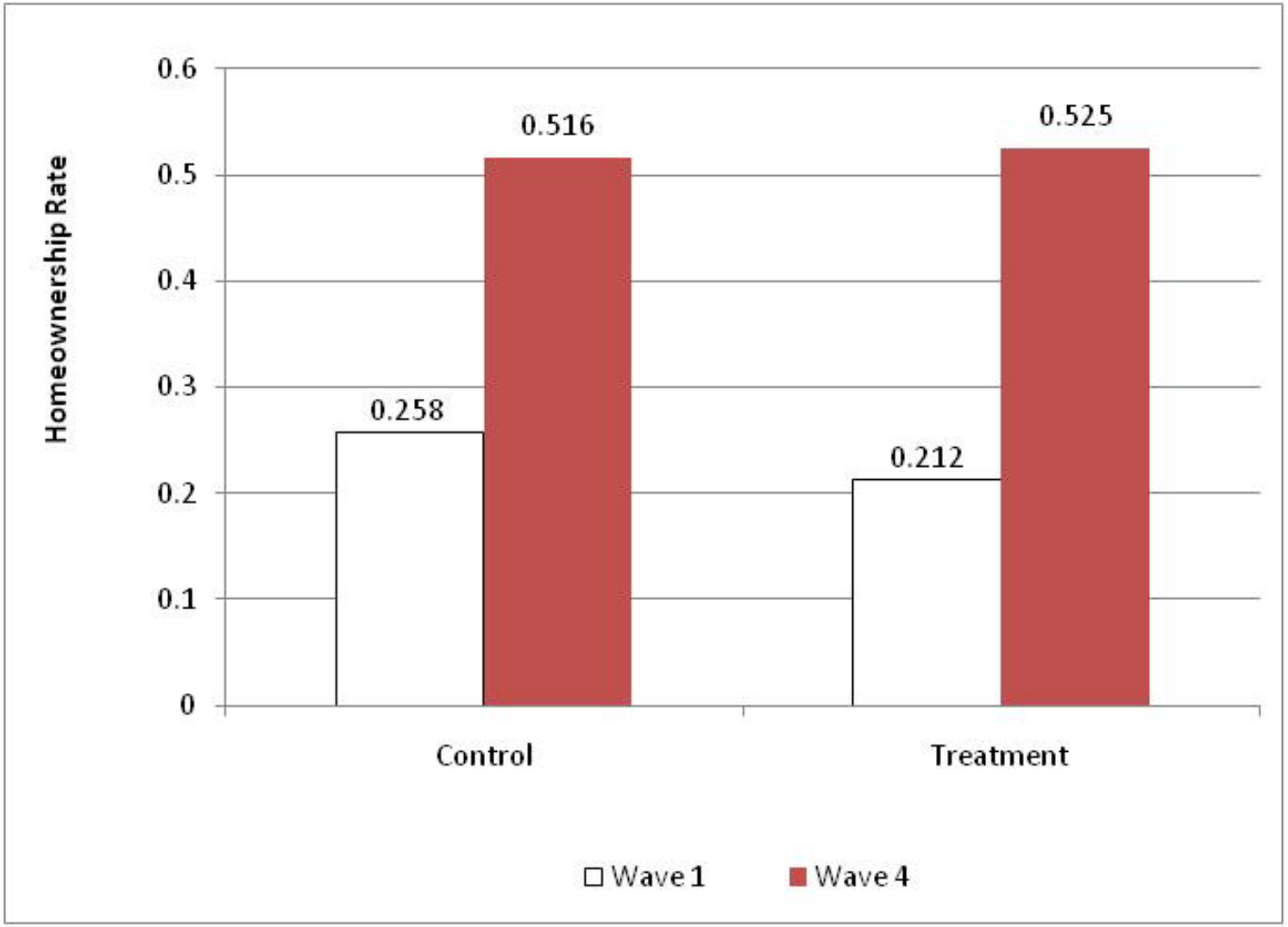
Homeownership Rates over Time:

Baseline Owners



DiD = 0.017
p = 0.389

Homeownership Rates over Time: Wave 4 sample



DiD = 0.055
p = 0.074

The Problem with Sample-Wide DiD (in this case)

