Online Appendix
Moved to Opportunity: The Long-Run Effects of Public Housing Demolition on Children

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A1 Detailed Description of Data and Sample

The process for creating the sample and linking displaced and non-displaced public housing residents to data on long-run outcomes proceeds using the following four steps.

S1: Creating a Sample of Demolition-Affected Public Housing Buildings: The data construction process begins with the list of all building address records from the Chicago Housing Authority (CHA) during the 1990s. This building-level information comes from the same file used in previous studies of public housing demolition such as Jacob (2004) and Aliprantis and Hartley (2015). To define a sample of buildings affected by demolition, I combine the data on all CHA buildings with the list of high-rise public housing buildings from Jacob (2004).[A1] Note that Jacob (2004) determined building closure status (which precedes demolition) by examining trends in occupancy and conducting original qualitative research.[A2] Jacob (2004) also designated comparison group buildings that were not closed during this period, and I rely on his designations. Importantly, the comparison group buildings were not selected for demolition during the 1995-2001 period.[A3] In addition to restricting attention to the Jacob (2004) sample of buildings, I define the final sample using two additional rules, which do not affect the results of my analysis. First, as noted in Section III, I exclude 17 buildings from Henry Horner Homes projects because Vale and Graves (2010) suggested that the process of selecting buildings for demolition was different at this site relative to other projects that were subject to public housing demolition. Second, Buildings #2 and #10 from the Ida B. Wells Homes Extension had been included in the original Jacob (2004) sample, but these buildings

[A1] The set of buildings affected by demolition in Jacob (2004) were closed between 1995 to 1998.

[A2] I obtained the list of buildings included in Jacob (2004) directly from the author.

[A3] Authorities in Chicago continued demolition throughout the 2000s. The first demolition to affect one of the comparison group buildings was in 2001, which was six years after the initial demolition studied in this paper.

had fewer than 75 units which is a conventional threshold for defining a high-rise public housing building. With the restrictions, the final sample of public housing buildings is a set of 53 buildings located in seven projects. As shown in Table A3, the results of my analysis are robust to including children who lived in the original Jacob (2004) sample of buildings.[A4]

S2: Linking Households to the Sample of Demolition-Affected Public Housing Buildings: Next, I use the exact street address to merge the list of 53 demolition-affected public housing buildings (including demolished and non-demolished buildings) with social service case files from the Illinois Department of Human Services (IDHS). This IDHS data is a list of all Cook County (which includes Chicago) cases for beneficiaries who received social assistance services (TANF, Foodstamps or Medicaid) from 1994 to 1997. These case files are associated with 992,729 individuals (463,542 are recipients ("grantees") while 529,187 are individuals living in the same household).[A5,A6] With the merged data, I look for social assistance cases where the household (grantees and the other individuals listed on a case) had an address matched to a demolition affected public housing address in the year *prior to building closure*.[A7] Note that this process includes identifying individuals living in the set of non-demolished buildings in the year before a building closure for demo-

[A4] As in Jacob (2004), I exclude buildings from the Cabrini Green public housing project from the analysis. The justification is that the process for selecting buildings for demolition at the Cabrini-Green Homes was different from other projects. Specifically, the housing authority selected some Cabrini-Green buildings for demolition after a seven-year old child was killed by a shooter positioned an upper floor of one of the project's high-rises. Note that the results in my main analysis are robust to including children from the Cabrini-Green projects.

[A5] The record for using social assistance during this time period is referred to as the "target case". For the initial list of grantees, the IDHS data also contains a list of the other members of the grantee's household. These additional household members are identified as the set of non-grantee individuals listed on the grantee's target case.

[A6] The IDHS data contain demographic information on gender, race and age.

[A7] The social assistance case files are panel data at the monthly level, and I rely on this data on addresses over time to focus on households living in public housing prior to building closure due to demolition.

lition occurs in their housing project.[A8,A9] This focus on the year before building closure insures the definition for the sample of child households is unrelated to any impact that demolition has on public assistance participation.[A10] Note that I obtain similar results when conducting analysis using samples defined by alternative criteria for the year of residence in public housing. As noted in Section III, the final sample contains 2,767 households with 5,250 children that lived in public housing in the year before demolition.

S3: Linking the Sample of Households Affected by Demolition to Other Administrative Data. I next link the sample created in the previous steps which contains displaced and non-displaced adults and children to the following administrative data files: (1) quarterly earnings from the Illinois Department of Employment Security (IDES) (1995-2009); (2) monthly social assistance participation from the Illinois Department of Human Services (IDHS) (1989-2010); and (3) panel arrest data (at the level of the exact date of charge) from the Illinois State Police (ISP) (comprehensive up to 2010).[A11,A12] Specifically, this process begins by creating a panel of observations for each adult and child in the IDHS sample covering the period from 1994 to 2009.[A13] This panel

[A8]For example, Buildings #1 and #2 in Rockwell Gardens were closed in 1998 while Buildings #4 and #6 were not demolished until 2006. Follow Jacob (2004), I use children residing at Buildings #4 and #6 in the year prior to 1998 as the non-displaced (control) group for Rockwell Gardens.

[A9]There is no detectable difference in the occupancy match rate between the demolished and comparison group buildings.

[A10]Jacob (2004) defines his analysis sample as on children who lived in public housing in the year before building closure as recorded in Chicago Public Schools data.

[A11]Note that I have access to IDHS data on social assistance participation from 1989-2010 only for Cook County residents who were on social assistance at some point during the years 1994 to 1997. In other words, I do not have any data on individuals who *first* received social assistance from IDHS after 1997.

[A12]Note that labor market outcomes are measured based on Unemployment Insurance (UI) records, which do not provide information for those who are self-employed, independent contractors, work for the military or federal government, part time workers for schools or select non-profits, or engaged in agricultural employment.

[A13]Note that observations for 1994 are included to ensure that individuals who were displaced by public housing demolition in 1995 have at least one year of pre-treatment data.

is linked to the additional administrative data sources using information such as name, date of birth and social security number.[A14]

S4: Finalizing the Analysis Sample: The last step in constructing the data for this study is to define the final sample and measures used for my analysis. The main analysis focuses on displaced and non-displaced children who were age 7 to 18 in the year that they relocated due to demolition.[A15] This definition for age insures that the analysis in this paper is comparable to the MTO evaluation conducted by Sanbonmatsu et al. (2011). Table A14 shows that including younger children in the sample produces similar results to the main analysis. As an example, the figure on page Appendix - 5 below considers a demolition that occurs in 1996 showing how the sample of children is defined and when outcomes are measured.

In terms of the measures used for the analysis, the following list provides details on the rules that I use in creating each measure used in this study.

