The Effect of LIHTC on Housing Markets: Quantities, Prices, and Welfare

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Introduction

We study how LIHTC projects affect local housing markets

1. Does LIHTC increase the multifamily housing stock?
2. Does LIHTC affect rental prices?
3. How much consumer-producer surplus does LIHTC generate?
4. What are the redistribution consequences of LIHTC?

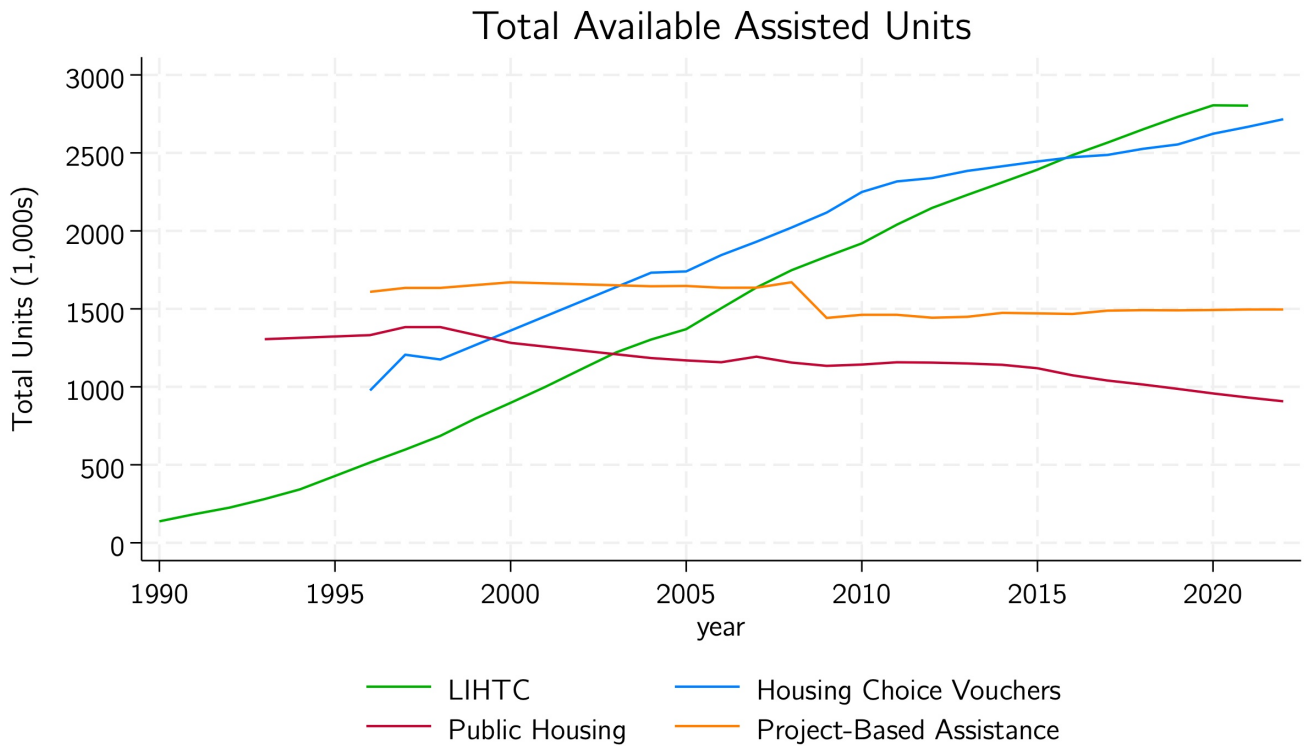
We bring new data and a new research design - approved vs rejected LIHTC projects - to bear on these questions

We also tackle other potential effects of LIHTC on:

- Housing consumption.
- Spillovers to other neighborhoods.
- Local house prices through amenities channel.

US public housing

Three main programs: Direct public housing, Section 8 voucher programs, and the Low-Income Housing Tax Credit (LIHTC) that subsidize development of low-income housing



There are about 2.8m LIHTC units in 2023

How LIHTC works I

Established by the 1986 Tax Reform Act, and run by the IRS

- Federal government awards LIHTC tax credits to states on a per person basis, 1.25$/resident in 1986-2001 (except 0.93$ in 1989). Increased to 1.75$ and indexed to inflation in 2003.
- $3.00 per person in 2025, with a minimum small population state allocation of $3.5m.

Developers apply to state housing authorities for LIHTC tax credits with a detailed description of their project

- State housing authorities award LIHTC credits to applications in a once or twice annual process using a ranking scheme partly determined by the enabling legislation. Some of the criteria are subjective (e.g., sustainability).

