Creating High-Opportunity Neighborhoods: Evidence from the HOPE VI Program

Raj Chetty, Harvard and Opportunity Insights
Rebecca Diamond, Harvard
Thomas B. Foster, U.S. Census Bureau
Lawrence Katz, Harvard and Opportunity Insights
Sonya R. Porter, U.S. Census Bureau
Matthew Staiger, Harvard and Opportunity Insights
Laura Tach, Cornell

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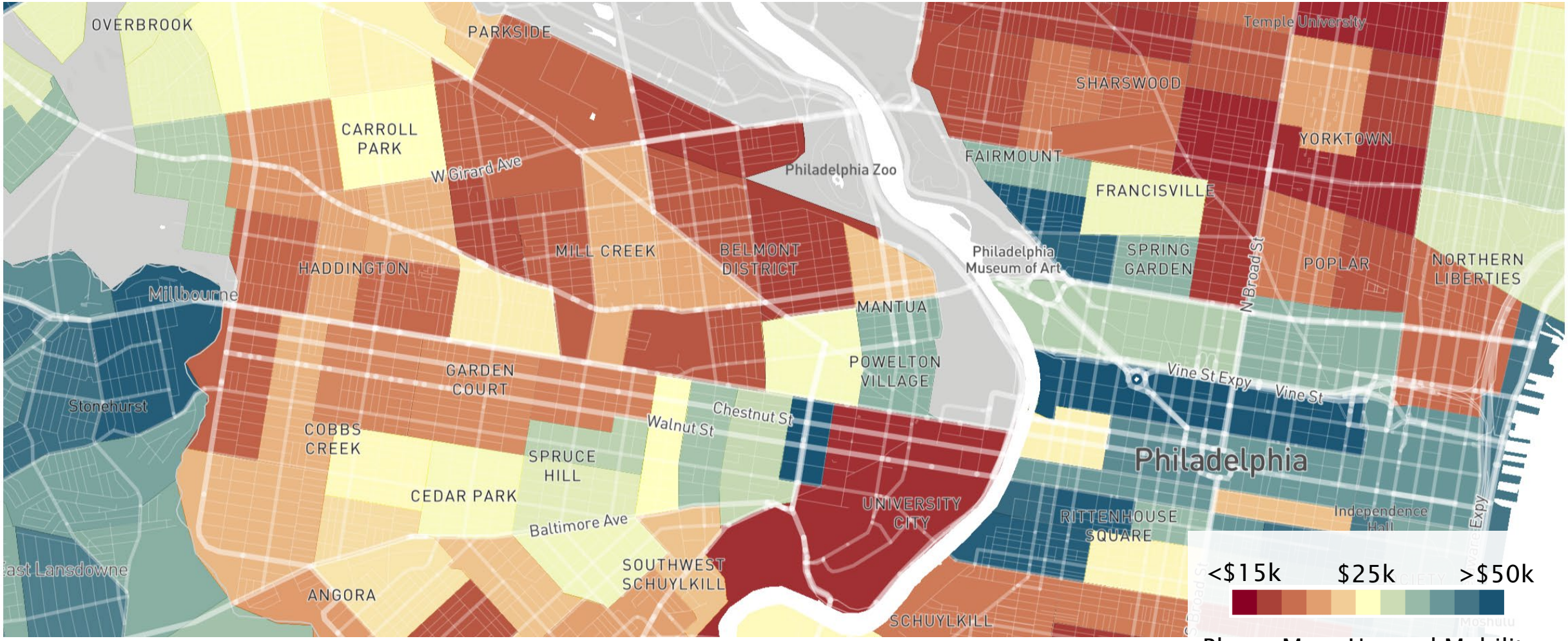
OPPORTUNITY INSIGHTS

Upward Mobility by Census Tract in Philadelphia

Average Household Income at Age 35 for Children Whose Parents Earned $27k



Source: Opportunity Atlas: Chetty, Friedman, Hendren, Jones, Porter (2018)

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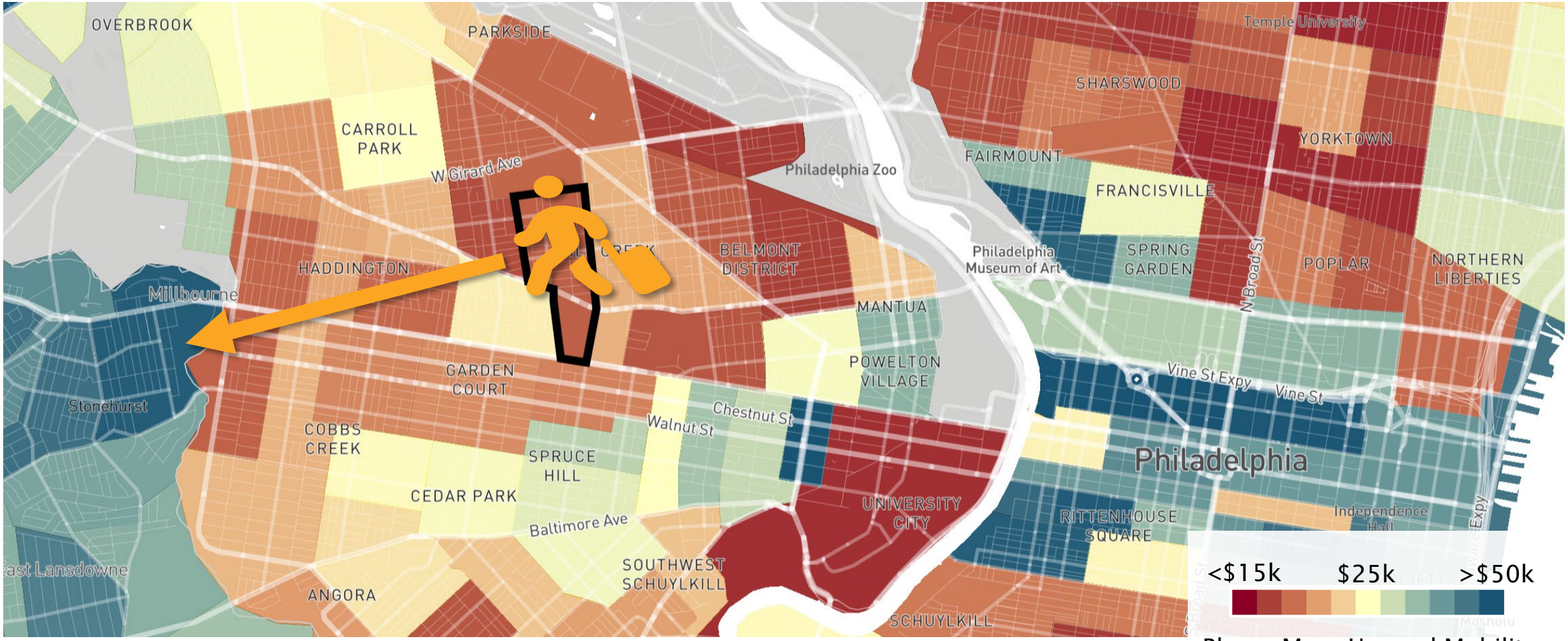

Blue = More Upward Mobility
Red = Less Upward Mobility

Source: Opportunity Atlas: Chetty, Friedman, Hendren, Jones, Porter (2018)

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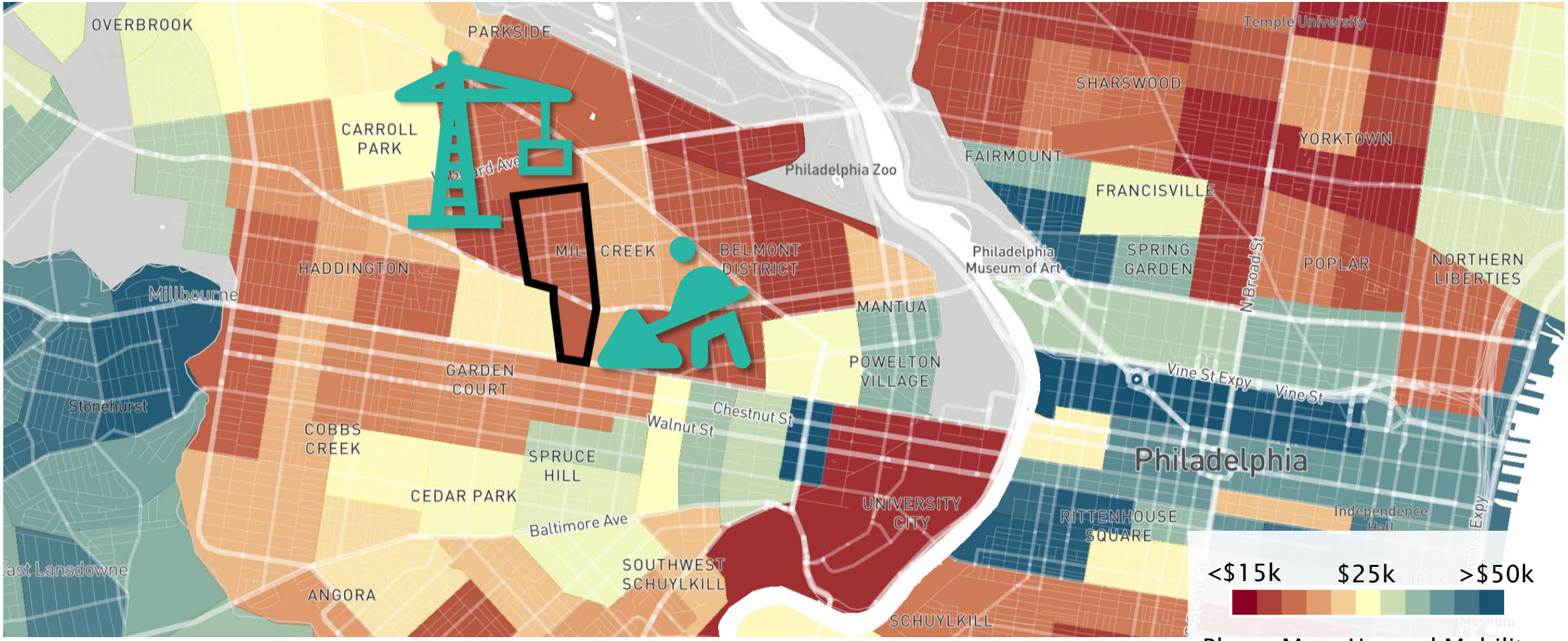

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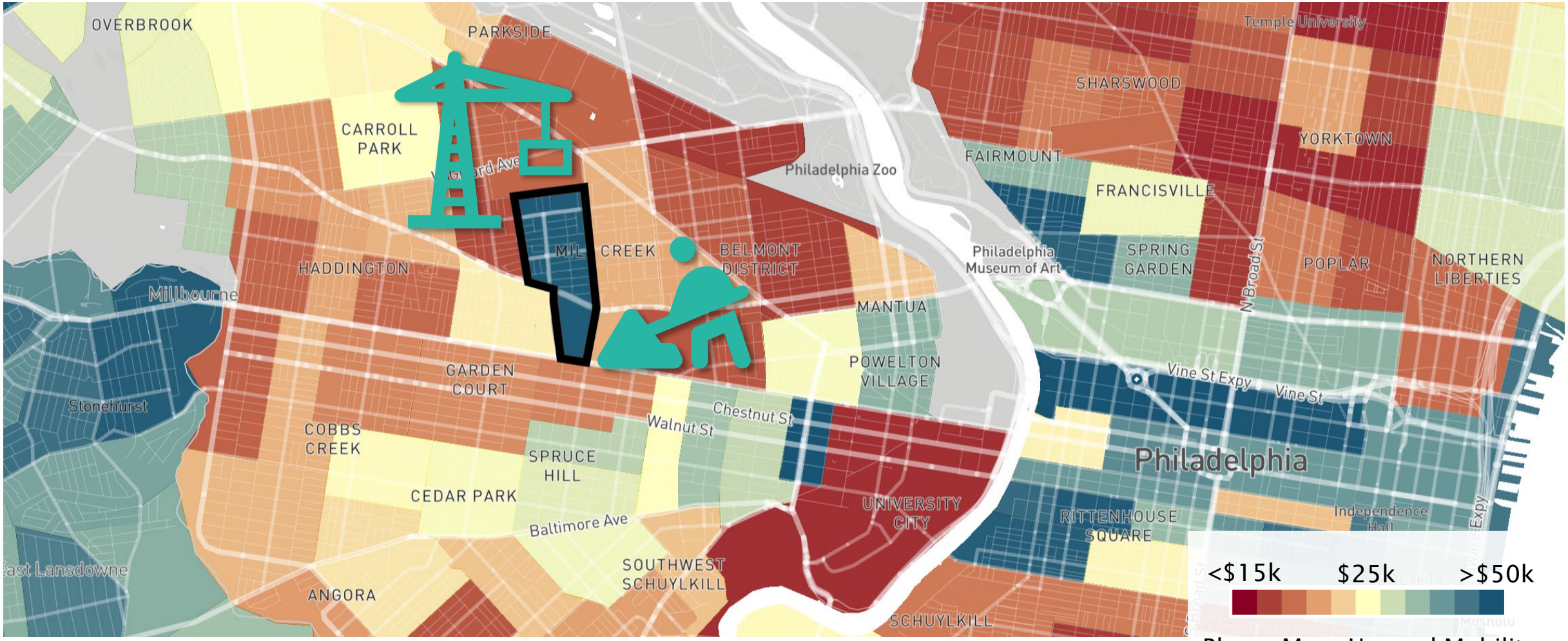

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HOPE VI Revitalization Program

Housing Opportunities for People Everywhere

Mill Creek Homes, Philadelphia
Before Revitalization

- Targeted distressed, high-poverty public housing projects
- $16.7 billion across 262 sites between 1993 and 2010
- Funds used to demolish public housing, build new market-rate and subsidized units, and create programs for residents

HOPE VI Revitalization Program

Housing Opportunities for People Everywhere

Before Revitalization

After Revitalization

Question: Did HOPE VI Change the Causal Effect of Growing Up in Targeted Neighborhoods?

Outline

1. Impact on Adults
2. Impact on Children
3. Mechanisms Underlying Treatment Effects
4. Broader Implications Beyond HOPE VI Program

Data

Data Sources and Analysis Sample

- Data from federal income tax returns (1979-2019) linked to administrative records on public housing residents from HUD from 1995-2019
- Covers approximately 200 HOPE VI projects and 2,700 non-HOPE VI projects
- On average, each HOPE VI project had 500 occupied units before the award
- Between 1995 and 2019, approximately 326,000 adults and 109,000 children (born between 1978-89) lived in HOPE VI projects
- Primary analysis focuses on children living in public housing units, **excluding** residents of market-rate units

Variable Definitions

- Adults' pre-tax household incomes measured annually in 2022 dollars
- Children's pre-tax household income measured between ages 29-30 (2008-2019), converted to percentile ranks within cohorts
- Measure time spent in public housing using entry and exit dates from HUD records
- Identify public housing sites—the Census Blocks in which the public housing projects are located—using address data for public housing residents

Impacts of Neighborhood Revitalization on Adults

Research Design: Diff-in-Diff Comparing HOPE VI to Matched Controls

- Ideal experiment to identify impacts of HOPE VI on neighborhoods: randomize HOPE VI grants across public housing projects
- In practice, HOPE VI targeted high-poverty, distressed housing projects
- But limited funding → many equally distressed projects were not revitalized
- We compare changes in outcomes for adults in HOPE VI sites to observably similar public housing projects
- For each grant year between 1993 and 2010:
  - Use propensity score matching to select 5 matched control projects for each site
  - Reweight the control projects to match the HOPE VI projects on observables Balance

Impact of Revitalization on Income of Current Adult Residents

Event Study: HOPE VI Projects vs. Matched Controls

Mill Creek Homes, Philadelphia
Before Revitalization

Difference in Household Income of Adults: HOPE VI vs. Matched Control Sites

$7.5k
$5k
$2.5k
$0
-$2.5k

-10
-5
0
5
10
15

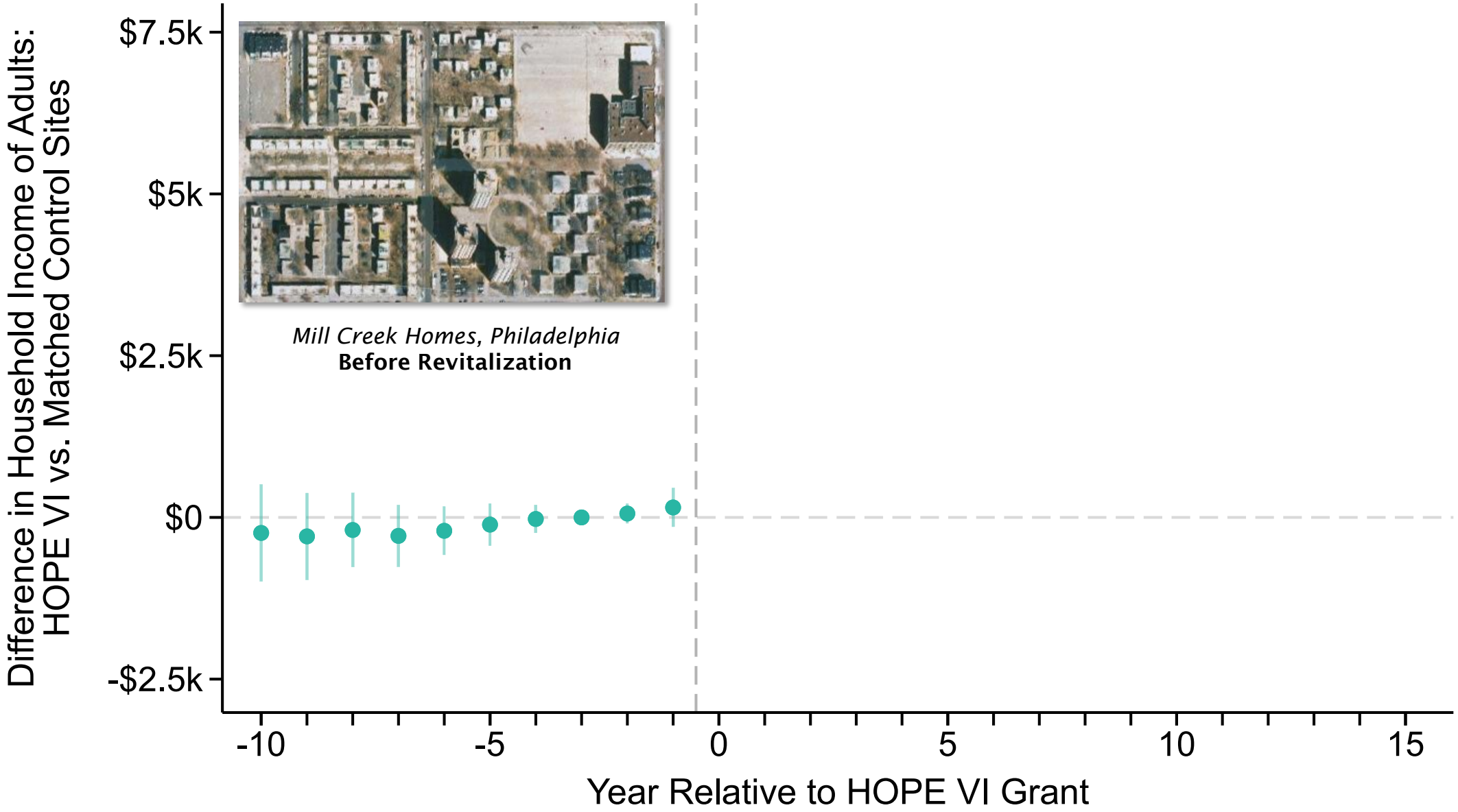
Year Relative to HOPE VI Grant

Note: Average income is calculated for all adults living in the set of census blocks in which the original public housing project was located.