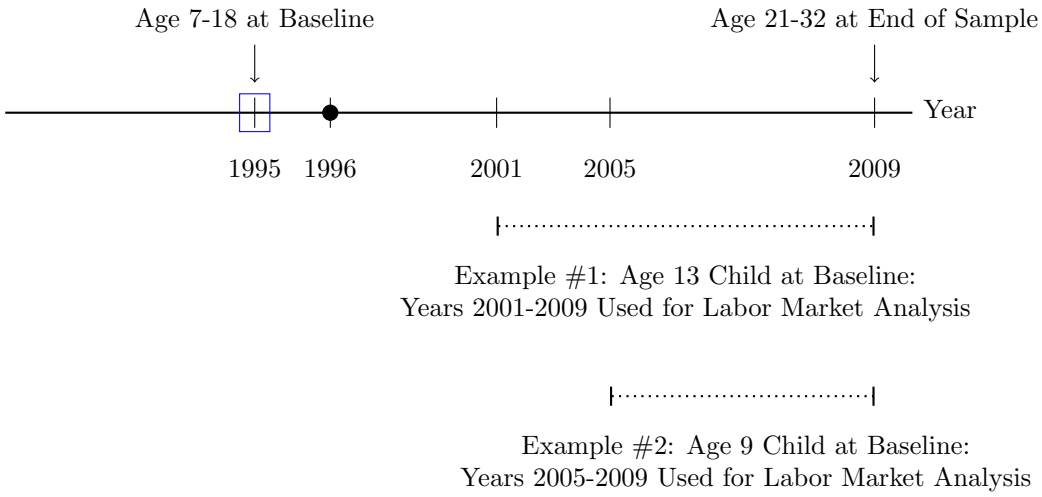
(a) To measure labor market activity, I create measures of being employed and earnings in each year. I count individuals as employed if they have any reported earnings in a given year. When individuals have no reported earnings in any quarter in a year, their annual earnings are set to 0. In terms of outliers, I set any observation greater than the 99th percentile in the distribution of earnings equal to the 99th percentile value. All monetary values are in $2012 values.

I use the pre-treatment observations to test for differences between treatment (displaced) and control (non-displaced) individuals before demolition.

[A14] To be clear, the IDES and ISP administrative files contain data on outcomes for individuals in the sample regardless of whether they use social assistance in the post-demolition years.

[A15] The sample includes children who lived in public housing buildings that were not selected as part of the initial wave of demolition from 1995-1998. For non-displaced buildings, I define children based on their age around the time a public housing building from their project was closed. For example, the housing authority closed two buildings in Rockwell Gardens in 1998. As the comparison group, I focus on children who were age 7-18 in the year prior to these closures and lived in two Rockwell Garden buildings that were not closed.

Illustration of Sample Definition and Years Used for Analysis



Notes: This figure provides an example of a public housing building closed for demolition in 1996 (denoted by the black dot). To be included in the sample, a child (age 7 to 18) must have been living in a household with a public housing address in IDHS social assistance case records in the year prior to building closure. This sample definition criteria is illustrated by the blue box around the tick-mark for 1995. The figure also shows which years are included to measure the long-run impact of public housing demolition on a child's adult-age labor market outcomes. For example, the main analysis of labor market outcomes uses data from the years 2001 to 2009 for a child who was displaced at age 13 in 1995. For a child displaced at age 9 in 1995, the analysis uses data from the years 2005 to 2009. The measures of labor market activity come from unemployment insurance records from the state of Illinois.

(b) To measure criminal activity, I create measures of arrests overall and by broad categories of offenses (violent, property, drug and "other"). The definitions for each category of crime follow previous studies such as Sanbonmatsu et al. (2011) and Jacob, Kapustin and Ludwig (2015). Specifically, violent crime includes arrests for assault, murder, rape, robbery, threat of force and kidnapping. Property crime includes arrests for larceny (including motor vehicle theft) and burglary. Drug crime includes arrests for drug possession and drug deals. The category "other" includes all remaining arrests that are not categorized as violent, property or drug arrests.

(c) To measure social program participation, I create measures for use of SNAP, TANF and Medicaid in each year. I count an individual as having used one of these programs if these individuals used these programs in a given year if they used these programs at least once.

Finally, to summarize the data used in this study, the table on page Appendix - 7 provides a list of all original and intermediate data files used to construct the final analysis sample:

List of Original and Intermediate Data Files

#	**File Name**	**Notes**
1	Chicago Housing Authority: Building Address and Occupancy Files	Building addresses for all buildings in the Chicago Housing Authority inventory during the 1990s. Obtained from Brian Jacob.
2	Sample of Demolished and Non-Demolished Public Housing Building Addresses	Created from File #1 based on Jacob (2004) sample definition. Details on construction described in Step 1 (S1).
3	IDHS Social Assistance Case Files from 1994-1997	List of all recipients (grantees and household members) of social assistance services (TANF, SNAP or Medicaid) from 1994 to 1997 in Cook County.
4	Sample of IDHS Recipients Living in Demolished and Non-demolished Public Housing Addresses	Created from File #3. Note that the sample is defined based on public housing demolitions that occurred from 1995-1998. Contains 2,767 households living in or near demolished public housing buildings in the year before building closure due to demolition. Contains 5,250 children. Details on construction described above in Step 2 (S2).
5	ISP Arrest Records	Comprehensive arrest data (recorded at the person and date level) up to 2010. Type of offense details included.
6	IDES Unemployment Insurance Records	Quarterly earnings data from 1995-2009.
7	IDHS Social Assistance Files	Monthly (TANF, SNAP, Medicaid) participation from 1989-2010 for Cook County residents on social assistance at some point during 1994-1997.
8	Panel Data for Main Analysis	Person-year observations covering the period from 1994 to 2009 for displaced and non-displaced public housing children. Baseline and post-demolition measures come from files #5, #6, and #7.

A2 Detailed Analysis of Differential Attrition

As explained in Section IV, I use the following specification for my analysis of the impact of relocation and demolition:

$$Y_{it} = \alpha + \beta D_{b(i)} + \psi_{p(i)} + \epsilon_{it}$$

where i is an individual and t represents years. The indexes $b(i)$ and $p(i)$ are the building and project where individual i lived. The terms δ_t and $\psi_{p(i)}$ are year and project fixed effects, respectively. The vector X_i is a set control variables that help improve precision by reducing residual variation. The dummy variable $D_{b(i)}$ takes a value of one if an individual was living in a building slated for demolition. Hence, β represents the net impact of relocation due to demolition on children's outcomes.

One identification condition for this analysis is that $cov(A_{i,t}, \epsilon_{i,t}) = 0$ where A is a binary indicator of attrition. While I do not actually observe A, I follow Grogger (2013) and impute A using various administrative sources. Specifically, the measure of attrition that I calculate is straightforward. Permanent attrition at time t implies that an outcome is zero after the point of departure (i.e. $Y_{i,t+j} = 0 \; \forall j \quad \in \{1, \ldots, T-t\}$, where Y is an administrative data outcome and T denotes the last unit of time in the data). For a single outcome k, I measure attrition by creating the following binary indicator:[A16]

$$a^k_{i,t}(T-t) = \mathbf{1}\left(\sum_{j=0}^{T-t} Y^k_{i,t+j} = 0\right).$$

Administrative data for the K-many outcomes available across administrative

[A16] As an example, consider how the measure $a^k_{i,t}(T-t)$ would be calculated in $t = 2000$ given that sample ends in 2009. In this case, the measure of attrition for person i in 2000 would be equal to 1 only if i has a a series of zeroes for outcome k in every year from 2000 to 2009.

sources can be pooled and attrition can measured as:

$$a_{i,t}(T-t) = \mathbf{1}\left(\sum_{j=1}^{K} a_{T-t}^{k} = K\right).$$

In what follows, I use the following compact notation: $a_{i,t}^{k} \equiv a_{i,t}^{k}(d)$ and $a_{i,t}(d) \equiv a_{i,t}$.

