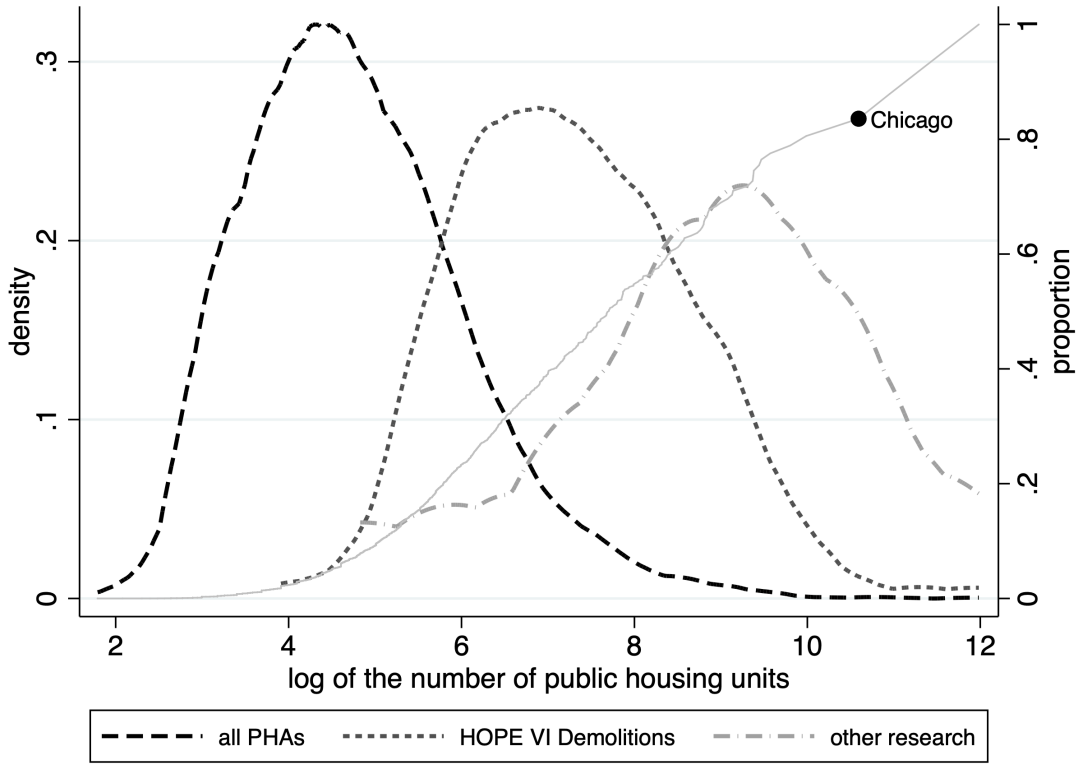
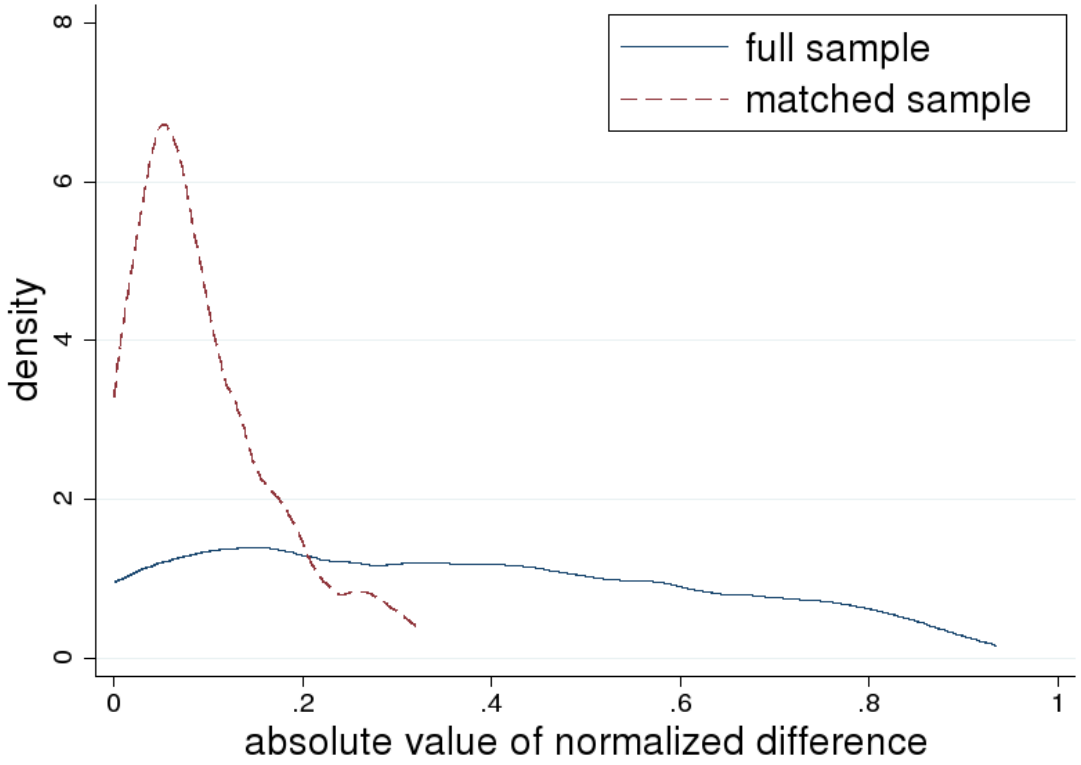
Appendix A Additional Results