How LIHTC works II

These tax credits are allocated over a 10 year period

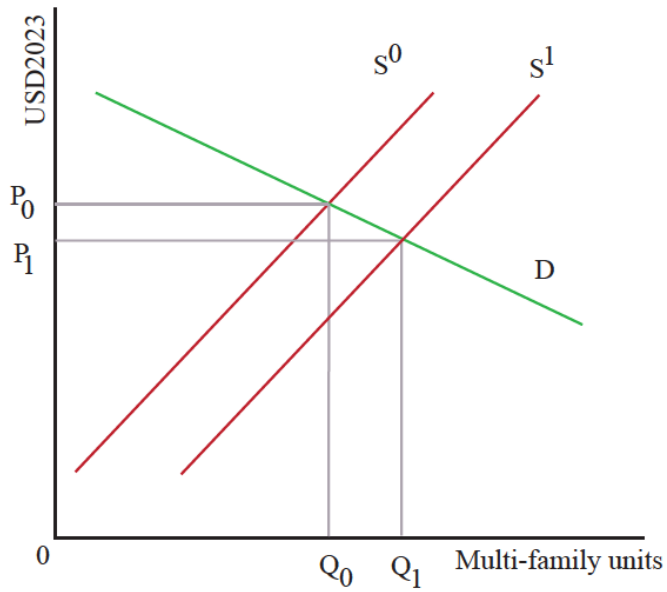
- In the case of a 9% LIHTC, for example, developers get 9% of a project's eligible development costs each year for 10 years.
- These credits are usually sold in a secondary market to finance construction costs. Worth about 70% of non-land costs.
- 4% credits are usually tied to tax-exempt bond financing.
- "Qualified Census Tracts" get a subsidy of 91% of capital.

Mostly built in poor neighborhoods

- A LIHTC project must rent 20% of units to households with income $<$ 50% Area Median Income (AMI) or 40% of households with income $<$ 60% AMI for 15 or 30 years.
- In general 100% of the units in a LIHTC building are designated as LIHTC units, to maximize tax credits.
- Rent is capped at 30% of 60% of AMI. Exceptions: bigger homes, projects receiving other types of federal assistance.

Welfare/Model I

Start with equilibrium (P_0, Q_0). Approval of a LIHTC project shifts the supply curve in the treated local market from S_0 to S_1.

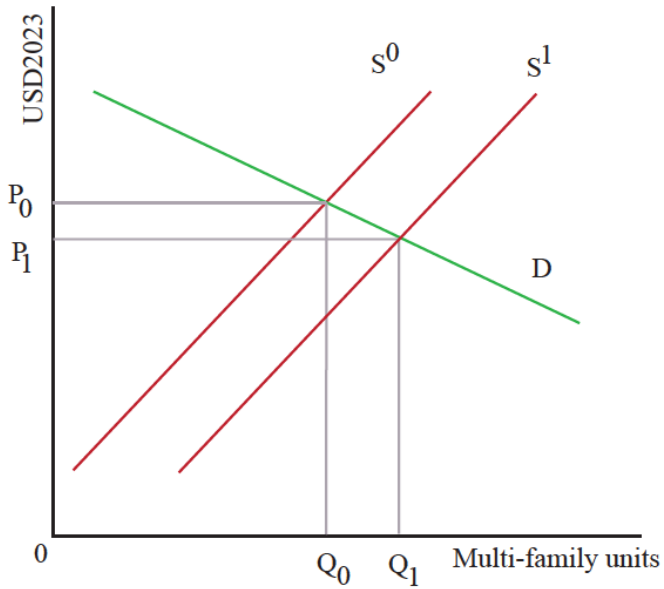


Treated market
(LIHTC project approved)

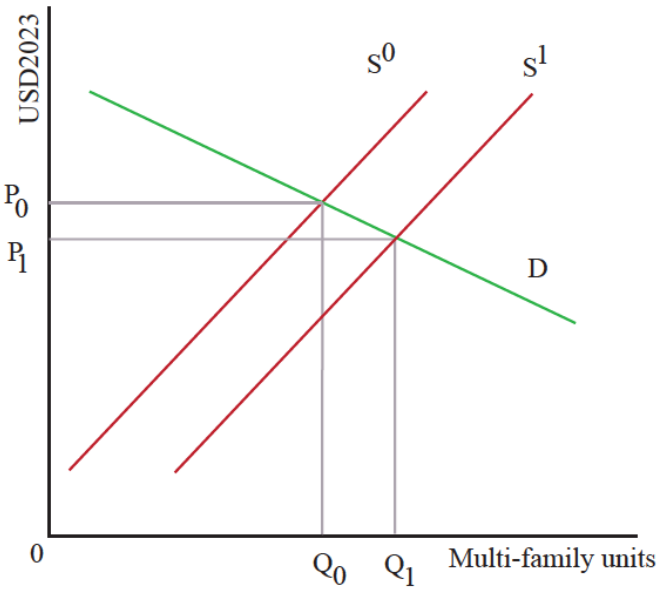
- In this example, new equilibrium (P_1, Q_1) has lower rents and higher quantities.

Welfare/Model II

How to measure crowd-out, defined as the displacement of private development by subdized housing? We compare the treated market with a control market that had a rejected LIHTC project:



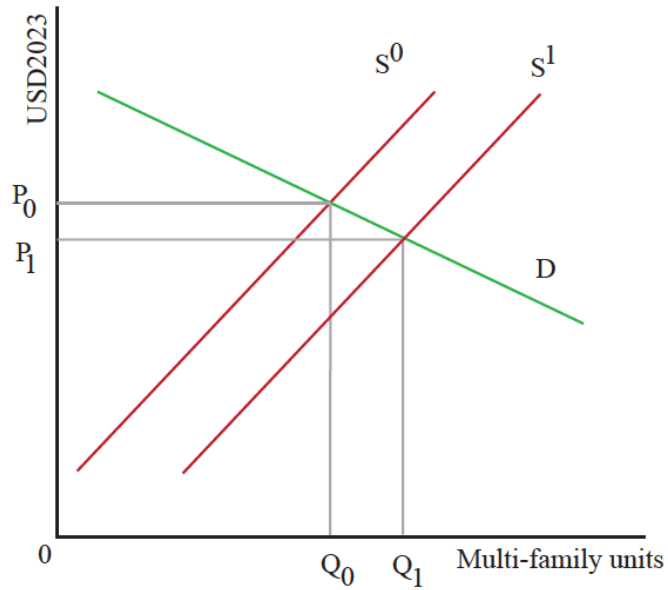
Treated market
(LIHTC project approved)