Table A1 shows the distribution of terminal runs of zeros by the year in which the run begins. The first three pairs of columns report statistics based on terminal runs for three different outcomes: (1) employment, (2) foodstamp receipt and (3) TANF or Medicaid receipt. The first column in each pair reports the probability that a terminal run is observed in a given post displacement year for the sample of non-displaced youth. For example, the first entry of the first column shows that 20.8 percent of non-displaced youth began a terminal run of employment zeros in the first year after displacement. By the definition of terminal run, this sequence was 14 years-long in the first year after displacement. In the second year after displacement, the probability of observing a terminal run of zeros was 21.5 percent. Note that in the second year post displacement, the definition of a terminal run is a 13 year-long sequence. Because the length of the terminal sequence of zeros shrinks in each row, the probability of observing a terminal run of zeros grows over the sample period. Based on the employment data alone, the imputed attrition is 63.1 percent in the final post-displacement year of the sample. Imputed attrition is slightly lower based on data for assistance outcomes as shown in Columns (3) and (5) of Table A1.

Attrition as measured by pooling these administrative sources is reported in Column (7). Combining the three data series dramatically affects the distribution of terminal runs of zeros. Based on the three outcomes, less than 2 percent of the sample begins a terminal run of zeros in the first year after displacement. This contrasts with the 20.8 for employment in isolation. Moreover, attrition based on all three measures is only 30.3 percent in the final year of the sample, which is less than half of the imputed attrition as measured

using the employment data alone. This dramatic affect on the distribution is primarily due to the negative correlation among the outcomes under consideration.

The main concern in this analysis is whether demolition appears to be correlated with imputed attrition. For each pair of columns that pertain to a particular outcome in Table A1, the second column of the pair reports the regression computed difference in the probability of attrition for displaced (treated) and non-displaced (control) adolescents who were age 7 to 18 in the year before a building was closed for demolition in their project. Specifically, I use Equation 1 where the outcome is imputed attrition $a^k_{i,t}$. There is no strong evidence of differential attrition by treatment status for any of the single outcomes in isolation. Across the three outcomes in 14 post-displacement years, the difference between the treated and control probability of attrition is statistically significant in just two of the 42 possibilities (5 percent). More importantly, Column (8) shows that there is no detectable difference in the probability of observing a terminal run of zeros in any post displacement year after pooling all three outcomes.

A3 Program Rules for Housing Vouchers

A3.1 Voucher Eligibility

Unlike other major social programs, housing vouchers are *not* an entitlement, and there are long waiting lists to receive housing assistance in many large cities. Housing voucher program eligibility is based on the local median household income. For example, a family of four is eligible for assistance if they fall under 50 percent of the local median income for all families in an area (although some families with incomes up to 80 percent of the local median income may be eligible depending on their location) (Olsen, 2003). Note that, unlike other means-tested programs, there are no asset tests for eligibility for housing vouchers. The eligibility limits for families of different sizes are equal to the following percentages of the four-person limit:

Housing Voucher Income Eligibility Adjustment by Family Size (Percentage of Four-Person Limit)

Family Size	1	2	3	4	5	6	7	8
Adjustment	70	80	90	100	108	116	124	132

Notes: All numbers are taken from Olsen (2003), p. 379.

A3.2 The Value of the Subsidy

There are two main components for determining the value of a housing voucher. First, the value of a voucher depends on the local Fair Market Rent (FMR) which is set by the U.S. Department of Housing and Urban Development (HUD). In 1995, the FMR was equal to the 40^{th} percentile of the local rent distribution for a unit of a given size. For example, the FMR for a two-bedroom apartment in Chicago was equal to $699 (nominal dollars) in 1995. Starting in 2001, the FMR was raised to the 50th percentile in some specific metropolitan areas, including Cook County, Illinois (in which Chicago resides). Second, the value of the voucher depends on household income. Specifically, a fraction of the income – 30 percent – must be paid toward rent. Hence, the

value of a housing voucher is given by:

$$\begin{aligned}
\text{Subsidy Value} &= \text{FMR} - S \\
S &= \max\{0.3 \times Y_{ah}, 0.1 \times Y_{gh}\} \\
Y_{ah} &= \text{Adjusted income under housing program rules} \\
&= \text{Earnings} + \text{TANF} \\
&\quad - (\$480 * \text{Children}) - (\$400 * \text{Disabled}) \\
&\quad - \text{Child care expenses} \\
&\quad - \text{Medical care expenses} \\
&\quad - \text{Attendant care expenses for disabled family} \\
Y_{gh} &= \text{Gross household income} \\
&= \text{Earnings} + \text{TANF}
\end{aligned}$$

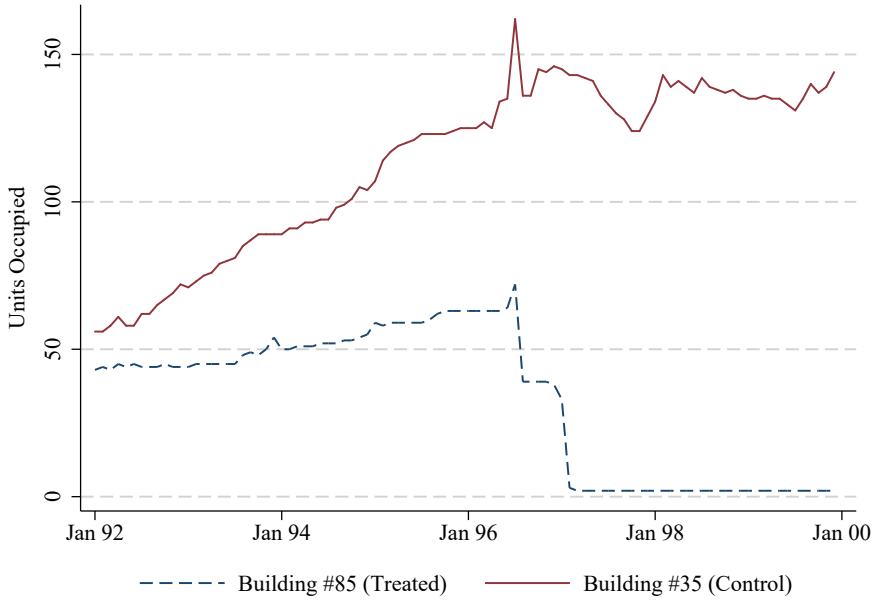
Note that TANF benefits are included when determining program eligibility and the family's rent contribution, while the value of other forms of government assistance such as foodstamps, EITC and Medicaid are not. Earnings by children younger than age 18 or payments received for foster children are also not counted under the voucher program rules. Medical care and attendant care expenses must exceed 3 percent of annual income.

Note that families offered housing vouchers usually have a limited time to lease a private market unit. The time limit is usually 3 to 6 months after initial receipt of the offer. In addition to the time limit, families must also obtain a private-market housing unit that meets HUD's minimum quality standards. As noted in previous work studying vouchers, landlords may prefer non-voucher tenants because of these quality standards or other paperwork associated with the voucher program. Finally, also note that once an individual qualifies for a housing voucher, they are not removed from the program if their income exceeds the eligibility limit. Of course, the value of the subsidy diminishes as income rises because a fraction of household income (generally 30 percent) must be paid toward rent.