Impact of Revitalization on Income of Current Adult Residents

Event Study: HOPE VI Projects vs. Matched Controls

Mill Creek Homes, Philadelphia
Before Revitalization



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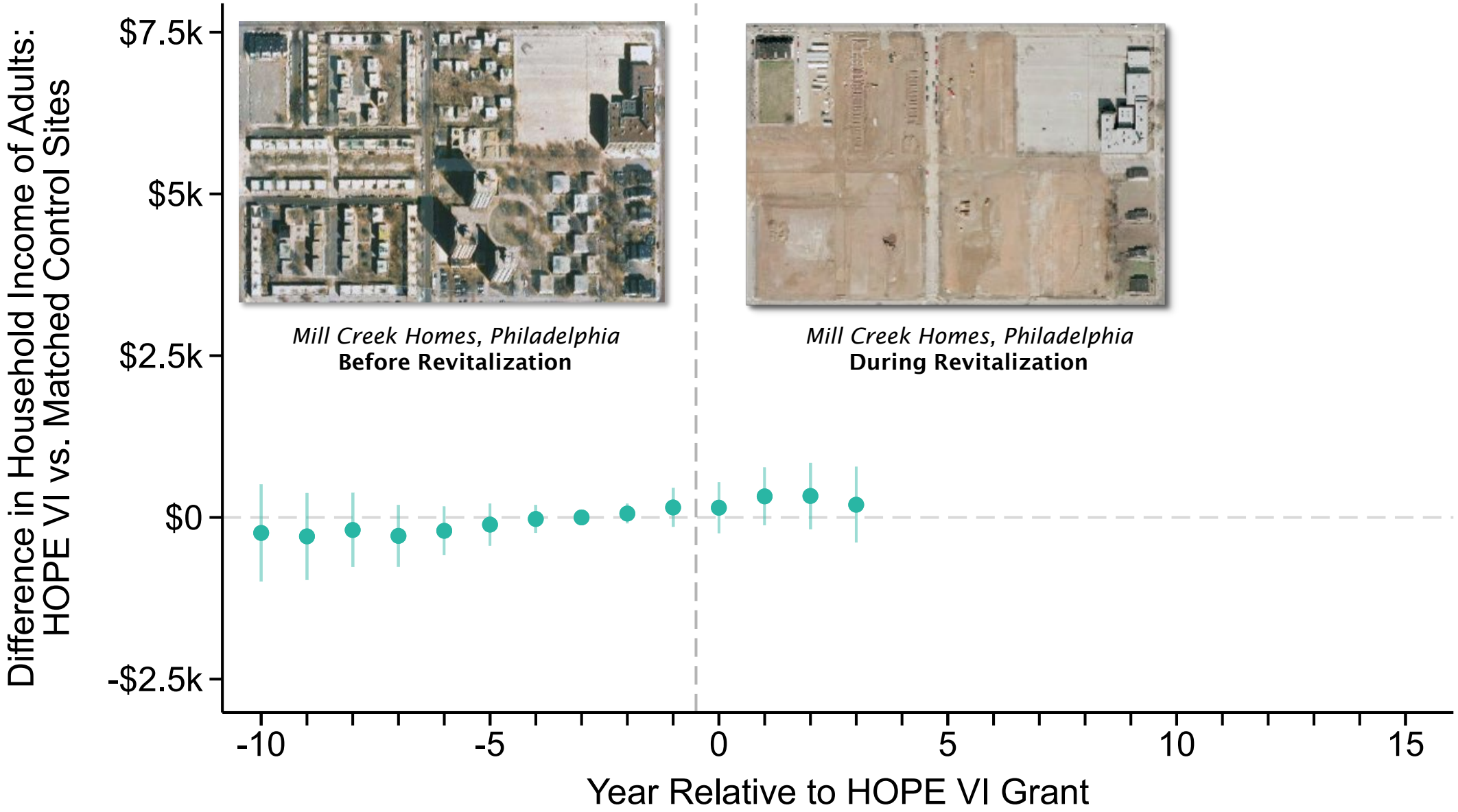
Impact of Revitalization on Income of Current Adult Residents

Event Study: HOPE VI Projects vs. Matched Controls

Mill Creek Homes, Philadelphia
Before Revitalization

Mill Creek Homes, Philadelphia
During Revitalization



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Impact of Revitalization on Income of Current Adult Residents

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Impact of Revitalization on Income of Current Adult Residents

Event Study: HOPE VI Projects vs. Matched Controls

Mill Creek Homes, Philadelphia
Before Revitalization

Tach and Emory (2017)
Staiger, Palloni, Voorheis (2024)

Mill Creek Homes, Philadelphia
After Revitalization

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Year Relative to HOPE VI Grant

Note: Average income is calculated for all adults living in the set of census blocks in which the original public housing project was located.

Impact of Revitalization on Income of Current vs. Original Adult Residents

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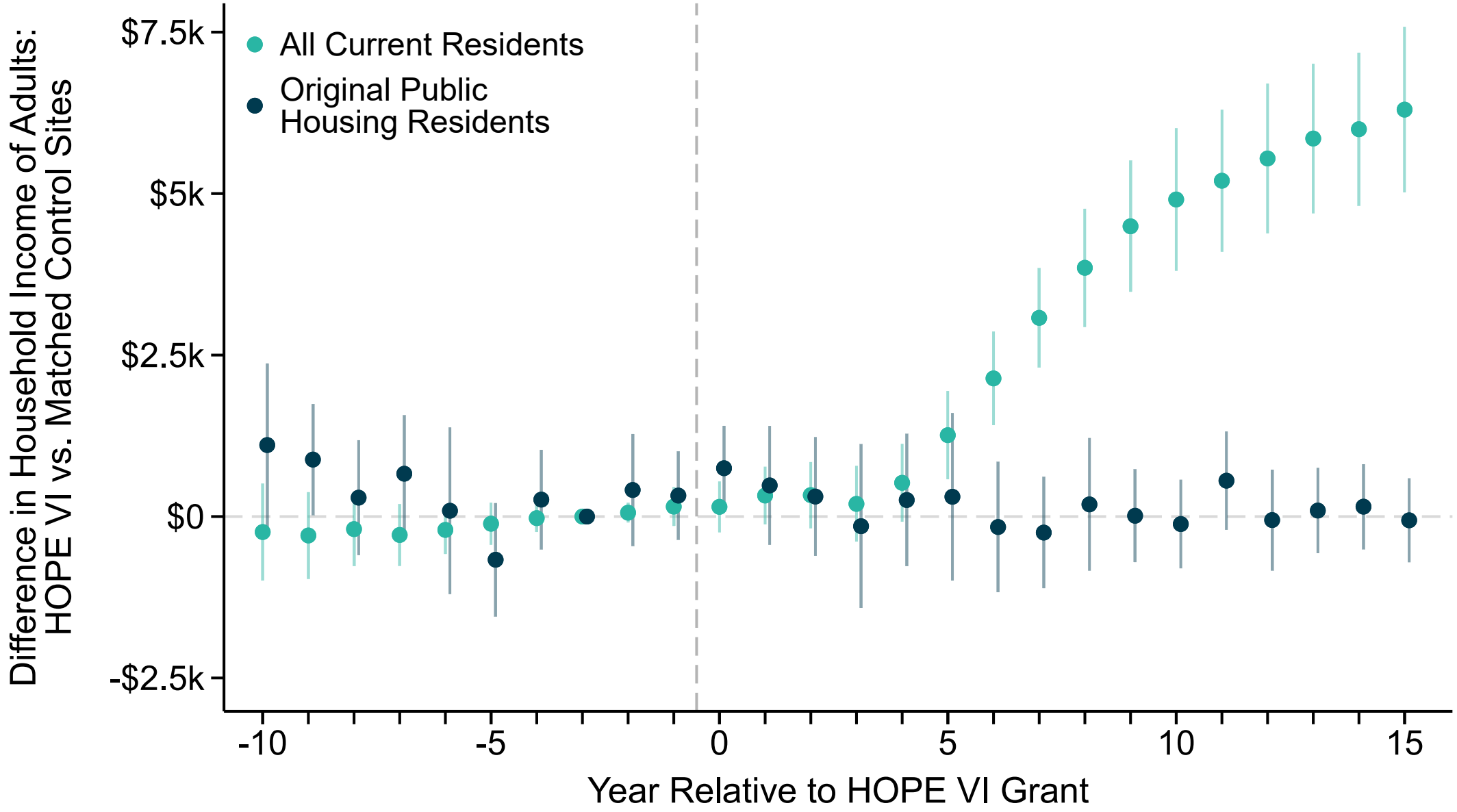
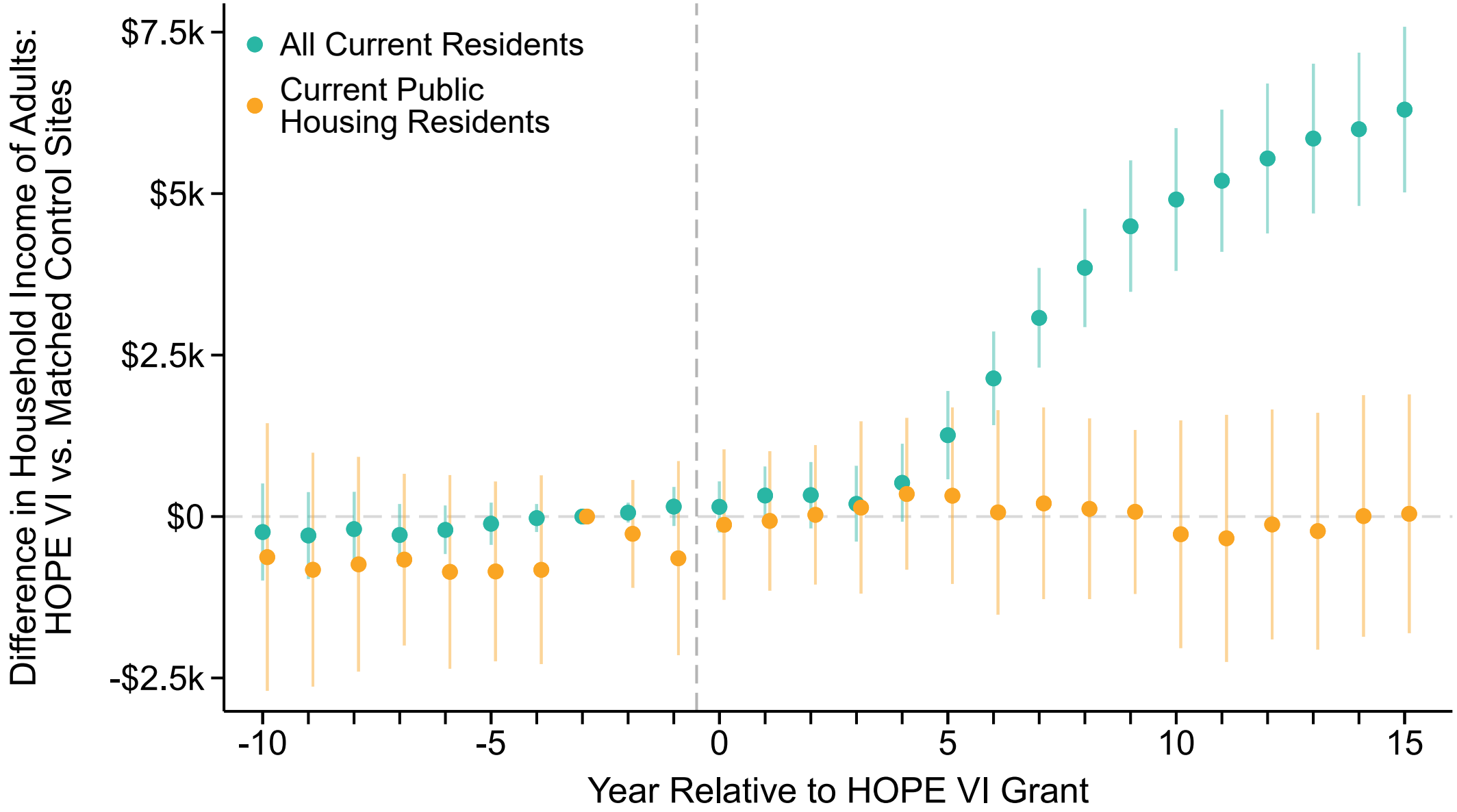


Note: Original public housing residents are the individuals who lived in the public housing projects one year before the award.

Impact of Revitalization on Income of Current Adult Residents

Event Study: HOPE VI Projects vs. Matched Controls



Note: Income for the current public housing residents is measured relative to the year before entering public housing.

Impacts of Neighborhood Revitalization on Children

Ideal Experiment to Identify Impacts of Revitalization on Children

- Ideal experiment to identify impact of HOPE VI on neighborhood exposure effect on children's outcomes requires two levels of randomization:

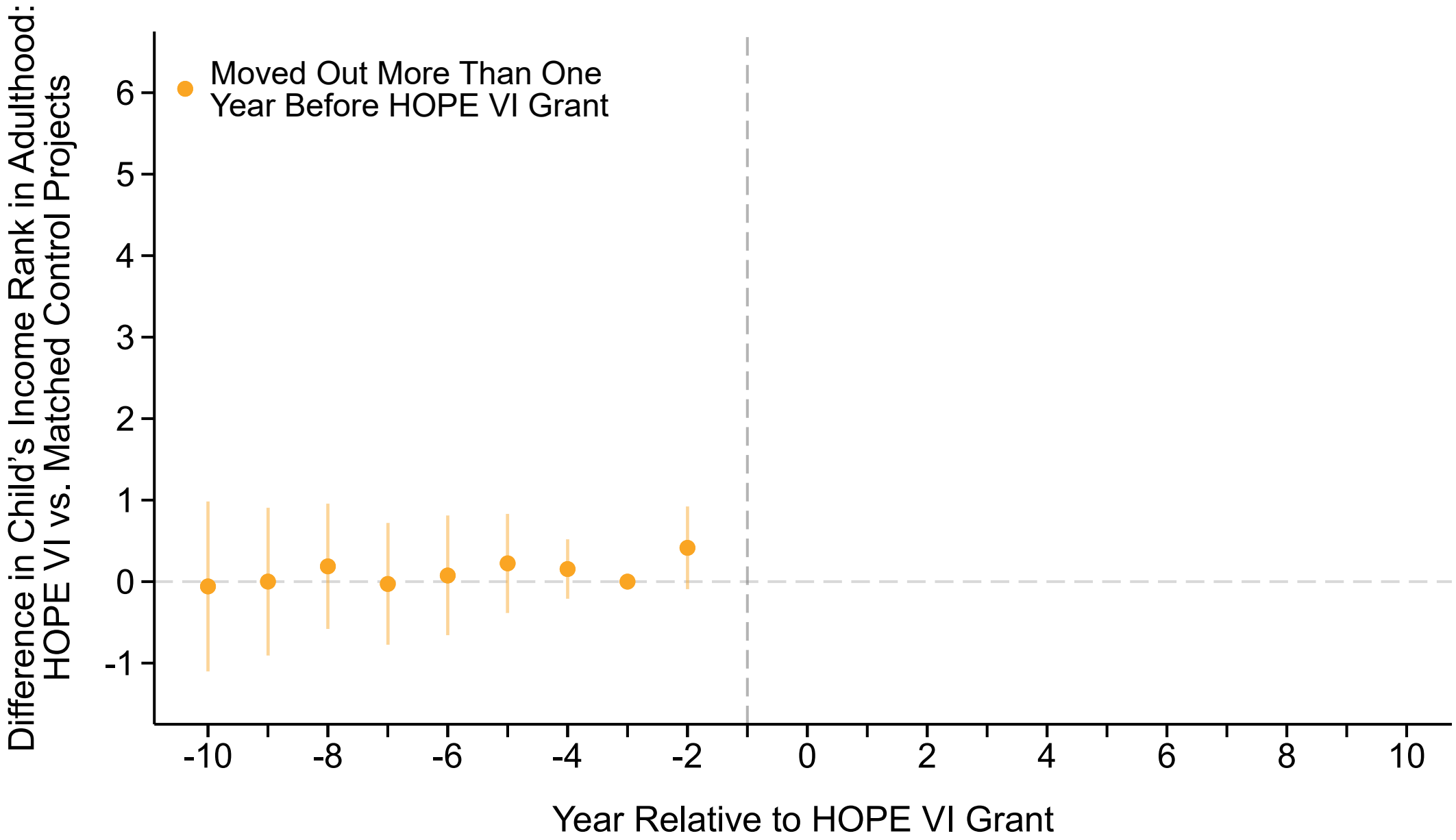
  1. Randomize HOPE VI grants across public housing projects
     → Chyn (2018), Haltiwanger, Staiger, et al. (2024)
  2. Randomize children to grow up in treatment vs. control projects

- Use same matched diff-in-diff design to approximate first level of randomization

- Begin with a descriptive analysis of children's outcomes and then develop a quasi-experimental research design to approximate second level of randomization

Impact of Revitalization on Children's Incomes in Adulthood

Repeated Cross-Sections Based on Children Living in Public Housing



Note: Estimates control for parent income percentile, upward mobility in prior neighborhood, years in public housing, and project by award year FEs.

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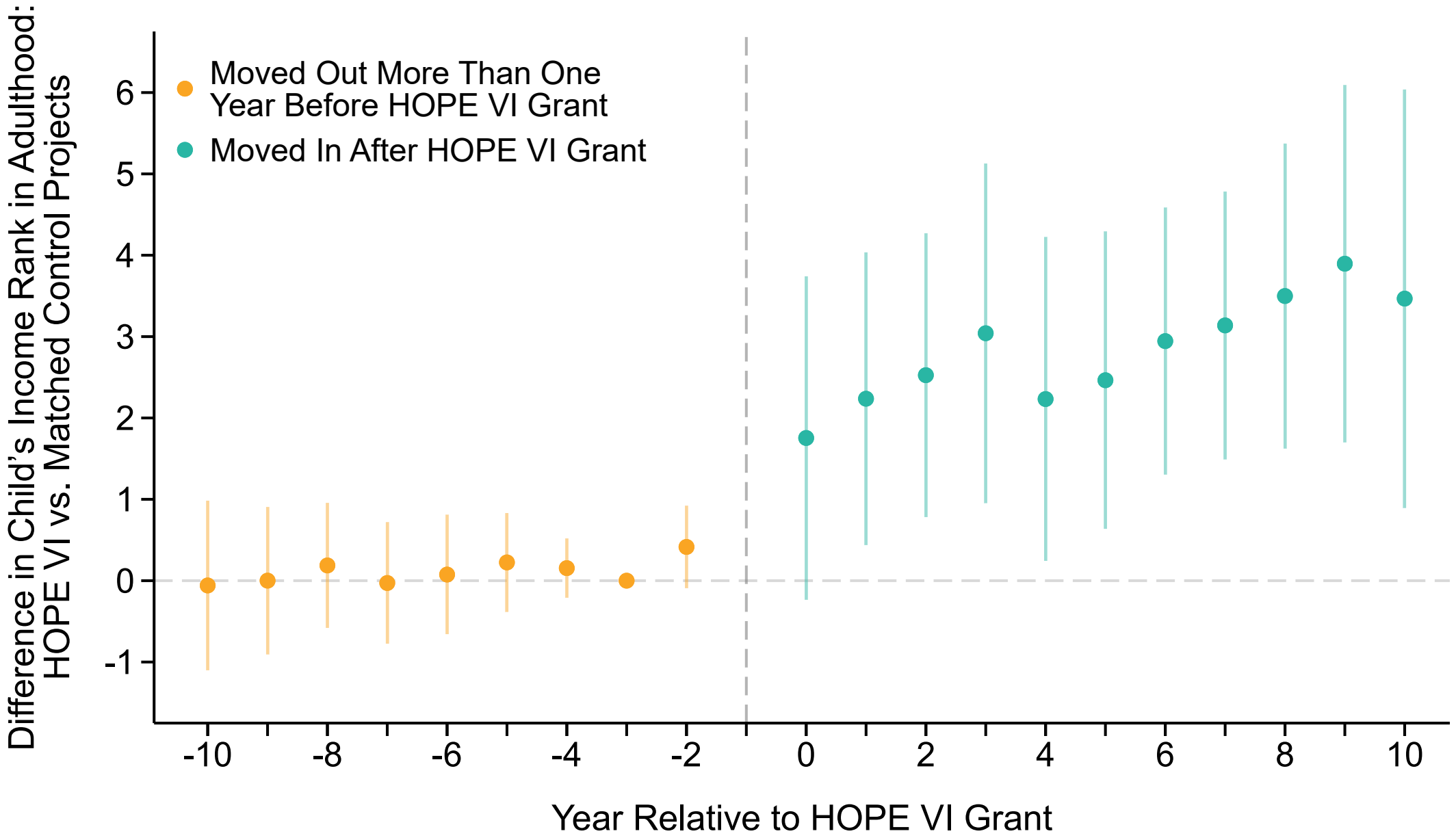