Figure A.1: PHA Size in Existing Research and HOPE VI Sample



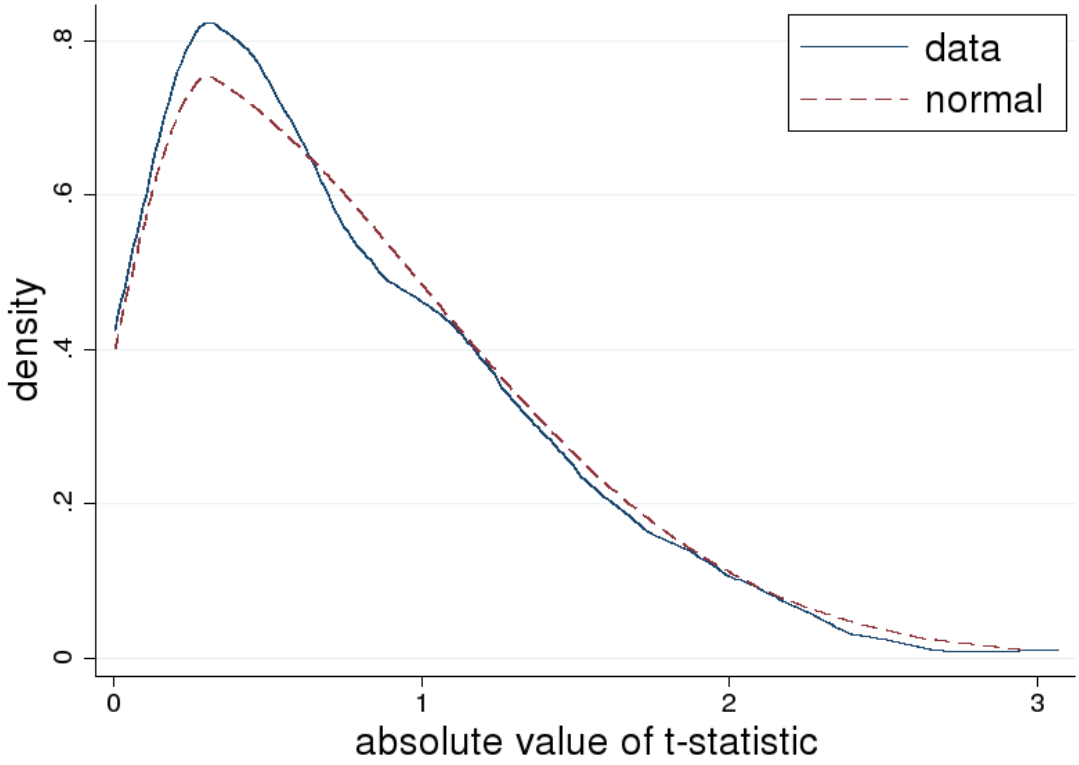
Notes: This figure plots the kernel density of the log of the total number of public housing units (measured in 1997) within each Public Housing Authority (PHA) in the U.S. The densities are plotted for three groups: all PHAs, PHAs that received a HOPE VI demolitions grant, and PHAs that participated in other randomized controlled studies. The PHAs from the other studies include: Baltimore MD, Boston MA, Chicago IL, Los Angeles CA, and New York NY from the Moving to Opportunity experiment (Ludwig et al. 2013); Chicago IL from the Gautreaux program (Rosenbaum 1995); and Atlanta GA, Augusta GA, Fresno CA, Houston TX, Los Angeles CA, and Spokane WA from the Effects of Housing Choice Voucher on Welfare Families project (Mills et al. 2006). The solid grey line presents the proportion of total public housing units in the U.S. that are located in a PHA with fewer than the number of housing units indicated on the horizontal axis. The black marker indicates the size of the Chicago PHA, which is the setting for Jacob (2004) and Chyn (2018).
Source: Author's calculations based on data from HUD USER.

Figure A.2: Baseline Differences between HOPE VI and non-HOPE VI Observations



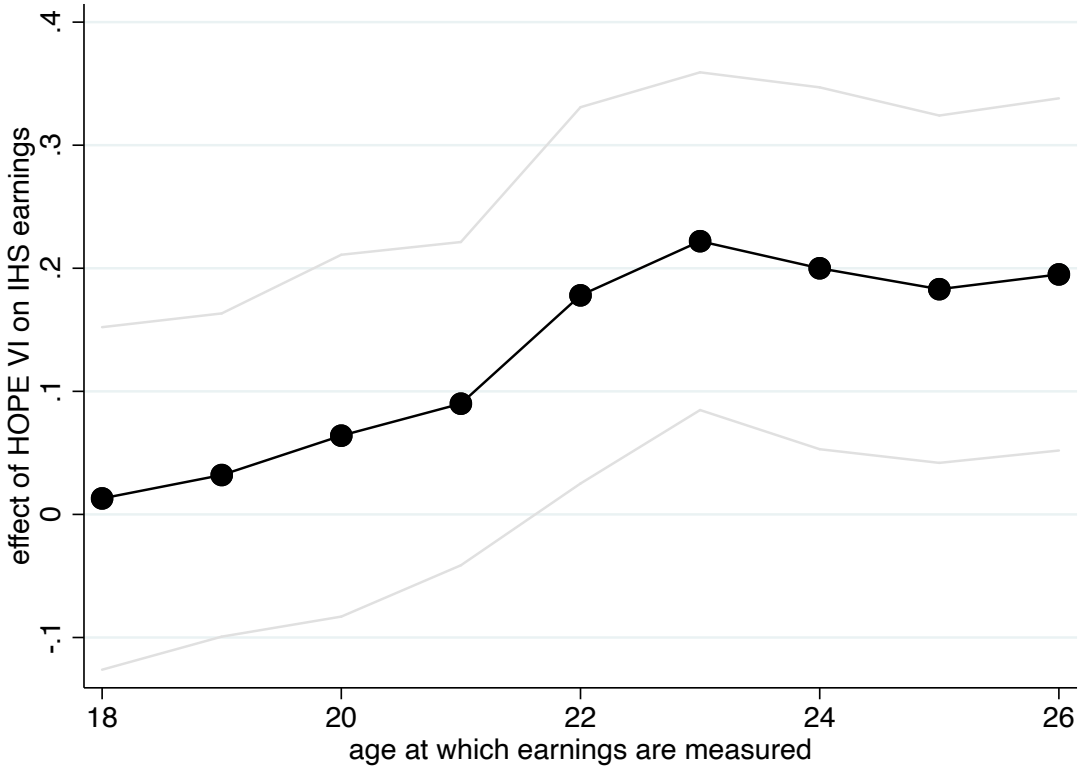
Notes: The figure presents kernel densities of normalized differences of all 92 baseline covariates calculated from the full and matched samples (see Appendix C for a description of the variables). To account for the clustered nature of the data within projects, we collapse data to the average value at the project-level to calculate the normalized difference for each variable. The normalized difference is defined as $(\bar{x}_1 - \bar{x}_0)/(\sqrt{(s_1^2 + s_0^2)/2})$, where $\bar{x}_d$ and s_d^2 is the sample average and variance for the HOPE VI ($d = 1$) and non-HOPE VI ($d = 0$) samples, respectively.
Source: Authors' calculations from matched Longitudinal Employer-Household Dynamics, Department of Housing and Urban Development, and Decennial Census files.

Figure A.3: Baseline Differences within Strata



Notes: The figure presents the distribution of the absolute value of t-statistics obtained from regressing a baseline variable on an indicator for HOPE VI within each stratum. The t-statistics are calculated using the household-year dataset when the the baseline variable is measured at the household-year level and using the child-year dataset for all other variables. Standard errors are clustered at the project level. With 92 baseline variables (see Appendix C for a description of the variables) and 7 strata, the figure summarizes the distribution of 644 t-statistics. To aid interpretation, we also plot the distribution of the absolute value of t-statistics from a normal distribution. All statistics are calculated on the matched sample.
Source: Authors' calculations from matched Longitudinal Employer-Household Dynamics, Department of Housing and Urban Development, and Decennial Census files.