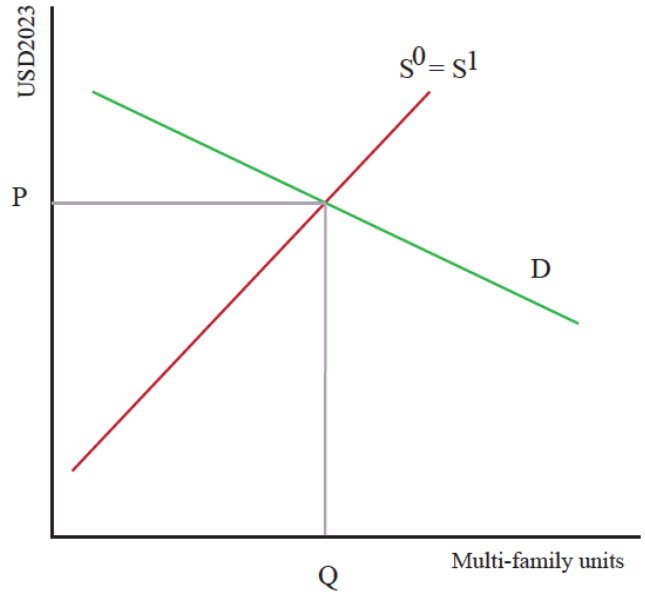
Control market
(LIHTC project rejected)

- In this example, there is **100% crowd-out** since developers in the control market would have constructed the same number of units in the absence of LIHTC tax credits.

Welfare/Model III



Treated market
(LIHTC project approved)

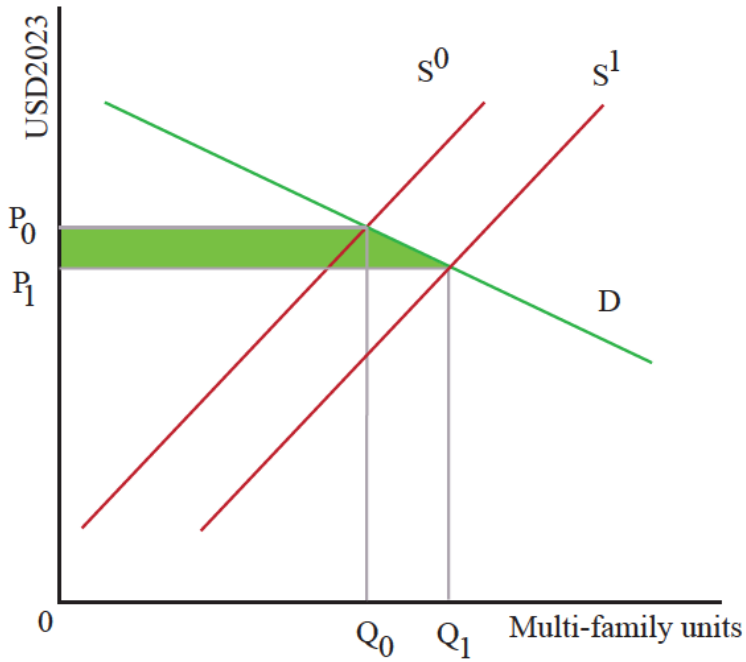


Control market
(LIHTC project rejected)

- In this second example, there is close to **0% crowd-out** since developers would *not* have constructed the new multifamily units in the control market in the absence of LIHTC tax credits.

Welfare/Model IV

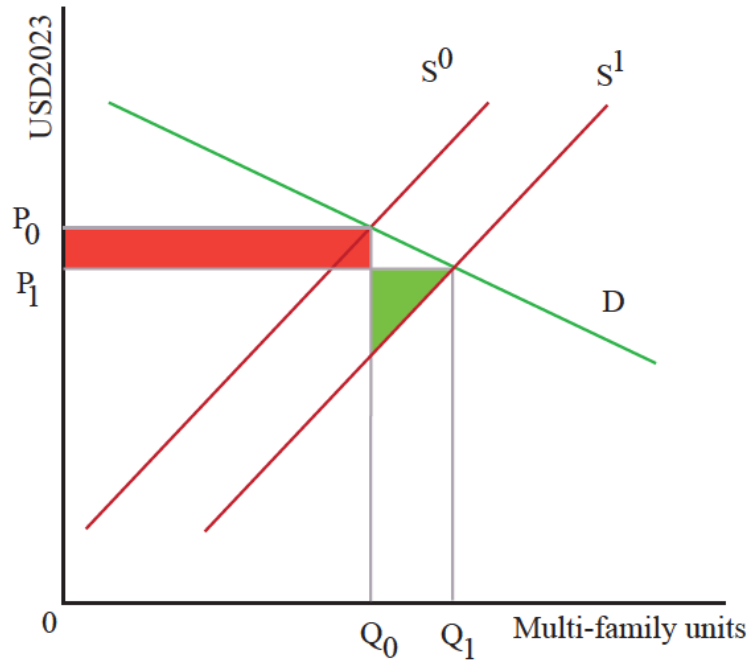
We will also estimate the consumer surplus gains from a LIHTC project:



- When market rents decline, both existing residents and LIHTC occupants benefit from the lower prices.