A4 Determining Dates of Building Closure Due to Demolition

The date of closure for demolished (treated) buildings used in this paper is taken from Jacob (2004). As explained in the appendix of his paper, Jacob determines the date of building closure by examining trends in administrative data on building-level occupancy rates. Specifically, the year of closure can be determined by *sharp declines* in building occupancy. As an example, the figure below on page Appendix - 14 shows how the year of closure is determined from occupancy data. Occupancy at building #85 (the blue line) of the Washington Park project drops notably in early 1996 and later falls to zero starting in 1997. Because CHA policy requires tenants to be notified at least 120 days prior to building closure, the pattern in the occupancy data implies that residents of building #85 knew the building would close in late 1995. The figure also shows occupancy at a comparison (control) building. We see that occupancy in building #35 (the red line) is relatively stable after 1995 which is the year of the first closures due to demolition at Washington Park. In addition to using administrative data on occupancy, Jacob (2004) used information from interviews with CHA officials, housing advocates and the presidents of the Local Advisory Councils (LACs) of public housing projects affected by building demolition during the 1990s.

Occupancy Trends and the Date of Building Closure Due to Demolition



Notes: The figure displays monthly occupancy at two buildings at the Washington Park project in Chicago. Occupancy data is from administrative records from the Chicago Housing Authority (CHA).

A5 List of Demolished and Comparison Group Buildings

The tables below (see pages Appendix - 15 and Appendix - 16) list the demolition (treated) and comparison group buildings used in this paper. The date of building closure for the treated buildings is taken from Jacob (2004). After the initial wave of public housing demolitions (1995-1998), the CHA subsequently demolished comparison group buildings. The table on page Appendix - 16 provides dates of later demolition for the comparison group buildings based on CHA administrative data.

List of Treated Demolition Buildings and Dates of Building Closure

Project Name	Building #	Closure due to Demolition Date (Jacob, 2004)
Ida B. Wells Homes	1	1-Sep-95
Ida B. Wells Homes	3	1-Sep-95
Madden Park	10	1-Sep-95
Madden Park	11	1-Sep-98
Robert Taylor Homes	28	1-Sep-98
Robert Taylor Homes	10	1-Sep-98
Robert Taylor Homes	11	1-Sep-98
Robert Taylor Homes	21	1-Sep-98
Robert Taylor Homes	1	1-Sep-95
Robert Taylor Homes	4	1-Sep-98
Robert Taylor Homes	25	1-Sep-98
Robert Taylor Homes	16	1-Sep-98
Robert Taylor Homes	17	1-Sep-98
Robert Taylor Homes	20	1-Sep-98
Rockwell Gardens	1	1-Sep-98
Rockwell Gardens	2	1-Sep-98
Stateway	4	1-Sep-96
Washington Park	26	1-Sep-95
Washington Park	85	1-Sep-95
Washington Park	44	1-Sep-95

Notes: The date of building closure comes from Jacob (2004) and is based on CHA administrative records.

Comparison Group Buildings and Subsequent Demolition Dates

Project Name	Building #	Demolition Date
Ida B. Wells Homes	4	7-Jul-09
Ida B. Wells Homes	5	7-Jul-09
Ida B. Wells Homes	7	7-Jul-09
Ida B. Wells Homes	8	7-Jul-09
Ida B. Wells Homes	9	7-Jul-09
Ida B. Wells Homes	10	7-Jul-09
Madden Park	9	14-Sep-02
Robert Taylor Homes	6	30-Apr-03
Robert Taylor Homes	7	30-Apr-03
Robert Taylor Homes	5	30-Apr-06
Robert Taylor Homes	27	27-Aug-01
Robert Taylor Homes	9	30-Apr-05
Robert Taylor Homes	13	30-Sep-02
Robert Taylor Homes	14	30-Apr-02
Robert Taylor Homes	2	30-May-04
Robert Taylor Homes	3	30-May-03
Robert Taylor Homes	24	15-Oct-02
Robert Taylor Homes	26	30-May-03
Robert Taylor Homes	18	5-Apr-04
Robert Taylor Homes	19	30-Apr-03
Robert Taylor Homes	12	26-Apr-07
Rockwell Gardens	4	2-Jun-06
Rockwell Gardens	6	12-Jul-06
Stateway	5	11-Sep-07
Stateway	6	30-Sep-02
Stateway	7	30-Sep-02
Stateway	8	30-May-03
Stateway	9	5-Apr-04
Stateway	1	23-Jul-02
Stateway	3	30-May-03
Washington Park	35	30-Apr-07
Washington Park	42	15-Oct-02
Washington Park	65	30-Apr-03

Notes: Date of demolition taken from CHA administrative records.

A6 Appendix Figures and Tables

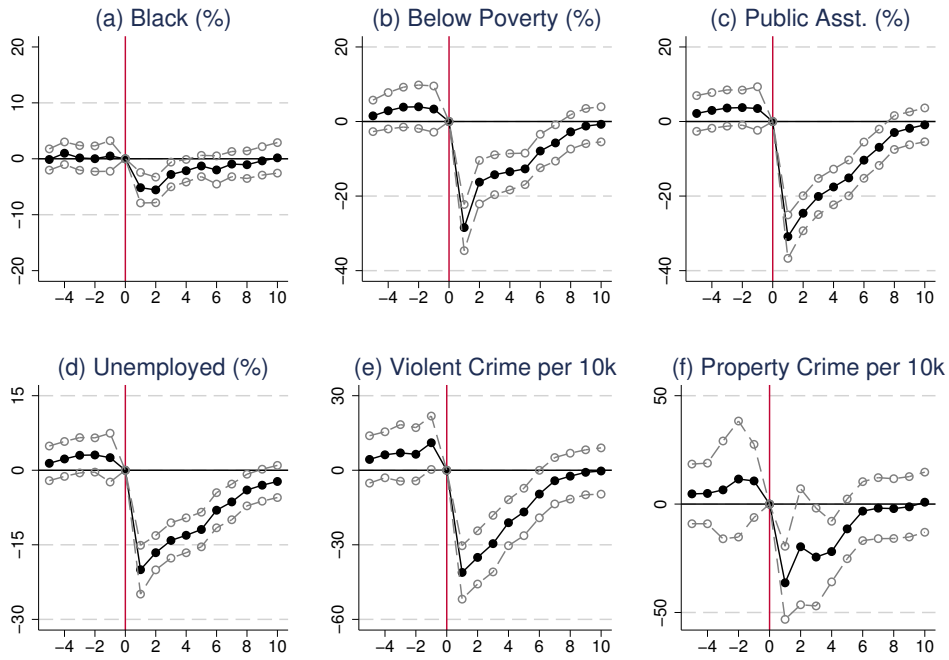


Figure A1: Impact on Neighborhood Conditions over Time

Notes: Panels show impacts on neighborhood characteristics over time. The unit of analysis is a household with at least one child (age 7 to 18 at baseline). Neighborhood characteristics are from Census data. Location is measured using address data from IDHS social assistance files. The x-axis measures the number of years since relocation due to demolition. Each point in a panel is an estimate of the difference between displaced and non-displaced households in a given period. Differences are estimated using Equation 1. Robust standard errors are clustered at the public housing building level.