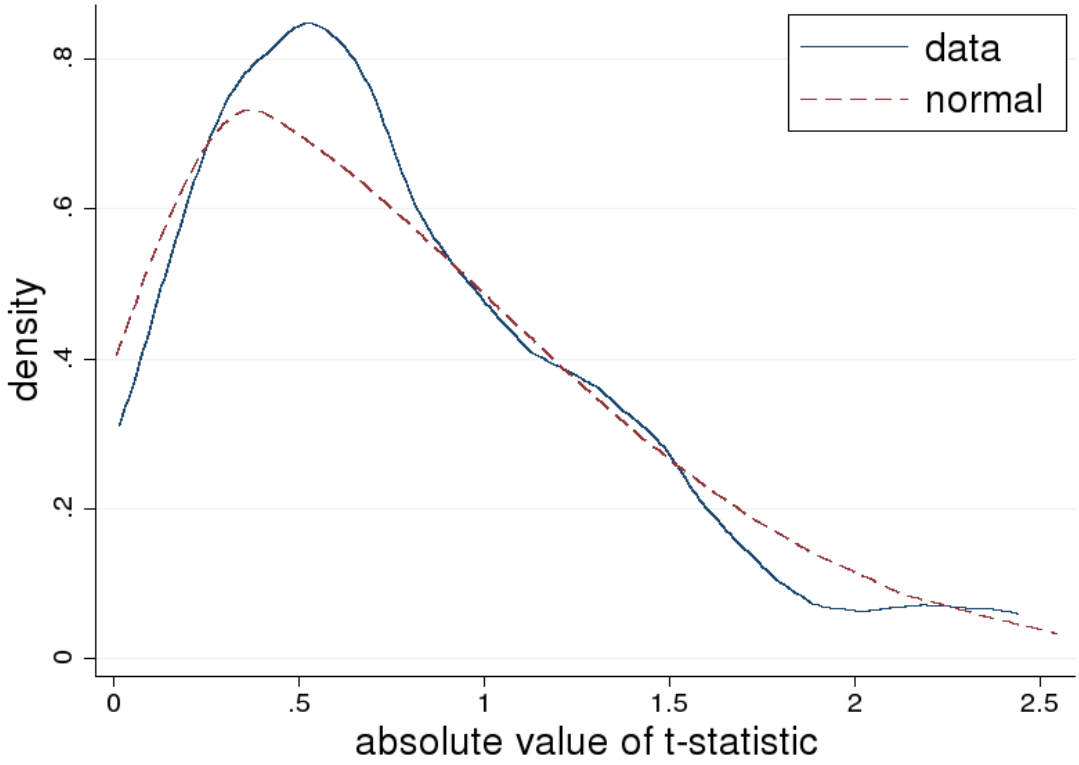
Figure A.4: Evolution of Effect of HOPE VI on Earnings in Large PHAs



Notes: The figure presents estimates of the effect of HOPE VI on the inverse hyperbolic sine (IHS) of annual earnings measured in the year in which the child turns 18-26. Effects on earnings are estimated using the stratification with regression estimator where all stratum-level regressions control for the base year in which the child appears in public housing, the year in which earnings are measured and standard vector of individual- and project- level characteristics. Standard errors are clustered at the project level and the gray line indicates the 95% confidence interval. Estimates are for large PHAs only.

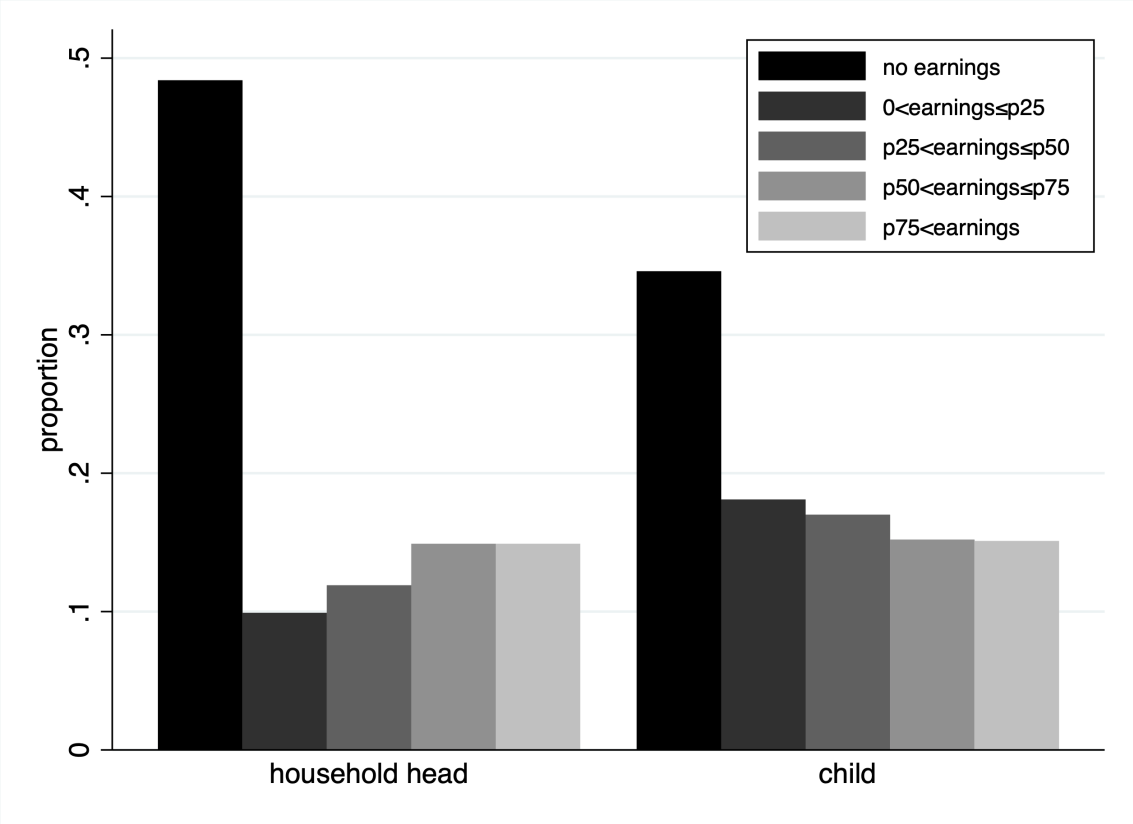
Source: Authors' calculations from matched Longitudinal Employer-Household Dynamics, Department of Housing and Urban Development, and Decennial Census files.

Figure A.5: Baseline Differences between HOPE VI and Failed Applicants



Notes: The figure presents the distribution of the absolute value of t-statistics obtained from regressing a baseline variable on an indicator for HOPE VI. Regressions are estimated separately for large and small PHAs and the set of non-HOPE VI projects includes only the failed applicants. The t-statistics are calculated using the household-year dataset when the the baseline variable is measured at the household-year level and using the child-year dataset for all other variables. Standard errors are clustered at the project level. With 92 baseline variables (see Appendix C for a description of the variables) and regressions with large and small PHAs, the figure summarizes the distribution of 184 t-statistics. To aid interpretation, we also plot the distribution of the absolute value of t-statistics from a normal distribution.
Source: Authors' calculations from matched Longitudinal Employer-Household Dynamics, Department of Housing and Urban Development, and Decennial Census files.