Welfare/Model V

The LIHTC shock also results in producer surplus losses and gains



- Lower market rents negatively impact existing landlords - transfers from landlords to existing renters.
- New construction benefits LIHTC developers.

Literature I

Literature finds a range of crowd-out effects

- Sinai and Waldfogel [2005]. 1990 country level, use variation in LIHTC rules, find 50-70% crowd-out.
- Eriksen and Rosenthal [2010]. 1990-2000 first differences, 10k disk around a tract, IV shows 100% crowd out for LIHTC.
- Soltas [2024]. Similar win/lose design used in this paper, 75% crowd out.
- Baum-Snow and Marion [2009] RDD on threshold for QCTs in 1990-2000. About 20% crowd out of rental units.

Impact on rents

- We are the first research to estimate the impact of LIHTC on rents!

Literature II

House prices

- Baum-Snow and Marion [2009] find 10% increase in price of owner occupied units from 100 LIHTC units in block-group.
- Diamond and McQuade [2019], zero average effect on owner occupied, -2%(+6%) in wealthy(poor) neighborhoods, decaying to 0% 1km from LIHTC project.
- Mcculloch [2025] reanalysis Diamond and McQuade [2019], gets -2% almost everywhere.

Externalities and quality

- Baum-Snow and Marion [2009], decline in tract income, increase in share renters, and faster turnover. Diamond and McQuade [2019] decreases in crime near LIHTC units in poor neighborhoods.
- LIHTC units tend to be newer than market units (126 buildings in Tallahhasee in 2002) Burge [2011].

Literature III

From 25 years of research we conclude:

- Crowd-out between 20% and 100%. The two most compelling research designs give 20% and 75%.
- There has been surprisingly little interest in market level housing rent outcomes.
- LIHTC may induce small neighborhood changes, depending on market circumstances.

LIHTC is difficult to study because outcomes are hard to observe (e.g. rent of local residents, locations of LIHTC projects) and unraveling the assignment process is difficult.

Data I

Outcomes:

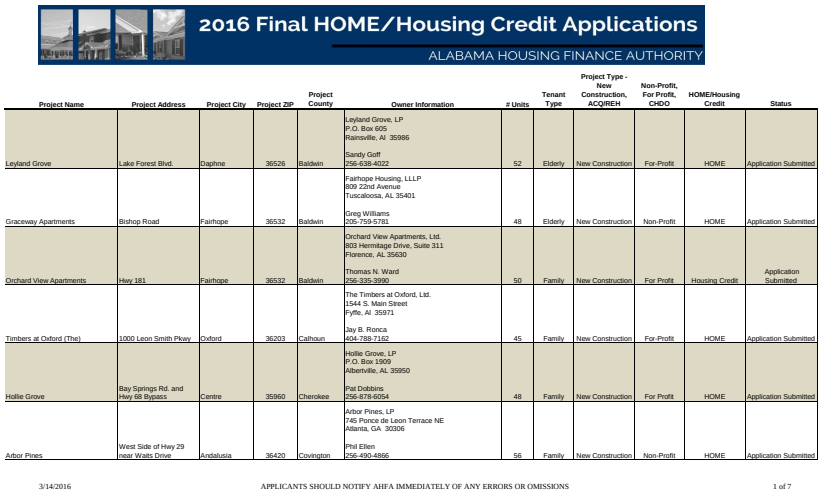
- Census/American Community Survey block group level data for 1990, 2000, 2005-2009, 2010-2014, 2015-2019, 2019-2023. We standardize to 2010 boundaries.

Treatment status:

- Collected and digitized lists of applications and awards from State Housing Authority websites and a commercial data aggregator (Application data).
- Each application reports state, year, successful or not, address, # units, rehab vs. new, project cost, etc.

Data II

Example:



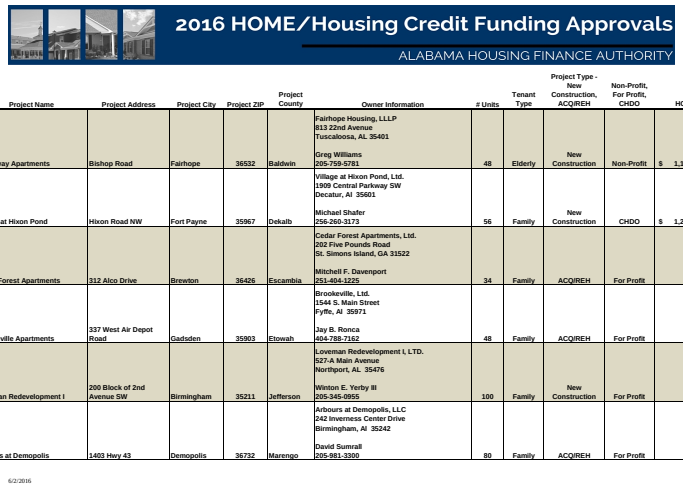
2016 Final HOME/Housing Credit Applications