- The aggregate DiD exceeds the DiD for either baseline owners or baseline renters
  - Baseline owners and renters, however, are mutually exclusive and exhaustive subgroups
  - The aggregate “causal” effect can’t be larger than the causal effect in each subgroup
  - Indeed, the aggregate causal effect should be a weighted average of the causal effect among the two groups and it would be if the initial HO rates were the same in the T and C groups
  - In fact, the baseline HO rate is higher among controls

The Problem with DiD (continued)

- How this works (stylistic example)
- Baseline HO rates differ: T = .20, C = .25
  - Statistical significance of the difference doesn't matter, just the arithmetic difference
- Assume no impact of IDAs on HO rates
  - HO rates for baseline owners in T and C: W1=1.00, W4=.76
  - HO rates for baseline renters in T and C: W1=0.00, W4=.50
- W4 HO rates:
  - T = .20*.76 + .80*.50 = .552
  - C = .25*.76 + .75*.50 = .565
- Aggregate DiD = (.552 – .20) – (.565 – .25) = .037
- ….Even though there's no impact of IDAs by construction

The solution

- Look at DiD's for each subgroup separately
  - Shows small and insignificant effects (above)

- Look at regression analysis that controls for initial HO status (or looks at each subgroup separately)
  - Shows small and insignificant effects

Subsample effects

- 12 sample splits, 24 subgroups
  - Only 1 out of of 24 estimates (the one for households with income > median income) is statistically significant.
- Is this effect real, spurious, or can't we tell?
  - The overall data pattern is consistent with the view that this is a false positive.
    - Even if the IDA has no impact on homeownership in any subgroup, one would expect 2 estimated treatment effects to be significant at p<.10 and 1 at p<.05
    - In fact, only 1 treatment effect significant at p<.10 (actually, at p =.018)

Retrospective Data

- The data above use “snapshot” data at each wave

- In Wave 4, we also asked retrospective questions on housing history
  - Asked about HO status in 1998
  - If owned in 1998, when did they sell that house, when they did they buy the next house, etc.
  - If rented in 1998, when did they next buy a house, when did they sell that house, etc.

Retrospective Data, continued

- Using this information, we construct year-by-year HO status for each household in the Wave 4 sample

- Two goals
  - Look at how quickly the gap in HO rates between the T and C groups disappears between 2003 and 2009
  - Look at the effects of the IDA on the duration of home ownership over the sample period