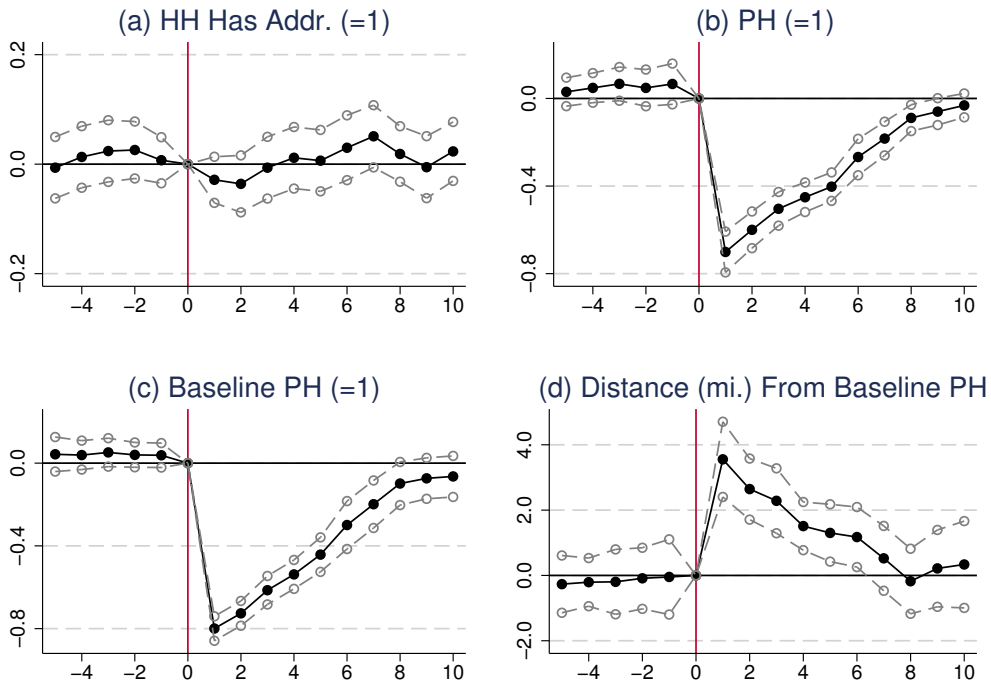


Figure A2: Impacts on Public Housing Residency and Distance to Baseline Address over Time

Notes: Panels show impacts on outcomes related to household location over time. The unit of analysis is a household with at least one child (age 7 to 18 at baseline). Location is measured using address data from IDHS social assistance files. The x-axis measures the number of years since relocation due to demolition. Each point in a panel is an estimate of the difference between displaced and non-displaced households in a given period. Differences are estimated using Equation 1. Robust standard errors are clustered at the public housing building level.

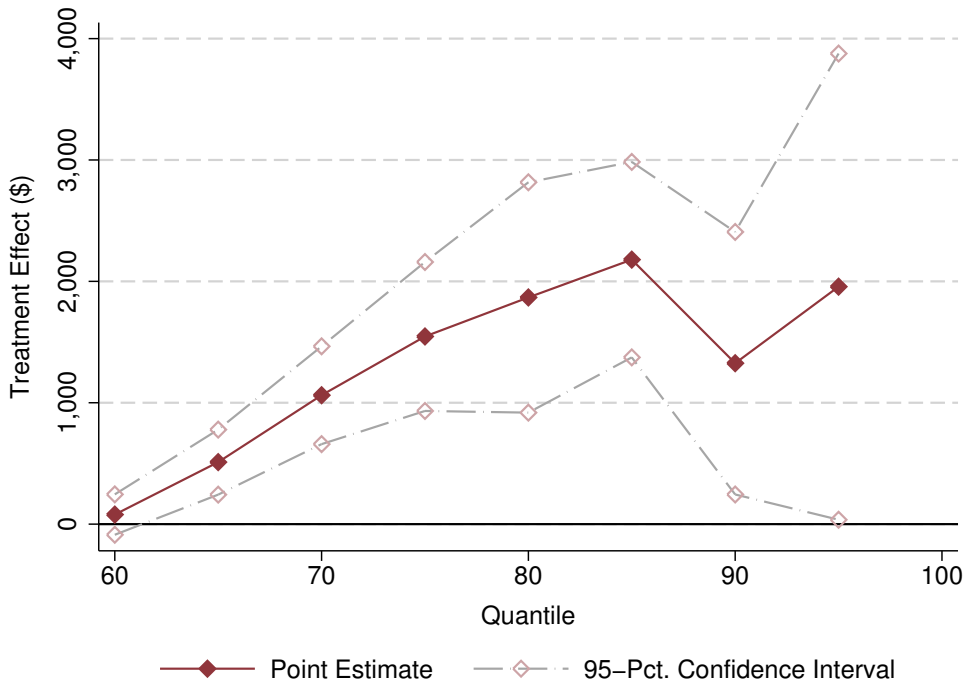


Figure A3: Quantile Treatment Effects for Adult Earnings of Children

Notes: This figure plots estimates of the quantile treatment effect on adult earnings outcomes for children (age 7 to 18 at baseline) affected by public housing demolition. These estimates measure the treatment effect for particular percentiles of the distribution of earnings. In other words, the quantile treatment effect estimate for the 60^{th} percentile measures the difference between the 60^{th} percentile of the treated (displaced) and control (non-displaced) earnings distributions. The bars surrounding each point estimate are the 95-percent confidence interval. Note that the lower bound of the x-axis on the figure is restricted to the 60^{th} percentile because a large fraction of earnings are equal to zero.

Table A1: Testing for Differential Attrition Using Administrative Data, Child (Age 7 to 18 at Baseline) Sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Employment		Foodstamps		TANF/Medicaid		All Three Outcomes	
Years Since Demolition (d)	Probability of Attrition by Year d	Difference: Treated–Control, Within Estimate	Probability of Attrition by Year d	Difference: Treated–Control, Within Estimate	Probability of Attrition by Year d	Difference: Treated–Control, Within Estimate	Probability of Attrition by Year d	Difference: Treated–Control, Within Estimate
1	0.208	-0.012	0.068	-0.014	0.054	0.005	0.014	-0.022
		[0.027]		[0.027]		[0.020]		[0.017]
2	0.215	-0.012	0.098	-0.015	0.103	0.002	0.027	-0.019
		[0.027]		[0.027]		[0.022]		[0.018]
3	0.224	-0.002	0.135	-0.023	0.156	-0.002	0.040	-0.023
		[0.027]		[0.026]		[0.024]		[0.019]
4	0.241	0.005	0.165	-0.011	0.200	-0.002	0.054	-0.016
		[0.028]		[0.028]		[0.026]		[0.021]
5	0.260	0.012	0.198	-0.003	0.244	-0.002	0.070	-0.011
		[0.028]		[0.029]		[0.025]		[0.021]
6	0.283	0.008	0.235	-0.002	0.293	0.028	0.090	0.003
		[0.028]		[0.028]		[0.023]		[0.022]
7	0.315	-0.005	0.268	0.003	0.338	0.034	0.111	0.007
		[0.028]		[0.027]		[0.023]		[0.023]
8	0.343	-0.003	0.305	0.012	0.394	0.029	0.133	0.016
		[0.027]		[0.028]		[0.025]		[0.024]
9	0.377	0.002	0.336	0.022	0.445	0.024	0.157	0.011
		[0.028]		[0.028]		[0.026]		[0.025]
10	0.419	0.026	0.380	0.035	0.468	0.029	0.183	0.017
		[0.028]		[0.029]		[0.027]		[0.027]
11	0.479	0.054*	0.427	0.051*	0.489	0.029	0.220	0.039
		[0.031]		[0.027]		[0.028]		[0.028]
12	0.471	-0.01	0.441	0.006	0.495	0.003	0.221	-0.011
		[0.035]		[0.024]		[0.036]		[0.033]
13	0.550	-0.011	0.490	0.015	0.525	0.004	0.264	-0.018
		[0.031]		[0.029]		[0.032]		[0.031]
14	0.631	-0.042	0.525	0.021	0.542	0.016	0.303	-0.015
		[0.029]		[0.031]		[0.034]		[0.038]

Notes: This table presents tests for differential attrition based on the administrative data for children (age 7 to 18 at baseline). Specifically, I follow Grogger (2013) and construct a measure of attrition based on terminal runs of zeros for a given outcome (e.g. employment) in a panel of observations for a child in the sample. For each outcome, columns (1), (3) and (5) report the probability of observing a terminal run of zeros that begins in a given post demolition year for non-displaced children. For example, the first entry of the first column shows that 20.8 percent of the non-displaced sample of youth began a terminal run of employment zeros in the first year after demolition. Note that for the first entry the definition of a terminal run is a 14 year period. Columns (2), (4) and (6) test whether displaced and non-displaced youth have detectably different rates of attrition. Specifically, these columns report the difference in attrition computed by regressing an indicator for attrition on a dummy for treated (displaced) status and a set of project fixed effects. See Appendix Section A2 for further details. Columns (7) and (8) examine attrition by pooling data sources.