ALABAMA HOUSING FINANCE AUTHORITY

Project Name	Project Address	Project City	Project ZIP	Project County	Owner Information	# Units	Tenant Type	Project Type - New Construction, ACQ/REH	Non-Profit, For Profit, CHDO	HOME/Housing Credit	Status
Leyland Grove	Lake Forest Blvd.	Daphne	36526	Baldwin	Leyland Grove, LP P.O. Box 605 Rainsville, Al 35986 Sandy Goff 256-638-4022	52	Elderly	New Construction	For-Profit	HOME	Application Submitted
Graceway Apartments	Bishop Road	Fairhope	36532	Baldwin	Fairhope Housing, LLLP 809 22nd Avenue Tuscaloosa, AL 35401 Greg Williams 205-759-5781	48	Elderly	New Construction	Non-Profit	HOME	Application Submitted
Orchard View Apartments	Hwy 181	Fairhope	36532	Baldwin	Orchard View Apartments, Ltd. 803 Hermitage Drive, Suite 311 Florence, AL 35630 Thomas N. Ward 256-335-3990	50	Family	New Construction	For Profit	Housing Credit	Application Submitted
Timbers at Oxford (The)	1000 Leon Smith Pkwy	Oxford	36203	Calhoun	The Timbers at Oxford, Ltd. 1544 S. Main Street Fyffe, Al 35971 Jay B. Ronca 404-788-7162	45	Family	New Construction	For-Profit	HOME	Application Submitted
Hollie Grove	Bay Springs Rd. and Hwy 68 Bypass	Centre	35960	Cherokee	Hollie Grove, LP P.O. Box 1909 Albertville, AL 35950 Pat Dobbins 256-878-6054	48	Family	New Construction	For Profit	HOME	Application Submitted
Arbor Pines	West Side of Hwy 29 near Walts Drive	Andalusia	36420	Covington	Arbor Pines, LP 745 Ponce de Leon Terrace NE Atlanta, GA 30306 Phil Ellen 256-490-4866	56	Family	New Construction	Non-Profit	HOME	Application Submitted

3/14/2016 APPLICANTS SHOULD NOTIFY AHFA IMMEDIATELY OF ANY ERRORS OR OMISSIONS 1 of 7

Alabama, 2016 application



2016 HOME/Housing Credit Funding Approvals

ALABAMA HOUSING FINANCE AUTHORITY

Project Name	Project Address	Project City	Project ZIP	Project County	Owner Information	# Units	Tenant Type	Project Type - New Construction, ACQ/REH	Non-Profit, For Profit, CHDO	HOME	Housing Credit
Graceway Apartments	Bishop Road	Fairhope	36532	Baldwin	Fairhope Housing, LLLP 813 22nd Avenue Tuscaloosa, AL 35401 Greg Williams 205-759-5781	48	Elderly	New Construction	Non-Profit	$ 1,145,240.00	$ 430,000.00
Village at Hixon Pond	Hixon Road NW	Fort Payne	35967	Dekalb	Village at Hixon Pond, Ltd. 1909 Central Parkway SW Decatur, Al 35601 Michael Shafer 256-260-3173	56	Family	New Construction	CHDO	$ 1,218,210.00	$ 795,575.00
Cedar Forest Apartments	312 Alco Drive	Brewton	36426	Escambia	Cedar Forest Apartments, Ltd. 202 Five Pounds Road St. Simons Island, GA 31522 Mitchell F. Davenport 251-404-1225	34	Family	ACQ/REH	For Profit		$ 263,610.00
Brookeville Apartments	337 West Air Depot Road	Gadsden	35903	Etowah	Brookeville, Ltd. 1544 S. Main Street Fyffe, Al 35971 Jay B. Ronca 404-788-7162	48	Family	ACQ/REH	For Profit		$ 369,241.00
Loveman Redevelopment I	200 Block of 2nd Avenue SW	Birmingham	35211	Jefferson	Loveman Redevelopment I, LTD. 527-A Main Avenue Northport, AL 35476 Winton E. Yerby III 205-345-0955	100	Family	New Construction	For Profit		$ 1,699,867.00
Arbours at Demopolis	1403 Hwy 43	Demopolis	36732	Marengo	Arbours at Demopolis, LLC 242 Inverness Center Drive Birmingham, Al 35242 David Sumrall 205-981-3300	80	Family	ACQ/REH	For Profit		$ 650,000.00

6/2/2016 2 of 3

Alabama, 2016 awards

- Digitize application and award files.
- Match applications to awards.
- Geocode addresses - very difficult task, many projects without address or with imprecise address.

Data III

Application data:

- All LIHTC since 1986: 50 states $\times$ 40 years of application rounds, 1 or 2 rounds per year.
- We collected lists of applications and awards for 479 application rounds in 43 states, mostly since 2000s

Sample	Applications	Approved projects	Rejected projects
Our full sample (43 states)	31,012	15,360	15,652
Post geocoding (38 states)	17,183	8,695	8,488
Treated in 2010-14 (23 states)	2,744	1,176	1,568