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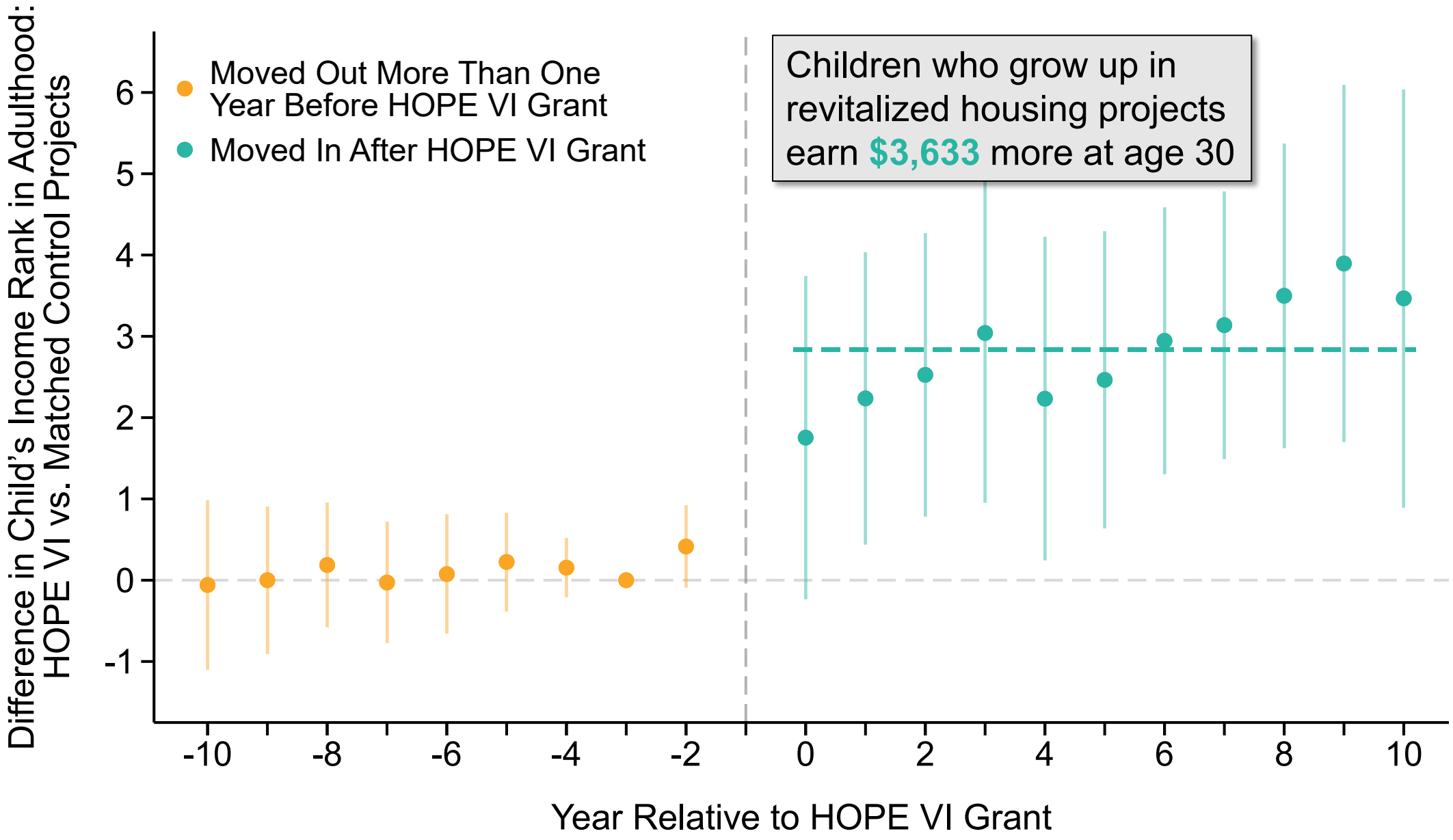
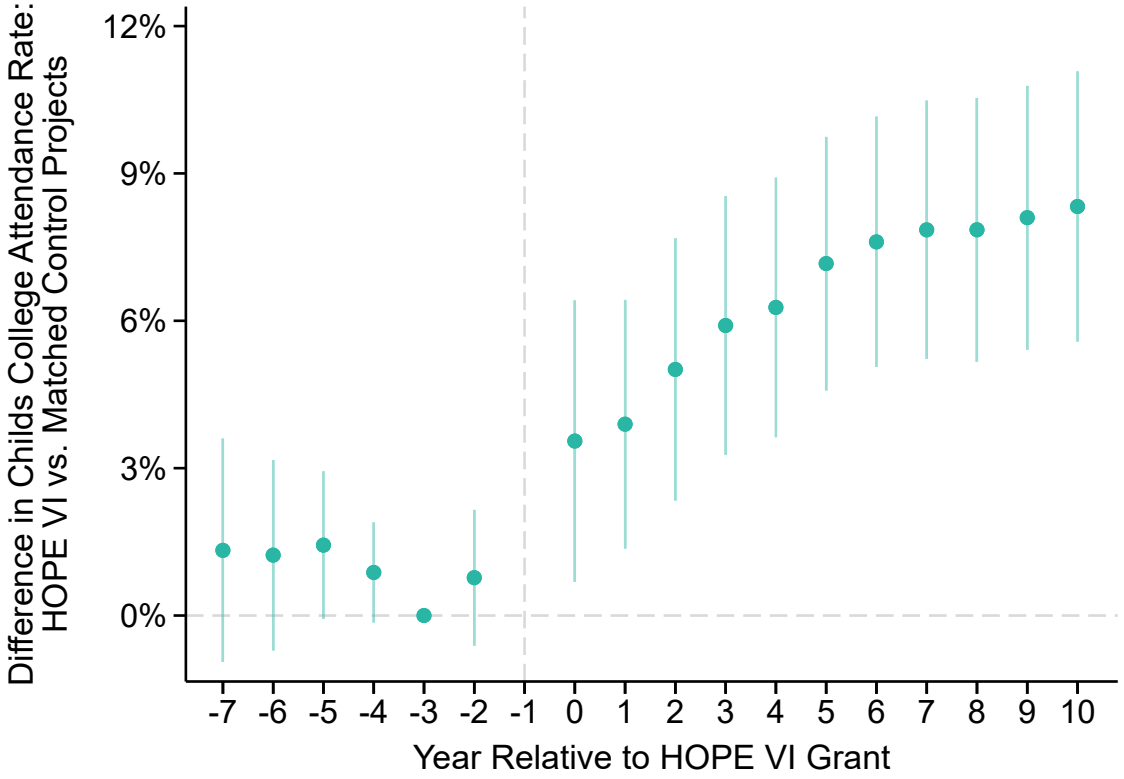


Note: Estimates control for parent income percentile, upward mobility in prior neighborhood, years in public housing, and project by award year FEs.

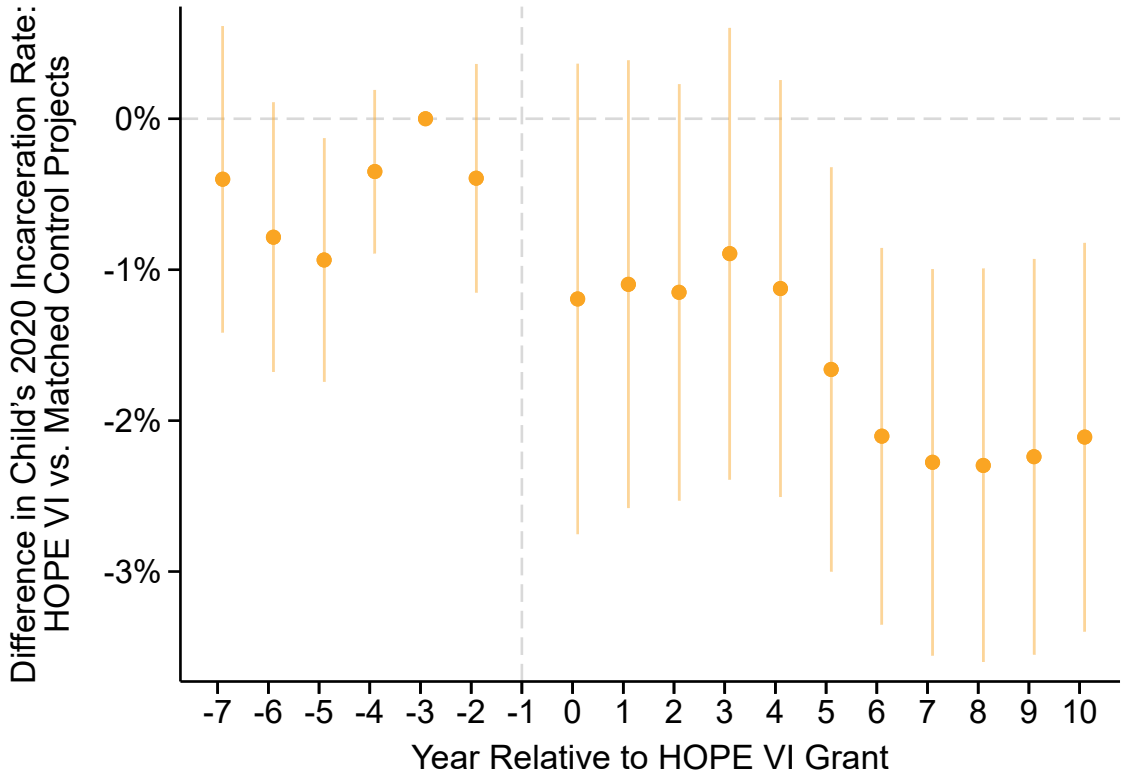
Impact of Revitalization on Children's Other Outcomes

Repeated Cross-Sections Based on Children Living in Public Housing

College Attendance



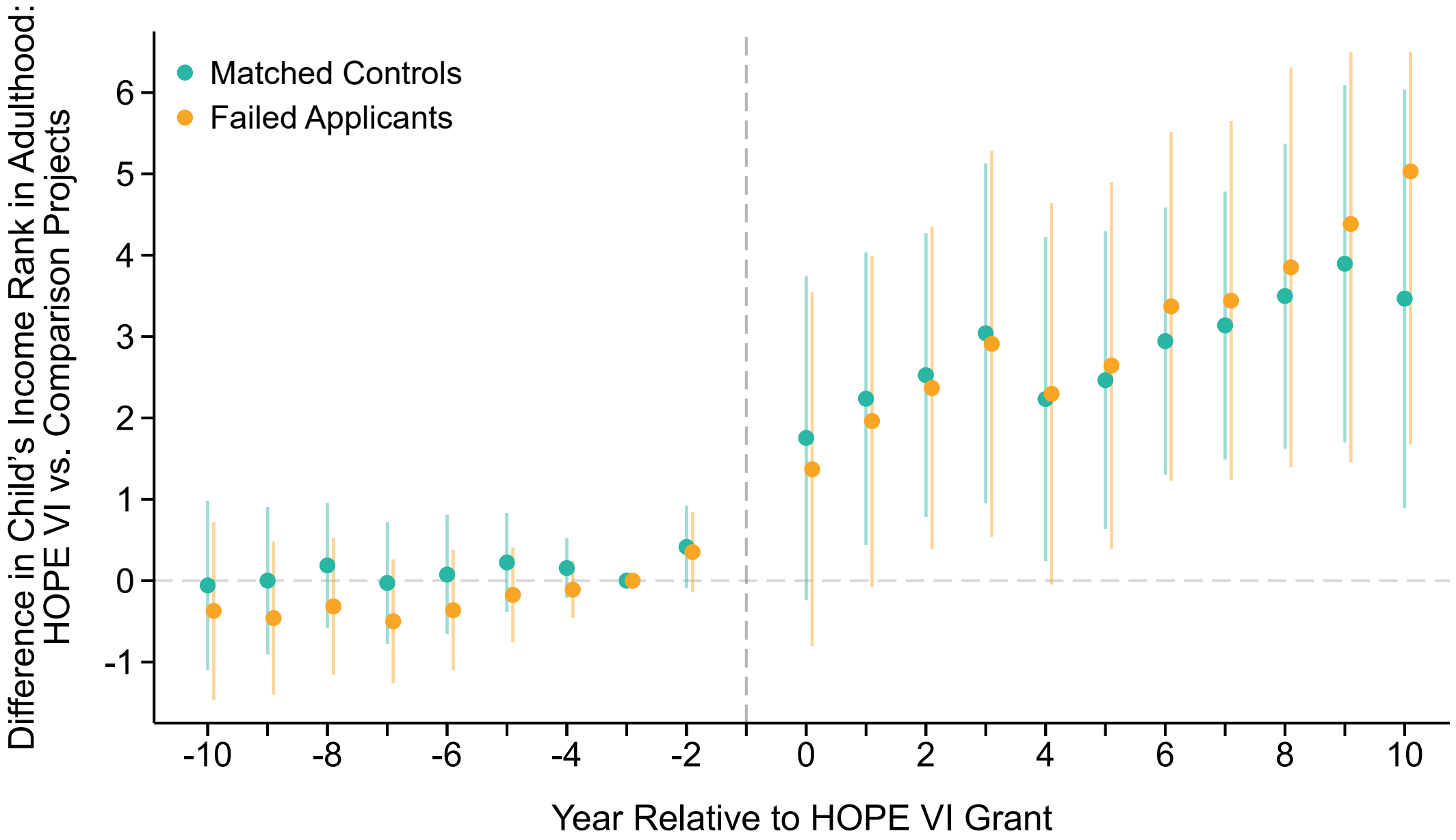
Incarceration (Boys)



Note: Estimates control for parent income percentile, upward mobility in prior neighborhood, years in public housing, and project by award year FEs.

Robustness of Impact on Children to Using Alternative Comparison Groups

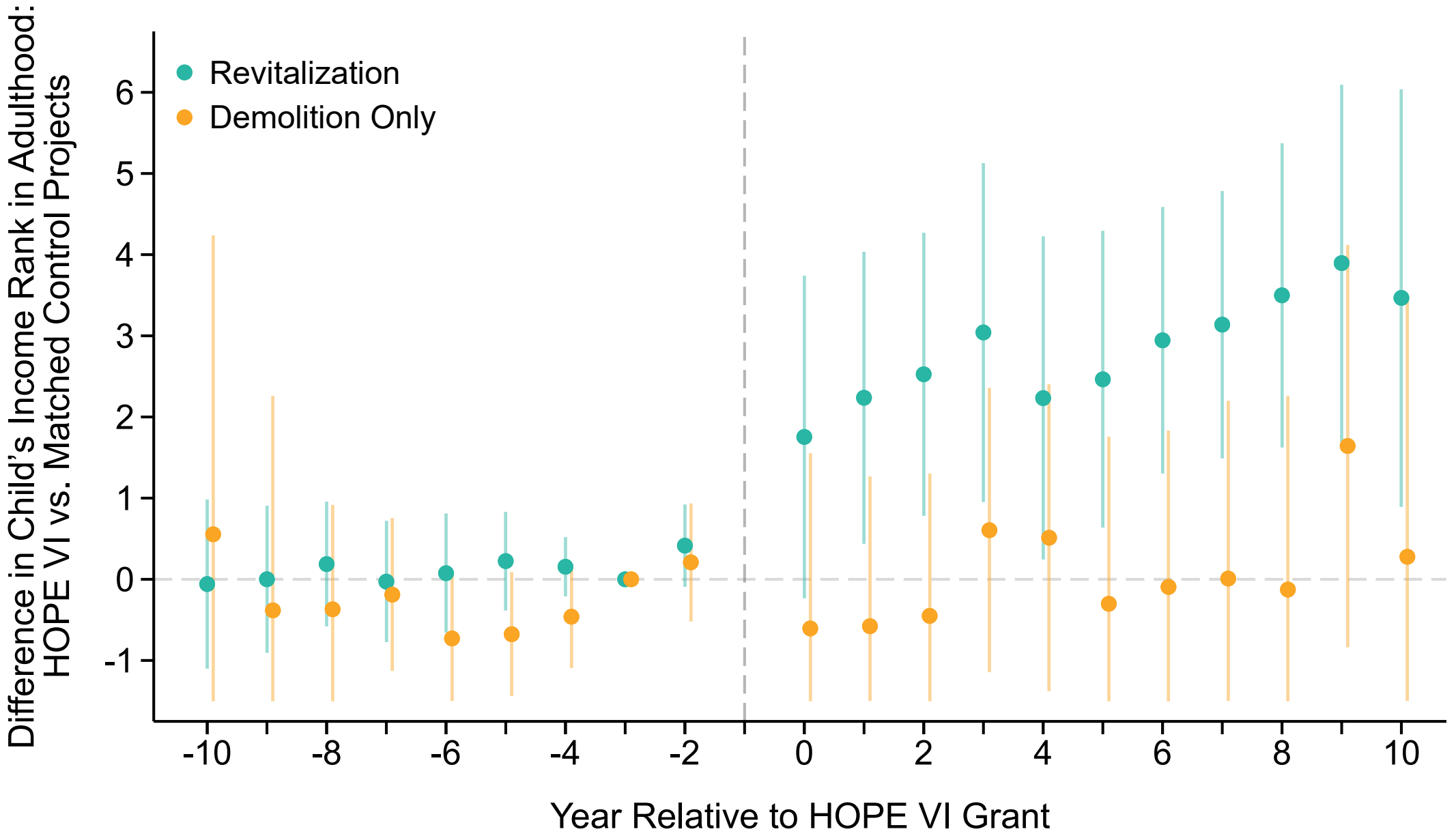
Repeated Cross-Sections Based on Children Living in Public Housing Before, During, or After Award



Note: Estimates control for parent income percentile, upward mobility in prior neighborhood, years in public housing, and project by award year FEs.

Impact of Demolition-Only Grants on Children's Incomes in Adulthood

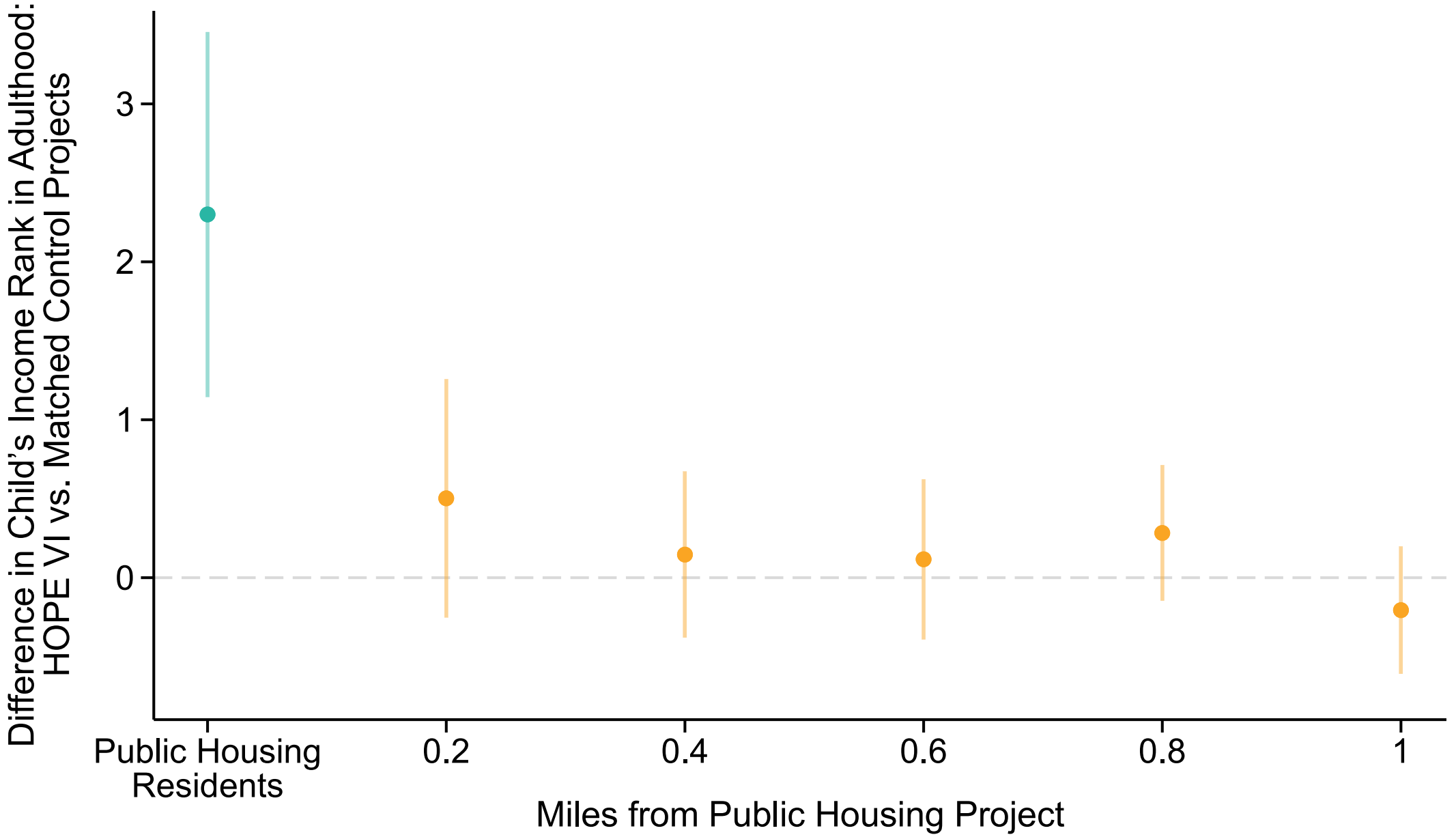
Repeated Cross-Sections Based on Children Living in Partially Demolished Projects



Note: Estimates control for parent income percentile, upward mobility in prior neighborhood, years in public housing, and project by award year FEs.