Table A2: Spillover Specification Results: Adult Outcomes for Children

	(1)	(2)	(3)
		All Children	
	Control Mean	Difference: Treated–Far, Within Estimate (β')	Difference: Near–Far, Within Estimate (π)
Employed (=1)	0.419	0.044**	0.005
		[0.017]	[0.014]
Earnings	$3,713.00	$513.422**	$-122.782
		[195.356]	[167.376]
Total Arrests	0.358	-0.031	0.017
		[0.040]	[0.027]

Notes: Children are age 7 to 18 at baseline. The regression estimates are from a spillover specification as specified as follows:

$$Y_{it} = \alpha + \beta' D_{b(i)} + \pi N_{b(i)} + X_i'\theta + \psi_{p(i)} + \delta_t + \epsilon_{it},$$

where $N_{b(i)}$ is an indicator that a public housing building borders (is adjacent to) a demolition-targeted building. The omitted group in the regression is the set of children living in stable buildings located in the "far" buildings that were not adjacent to demolished buildings. The control mean statistics – Columns (1) and (4) – refer to the averages for non-displaced individuals living in the group of far buildings. Standard errors are presented below each regression estimate and are clustered at the public housing building level. Note that statistical significance is denoted by: * $p < 0.10$, ** $p < 0.05$ and *** $p < 0.01$.

Table A3: Impact of Demolition on Adult Labor Market Outcomes of Children, Including Including Additional Projects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Main Sample		With Cabrini-Green		With Henry Horner		Main Sample With Both	
	Control Mean	Difference: Treated–Control, Within Estimate	Control Mean	Difference: Treated–Control, Within Estimate	Control Mean	Difference: Treated–Control, Within Estimate	Control Mean	Difference: Treated–Control, Within Estimate
Employed (=1)	0.418	0.039***	0.418	0.034**	0.419	0.040***	0.419	0.036***
		[0.014]		[0.014]		[0.012]		[0.013]
Employed FT (=1)	0.099	0.013**	0.098	0.012**	0.099	0.017**	0.098	0.016**
		[0.006]		[0.006]		[0.007]		[0.007]
Earnings	3,713.00	602.269***	3,742.06	497.195**	3,706.92	664.071***	3,735.12	567.257***
		[153.915]		[192.296]		[181.451]		[196.933]
Earnings (> 0)	8,856.91	587.560**	8,917.67	448.217	8,819.53	677.369**	8,879.86	548.932*
		[222.595]		[272.425]		[302.261]		[309.769]
N (Obs.)		35,382		38,401		40,305		43,324

Notes: This table analyzes adult labor market outcomes for displaced (treated) and non-displaced (control) children (age 7 to 18 at baseline). The control mean statistic refers to averages for non-displaced individuals. The mean difference between displaced and non-displaced children reported in Columns (2), (4), (6) and (8) is computed using different samples of children included in the analysis. This difference is computed from a regression model where a labor market outcome (each row) is the dependent variable for individual i in year t. The independent variables in the regression include an indicator for treatment (displaced) status and a set of project fixed effects. See Equation 1 of the text for more details. The indicator variable for "Employed Full Time" is based on whether an individual makes more than $14,000 in annual earnings – this is the equivalent of 35 hours a week at $8 per hour for 50 weeks. Robust standard errors are clustered at the public housing building level. Note that statistical significance is denoted by: * $p < 0.10$, ** $p < 0.05$ and *** $p < 0.01$.

Table A4: Impact of Demolition on Adult Labor Market Outcomes of Children, Including Various Controls

	(1)	(2)	(3)	(4)	(5)	(6)
		Main Text Results				
	Difference: Treated-Control	Difference: Treated-Control	Difference: Treated-Control	Difference: Treated-Control	Difference: Treated-Control	Difference: Treated-Control
Employed (=1)	0.048***	0.040***	0.038***	0.041***	0.041***	0.040***
	[0.013]	[0.014]	[0.014]	[0.014]	[0.014]	[0.014]
Employed FT (=1)	0.013	0.013**	0.013**	0.014**	0.014**	0.014**
	[0.009]	[0.006]	[0.006]	[0.006]	[0.006]	[0.006]
Earnings	564.781**	602.27***	602.926***	621.492***	620.602***	634.617***
	[228.330]	[153.915]	[151.646]	[154.961]	[155.570]	[154.632]
Earnings (> 0)	251.865	587.56**	618.949***	620.477***	593.332***	632.986***
	[347.544]	[222.595]	[219.351]	[219.115]	[216.122]	[219.961]
N (Obs.)	35,382	35,382	35,382	35,382	35,382	35,382
Controls						
Project FE	No	Yes	Yes	Yes	Yes	Yes
Year FE	No	No	Yes	Yes	Yes	Yes
Male (=1)	No	No	No	Yes	Yes	Yes
Single Mother HH (=1)	No	No	No	No	Yes	Yes
Mother's # Arrests	No	No	No	No	No	Yes
Father's # Arrests	No	No	No	No	No	Yes

Notes: The mean difference between displaced and non-displaced children is reported in each row, and each column provides results computed from versions of Equation 1 which have different sets of controls sets of fixed effect and individual-level controls. Robust standard errors are clustered at the public housing building level. The specification used for the estimates in Column (6) also includes an indicator for whether a father (male under the age of 65) is present in the household. Statistical significance is denoted by: * $p < 0.10$, ** $p < 0.05$ and *** $p < 0.01$.