Figure A.6: Distribution of Earnings for Household Heads and Children



Notes: The figure presents the proportion of household heads and children whose earnings are zero or within a given quartile of the overall distribution of positive earnings. In the legend, the notation p25 denotes the 25th percentile. Parental earnings are measured 10 years after the reference year whereas the earnings of children are measured in the year they turn 26.
Source: Authors' calculations from matched Longitudinal Employer-Household Dynamics, Department of Housing and Urban Development, and Decennial Census files.

Table A.1: Construction of the Sample of HOPE VI Projects

			Number of Projects	
	Criteria to Drop from Sample	**Justification**	**Dropped**	**Remaining**
1	located in U.S. territory	Our interest is in understanding how HOPE VI demolitions affected the long-term outcomes for children in the U.S.	4	281
2	defined as a scattered-site in HOPE VI award list	The majority of scattered-sites demolished under HOPE VI had fewer than 5 units demolished, although there were some scatter-sites with substantially more units demolished. In total, less than 2% of the total units demolished under the HOPE VI program were scattered sites. While there is no formal definition of scatter-site housing, the two key characteristics are low density and low concentration (Hogan 1996).	16	265
3	previously received a HOPE VI demolitions grant	Some projects received more than one grant and we limit our focus to the first awards.	19	246
4	unable to assign a project ID	The project ID is required to link records to the administrative data.	3	243
5	data irregularities due to MTW	HUD's Moving to Work (MTW) demonstration program exempted participating local housing authorities from HUD reporting requirements see Abravanel et al. (2004).	≈50	≈190
6	fewer than 15 occupied units or more than 3000 occupied units	The lower threshold limits the sample to larger public housing projects while the upper threshold ensures that we do not mistakenly group together spatially disparate projects.	≈20	≈170
7	senior housing	Given our focus on children, we drop projects if they are senior housing (over 80% of residents are above 55 years of age) or if they have no children ages 10-18 residing in them.	≈10	≈160

Notes: This table describes the sample selection criteria that reduce the full set of 285 HOPE VI demolition awards to the (approximately) 160 awards studied in this paper. The columns present the restriction applied to the sample, the justification for imposing this restriction, the number of projects affected and the number of projects remaining. The symbol, ≈, denotes that the count is rounded according to disclosure avoidance rules of the U.S. Census Bureau.

Table A.2: Sample Size within Strata

	PHA		Project		Households		Children	
	HOPE VI	Control	HOPE VI	Control	HOPE VI	Control	HOPE VI	Control
Panel A. Large PHAs								
stratum I	20	20	30	40	4,000	8,500	7,000	15,000
stratum II	≤ 15	20	20	40	1,500	7,000	2,500	13,000
stratum III	≤ 15	50	20	100	1,500	17,000	2,000	32,000
total	40	90	70	180	7,000	26,200	11,500	60,000
Panel B. Small PHAs								
stratum IV	40	60	50	60	2,500	4,000	4,000	7,000
stratum V	≤ 15	40	≤ 15	40	500	3,500	800	6,000
stratum VI	≤ 15	80	≤ 15	90	400	7,500	700	13,000
stratum VII	20	200	30	200	800	13,000	1,500	22,000
total	80	380	90	390	4,200	28,000	7,000	48,000

Notes: The table summarizes the sample size within each stratum. Projects in large and small Public Housing Authorities (PHAs) are divided into three and four distinct strata, respectively, resulting in a total of 7 strata. Panel A and B present counts for the large and small PHA's, respectively. The even and odd columns present the counts of HOPE VI and non-HOPE VI projects, respectively. Columns 1 and 2 present the unique number of PHAs, columns 3 and 4 present the unique number of projects, columns 5 and 6 present the unique number of households, and columns 7 and 8 present the unique number of children. Numbers below: 100 are rounded to the nearest 10, 999 are rounded to the nearest 50, 9,999 are rounded to the neaest 100 and 99,999 to the neaest 500. The total row is calculated using the numbers presented in the table and we use 10 to impute the count of cells with fewer the 15 observations (except for the count of HOPE VI projects in small PHAs, since we released the total count of HOPE VI projects as 160).

Source: Authors' calculations from matched Longitudinal Employer-Household Dynamics, Department of Housing and Urban Development, and Decennial Census files.

Table A.3: Covariate Balance After Matching

	Without Strata		Across Strata		Within Strata	
	number of tests	$\|t\| > 1.645$	number of tests	$\|t\| > 1.645$	number of tests	$\|t\| > 1.645$
	(1)	(2)	(3)	(4)	(5)	(6)
Large PHAs						
Project	16	0.000	16	0.000	48	0.146
PHA	19	0.105	19	0.105	57	0.140
Neighborhood	35	0.029	35	0.000	105	0.114
Child	11	0.091	11	0.091	33	0.091
Household Head	11	0.091	11	0.091	33	0.061
All Variables	92	0.054	92	0.043	276	0.116
Small PHAs						
Project	16	0.000	16	0.000	64	0.078
PHA	19	0.053	19	0.158	76	0.092
Neighborhood	35	0.029	35	0.057	140	0.043
Child	11	0.182	11	0.182	44	0.068
Household Head	11	0.091	11	0.182	44	0.045
All Variables	92	0.055	92	0.098	368	0.062

Notes: Panel A and B present results for large and small Public Housing Authorities (PHAs), respectively. Each row summarizes a number of balance tests for the category of baseline variables defined by the row label (project, PHA, neighborhood, child and household head). Appendix C defines all 92 baseline variables that appear in the five categories. The even numbered columns summarize the proportion of t-statistics that are greater in absolute value than 1.645. The odd numbered columns present the number of t-statistics that contribute to calculating this proportion. All t-statistics are calculated by estimating a model in which the outcome is a baseline variable and the regoressor is an indicator for HOPE VI. The t-statistic is equal to the estimated coefficent divided by the standard error, where standard errors are clustered at the level of the project. Ordinary Least Squares (OLS) is used to estimate the t-statistics summarized in column 2. These regressions are estimated within the large and small PHA samples, but do not account for the stratification structure. The stratification with regression estimator is used to estimate the t-statistics summarized in column 4. Column 6 summarizes the t-statistics obtained from estimating OLS regressions within each of the strata. All estimates are calculated using a child-level dataset, except for the variables the correspond to the head of household household, which are estimated using the head of household-level dataset.

Source: Authors' calculations from matched Longitudinal Employer-Household Dynamics, Department of Housing and Urban Development, and Decennial Census files.