Effect of HOPE VI on Children's Earnings in Surrounding Neighborhoods

For Children Living Within One Mile of the Public Housing Project Before or After Award



Note: Estimates control for parent income percentile, upward mobility in prior neighborhood, years in public housing, and project by award year FEs.

Two Explanations for the Improvements in Long-Run Outcomes

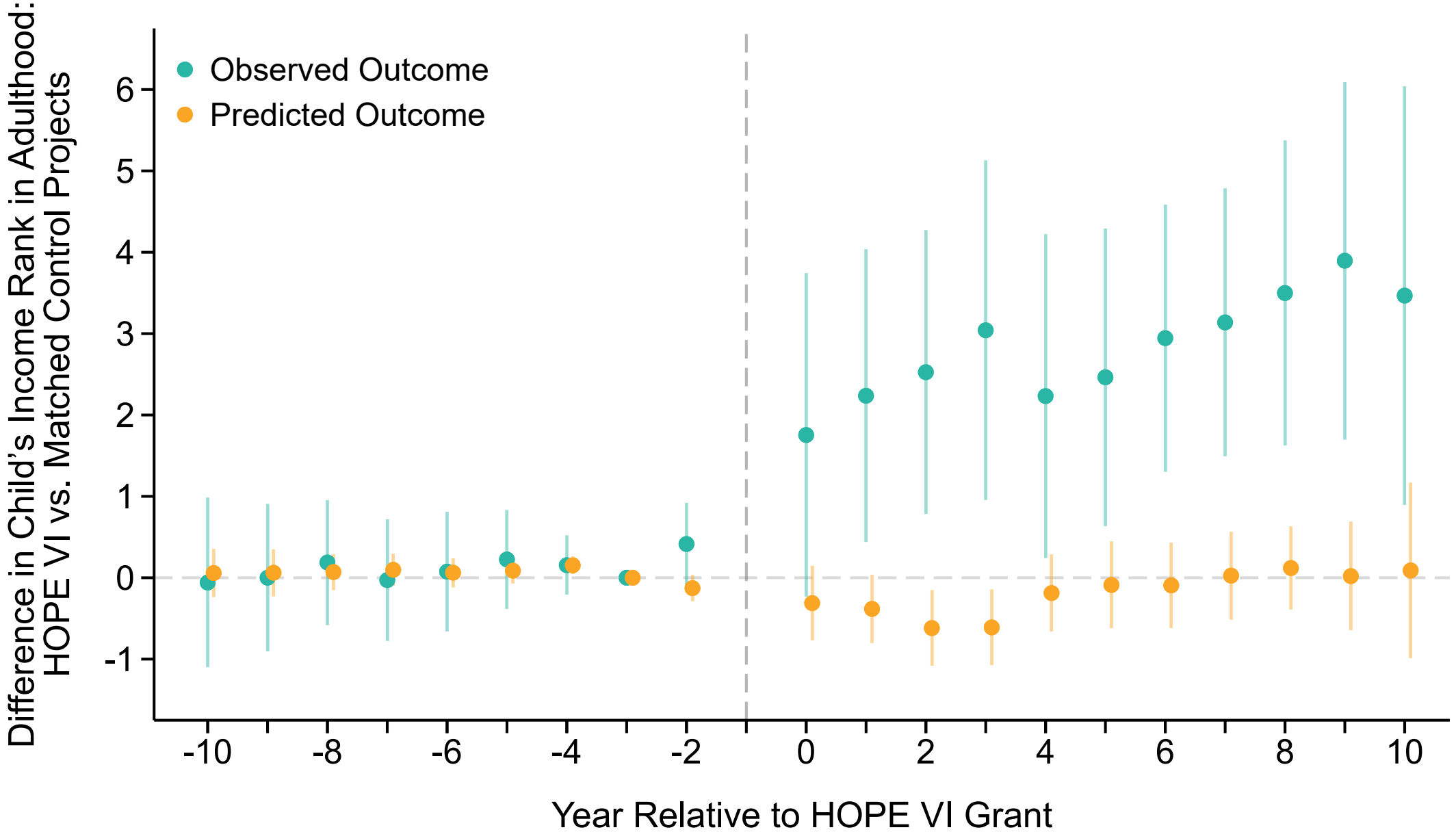
Causal Effects of Exposure to Better Neighborhoods

Positive Selection into Revitalized Public Housing Units

Use two methods to test between selection and causal effects

Selection on Observables: Trends in Predicted Outcomes

Income Predicted Based on Demographic Characteristics and Additional Information in the HUD Records



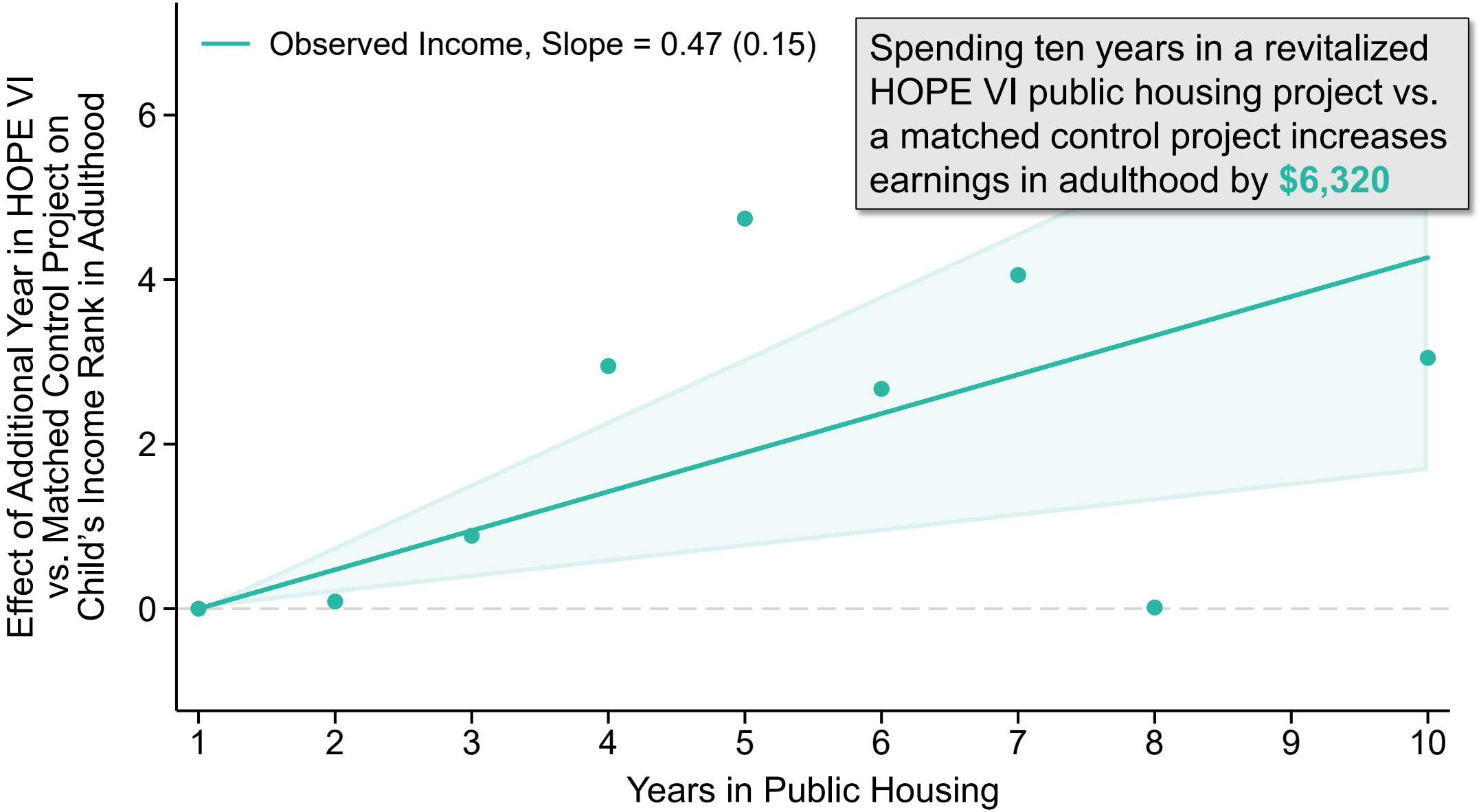
Note: Income predicted using parent income percentile, upward mobility in prior neighborhood, years in public housing, sex, race, year of birth, indicators for disability, elderly, female headed household, homelessness, hardship status, household size, and an indicator for being observed in more than one project.

Selection on Unobservables: Movers Research Design

- Examine how children's outcomes vary with years of exposure to revitalized vs. non-revitalized public housing
  - Consider a set of children of different ages who move into the same public housing project in the same year
  - Measure how earnings in adulthood vary with years they spend in public housing
  - Compare gradient in HOPE VI and control projects to identify causal effect of additional year of childhood exposure to HOPE VI project
- Identification assumption: relationship between unobservables and years in public housing is the same in HOPE VI and matched controls

Effect of Additional Year in HOPE VI vs. Matched Control Project

For Children Who Moved Into HOPE VI or Matched Control Public Housing Projects After the Award



Note: Estimates control for project by award year by year of move in FEs.

Effect of Additional Year in HOPE VI vs. Matched Control Project

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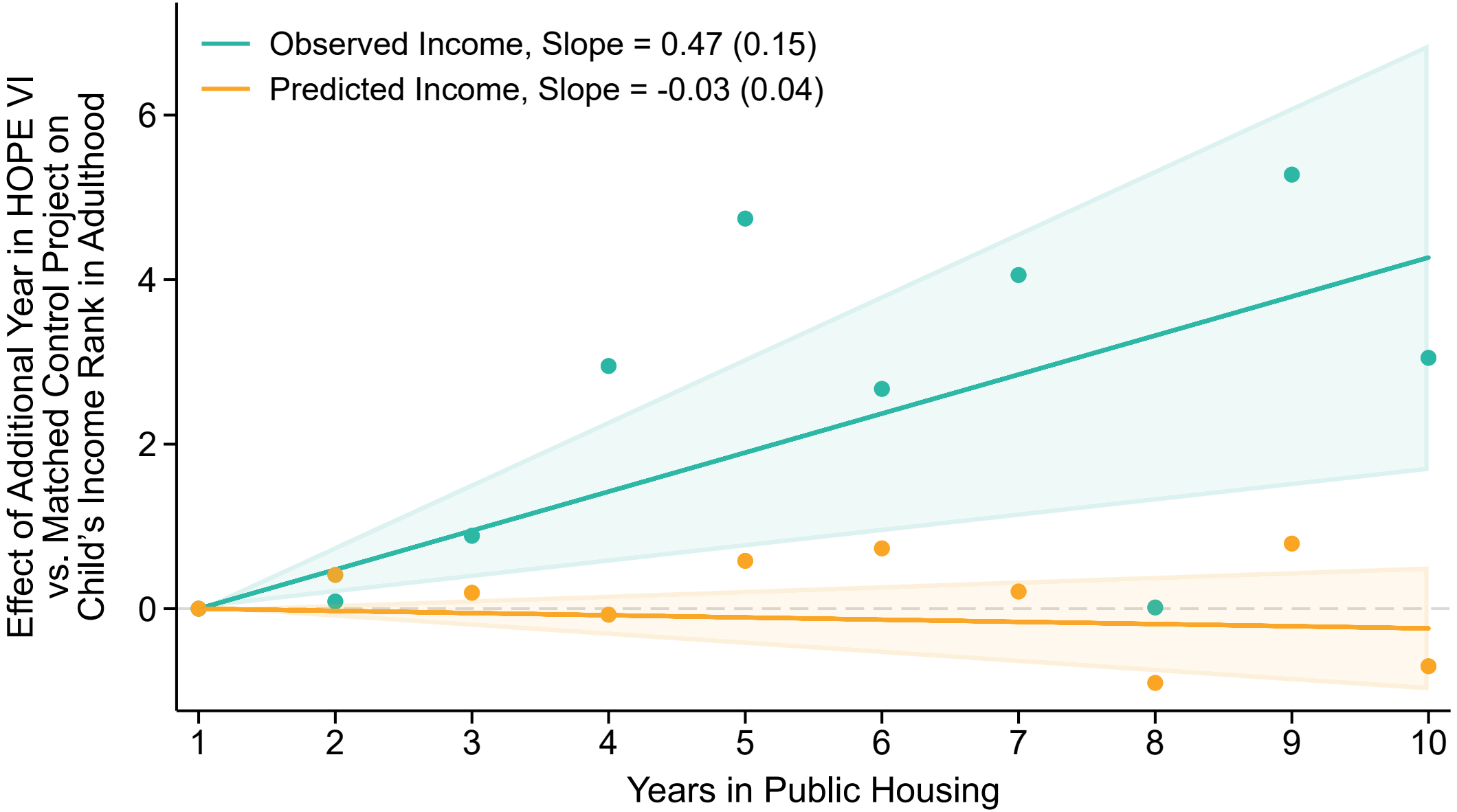
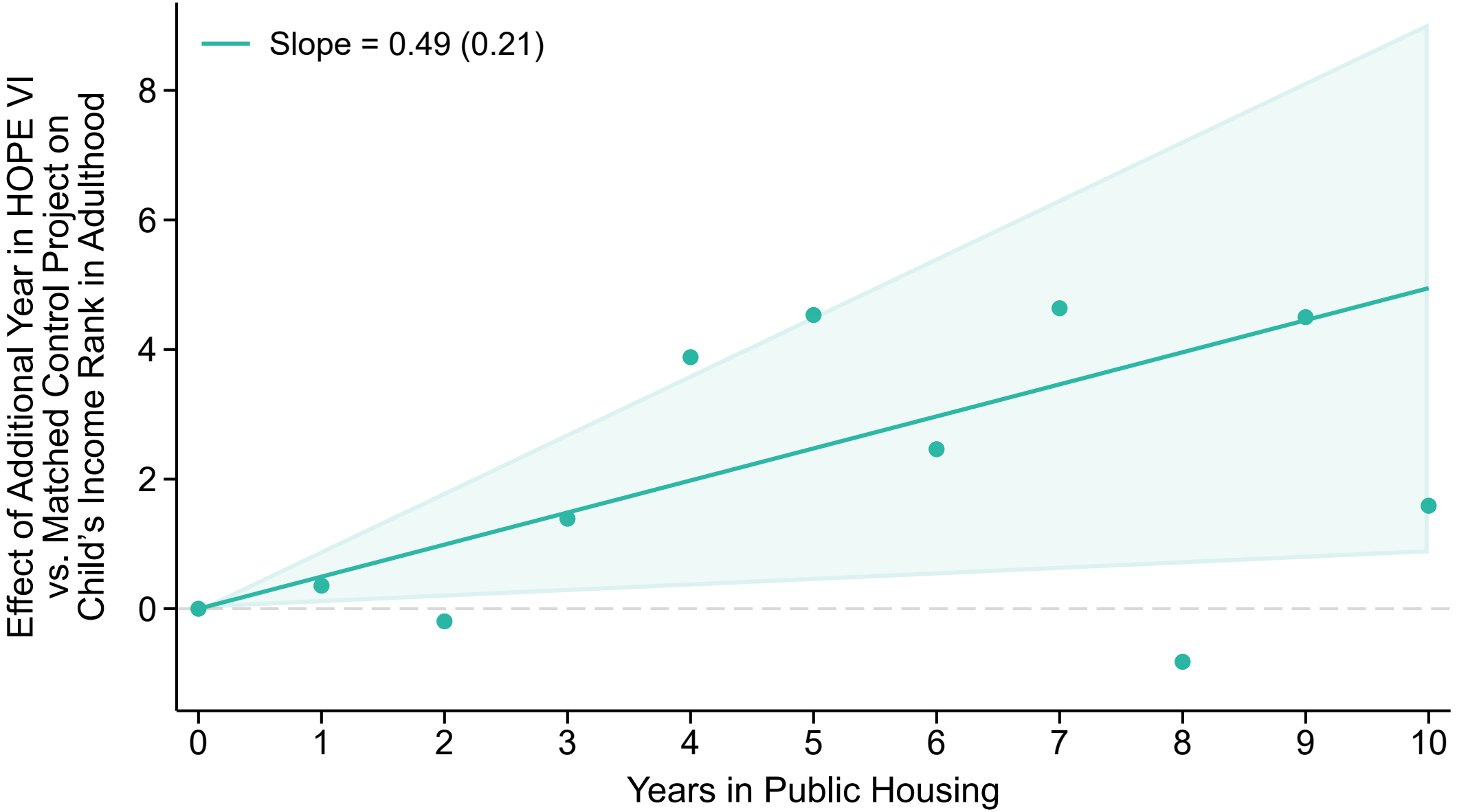


Note: Estimates control for project by award year by year of move in FEs.