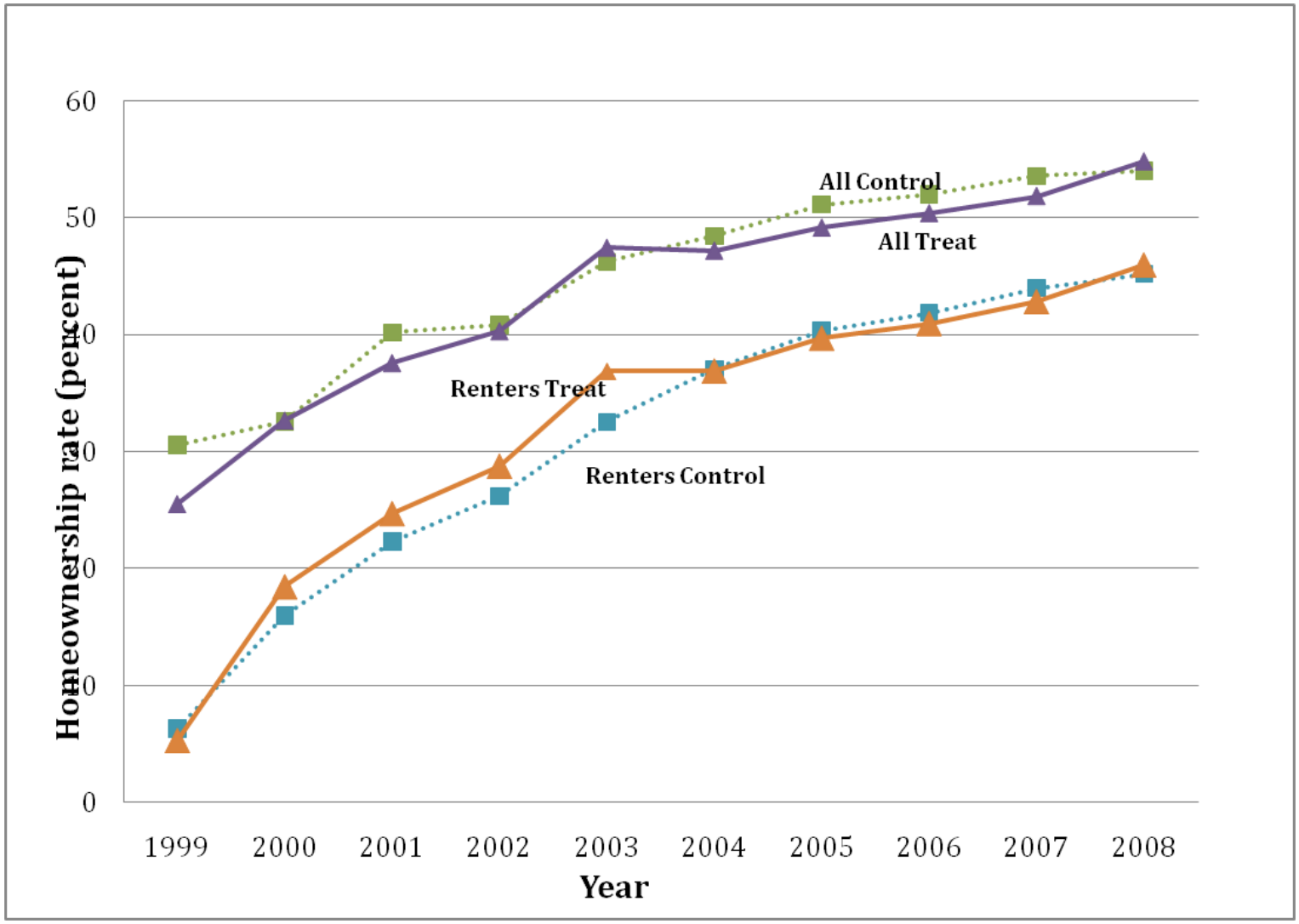
Retrospective Data, continued

- There are some conflicts between retrospective data for earlier years and the “snapshot” data for that year