Data IV

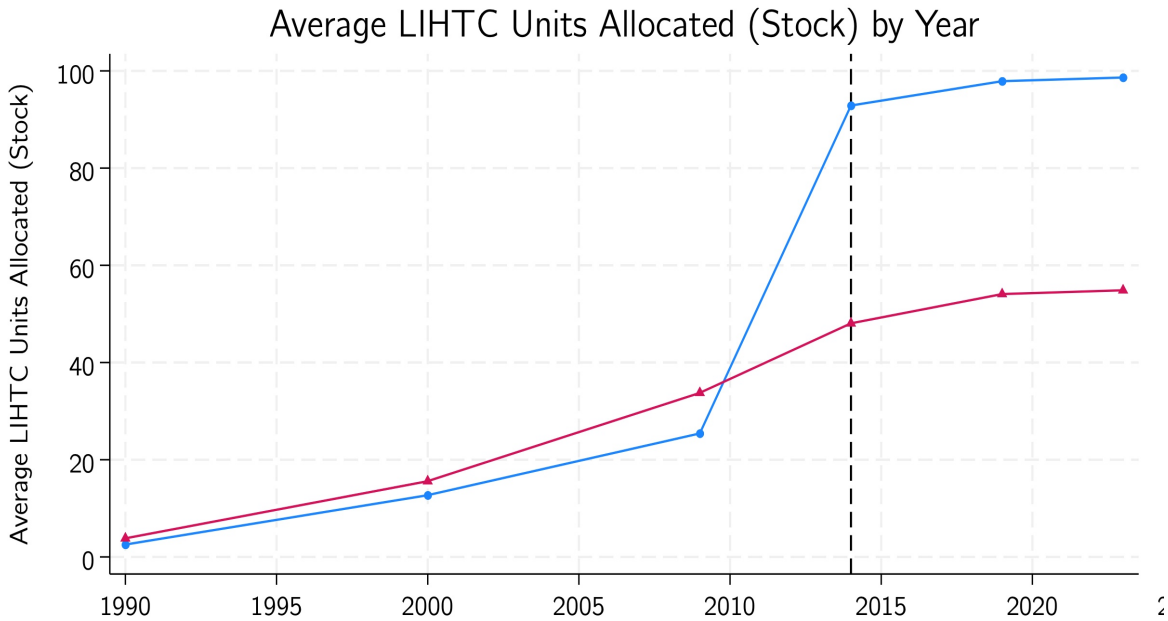
How to deal with measurement error from missing applications?

- Use Application data only to define treatment and control groups.
- Use Housing and Urban Development (HUD) data inventorying of all LIHTC projects to measure magnitudes of LIHTC units awarded and placed in service in both treatment and control groups.
- Eliminates potential bias if measurement error from missing data or missing geocoding is similar in both T and C groups.

How to deal with treatment status dynamics and properly compare treatment effects across periods?

- Restrict treatment period to 2010-2014, only using block groups without any other award in other periods - baseline sample.

HUD awarded units around 2010-2014 treatment period



HUD units awarded have increased by about 50 units more in treated than control block-groups

Research design: Winners vs Losers

We compare outcomes in local housing markets with approved LIHTC projects against local markets with rejected LIHTC projects

- Our definition of local market is a block group - recent papers suggest housing related spillovers operate over small spatial scales (Diamond and McQuade [2019], Pennington [2021], Asquith et al. [2023]).
- Timing: A period is a 5 (10) year ACS (Census) window; 1990, 2000, 2005-2009, 2010-2014, 2015-2019, 2019-2023.

Treatment and control groups:

- Block-group period is treated if it receives at least one LIHTC award in 2010-2014 but does not win one earlier or later.
- Block-group is a control if it receives an application in 2010-2014 but never an award.

Research design: Single cohort DiD

- Balanced sample with two pre- and three post-treatment periods for all units.
- Single cohort/non-staggered differences in differences

$$y_{it} = A_0 + A_1 \mathbb{1}(\text{Treated})_{it} + A_1 \mathbb{1}(\text{Treated})_{it} \times \text{Post}_{it} + \varepsilon_{it}$$

- We include "state" fixed effects in all regressions to help with parallel trends.
- Use Sant'Anna and Zhao [2020] to allow for heterogeneous treatment effects and a doubly robust estimator.
- Identification requires (conditional) parallel trends and no anticipation.
- Treated block-groups are spatially separate from controls. We are not using a donut design - see Pollmann [2020].

Main Results, baseline sample

VARIABLES	LIHTC Units Allocated (HUD)	LIHTC Units Placed in Service (HUD)	Total Multifamily Housing Units (ACS)
1990	4.618	6.738	-3.601
	(4.824)	(4.826)	(10.637)
2000	2.812	4.481	2.081
	(3.622)	(3.752)	(8.071)
2005-2009	0	0	0
	(0)	(0)	(0)
2010-2014	49.146***	39.731***	-2.314
	(3.670)	(3.629)	(9.303)
2015-2019	49.980***	51.701***	29.110**
	(3.847)	(3.882)	(13.668)
2019-2023	49.906***	51.168***	43.704**
	(3.913)	(3.940)	(17.350)
Ctrl Grp Avg in '05-'09	33.8	32.1	216.9
Observations	11412	11412	11412

$\Rightarrow$ Parallel trends looks good.

$\Rightarrow$ 51 LIHTC units gives 44 multi-family units. 15% crowd-out, we cannot reject zero crowd-out. We can reject 100% crowd-out.