Table A.4: Placebo Test Using Failed Applicants

	Large PHAs		Small PHAs	
	qrtrs worked	IHS earnings	qrtrs worked	IHS earnings
	(1)	(2)	(3)	(4)
Failed Applicant	-0.058	-0.142	-0.028	-0.070
	(0.037)	(0.091)	(0.027)	(0.071)
control	2.200	6.410	2.220	6.420
	[1.720]	[4.490]	[1.730]	[4.490]
observations	99,000	99,000	124,000	124,000

Note: Failed applicants are projects that applied for but never received HOPE VI funding (either the Revitalization or Demolition program). Columns 1-2 and 3-4 present estimates from the stratification with regression estimators from large and small Public Housing Authorities (PHAs), respectively. The outcome variables in the odd and even numbered columns are annual labor market outcomes measured in the year in which the child turns 26 including number of quarters worked and the inverse hyperbolic sine (IHS) of earnings, respectively. All stratum-level regressions control for the base year in which the child appears in public housing, the year in which the child turns 26, and standard vector of individual- and project-level characteristics. Standard errors are clustered at the project-level and are presented in parentheses. The mean and standard deviation, presented in brackets, of the outcome for the control group are a weighted aggregate of stratum-level statistics, where the weights are proportional to the number of treated individuals in a strata.
Source: Authors' calculations from matched Longitudinal Employer-Household Dynamics, Department of Housing and Urban Development, and Decennial Census files.
*** p≤0.01, ** p≤0.05, * p≤0.10.

Table A.5: Pseudo Outcomes Analysis

	effect of HOPE VI on row variable		
	(1)	(2)	(3)
Household-Level Variables			
age	0.242	0.493	0.333
	(0.270)	(0.303)	(0.204)
black	0.026	0.054	0.036
	(0.042)	(0.040)	(0.030)
Hispanic	0.026	0.004	0.018
	(0.045)	(0.025)	(0.030)
white	0.001	-0.049**	-0.017
	(0.014)	(0.024)	(0.013)
other non-Hispanic	-0.014	0.013	-0.004
	(0.021)	(0.012)	(0.014)
dependents	-0.001	0.018	0.006
	(0.023)	(0.020)	(0.016)
disability	-0.005	0.006	-0.001
	(0.007)	(0.009)	(0.005)
household size	0.037	0.013	0.028
	(0.025)	(0.018)	(0.017)
female	0.004	-0.003	0.002
	(0.007)	(0.005)	(0.005)
married	0.008	0.002	0.006
	(0.005)	(0.006)	(0.004)
income	-0.936***	-0.790***	-0.883***
	(0.293)	(0.240)	(0.206)
Child-Level Variables			
age	0.087**	0.018	0.062**
	(0.039)	(0.042)	(0.029)
black	0.035	0.057	0.043
	(0.043)	(0.040)	(0.031)
Hispanic	0.022	0.001	0.015
	(0.038)	(0.026)	(0.026)
white	0.001	-0.050**	-0.017
	(0.013)	(0.024)	(0.012)
other non-Hispanic	-0.024	0.015	-0.010
	(0.025)	(0.012)	(0.017)
disability	0.003	-0.005	0.000
	(0.005)	(0.003)	(0.003)
female	0.000	-0.005**	-0.002
	(0.002)	(0.002)	(0.001)
Sample of PHAs	large	small	all

Notes: Columns 1-3 present estimates from the stratification with regression estimator for large, small, and all Public Housing Authorities (PHAs), respectively. Each row presents the results from a specification in which the variable listed in the row is the pseudo outcome. For each pseudo outcome, the entire matching procedure is implemented but the pseudo outcome (or any variable constructed using this variable) is omitted from the process. The results presented in the table are coefficients from a stratification with regression estimator, which regresses the pseudo outcome on an indicator for HOPE VI and the set of standard covariates (we omit the pseudo outcome from the covariates). Note that there are four mutually exclusive race/ethnicity categories, including: white (non-Hispanic), black (non-Hispanic), Hispanic, and other non-Hispanic. Standard errors are clustered at the project level and are presented in parentheses.
Source: Authors' calculations from matched Longitudinal Employer-Household Dynamics, Department of Housing and Urban Development, and Decennial Census files.
*** p≤0.01, ** p≤0.05, * p≤0.10.

Table A.6: Sensitivity to Stratification and Covariates

	IHS of Earnings at Age 26			
	(1)	(2)	(3)	(4)
Panel A. Large PHAs				
HOPE VI	0.059	0.191**	0.157	0.195***
	(0.102)	(0.076)	(0.107)	(0.073)
stratification			X	X
covariates		X		X
observations	149,000	149,000	149,000	149,000
Panel B. Small PHAs				
HOPE VI	-0.090	0.015	0.005	0.045
	(0.099)	(0.087)	(0.101)	(0.087)
stratification			X	X
covariates		X		X
observations	109,000	109,000	109,000	109,000

Notes: Panels A and B present estimates from the stratification with regression estimator for large and small Public Housing Authorities (PHAs), respectively. The outcome variable is the inverse hyperbolic sine (IHS) of annual earnings at age 26. The rows below the point estimates indicate whether the stratification structure was used (if not, Ordinary Least Squares is used) and whether the standard vector of individula- and project-level controls are included in the regression. All specifications include a fixed effect for the base year in which the child appears in public housing as well as a fixed effect for the year in which the child turns 26. Standard errors are clustered at the project-level and are presented in parentheses.
Source: Authors' calculations from matched Longitudinal Employer-Household Dynamics, Department of Housing and Urban Development, and Decennial Census files.
*** p≤0.01, ** p≤0.05, * p≤0.10.

Table A.7: Ordinary Least Squares Estimates

	IHS of Earnings at Age 26			
	(1)	(2)	(3)	(4)
Panel A. Large PHAs				
HOPE VI	-0.101	0.154**	0.088	0.288**
	(0.091)	(0.078)	(0.134)	(0.111)
estimated with controls	no	yes	no	yes
non-HOPE VI sample	same PHA	same PHA	applicants	applicants
observations	338,000	338,000	19,000	19,000
Panel B. Small PHAs				
HOPE VI	-0.206**	-0.021	-0.037	0.087
	(0.100)	(0.086)	(0.121)	(0.104)
estimated with controls	no	yes	no	yes
non-HOPE VI sample	same PHA	same PHA	applicants	applicants
observations	92,000	92,000	13,000	13,000

Notes: Panels A and B present estimates from large and small Public Housing Authorities (PHAs), respectively. Each estimate is from a separate regression estimated by Ordinary Least Squares in which the dependent variable is the inverse hyperbolic sine (IHS) of annual earnings measured in the year the child turns 26 and the main independent variables is an indicator equal to one if the project received a HOPE VI grant. All regressions contain controls for the year in which the individual appears in public housing as well as the year in which the individual turns 26. The row below the point estimates indicates whether the standard set of additional project- and individual-level covariates are included in each specification. The sample of HOPE VI projects is identical across all specifications and the row above the observation counts indicates whether the set of non-HOPE VI projects includes projects in PHAs that were awarded HOPE VI funding (same PHA) or projects that applied but did not receive HOPE VI funding (applicants to the Revitalization or Demolition program). Standard errors are clustered at the project-level and are presented in parentheses.
Source: Authors' calculations from matched Longitudinal Employer-Household Dynamics, Department of Housing and Urban Development, and Decennial Census files.
*** p≤0.01, ** p≤0.05, * p≤0.10.