Sibling Comparisons: Effect of Additional Year in HOPE VI vs. Controls

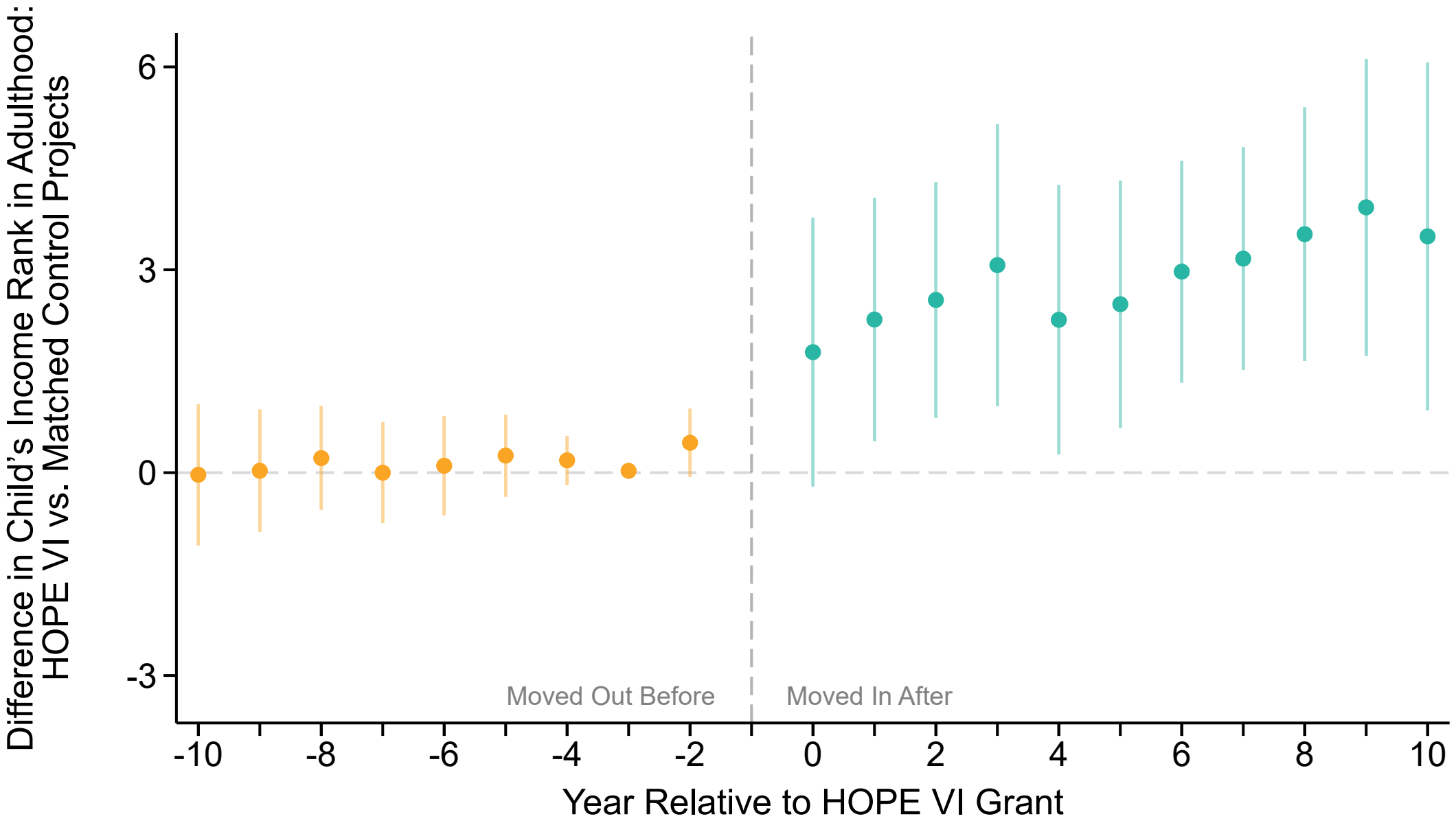
Add Household Fixed Effects to Baseline Movers Specification



Note: Estimates control for household FEs.

Impact of Revitalization on Children's Incomes in Adulthood

Repeated Cross-Sections



Impact of Revitalization on Children's Incomes in Adulthood

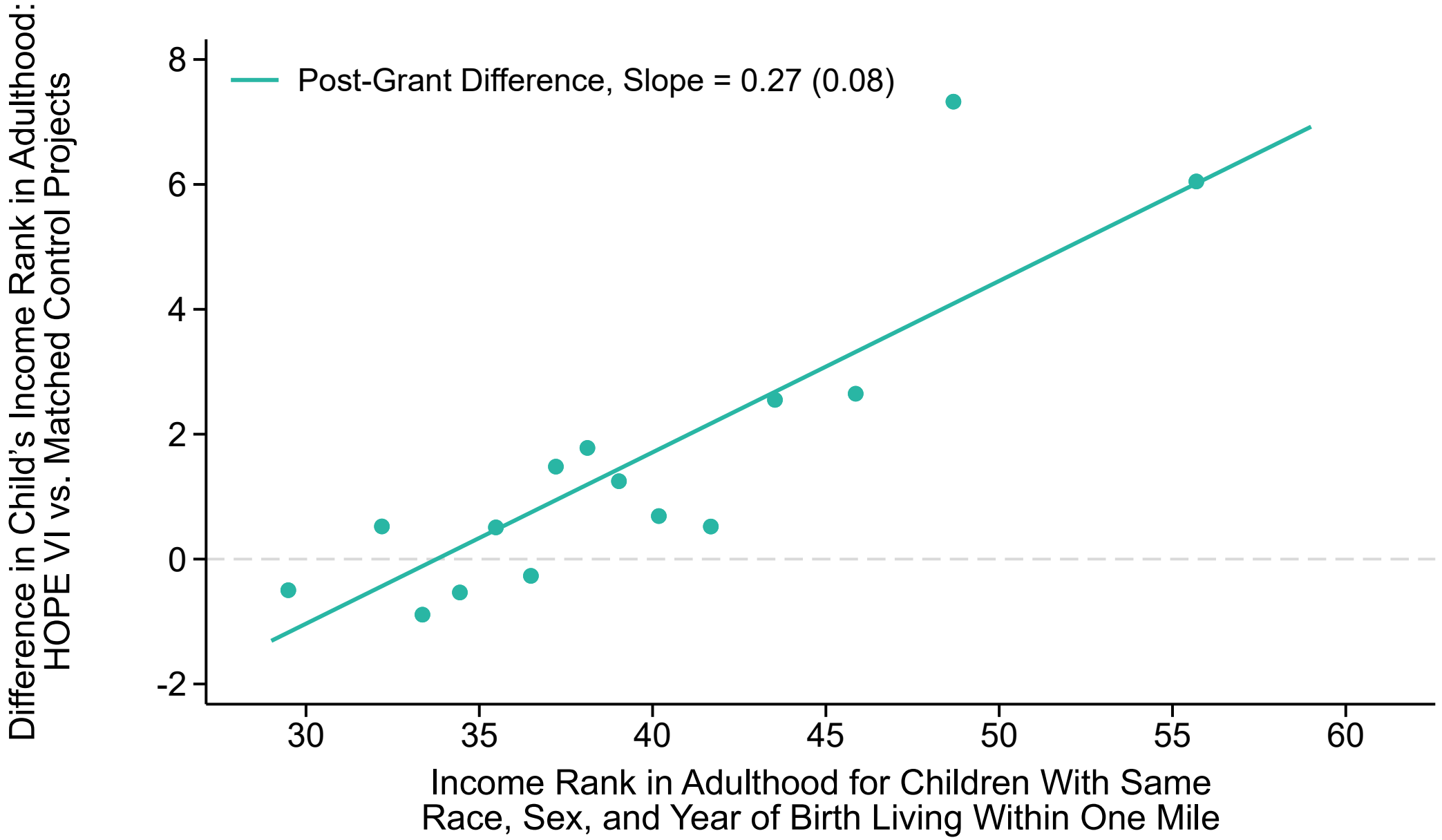
Comparison of Estimators: Repeated Cross-Sectional vs. Movers

Note: The predicted difference is the estimated effect from the movers design, scaled by the average number of years spent in public housing during childhood.

Mechanisms: The Role of Social Integration

Heterogeneity in Treatment Effects by Outcomes of Nearby Peers

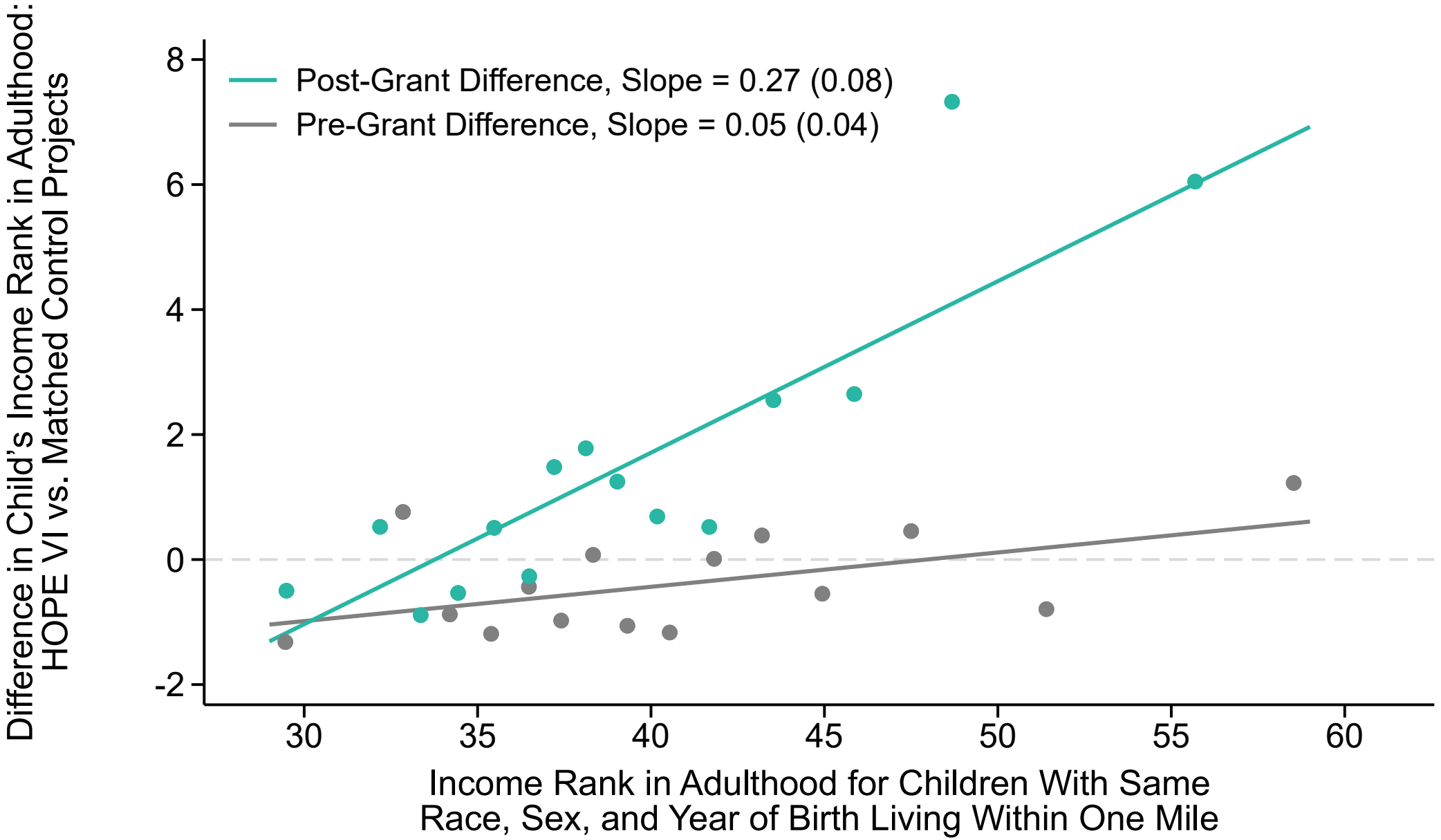
Children Living in HOPE VI and Matched Control Public Housing Projects After Award



Note: Estimates control for parent income percentile, upward mobility in prior neighborhood, years in public housing, demographic group FEs, and revitalization FEs.

Heterogeneity in Treatment Effects by Outcomes of Nearby Peers

Children Living in HOPE VI and Matched Control Public Housing Projects Before or After Award



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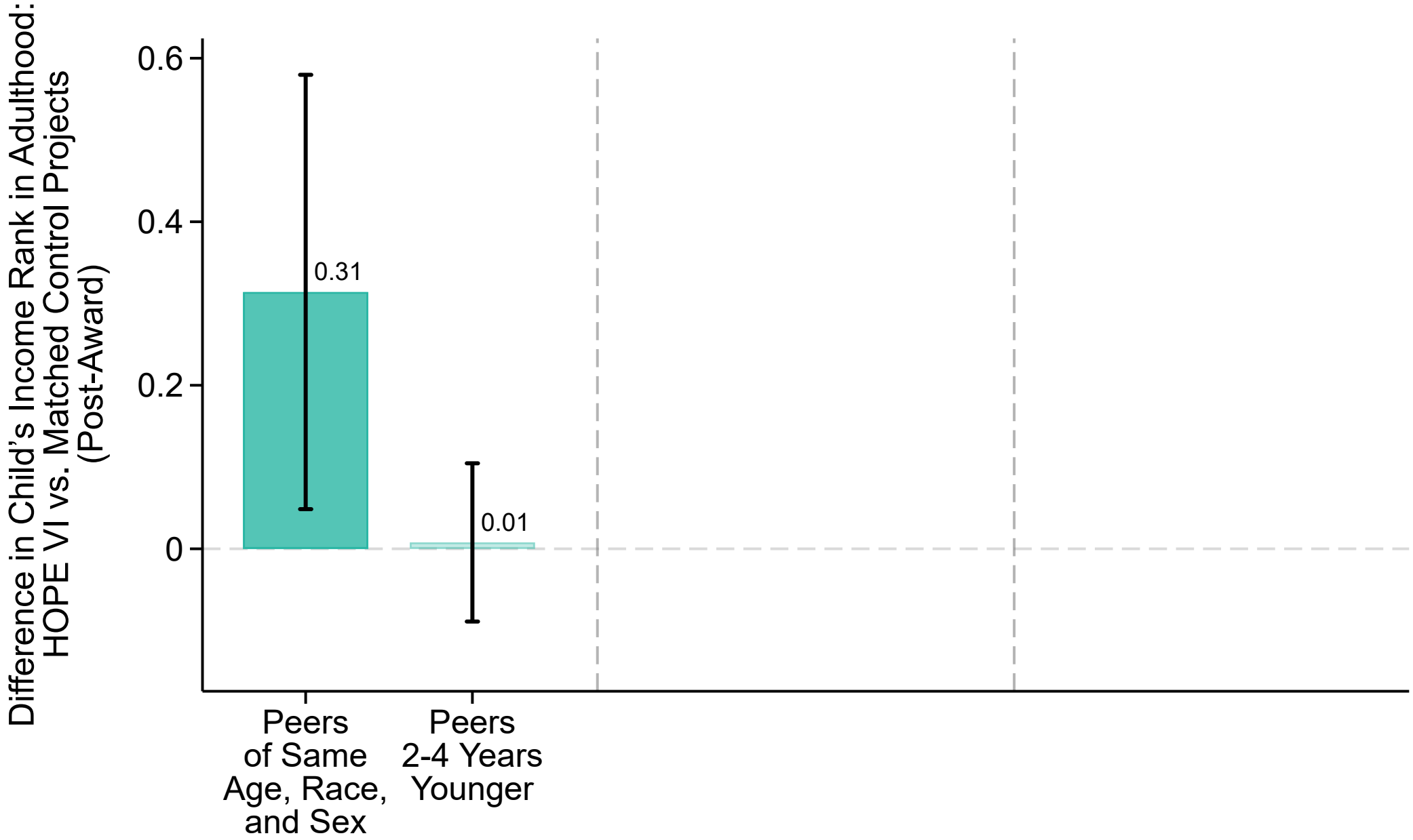
Heterogeneity in Treatment Effects by Peer Outcomes by Cohort, Race, & Sex

Children Living in HOPE VI and Matched Control Public Housing Projects After Award



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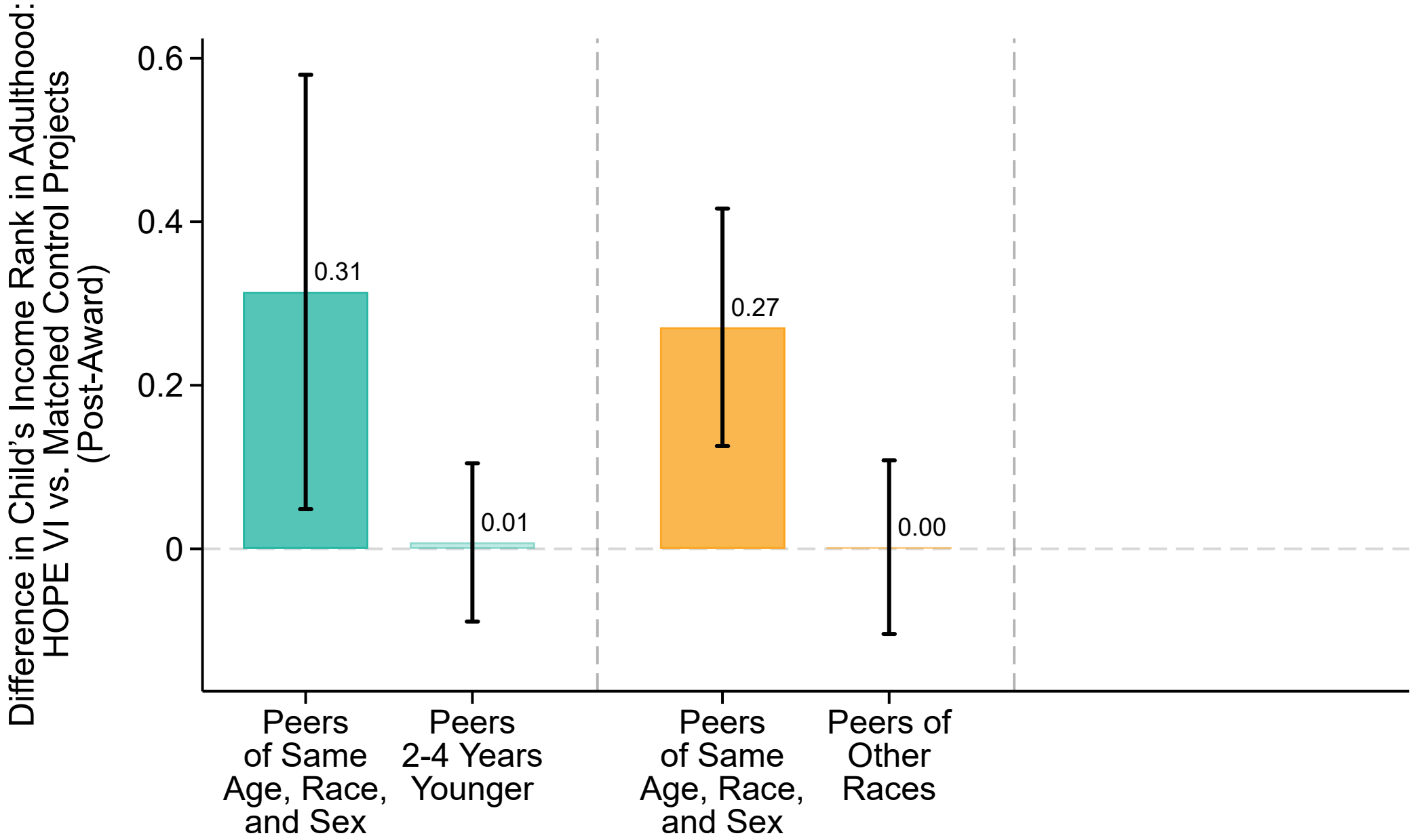

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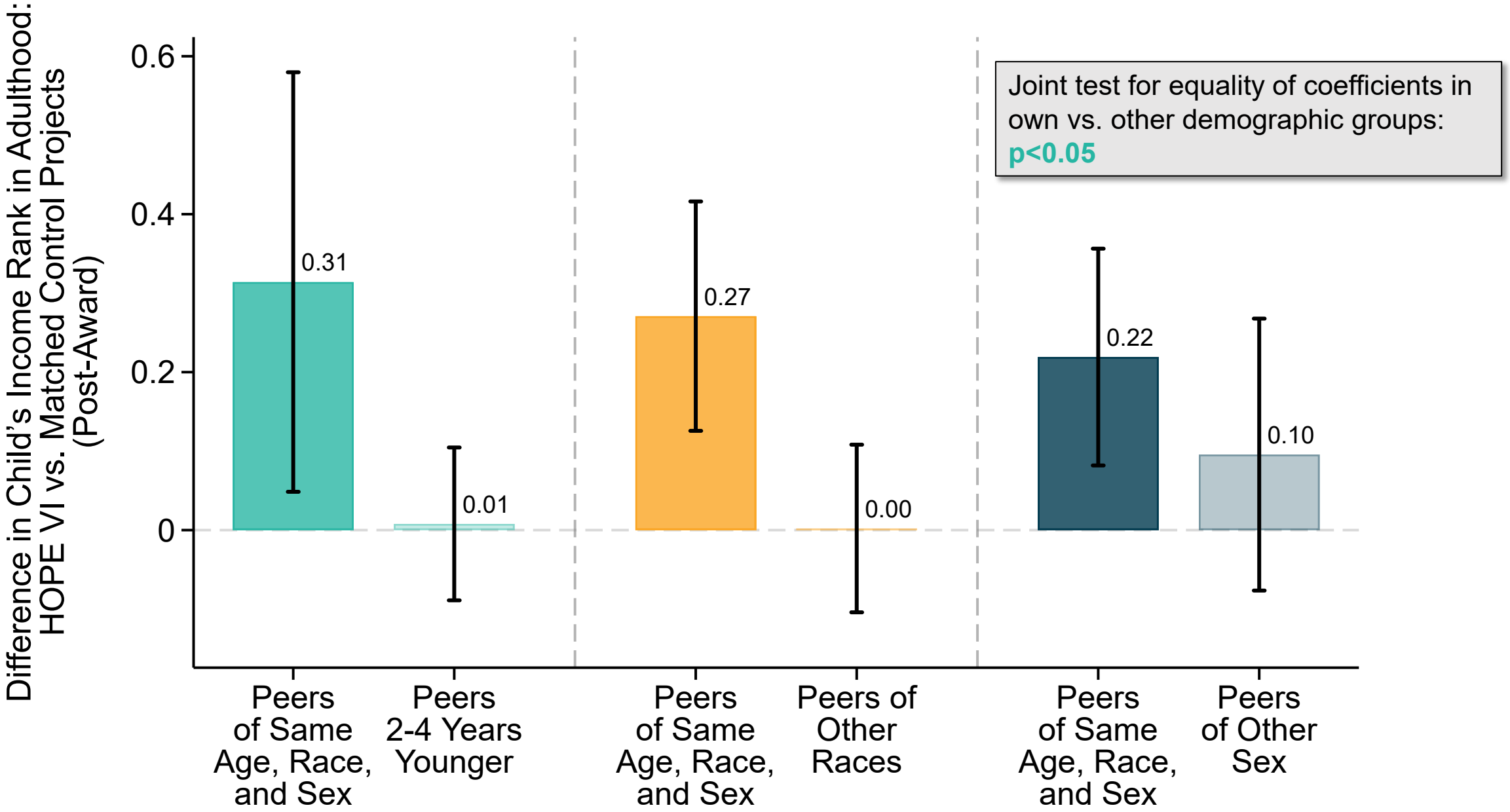


Note: Estimates control for parent income percentile, upward mobility in prior neighborhood, years in public housing, demographic group FEs, and revitalization FEs.