Robustness checks

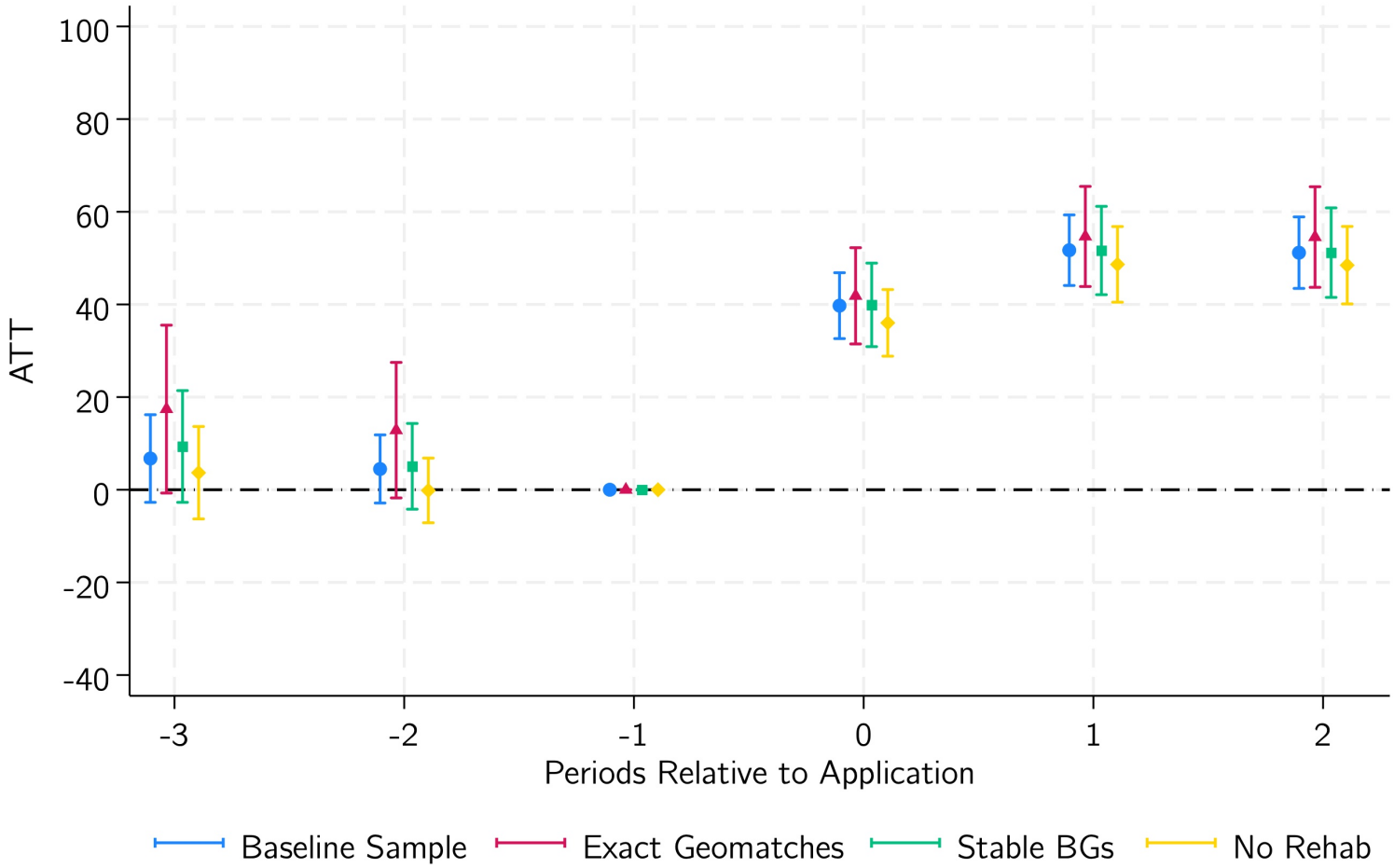
A series of robustness checks suggest very small crowd-out effect is robust

- Exact geocoding sample.
- No boundary changes.
- No rehab
- Our full geocoded sample using all application years.