Table A.8: Housing Outcomes

	Housing Subsidy Type			Co-Residence with Parents		
	public	voucher	non-subsidized	census tract	household	incarcerated
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Large PHAs						
HOPE VI	-0.039**	0.018*	0.021	-0.008	-0.012	0.001
	(0.02)	(0.01)	(0.019)	(0.007)	(0.007)	(0.003)
control mean	0.683	0.089	0.228	0.523	0.519	0.047
observations	149,000	149,000	149,000	149,000	149,000	149,000
Panel B. Small PHAs						
HOPE VI	-0.013	0.025***	-0.012	-0.013	-0.006	0.005
	(0.018)	(0.008)	(0.02)	(0.009)	(0.008)	(0.003)
control mean	0.612	0.072	0.316	0.542	0.507	0.042
observations	109,000	109,000	109,000	109,000	109,000	109,000

Notes: Panels A and B present estimates from the stratification with regression estimator for large and small Public Housing Authorities (PHAs), respectively. All outcomes are measured in 2010. In columns 1-3 the outcome is an indicator equal to one if individual lived in public, voucher, or other housing, respectively (cateogries are mutually exclusive). In columns 4 and 5 the outcome is an indicator equal to one if the child lives in the same census tract or household as their parent, respectively. The outcome variable in column 6 is an indicator equal to one if the child was incaracerated in the 2010 census. All stratum-level regressions control for the base year in which the child appears in public housing, the year in which the child turns 26, and the standard vector of individual- and project-level characteristics Standard errors are clustered at the project-level and are presented in parentheses. The mean and standard deviation, presented in brackets, of the outcome for the control group are a weighted aggregate of stratum-level statistics, where the weights are proportional to the number of treated individuals in a strata.
Source: Authors' calculations from matched Longitudinal Employer-Household Dynamics, Department of Housing and Urban Development, and Decennial Census files.
*** p≤0.01, ** p≤0.05, * p≤0.10.

Table A.9: Dispersion of Project Co-Residents

	share of former residents living within			avg. log
	one mile	three miles	five miles	distance
	(1)	(2)	(3)	(4)
Panel A. Large PHAs				
HOPE VI	-0.01	-0.006	-0.006	0.043
	(0.006)	(0.012)	(0.016)	(0.086)
control mean	0.065	0.193	0.315	3.29
observations	149,000	149,000	149,000	149,000
Panel B. Small PHAs				
HOPE VI	-0.021***	-0.02	-0.016	0.047
	(0.007)	(0.018)	(0.021)	(0.088)
control mean	0.086	0.22	0.316	3.41
observations	109,000	109,000	109,000	109,000

Notes: Panels A and B present estimates from the stratification with regression estimator for large and small Public Housing Authorities (PHAs), respectively. In columns 1-3 the outcome is the share of former public housing residents that live within a one-, three- and five-mile radius, respectively. The outcome in column 4 is the average log distance (measured in miles) between the individual and each of the former public housing residents. The longitude and lattitude of residence correspond to the the centroid of the census tract in which the child resides in 2010. All stratum-level regressions control for the base year in which the child appears in public housing, the year in which the child turns 26, and the standard vector of individual- and project-level characteristics. Standard errors are clustered at the project-level and are presented in parentheses. The mean and standard deviation, presented in brackets, of the outcome for the control group are a weighted aggregate of stratum-level statistics, where the weights are proportional to the number of treated individuals in a strata.
Source: Authors' calculations from matched Longitudinal Employer-Household Dynamics, Department of Housing and Urban Development, and Decennial Census files.
*** p≤0.01, ** p≤0.05, * p≤0.10.

Table A.10: Relationship between Poverty, Job Proximity and Rent

	1990 Characteristics		2010 Characteristics	
	avg. commute	poverty	job proximity index	poverty
	(1)	(2)	(3)	(4)
Panel A. Large PHAs				
median rent	-0.0189	-0.5301***	0.0062	-0.5616***
	(0.0420)	(0.0534)	(0.0300)	(0.0310)
R-squared	0.0003	0.1843	0.0000	0.3140
observations	13,934	12,865	13,834	13,834
Panel B. Small PHAs				
median rent	0.1978***	-0.4124***	-0.1216***	-0.5227***
	(0.0716)	(0.0337)	(0.0337)	(0.0229)
R-squared	0.0355	0.1085	0.0147	0.2722
observations	4,639	4,324	4,595	4,595

Notes: Panels A and B present results for large and small PHAs, respectively. The sample includes all census tracts located in counties that contain a HOPE VI project. Columns 1-2 present results in which the characteristics of the census tracts are measured in 1990. Column 3-4 present results in which the characteristics of the census tracts are measured in 2010. Each variable corresponds to a percentile rank that is calculated within counties and weighted by the census tract population. Within each panel each column presents results from a separate regression in which the outcome variable is listed in the column header and the independent variable is listed in the row. Standard errors are clustered at the level of the county.
Source: Authors' calculations based on publicly available data from the 1990 and 2010 Decennial Files and HUD.
*** p≤0.01, ** p≤0.05, * p≤0.10.

Table A.11: Neighborhood Job Density

	log job density (1)	log population density (2)	log job/population (3)
Panel A. Large PHAs			
HOPE VI	0.045	-0.617***	0.220**
	(0.028)	(0.167)	(0.087)
control mean	0.07	-1.4	0.256
observations	149,000	149,000	149,000
Panel B. Small PHAs			
HOPE VI	-0.005	0.081	-0.001
	(0.014)	(0.171)	(0.056)
control mean	0.053	-2.77	0.354
observations	109,000	109,000	109,000

Notes: Panels A and B present estimates from the stratification with regression estimator for large and small Public Housing Authorities (PHAs), respectively. In columns 1-3 the outcome variable is a characteristic (measured in 2010) of the census tract in which the project was located, including: the log of the job density, the log of the population density and the log of the ratio of jobs to population, respecitvely. All stratum-level regressions control for the base year in which the child appears in public housing, the year in which the child turns 26, and the standard vector of individual- and project-level characteristics Standard errors are clustered at the project-level and are presented in parentheses. The mean and standard deviation, presented in brackets, of the outcome for the control group are a weighted aggregate of stratum-level statistics, where the weights are proportional to the number of treated individuals in a strata.
Source: Authors' calculations from matched Longitudinal Employer-Household Dynamics, Department of Housing and Urban Development, and Decennial Census files.
*** p≤0.01, ** p≤0.05, * p≤0.10.