Why Does Integration Matter: Peer Effects or Common Shocks?

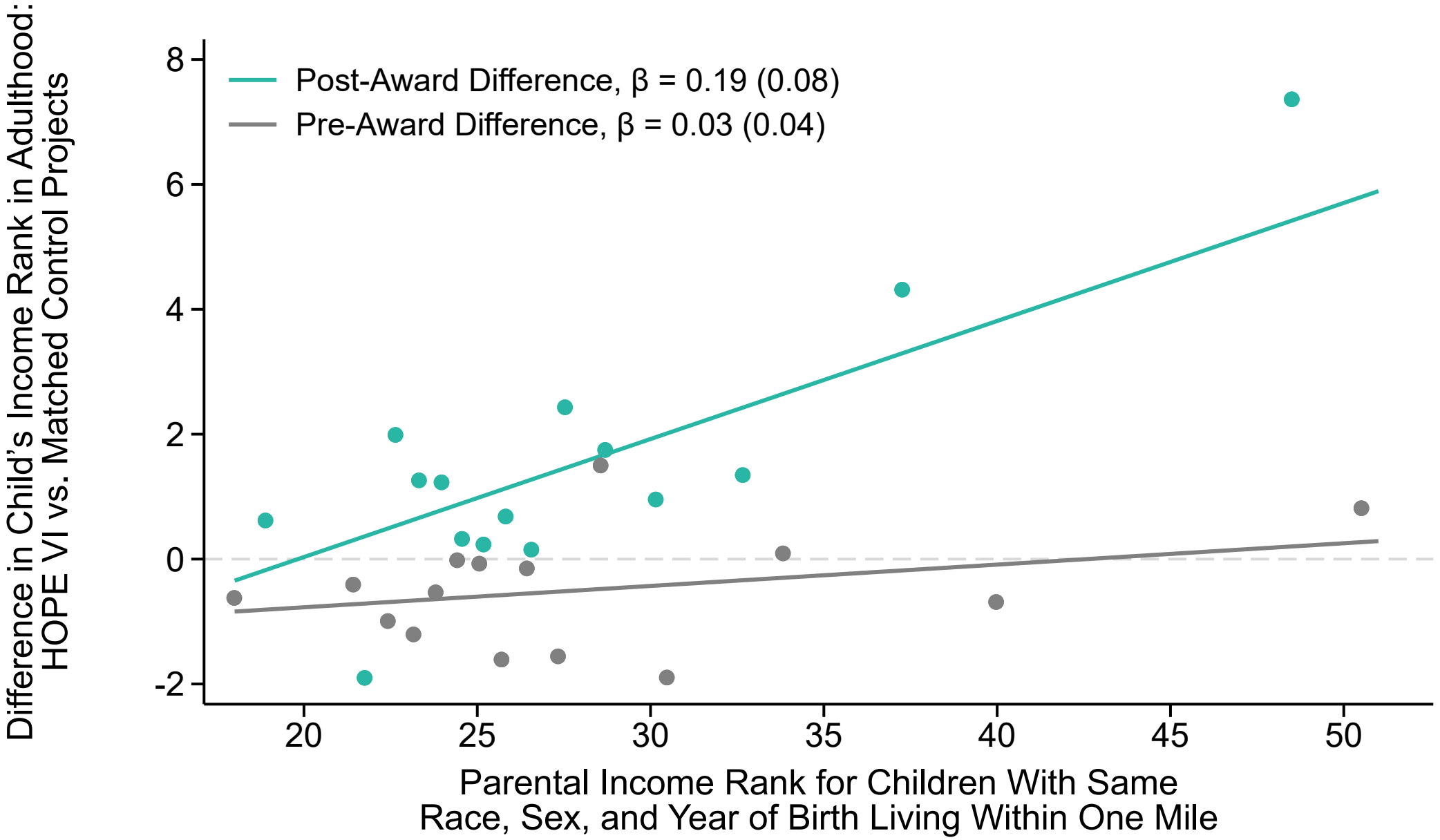
Peer Effects

Common Shocks

Test between these explanations by examining heterogeneity by ex-ante parental income and directly analyzing social interaction

Heterogeneity in Treatment Effects by Parental Income of Nearby Peers

Children Living in HOPE VI and Matched Control Public Housing Projects Before or After Award



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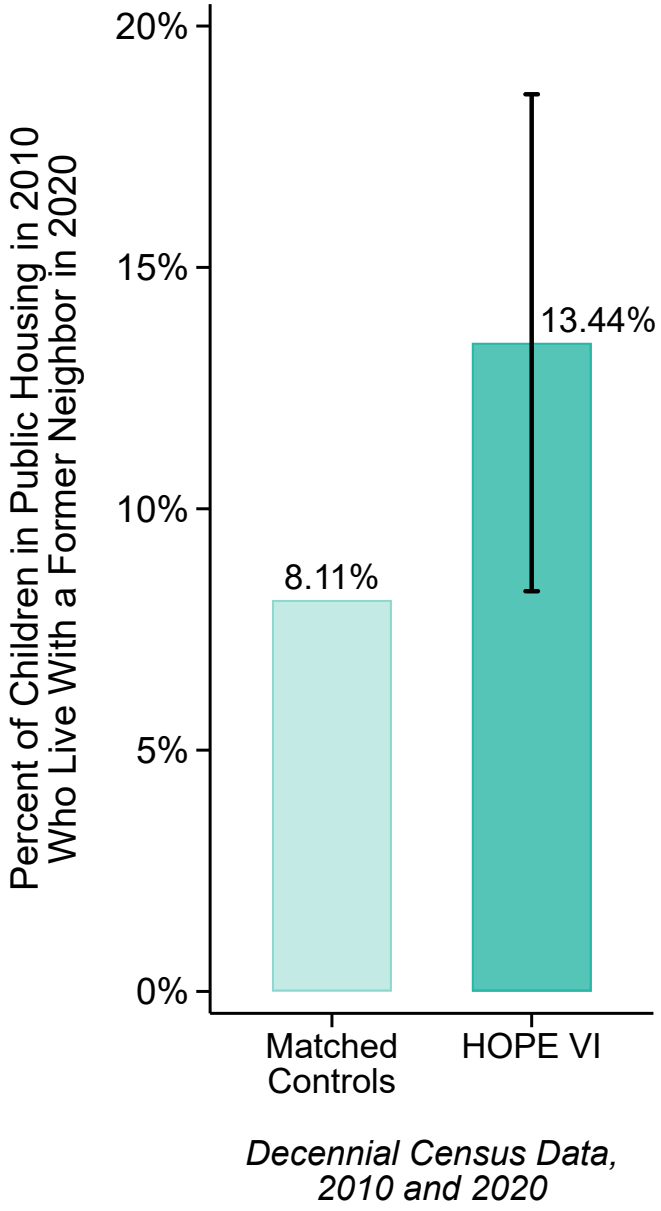
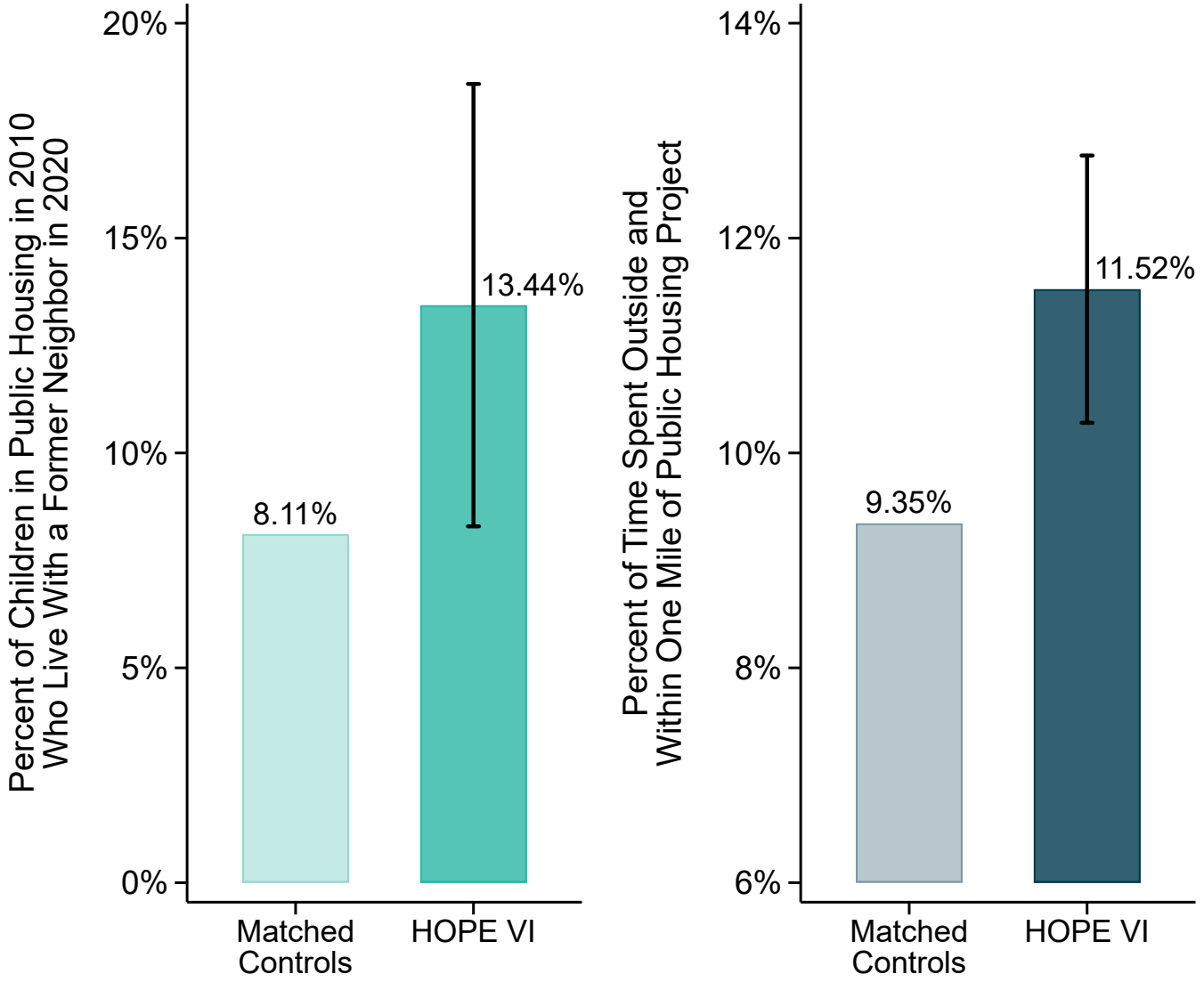
Treatment Effects on Direct Measures of Social Interaction

Cohabitation with Nearby Peers



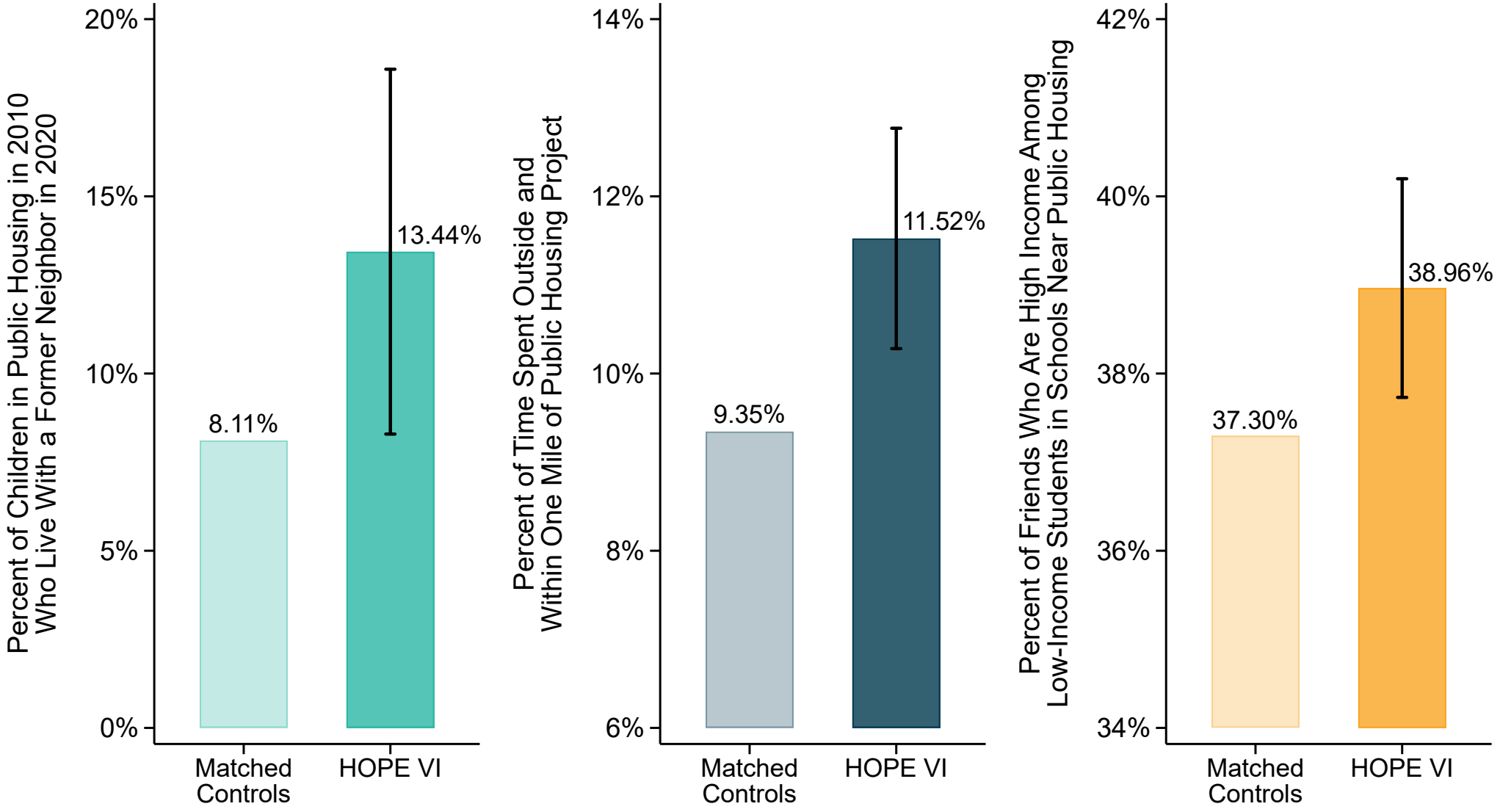
Treatment Effects on Direct Measures of Social Interaction

Cohabitation with Nearby Peers, Time Spent in Surrounding Neighborhood



Treatment Effects on Direct Measures of Social Interaction

Cohabitation with Nearby Peers, Time Spent in Surrounding Neighborhood, and Cross-Class Friendships



Beyond HOPE VI: Implications for Increasing Upward Mobility

Analyzing Implications Beyond Public Housing Sites

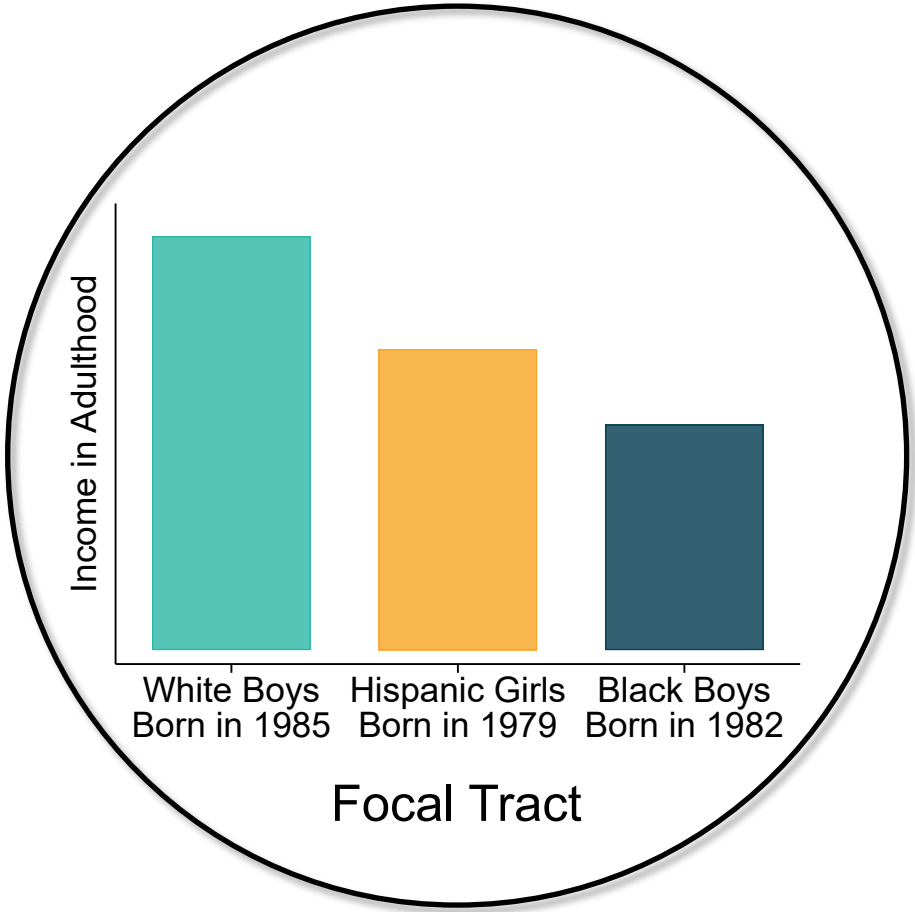
- HOPE VI improved outcomes by increasing social integration, as measured by the association between children's outcomes in focal and surrounding neighborhoods

- Are public housing sites unusually isolated, or is this social integration mechanism relevant more broadly across low-opportunity neighborhoods?