Table A5: Impact of Demolition on Adult Labor Market Outcomes of Children, Including Controls for Age and Sex

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Main Text Results	Specifications with Age and Sex Controls					
	Difference: Treated-Control, Within Estimate	Difference: Treated-Control, Within Estimate	Difference: Treated-Control, Within Estimate	Difference: Treated-Control, Within Estimate	Difference: Treated-Control, Within Estimate	Difference: Treated-Control, Within Estimate	Difference: Treated-Control, Within Estimate
Employed (=1)	0.040***	0.043***	0.043***	0.043***	0.043***	0.043***	0.043***
	[0.014]	[0.014]	[0.014]	[0.014]	[0.014]	[0.014]	[0.014]
Employed FT (=1)	0.013**	0.014**	0.014**	0.014**	0.014**	0.014**	0.014**
	[0.006]	[0.006]	[0.006]	[0.006]	[0.006]	[0.006]	[0.006]
Earnings	602.269***	619.645***	620.789***	621.137***	620.624***	632.968***	633.951***
	[153.915]	[168.579]	[166.831]	[166.900]	[167.074]	[169.296]	[169.303]
Earnings (> 0)	587.560**	470.862**	487.139**	491.206**	492.808**	486.919**	486.957**
	[222.595]	[226.817]	[225.303]	[224.791]	[224.918]	[224.796]	[224.313]
N (Obs.)	35,382	35,382	35,382	35,382	35,382	35,382	35,382
Controls							
Age	No	Yes	Yes	Yes	Yes	Yes	Yes
Male (=1)	No	Yes	Yes	Yes	Yes	Yes	Yes
Age^2	No	No	Yes	Yes	Yes	Yes	Yes
Age^3	No	No	No	Yes	Yes	No	No
Age^4	No	No	No	No	Yes	No	No
Age × Male (=1)	No	No	No	No	No	Yes	Yes
Age^2 × Male (=1)	No	No	No	No	No	No	Yes

Notes: The mean difference between displaced and non-displaced children is reported in each row and each column provides results computed from versions of Equation 1 which have different sets of controls for age and sex. Robust standard errors are clustered at the public housing building level. Statistical significance is denoted by: * $p < 0.10$, ** $p < 0.05$ and *** $p < 0.01$.

Table A6: Earnings Quantile Treatment Effects by Sex

	Quantiles						
	50	60	70	80	90	95	Fraction with Zero Earnings
Panel A: Descriptive Statistics, Controls							
Male	\$0.00	\$0.00	\$253.57	\$3207.53	\$11,301.13	\$19,269.51	0.67
Females	\$50.07	\$1277.54	\$3841.67	\$8236.44	\$15,409.34	\$21,599.07	0.49
Panel B: Quantile Treatment Effects							
Males	–	–	\$0.00	\$856.296**	\$1,314.96	\$542.76	
			[13.367]	[408.933]	[1,743.996]	[1,312.683]	
Females	\$171.43	\$1,033.82**	\$1,877.97**	\$2,461.81**	\$1,724.63**	2,415.52**	
	[105.731]	[104.998]	[223.522]	[386.654]	[607.650]	[787.502]	

Notes: This table presents descriptive statistics and quantile regression results using adult annual earnings data for displaced and non-displaced children (age 7 to 18 at baseline) from public housing projects. Robust standard errors are clustered at the public housing building level. Note that statistical significance is denoted by: * $p < 0.10$, ** $p < 0.05$ and *** $p < 0.01$.

Table A7: Earnings Quantile Treatment Effects by Age at Baseline

	Quantiles						
	50	60	70	80	90	95	Fraction with Zero Earnings
Panel A: Descriptive Statistics, Controls							
Age < 13 at Baseline	0	0	1,179.36	4,128.66	10,080.14	15,390.32	0.608
Age $13 - 18$ at Baseline	0	398.205	2,791.89	7,730.71	16,700.92	23,541.43	0.558
Panel B: Quantile Treatment Effects							
Age < 13 at Baseline	–	–	634.799**	1,797.467**	1,559.919**	237.23	
			[238.236]	[745.361]	[632.666]	[626.204]	
Age $13 - 18$ at Baseline	–	251.438*	1,276.450**	2,523.717**	1,973.34	1,856.79	
		[137.572]	[332.023]	[913.160]	[1,438.224]	[1,869.028]	

Notes: This table presents descriptive statistics and quantile regression results using adult annual earnings data for displaced and non-displaced children (age 7 to 18 at baseline) from public housing projects. Robust standard errors are clustered at the public housing building level. Note that statistical significance is denoted by: * $p < 0.10$, ** $p < 0.05$ and *** $p < 0.01$.

Table A8: Subgroup Analysis: Impact on Adult Labor-Market Outcomes of Children

(a) Dependent Variable: Labor Participation (=1)

Subgroup	(1) Fraction of All Children	(2) Employment Control Mean	(3) Employment Difference: Treated–Control, Within Est.
Age at Baseline			
7-12	0.59	0.374	0.038**
			[0.017]
13-18	0.41	0.436	0.041**
			[0.018]
Household Employment			
>0 Working Adults	0.18	0.454	0.03
			[0.032]
No Working Adults	0.82	0.403	0.042**
			[0.014]
Household Past Arrests			
>0 Adults with Arrest(s)	0.31	0.39	0.021
			[0.028]
No Adults with Arrest(s)	0.69	0.418	0.050**
			[0.012]
Baseline Poverty Rate			
Higher Poverty	0.82	0.404	0.064**
			[0.013]
Lower Poverty	0.18	0.434	0.008
			[0.018]

(b) Dependent Variable: Annual Earnings ($)

Subgroup	(1) Fraction of All Children	(2) Earnings Control Mean	(3) Earnings Difference: Treated–Control, Within Est.
Age at Baseline			
7-12	0.59	$2424.83	$583.34**
			[200.505]
13-18	0.41	$4106.29	$588.36**
			[247.348]
Household Employment			
>0 Working Adults	0.18	$3,983.29	$-77.61
			[408.349]
No Working Adults	0.82	$3,305.27	$723.79**
			[185.151]
Household Past Arrests			
>0 Adults with Arrest(s)	0.31	$2,998.69	$386.71
			[354.330]
No Adults with Arrest(s)	0.69	$3,571.25	$713.292**
			[167.586]
Baseline Poverty Rate			
Higher Poverty	0.82	0.404	849.046**
			[155.268]
Lower Poverty	0.18	0.434	268.605
			[227.352]

Notes: Subgroups are based on baseline (the year prior to relocation due to demolition) characteristics. The control mean statistics in Column (2) refer to averages for non-displaced individuals. The specification includes indicators for treatment interacted with subgroup membership indicators and project fixed effects. Results by baseline neighborhood poverty rate are based on dividing the sample into a group of children residing in "higher poverty projects" where the poverty rate was 87 percent and a group of children residing in "lower poverty projects" where the poverty rate was 66 percent. Robust standard errors are clustered at the public housing building level. Statistical significance is denoted by: * $p < 0.10$, ** $p < 0.05$ and *** $p < 0.01$.

Table A9: Impact of Demolition on Neighborhood Characteristics Three Years After Demolition, by Age at Baseline

	(1)	(2)	(3)	(4)
	Households with Younger (Age 7 to 12) Children		Households with Older (Age 13 to 18) Children	
	Control Mean	Difference: Treated–Control, Within Estimate	Control Mean	Difference: Treated–Control, Within Estimate
Household Has Address (=1)	0.81	0.009	0.74	0.029
		[0.023]		[0.029]
Restricted to Households with Address				
Public Housing Address (=1)	0.552	-0.473***	0.553	-0.391***
		[0.047]		[0.051]
Distance from Baseline Address (miles)	2.059	2.338***	1.864	1.686***
		[0.422]		[0.491]
Tract Characteristics:				
Black (%)	95.254	-4.170***	94.592	-0.095
		[1.396]		[1.331]
Below Poverty (%)	63.699	-15.343***	65.491	-12.599***
		[2.939]		[2.931]
On Welfare (%)	57.042	-21.419***	57.735	-18.146***
		[2.494]		[2.909]
Unemployed (%)	39.191	-14.749***	39.778	-13.264***
		[1.816]		[2.169]
Violent Crime (per 10,000)	68.049	-30.598***	70.546	-27.888***
		[5.916]		[5.800]
Property Crime (per 10,000)	100.425	-29.782***	105.986	-17.363
		[8.918]		[16.125]
N (Households)		1,924		1,536
N (Households with Address)		1,561		1,155

Notes: All neighborhood characteristics are measured three years after demolition and relocation. The control mean statistic in Columns (1) and (3) refer to averages for non-displaced households. The mean difference between displaced and non-displaced households are reported in Columns (2) and (4) as computed from a regression specified in Equation 1. Robust standard errors are clustered at the public housing building level. Statistical significance is denoted by: * $p < 0.10$, ** $p < 0.05$ and *** $p < 0.01$.