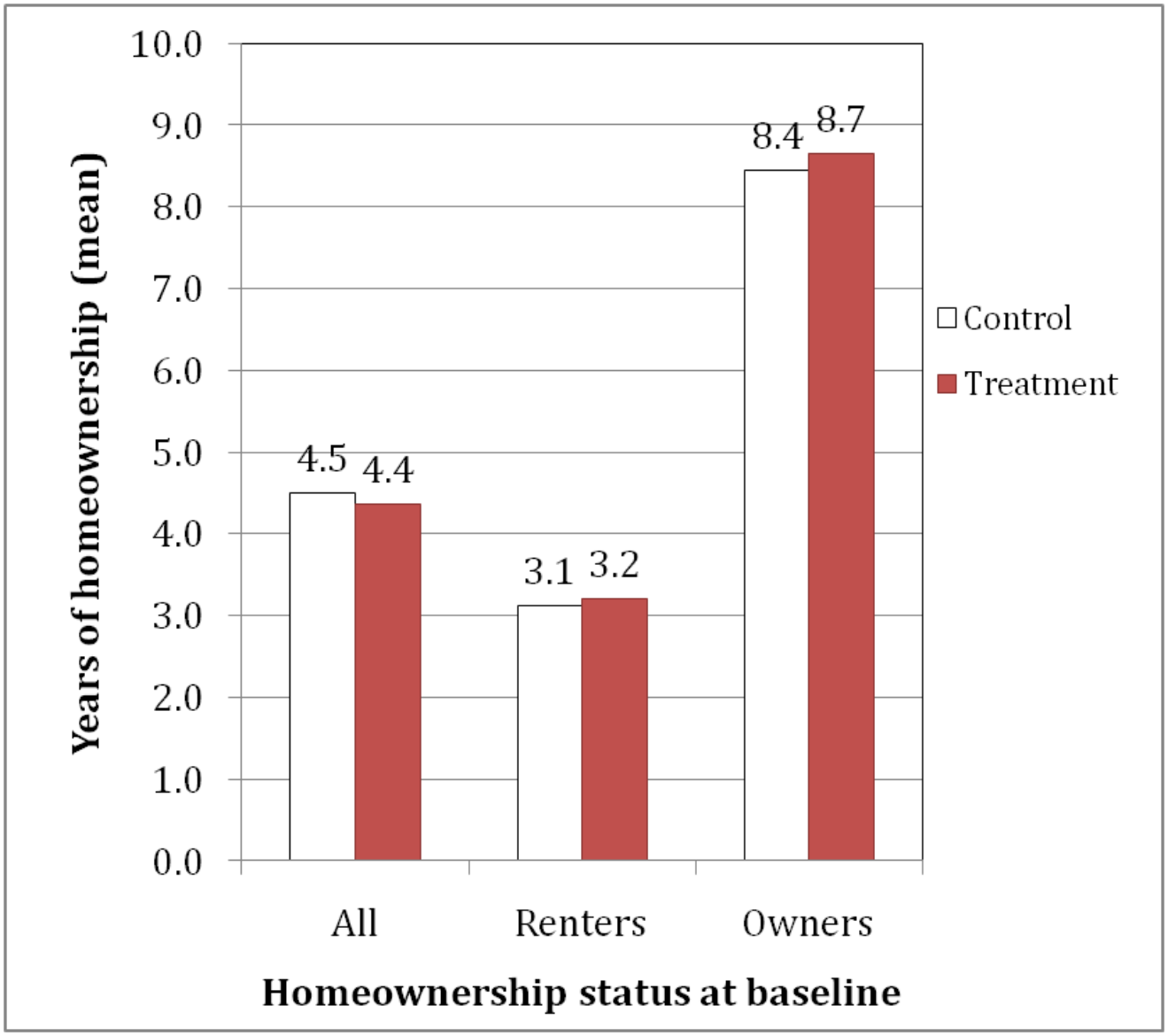
- We examine two ways of resolving these conflicts – giving the retrospective data priority and giving the snapshot data priority
  - It turns out not to make a difference which approach is used.
    - The retrospective-data HO rate is very close to the snapshot-data HO rate in the years where we have observations on both
    - The trends in the data are the same using either approach

- The data presented below give the snapshot data priority over the retrospective data

Year to year homeownership rate



Mean Years of homeownership



Subsample Effects

- Again, only one of 24 subsample effects is statistically significant
  - For households with income > median
  - Not surprising, given this group also has higher home ownership rates at the end of the sample.
  - Again, no evidence suggesting this is not a fale positive.

Internal Validity

- Was the experiment administered correctly?
  - Cross overs
  - Use of other CAPTC services

- Basically, no problems here.

External Validity

- Benefits of a randomized experiment include the clear causal structure and straightforward manner of deriving results

- Disadvantage of an experiment comes in the difficulty of generalizing the results beyond the specific experiment that was undertaken

Issues in Generalizing the Results

- Aggregate housing market conditions
- Tulsa housing market
- Program rules
- Sample composition
  - Although the Tulsa sample may be representative of HH that would like to have IDAs, they are not representative of the low-income population generally
- So,results can't be generalized to a national IDA program, but they do represent the only long-term experimental evidence on IDAs and HO.

Conclusions

- No long-term impact of the Tulsa IDA program on HO rates
  - Despite 90% IDA participation
  - Despite generous contribution maximum relative to down payment on a typical Tulsa low-income housing
- The program effect measured in 2003 disappears rapidly as soon as the program ends
- No effect on the duration of home ownership

What's Going On?

- Incentives matter
  - T group had incentive to buy before the program ended (and capture 2:1 match)
  - C group had incentive to wait to buy until the program was over (so they could receive CAPTC regular home assistance)
  - The HO gap closed rapidly in 2004 when virtually no treatment group member bought a house, which suggests timing considerations were key

Future research issues

- Effects on other qualified uses of funds
- Effects on nonqualified uses and general economic welfare
  - Net worth
  - Income, employment, poverty
  - Financial literacy, attitudes
- Understand the channels through which IDAs can influence behavior
  - Budget constraint
  - Financial education
  - “Soft encouragement”