- To answer this question, measure relationship between children's outcomes and nearby peers' outcomes in each Census tract

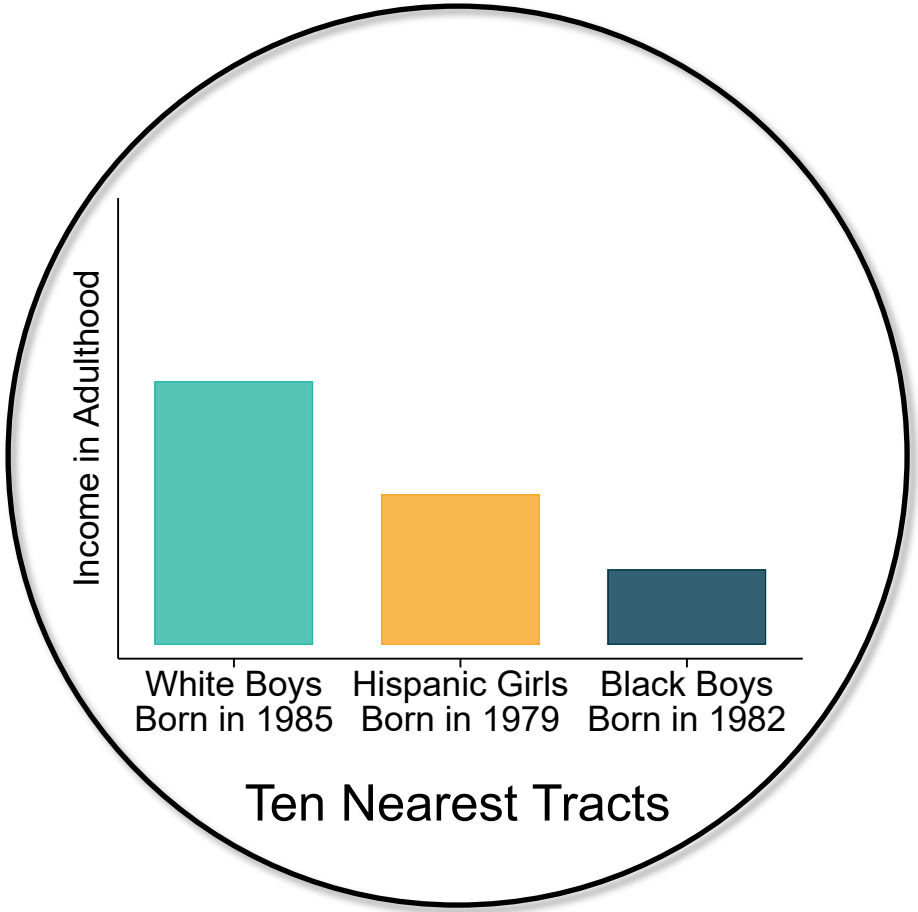
  - Regress adult income rank of children in each focal tract on adult income rank of peers (of same cohort, race, and sex) in surrounding tracts, controlling for tract and demographic fixed effects

Illustrative Example: Neighborhood Integration Index



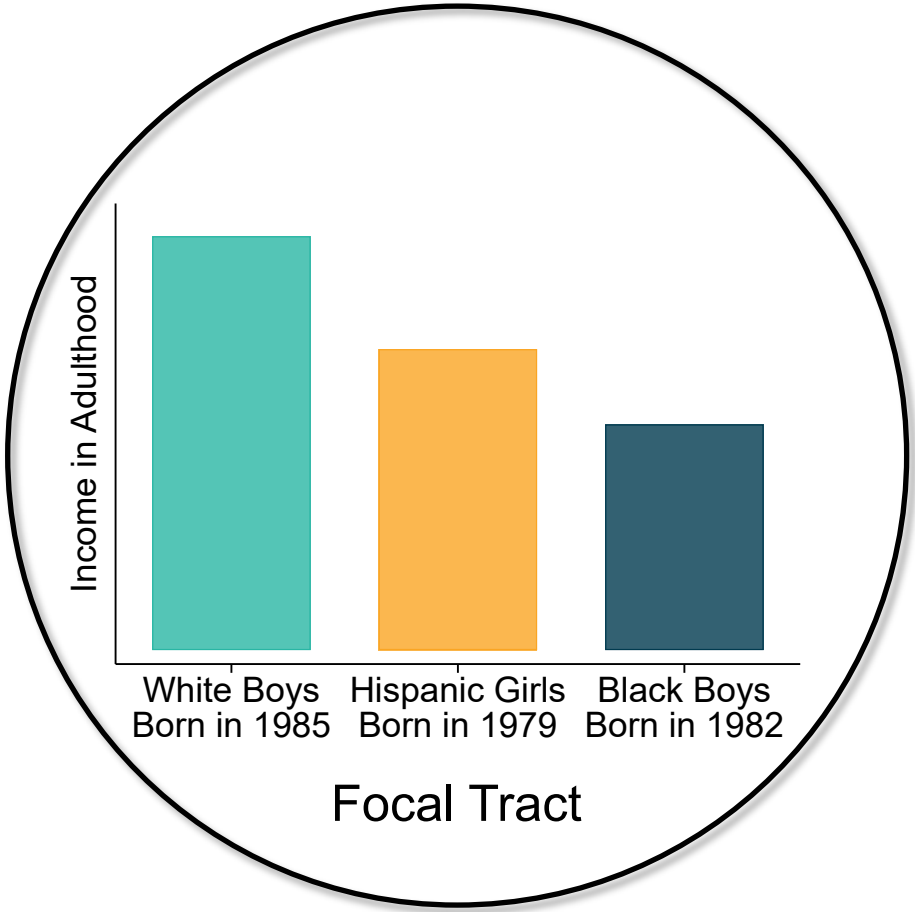
Integrated Neighborhoods

(High $\beta_{nn'}$)



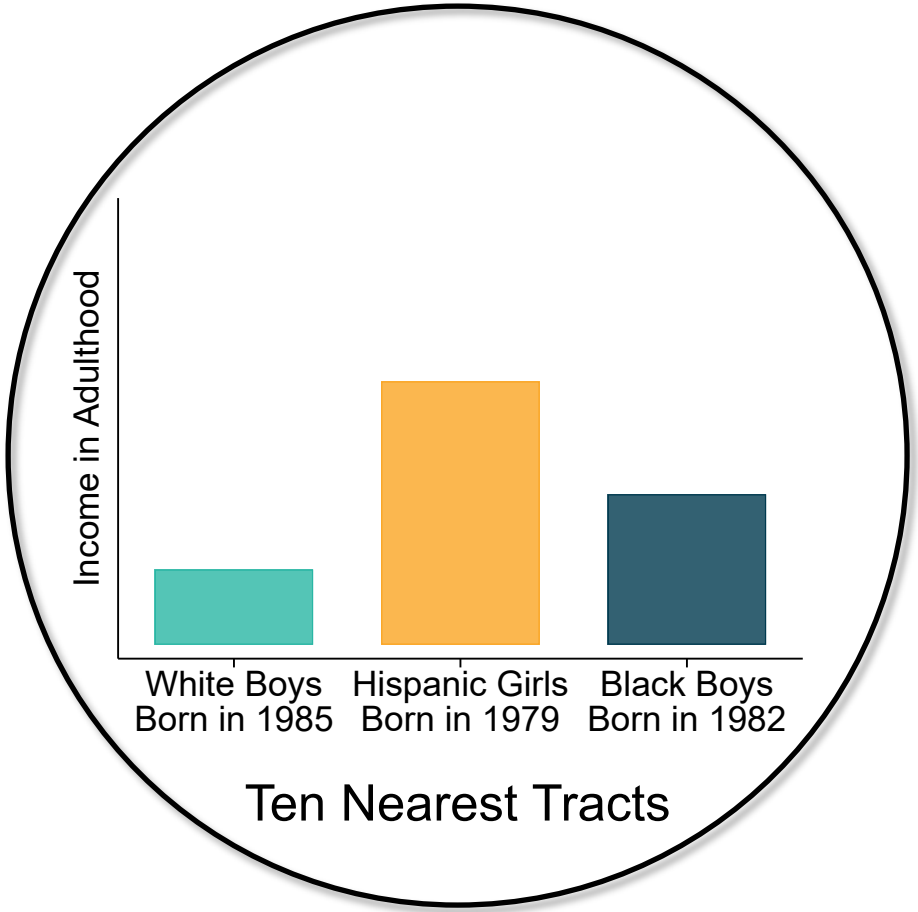
$$\underbrace{y_{nd}}_{\text{Adult Income}} = \underbrace{\beta_{nn'}\,\underbrace{\bar{y}_{n'd}}_{\text{Adult Income of Nearby Peers}}}_{} + \underbrace{\delta_n}_{\text{Tract FE}} + \underbrace{\theta_d}_{\text{Demographic Group FE}} + u_i$$

Illustrative Example: Neighborhood Integration Index



Unintegrated Neighborhoods

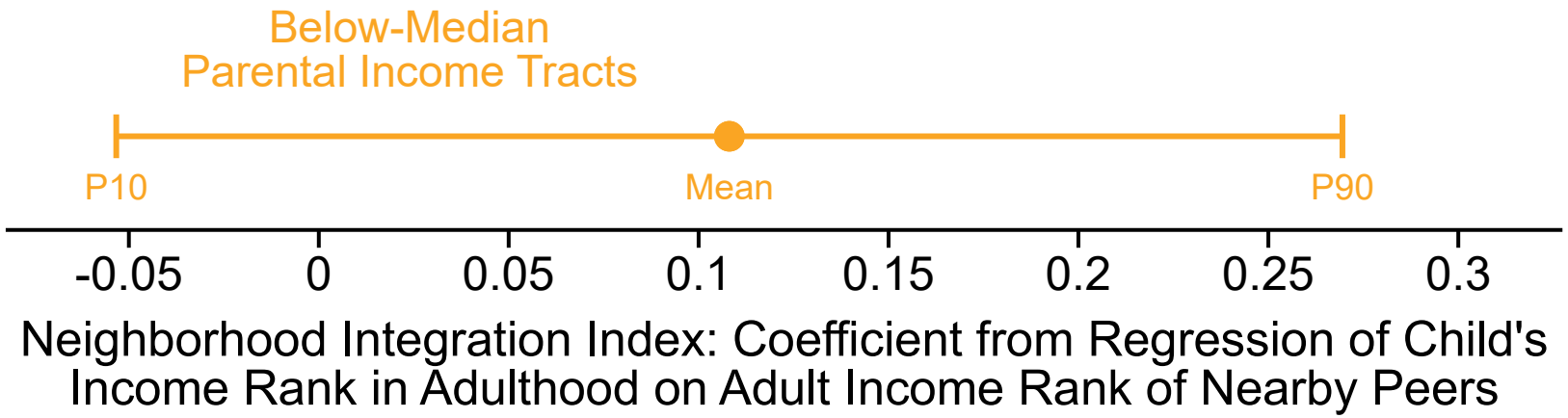
(Low $\beta_{nn'}$)



$$\underbrace{y_{nd}}_{\text{Adult Income}} = \underbrace{\beta_{nn'}\,\underbrace{\bar{y}_{n'd}}_{\text{Adult Income of Nearby Peers}}}_{} + \underbrace{\delta_n}_{\text{Tract FE}} + \underbrace{\theta_d}_{\text{Demographic Group FE}} + u_i$$

Correlation with Peer Outcomes, by Neighborhood

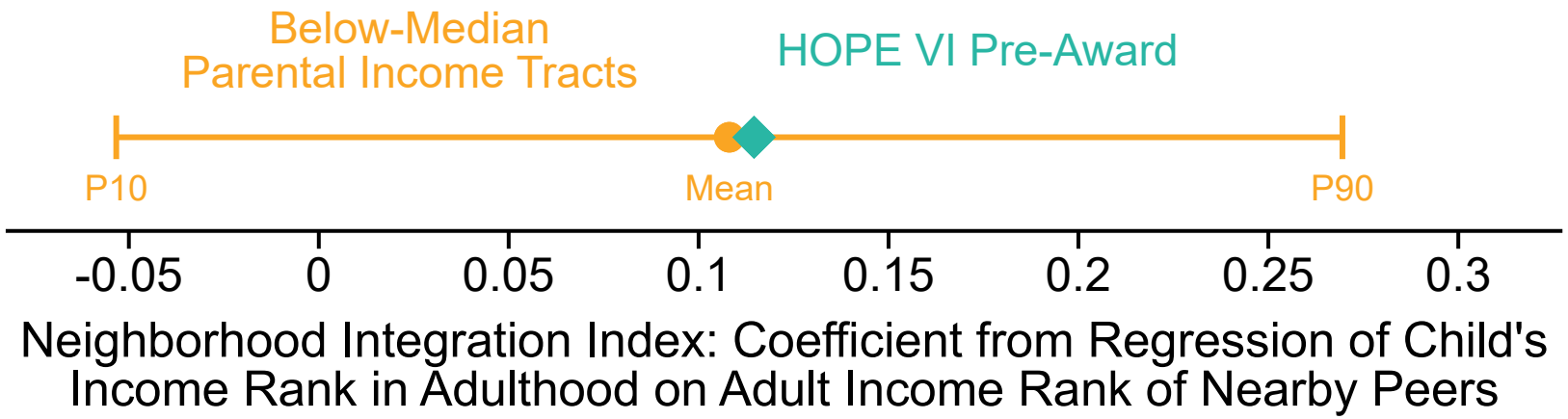
For Children Living in Low-Income Census Tracts



Note: The neighborhood integration index is shrunk toward the mean to adjust for measurement error.

Correlation with Peer Outcomes, by Neighborhood

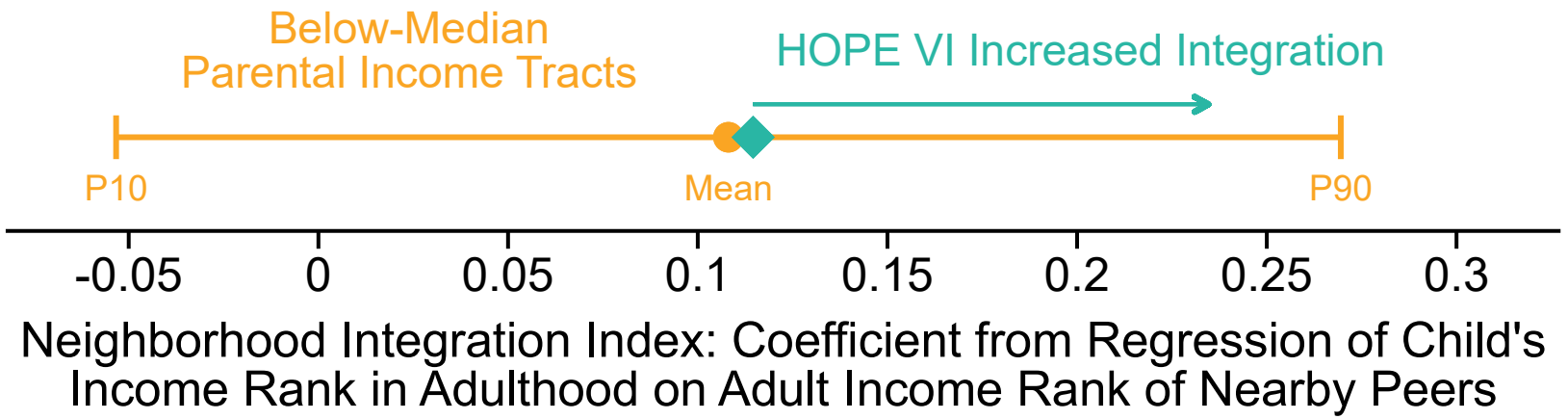
For Children Living in Low-Income Census Tracts



Note: The neighborhood integration index is shrunk toward the mean to adjust for measurement error.

Correlation with Peer Outcomes, by Neighborhood

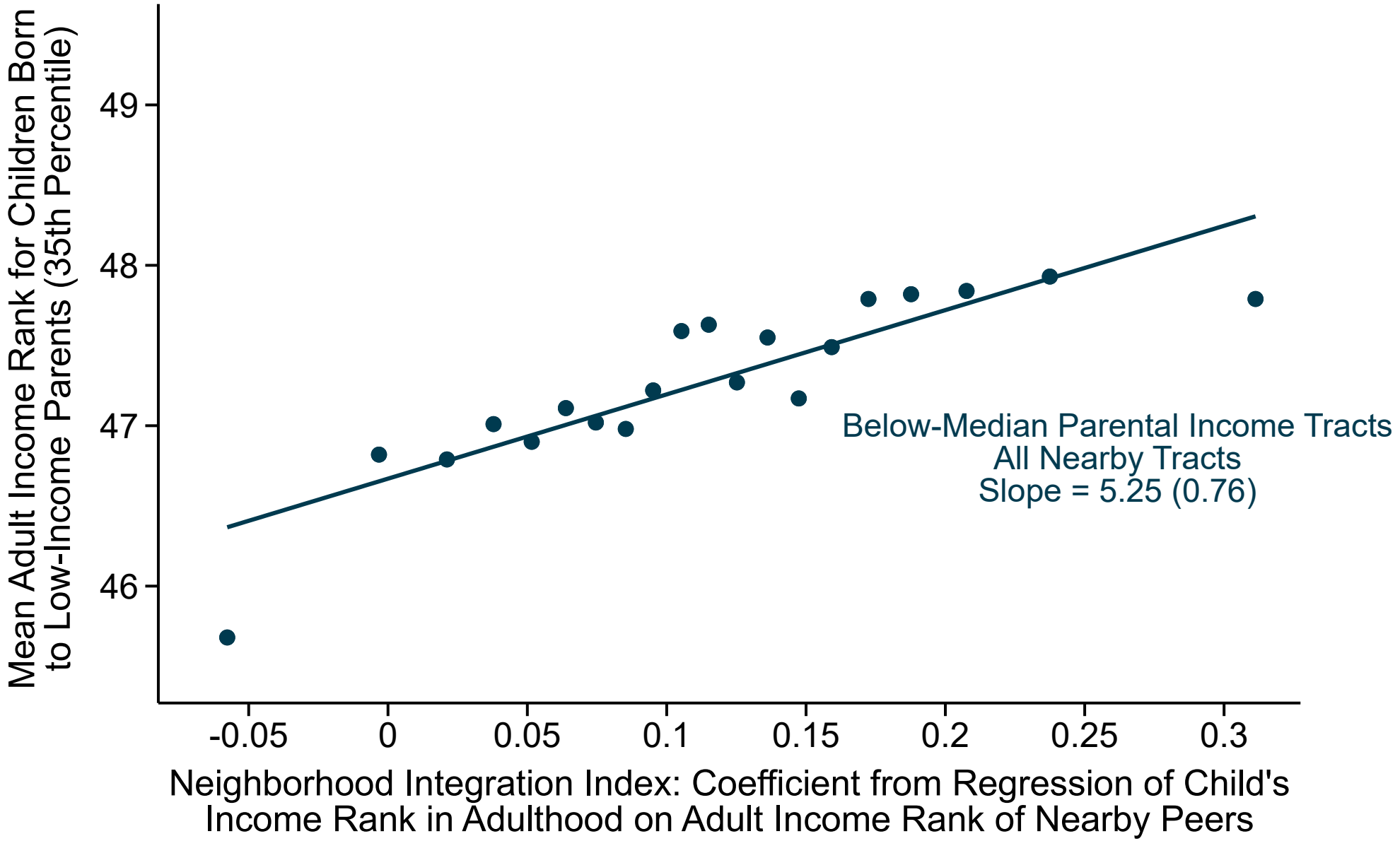
For Children Living in Low-Income Census Tracts



Note: The neighborhood integration index is shrunk toward the mean to adjust for measurement error.