Table A10: Impact of Demolition on Adult Public Assistance Usage of Children

	Panel Model Results					
	(1)	(2)	(3)	(4)	(5)	(6)
	All		Males		Females	
	Control Mean	Difference: Treated–Control, Within Estimate	Control Mean	Difference: Treated–Control, Within Estimate	Control Mean	Difference: Treated–Control, Within Estimate
Any Assistance	0.630	0.013	0.502	0.020	0.746	0.012
		[0.022]		[0.028]		[0.025]
Foodstamps	0.509	-0.001	0.349	0.006	0.656	0.000
		[0.021]		[0.023]		[0.026]
Medicaid	0.477	0.005	0.307	0.015	0.633	0.002
		[0.021]		[0.025]		[0.025]
TANF	0.123	-0.001	0.022	0.005	0.216	-0.002
		[0.010]		[0.008]		[0.014]
N (Obs.)		35,532		16,928		18,604
N (Individuals)		5,250		2,547		2,703

Notes: This table analyzes adult public assistance utilization for displaced and non-displaced children (age 7 to 18 at baseline). The control mean statistics – Columns (1), (3) and (5) – refer to averages for non-displaced individuals. The mean difference between displaced and non-displaced children is reported in Column (2). This difference is computed from a regression model where an assistance outcome (each row) is the dependent variable for individual i in year t. The independent variables in the regression include an indicator for displaced (treated) status and a set of project fixed effects. See Equation 1 of the text for more details. Robust standard errors are clustered at the public housing building level. Note that statistical significance is denoted by: * $p < 0.10$, ** $p < 0.05$ and *** $p < 0.01$.

Table A11: Impact on Labor Market Outcomes of Parents

	Panel Model Results	
	(1)	(2)
	Control Mean	Difference: Treated-Control, Within Estimate
Employed (=1)	0.489	0.004
		[0.015]
Employed Full Time (=1)	0.192	0.015
		[0.013]
Earnings	$6,281.49	$403.76
		[335.892]
Earnings (>0)	$12,836.39	$783.19
		[478.826]
N (Obs.)		52,028
N (Individuals)		4,077

Notes: This table analyzes labor market outcomes for displaced and non-displaced parents defined as adults (age > 18 at baseline) living in households with children affected by demolition. The control mean statistic – Column (1) – refers to averages for non-displaced individuals. The mean difference between displaced and non-displaced households is reported in Column (2). This difference is computed from a regression model where a labor market outcome (each row) is the dependent variable for individual i in year t. The independent variables in the regression include an indicator for treatment (displaced) status and a set of project fixed effects. See Equation 1 of the text for more details. The indicator variable for "Employed Full Time" is based on whether an individual makes more than $14,000 in annual earnings – this is the equivalent of 35 hours a week at $8 per hour for 50 weeks. Robust standard errors are clustered at the public housing building level. Note that statistical significance is denoted by: * $p < 0.10$, ** $p < 0.05$ and *** $p < 0.01$.

Table A12: Impact on Adolescent Criminal Activity of Children

	(1)	(2)
	Control Mean	Difference: Treated–Control, Within Estimate
Total	0.369	-0.022
		[0.024]
Violent	0.086	-0.005
		[0.007]
Property	0.048	0.008*
		[0.004]
Drugs	0.106	-0.012
		[0.011]
Other	0.129	-0.013
		[0.011]
N (Obs.)		21,097
N (Individuals)		4,917

Notes: This table analyzes criminal activity for children (age 7 to 18 at baseline). Note the sample is restricted to post-demolitions observations where children are between ages 13 to 18 (adolescent ages). This implies that the very oldest children (by baseline age) are excluded from this analysis. The control mean statistic in Column (1) refers to averages for non-displaced children. The mean difference between displaced and non-displaced children is reported in Column (2). This difference is computed from a regression model where an outcome (each row) is the dependent variable for individual i in year t. Note that the panel for each individual is restricted to the years after demolition. The independent variables in the regression include an indicator for treatment (displaced) status and a set of project fixed effects. Robust standard errors are clustered by at the public housing building level. Statistical significance is denoted by: * $p < 0.10$, ** $p < 0.05$ and *** $p < 0.01$.

Table A13: Adjusted p-values for Main Demolition Analysis of Adult Outcomes of Children

	(1)	(2)	(3)	(4)
			p-values	
Outcome	Difference: Treat-Control, Within Estimate	Standard Error	Pairwise	FDR-Adjusted
Employed (=1)	0.040	[0.135]	0.0044	0.0040
Earnings	$602.27	[153.91]	0.0003	0.0003
Any Assistance (=1)	0.128	[0.022]	0.5633	0.5633
Total Arrests	-0.022	[0.024]	0.1628	0.3648

Notes: The results in Columns (3) and (4) are per-comparison (pairwise) and false discovery rate (FDR) adjusted p-values for four main outcomes considered in the analysis of children (age 7 to 18 at baseline) forced to relocate due to building demolition. The FDR-adjusted p-values control for the number of false positives when multiple hypotheses are tested. These adjusted p-values are calculated using the two-step procedure from Benjamini, Krieger and Yekutieli (2006). Columns (1) and (2) repeat the results from Tables 3, A10 and 5 for convenience.

Table A14: Sensitivity of Main Demolition Analysis to Sample Definition

(a) Sample: All Children Ages 5 to 18 at Baseline

	Panel Model Results	
	(1)	(2)
	Control Mean	Difference: Treated-Control, Within Estimate
Employed (=1)	0.415	0.037***
		[0.013]
Employed Full Time (=1)	0.096	0.012**
		[0.006]
Earnings	$3,628.97	$549.582***
		[149.769]
Earnings (> 0)	$8,737.85	$559.260**
		[217.636]
N (Obs.)		36,601
N (Individuals)		6,130

(b) Sample: All Children Ages 6 to 18 at Baseline

	Panel Model Results	
	(1)	(2)
	Control Mean	Difference: Treated-Control, Within Estimate
Employed (=1)	0.417	0.037***
		[0.014]
Employed Full Time (=1)	0.097	0.013**
		[0.006]
Earnings	$3,659.23	$565.376***
		[152.780]
Earnings (> 0)	$8,777.10	$579.157**
		[219.569]
N (Obs.)		36,223
N (Individuals)		5,752

Notes: This table analyzes adult labor market outcomes for displaced and non-displaced children using different definitions for the sample. Panel (a) uses children age 5 to 18 at baseline while Panel (b) uses children age 6 to 18 at baseline. The control mean statistic – Column (1) – refers to averages for non-displaced individuals. The mean difference between displaced and non-displaced children is reported in Column (2). See Equation 1 of the text details on the specification. The indicator variable for "Employed Full Time" is based on whether an individual makes more than $14,000 in annual earnings – this is the equivalent of 35 hours a week at $8 per hour for 50 weeks. Robust standard errors are clustered at the public housing building level. Note that statistical significance is denoted by: * $p < 0.10$, ** $p < 0.05$ and *** $p < 0.01$.

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