Table A.12: Heterogeneous Effects by Neighborhood, for Small PHAs

	IHS of Earnings at Age 26		
	(1)	(2)	(3)
HOPE VI	0.069	0.059	0.074
	(0.096)	(0.096)	(0.083)
log population density	0.050		
	(0.056)		
HOPE VI × log population density	-0.166		
	(0.102)		
average commute time		0.424***	
		(0.131)	
HOPE VI × average commute time		-0.025	
		(0.084)	
poverty rate			-0.112**
			(0.131)
HOPE VI × poverty rate			-0.061
			(0.079)
observations	109,000	109,000	109,000

Notes: The table presents estimates from the stratification with regression estimator for small Public Housing Authorities (PHAs) only. The outcome variable in all specifications is the inverse hyperbolic sine (IHS) of annual earnings measured at age 26. Columns 1-3 presents esitmates from models in which the indicator for HOPE VI is interacted with a characteristic of the census tract in which the project is located measured in 1990. For columns 1-3 these characteristics include the log of the popoulation density, the average commute time in minutes and the poverty rate, all three of which are normalized by substracting by the mean of the control group and dividing by the standard deviation of the control group. All stratum-level regressions control for the base year in which the child appears in public housing, the year in which the child turns 26, and the standard vector of individual- and project-level covariates. Standard errors are clustered at the project-level and are presented in parentheses. The mean and standard deviation, presented in brackets, of the outcome for the control group are a weighted aggregate of stratum-level statistics, where the weights are proportional to the number of treated individuals in a strata.
Source: Authors' calculations from matched Longitudinal Employer-Household Dynamics, Department of Housing and Urban Development, and Decennial Census files.
*** p≤0.01, ** p≤0.05, * p≤0.10.

Appendix B. Additional Robustness Checks

Revitalization Program: While the focus of our paper is on the HOPE VI Demolitions program, there is some overlap with the HOPE VI Revitalizations program by which some projects received both Demolition and Revitalization grants. Typically, the award of the Revitalization grants and their implementation took place well after the Demolition grant, but it is possible that our estimates are affected by the Revitalizations program. To investigate this, we start by estimating two specifications. First, we estimate a specification in which we interact the indicator for the HOPE VI Demolitions award with an indicator for the Revitalizations program. Second, we estimate a specification in which we drop all projects that received a HOPE VI Revitalization grant.[1] We conduct both sets of analyses separately within large and small PHAs and the inverse hyperbolic sine of age 26 earnings is the outcome variable. For the first specification, the coefficient on the interaction term is statistically insignificant at the 10% level for both the large and small PHA samples. In other words, there is not a statistically significant difference between the treatment effects for projects awarded both a Revitalization and Demolition and projects that were only awarded a Demolitions grant. The results from both the first and second specifications indicate that the effect of the HOPE VI Demolition is positive and statistically significant at the 10% level in large PHAs and is positive but statistically insignificant in small PHAs. Taken together, these analyses suggest that our main estimates are not affected by the HOPE VI Revitalization program. Another important result in our paper is that the effect of HOPE VI is largest for projects that were located in neighborhoods characterized by high poverty rates and limited job accessibility (proxied by population density and commute time). To see if these results are sensitive to the presence of the Revitalization program we estimate a model in which we interact the HOPE VI indicator with both an indicator for the Revitalization program and baseline characteristics of the neighborhood. Our main findings with respect to heterogeneous effects by neighborhood characteristics are robust to controlling for the Revitalization program. Specifically, the interaction term between HOPE VI and the baseline characteristics is positive and statistically significant at the 10% level in large

[1] Note that in constructing the sample we already drop non-HOPE VI Demolition projects that receive a Revitalization grant. Thus, this restriction only drops projects that received both a Demolition and Revitalization grant.

PHAs for all three baseline characteristics, whereas this interaction term is never statistically significant in small PHAs.

Early Demolitions: We define the year of the demolition as two years prior to the award year. However, the microdata begins in 1997 and we therefore define the year of the demolition as 1997 for HOPE VI projects that were awarded funding before 1999. We conduct two sets of analyses to investigate whether the timing of these early demolitions impact our results. First, we estimate a specification in which we interact the HOPE VI indicator with an indicator equal to one if the award was made prior to 1999. Second, we estimate a specification in which we drop all HOPE VI projects that received funding before 1999. We conduct both sets of analyses separately within large and small PHAs and the inverse hyperbolic sine of age 26 earnings is the outcome variable. For the first specification, the coefficient on the interaction term is not statistically significant at the 10% level for both the large and small PHA samples. In other words, the treatment effect for HOPE VI projects awarded funding prior to 1999 is not statistically different from the treatment effect for HOPE VI projects awarded funding in 1999 or later. The results from both the first and second specifications indicate that the effect of HOPE VI is positive and statistically significant at the 5% level in large PHAs and is positive but statistically insignificant in small PHAs. Taken together, these results suggest that our main findings are not sensitive to how we treat the early demolitions that occur prior 1999.

Partial Demolitions: Some projects were only partially demolished. We argue that all residents were potentially affected by the program, since the demolitions could change the neighborhoods in which the projects were located. Thus, our main results estimate the effect of HOPE VI on all residents of the public housing project, as opposed to just the ones that were forced to move. To investigate the importance of partial demolitions, we measure the growth rate in project size between the year of the demolition and five years after.[2] We then estimate a specification in which we interact this growth rate with the indicator for HOPE VI. We conduct the analysis separately within large and small PHAs and the inverse hyperbolic sine of age 26 earnings is the outcome variable. We find no evidence of heterogeneous effects by changes in project size. Specifically,

[2] The growth rate between the size of the project in the year of the demolition, x, and the size of the project five years after, z, is: (z-x) / (.5*(z+x)).

the interaction terms between HOPE VI and the project growth rate is positive but not statistically significant at the 10% level for both the large and small PHA samples. The results provide no evidence that residents who experienced partial demolitions faired differently relative to those exposed to more complete demolitions.

Tuning Parameters: While our methodology is in some ways data-driven, we do select tuning parameters that govern this process. While we use standard values for most tuning parameters, we choose custom values for (1) the number of matched used in the trimming procedure and (2) the thresholds for selection of covariates to be included in the propensity score. The choice of tuning parameters was based on their ability to eliminate baseline differences between HOPE VI and non-HOPE VI projects within stratum. However, we also assess the sensitivity of our results to alternative choices of these parameters. First, we try implementing the entire stratification procedure using 3 through 8 matches (our baseline specification uses 5 matches) when creating the trimmed sample. Second, we implement the stratification procedure with alternative thresholds for the likelihood ratio test by using values for the threshold firs the first-order terms of 1.5 to 5 by intervals of 0.5 and setting the threshold value for the second-order terms to 1.71 plus the threshold for the first-order term (our main specification uses 2.5 and 4.21 for the tuning parameters related to the first-order and second-order terms, respectively). Using the resulting stratification structures, we then estimate the effect of HOPE VI on the inverse hyperbolic sine of age 26 earnings as the main outcome and do this separately for large and small PHAs. For small PHAs the effect of HOPE VI is never statistically significant at the 10% level across all fourteen specifications. For large PHAs, the point estimate is always positive and estimates in nine, twelve and thirteen of the fourteen estimates are statistically significant at the 1%, 5% and 10% level, respectively. Thus, for large PHAs only one of the fourteen estimates is not statistically significant at the 10% level. Thus, our main findings are quite robust to alternative choices of the tuning parameters.