Upward Income Mobility vs. Correlation with Peer Outcomes, by Neighborhood

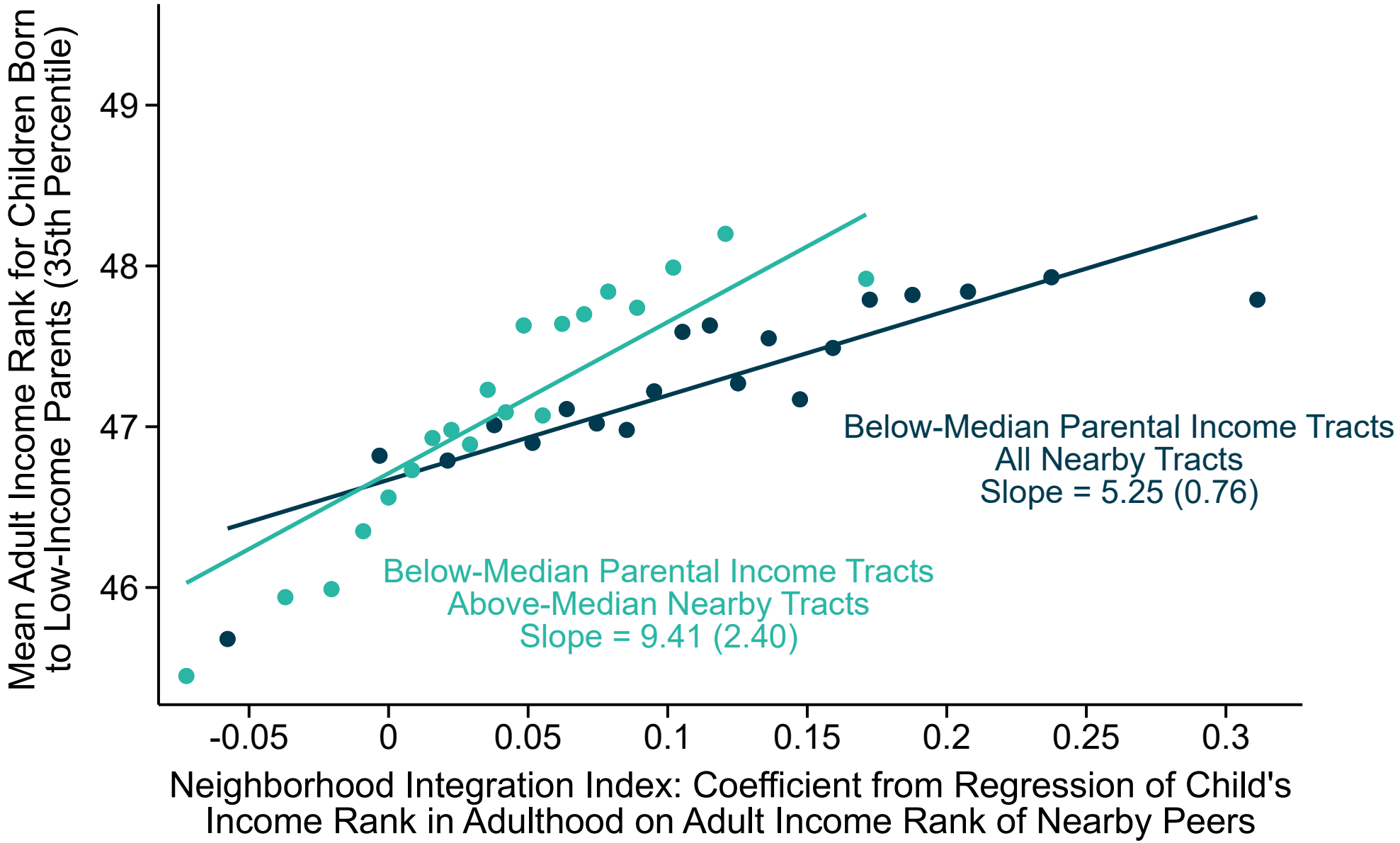
For Children Living in Low-Income Census Tracts



Note: Variables on the vertical and horizontal axes are constructed using split samples, and the latter is shrunk toward the mean to adjust for measurement error.

Upward Income Mobility vs. Correlation with Peer Outcomes, by Neighborhood

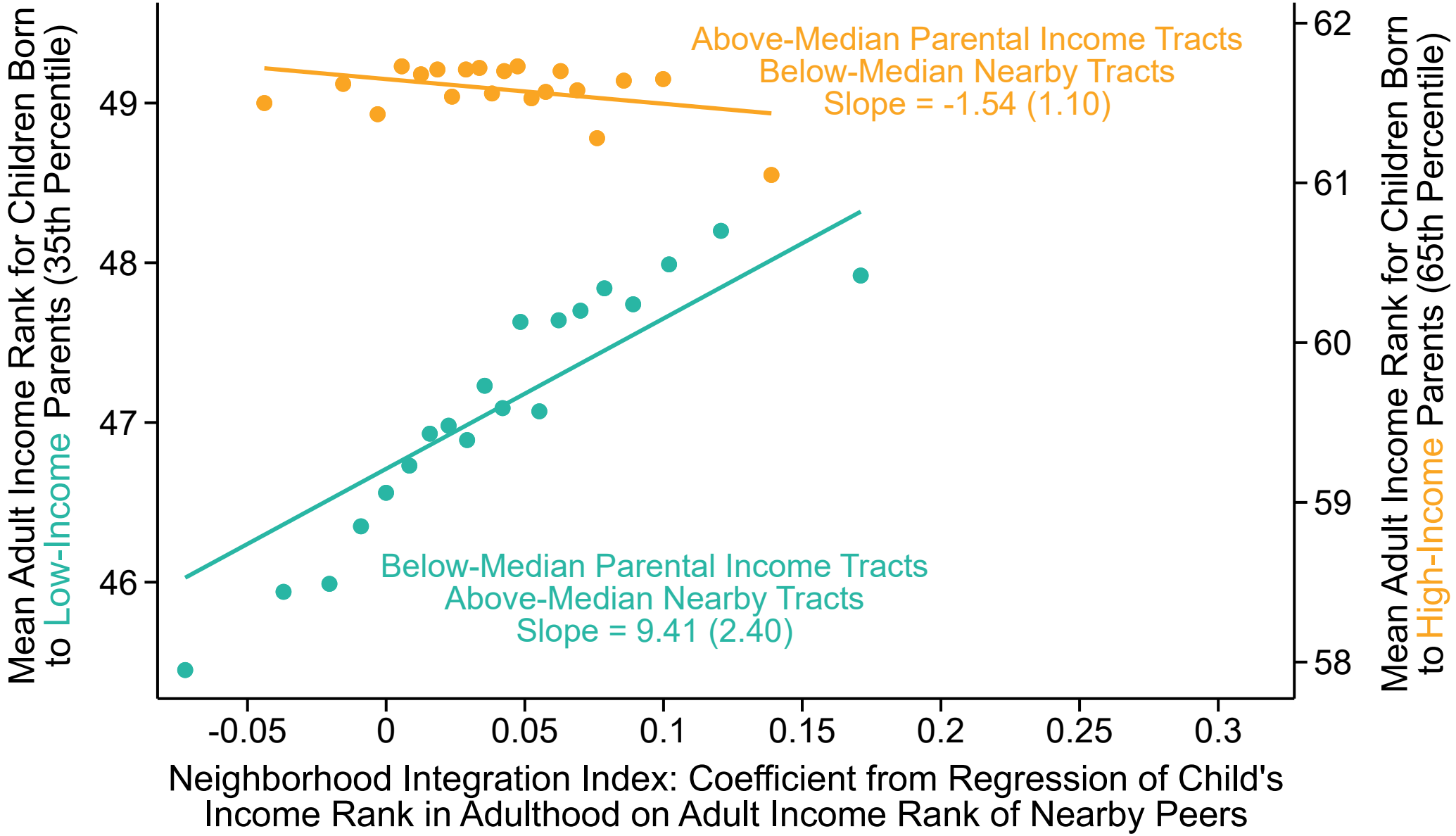
For Children Living in Low-Income Census Tracts



Note: Variables on the vertical and horizontal axes are constructed using split samples, and the latter is shrunk toward the mean to adjust for measurement error.

Upward Income Mobility vs. Correlation with Peer Outcomes, by Neighborhood

For Children Living in Low-Income Tracts with High-Income Peers vs. High-Income Tracts with Low-Income Peers



Note: Variables on the vertical and horizontal axes are constructed using split samples, and the latter is shrunk toward the mean to adjust for measurement error.

Conclusions

1. It is possible to turn low-opportunity neighborhoods into high-opportunity neighborhoods even without broader changes (e.g., in schools or labor markets)

   - HOPE VI program cost **$170k** per revitalized unit

   - Our estimates imply that each year a family (with 2.4 children on average) lives in a revitalized unit increases their children's lifetime earnings by **$25k** in present value

Conclusions

1. It is possible to turn low-opportunity neighborhoods into high-opportunity neighborhoods even without broader changes (e.g., in schools or labor markets)

2. Gains from HOPE VI were driven primarily by increased social integration with peers outside public housing

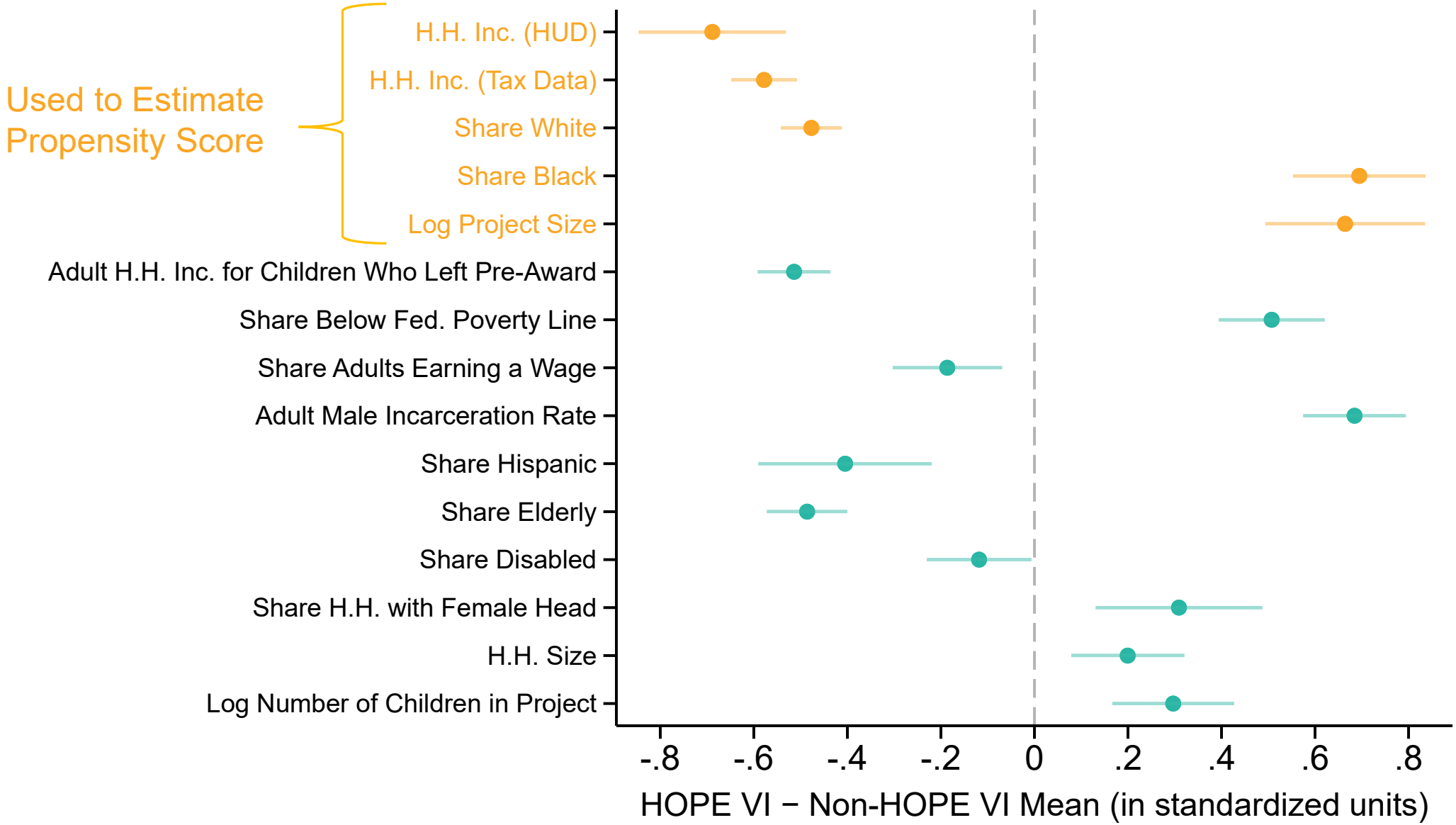
3. Many low-upward-mobility neighborhoods are as socially isolated as HOPE VI projects were before revitalization

→ Place-based investments that integrate low-mobility communities with surrounding areas may be a promising strategy for creating high-opportunity neighborhoods

Appendix

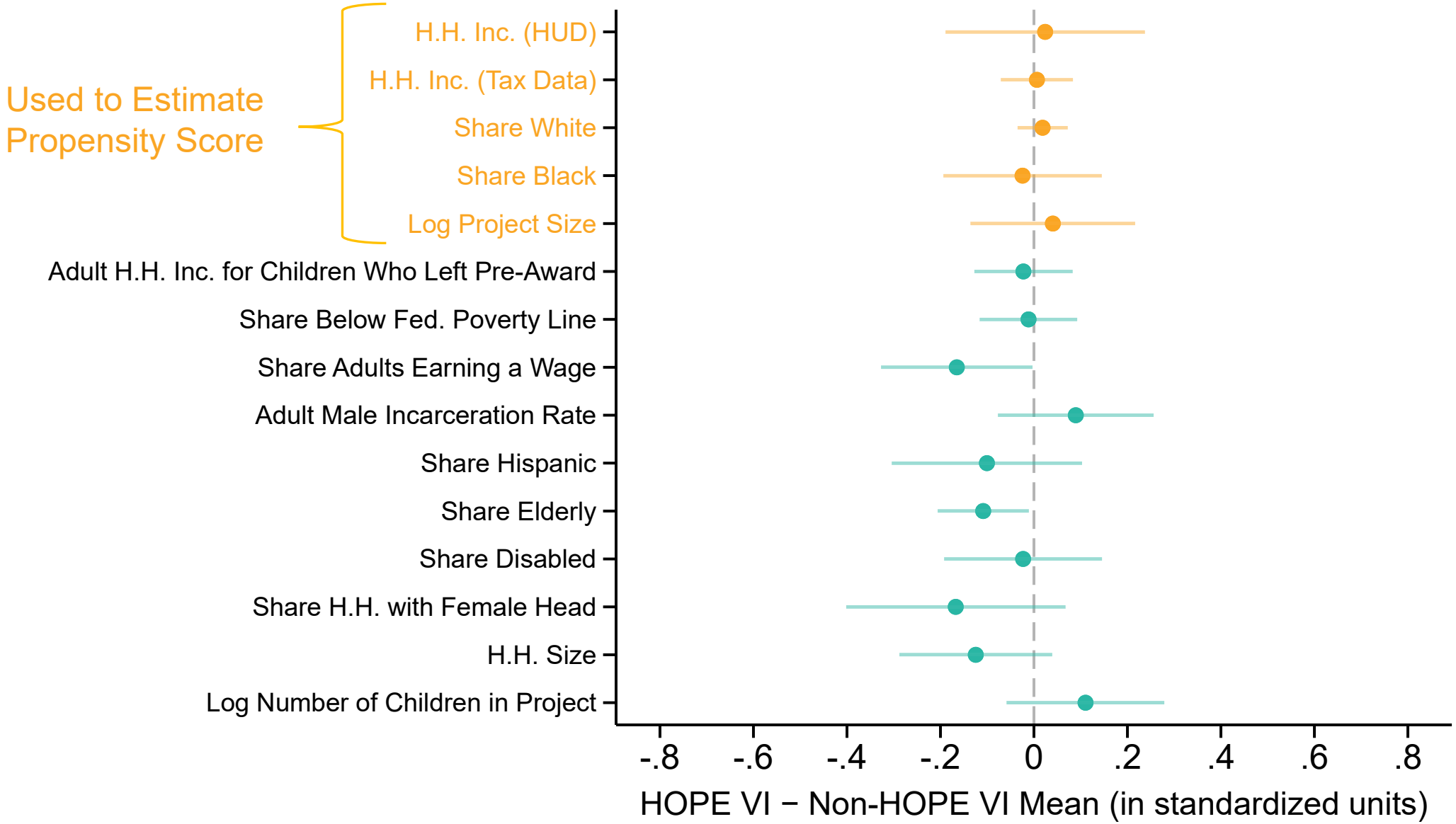
Balance Test Based on Observables Three Years Before HOPE VI Award

Control and HOPE VI Projects Weighted by Baseline Population



Balance Test Based on Observables Three Years Before HOPE VI Award

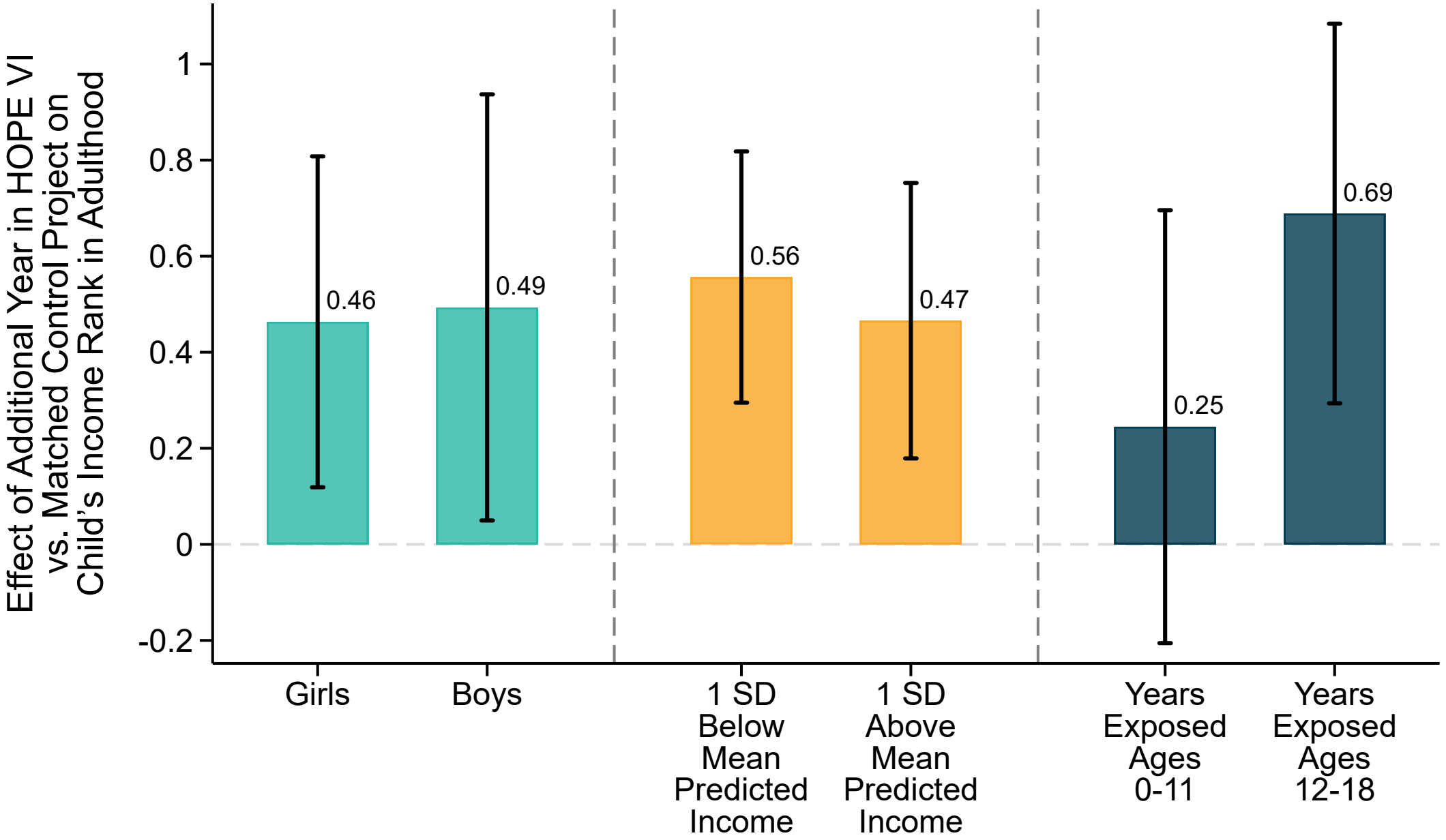
Control Projects Reweighted to Match HOPE VI Projects on Observables



Treatment Effects on Childhood Exposure Effects: Sensitivity Analysis

Heterogeneity in Treatment Effects by Sex, Parental Income, and Age

Estimates Based on the Movers Specification



Treatment Effects on Crime Rates