Duplicate Observations: Control observations (individual-year observations) may appear in the data multiple times, as they are included for each year they appear in public housing. We cluster standard errors at the project level, which accounts for these duplicate observations within projects. However, if individuals in the control projects move to new projects, they will appear multiple

times in the data and the clustering will not adequately account for the correlation in their outcomes. To assess the degree to which this is a problem we drop all individuals who appear in more than one project in our sample. We then re-estimate our main results focusing on the inverse hyperbolic sine of age 26 earnings. In large PHAs the effect of HOPE VI is positive and statistically significant at the 5% level and in small PHAs the effect of HOPE VI is positive but is not statistically significant. Thus, our main findings are not sensitive to how we account for individuals who appear in multiple projects within the sample period.

Heterogeneous Effects: Table 3 presents estimates of the effect of HOPE VI interacted with different individual characteristics for the large PHA sample. We replicate this analysis for the small PHA sample. With one exception, none of the interaction terms are statistically significant at the 10% level. The one exception is that, in the specification that interacts HOPE VI with race, the estimated coefficient on HOPE VI*black is negative and statistically significant at the 10% level whereas the estimated coefficient on HOPE VI is positive and statistically significant at the 10% level. Thus, there is some evidence that HOP VI may have been beneficial for white non-Hispanic children in small PHAs.

Alternative Controls: We compare our preferred estimates to estimates from two other estimators. We use OLS to estimate specifications in which we regress the IHS of annual earnings at age 26 on an indicator for HOPE VI and a set of covariates.[3] We estimate these regressions separately for the large and small PHA samples and experiment with using alternative samples for the control group, including: (1) non-HOPE VI projects that are located in a PHA that received some HOPE VI funding, and (2) the sample of projects that applied for but never received HOPE VI funding. The results, presented in columns 2 and 4 of Table A.7, indicate that these alternative approaches produce qualitatively similar conclusions: HOPE VI led to substantial long-run labor market benefits in large PHAs (points estimates of 0.154 and 0.288) but had no discernable impact in small PHAs (point estimates of -0.021 and 0.087). The robustness of our main findings bolsters confidence in our conclusions. Columns 1 and 3 present results from OLS regressions that do not include controls. Here we find no evidence that HOPE VI had positive effect on earnings in either

[3] The set of covariates used in these specifications is the same as those used in the stratification with regression estimator.

large or small PHAs. The difference between the estimates from specifications that do and do not include covariates in the mode underscores the importance of adjusting for baseline differences between the HOPE VI and non-HOPE VI projects.

Appendix C. Description of Variables

Description	Unit of Measurement	Used in Nearest-Neighbor Matching	Used in Propensity Score Estimation
average total household income	public housing project	X	X
proportion of household heads who are black non-Hispanic	public housing project	X	X
proportion of household heads who are white non-Hispanic	public housing project	X	X
log of the number of occupied units	public housing project	X	X
proportion of household heads who are disabled	public housing project	X	X
proportion of household heads who are married	public housing project	X	X
proportion of household heads who are female	public housing project	X	X
average count of individuals per housing unit	public housing project		X
proportion of household heads who are Hispanic	public housing project		X
average age of household heads	public housing project		X
proportion of household heads who are over 55	public housing project		
proportion of household heads who are other race/ethnicity (not white, not black not Hispanic)	public housing project		
average number of dependents per household	public housing project		
proportion of children with disability	public housing project		
proportion of residents who are children (under age 18)	public housing project		

average gross household rent per month	public housing authority	X	X
proportion of households with majority of income from wages and or business income	public housing authority	X	X
log of the number of available units	public housing authority		X
proportion of units that are occupied	public housing authority		
proportion of household reporting	public housing authority		
average household size	public housing authority		
average federal spending per unit per month	public housing authority		
average total household income	public housing authority		
proportion of households with majority of income from welfare	public housing authority		
average of household's income as a percent of local median income	public housing authority		
proportion of household heads (or spouse) who are under 25 years old	public housing authority		
proportion of household heads who are older than 62 years old	public housing authority		
proportion minority	public housing authority		
proportion black, non-Hispanic	public housing authority		
proportion Hispanic	public housing authority		
proportion household heads (with children) married	public housing authority		
proportion of household heads (with children) single parents	public housing authority		
proportion over-housed with more bedrooms than people	public housing authority		
average assets	public housing authority		

average number of months since manager reported on household	public housing authority		
Median Family Income or (area median income), on which HUD bases income limits on	county 1990	X	X
unemployment rate in 1996	county	X	X
average pay in 1996	county		X
unemployment rate in 1990	county		
average pay in 1990	county		
unemployment rate in 1991	county		
average pay in 1991	county		
unemployment rate in 1992	county		
average pay in 1992	county		
unemployment rate in 1993	county		
average pay in 1993	county		
unemployment rate in 1994	county		
average pay in 1994	county		
unemployment rate in 1995	county		
average pay in 1995	county		
poverty rate	1990 census tract	X	X
proportion of households with wage or salary income	1990 census tract	X	X
proportion of households with public assistance income	1990 census tract	X	X
median rent	1990 census tract	X	X
median year housing structure built	1990 census tract	X	X
proportion of adults with high school education only	1990 census tract		X
proportion of housing units vacant	1990 census tract		X
proportion of population living in rural area	1990 census tract		X

proportion of households with social security income	1990 census tract		X
proportion of mothers who are single	1990 census tract		X
proportion black, non-Hispanic	1990 census tract		X
proportion Hispanic	1990 census tract		X
proportion born in the US	1990 census tract		
proportion of adults with graduate degree	1990 census tract		
median income	1990 census tract		
proportion of households with interest, dividend or net rental income	1990 census tract		
median gross rent as percent of household income	1990 census tract		
proportion white, non-Hispanic	1990 census tract		
proportion senior citizen	1990 census tract		
median home value	1990 census tract		
age	child		
black, non-Hispanic	child		
white, non-Hispanic	child		
Hispanic	child		
other race/ethnicity (not white, not black not Hispanic)	child		
total household income	child		
head of household is married	child		
female	child		
disabled	child		
number of dependents in the household	child		
total number of people living in the household	child		
age	head of household		
black, non-Hispanic	head of household		
white, non-Hispanic	head of household		
Hispanic	head of household		

other race/ethnicity (not white, not black not Hispanic)	head of household		
total household income	head of household		
married	head of household		
female	head of household		
disabled	head of household		
number of dependents in the household	head of household		
total number of people living in the household	head of household		

Notes: This table defines all of the 92 baseline variables mentioned throughout the paper. The third and fourth column indicate whether the variable was included in the matching specification used to trim the sample and considered in the propensity score estimation, respectively. Variables at the level of the public housing project are created using the microdata from the HUD-PIC files. For recipients of the HOPE VI demolition grants, the values correspond to the year of the demolition, for other projects the values correspond to the average values between 1997 and 2001. The variables at the level of the public housing authority are based on public use data made available through the HUDUSER web tool. Family median income is also based on public use data obtained through the HUDUSER web tool. The unemployment rate and average earnings are from public use data made available by the Bureau of Labor Statistics. The characteristics of the census tracts in 1990 are derived from the 1990 Decennial Census and are from public use data provided by IPUMS (see Ruggles et al. 2019). The variables at the child and head of household level are from the HUD-PIC files.