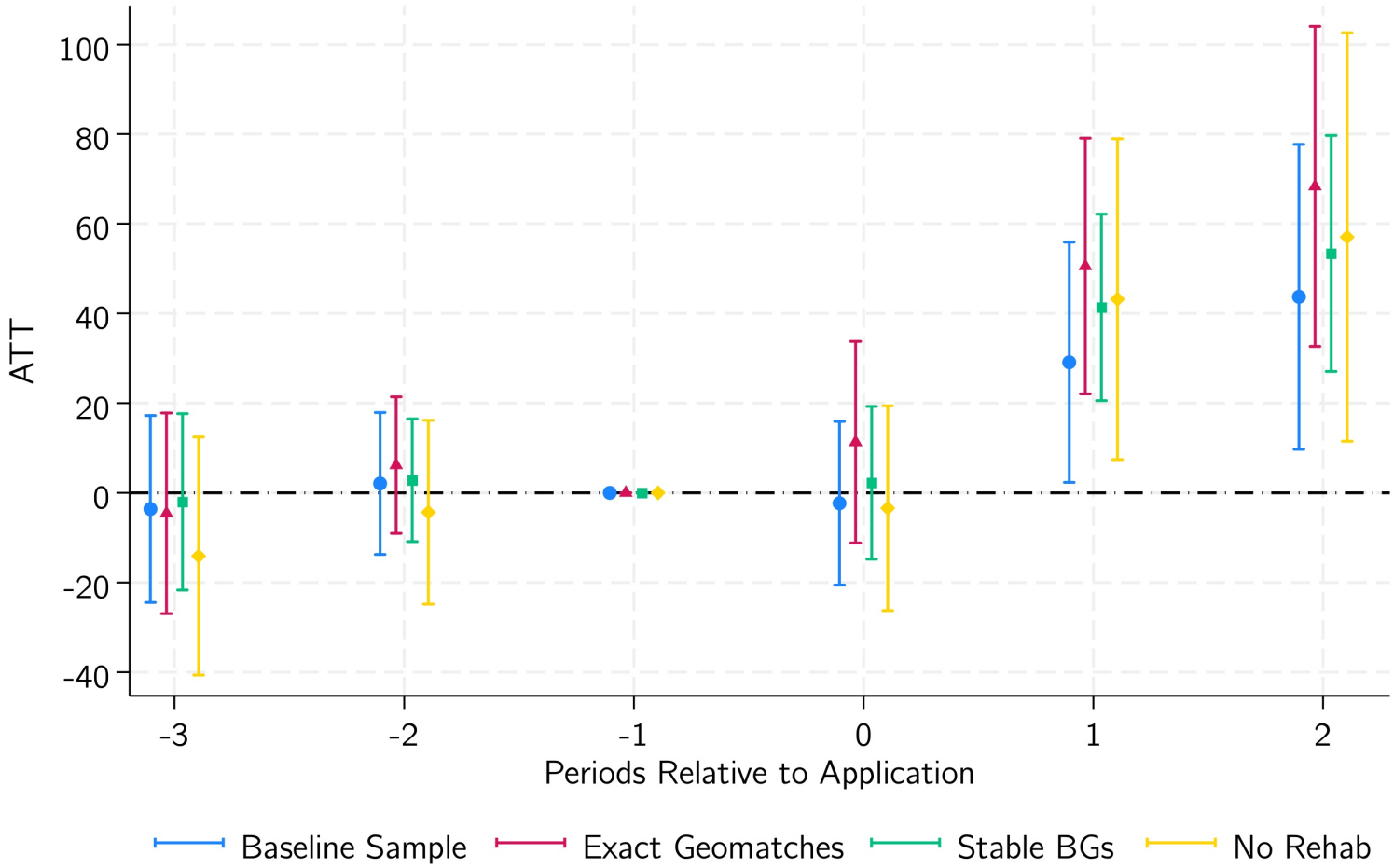
We also do not observe quantity spillovers

- No supply responses in single family markets.
- No supply responses in neighboring block groups after controlling for boundary changes (but not before!).

LIHTC Units Placed in Service



Total Multifamily Units



$\Rightarrow$ No crowd-out in all samples

Full sample results

VARIABLES	LIHTC Units Allocated (HUD)	LIHTC Units Placed in Service (HUD)	Total Multifamily Housing Units (ACS)
T-3	1.893	2.242	1.335
	(1.535)	(1.550)	(4.432)
T-2	0.990	1.695**	-0.958
	(0.831)	(0.846)	(2.632)
T-1	0	0	0
	(0)	(0)	(0)
T	46.310***	31.317***	3.818
	(1.355)	(1.229)	(2.770)
T+1	64.302***	60.146***	38.438***
	(1.976)	(1.932)	(5.650)
T+2	87.354***	85.984***	83.599***
	(3.291)	(3.268)	(10.696)
State FE	✓	✓	✓
Ctrl Grp Avg	28.1	26.2	207.2
Observations	47214	47214	47214

More precise estimates, but difficult to interpret results given dynamics, unbalanced panel, etc.

Spillovers

SAMPLE	Baseline	Neighboring Block Groups		Neighboring Block Groups (Stable BGs Only)	
	(1)	(2)	(3)	(4)	(5)
VARIABLES	Total Single Family Units (ACS)	LIHTC Units Placed in Service (HUD)	LIHTC Units Total Multifamily Housing Units (ACS)	LIHTC Units Placed in Service (HUD)	LIHTC Units Total Multifamily Housing Units (ACS)
1990	21.499	-0.690	-1.699	1.886	-4.996
	(16.270)	(2.446)	(5.813)	(3.159)	(6.173)
2000	13.143	-1.319	-1.703	1.186	0.842
	(12.570)	(2.233)	(4.975)	(2.962)	(5.977)
2005–2009	0	0	0	0	0
	(0)	(0)	(0)	(0)	(0)
2010–2014	13.894	-0.952	-6.432	-1.293	-3.649
	(9.474)	(1.127)	(4.929)	(1.511)	(5.481)
2015–2019	15.064	1.155	6.056	1.507	1.907
	(11.252)	(1.125)	(3.905)	(1.444)	(4.790)
2019–2023	17.069	0.965	11.358**	1.425	6.760
	(16.985)	(1.247)	(4.843)	(1.490)	(5.635)
State FE	✓	✓	✓	✓	✓
Ctrl Grp Avg in '05–'09	435.0	12.8	144.7	12.9	145.2
Observations	11412	26159	26159	18557	18557

$\Rightarrow$ No spillovers in single family market, and no effect on neighbors once control for changing block-group boundaries.

Summary: LIHTC effects on housing supply

Easiest interpretation is that there is no crowd-out and no spillovers

- Our main sample suggests a small 15% crowd-out.
- There is less crowd-out (and even crowd-in) if we use samples where certain types of mismeasurement do not occur.
- Confidence intervals are still wide though, but more precise with full sample.
- Spillovers don't occur in a sample with stable block-groups, we also find no effects on single family market.

$\Rightarrow$ One subsidized LIHTC unit gives approximatelly one multifamily unit.

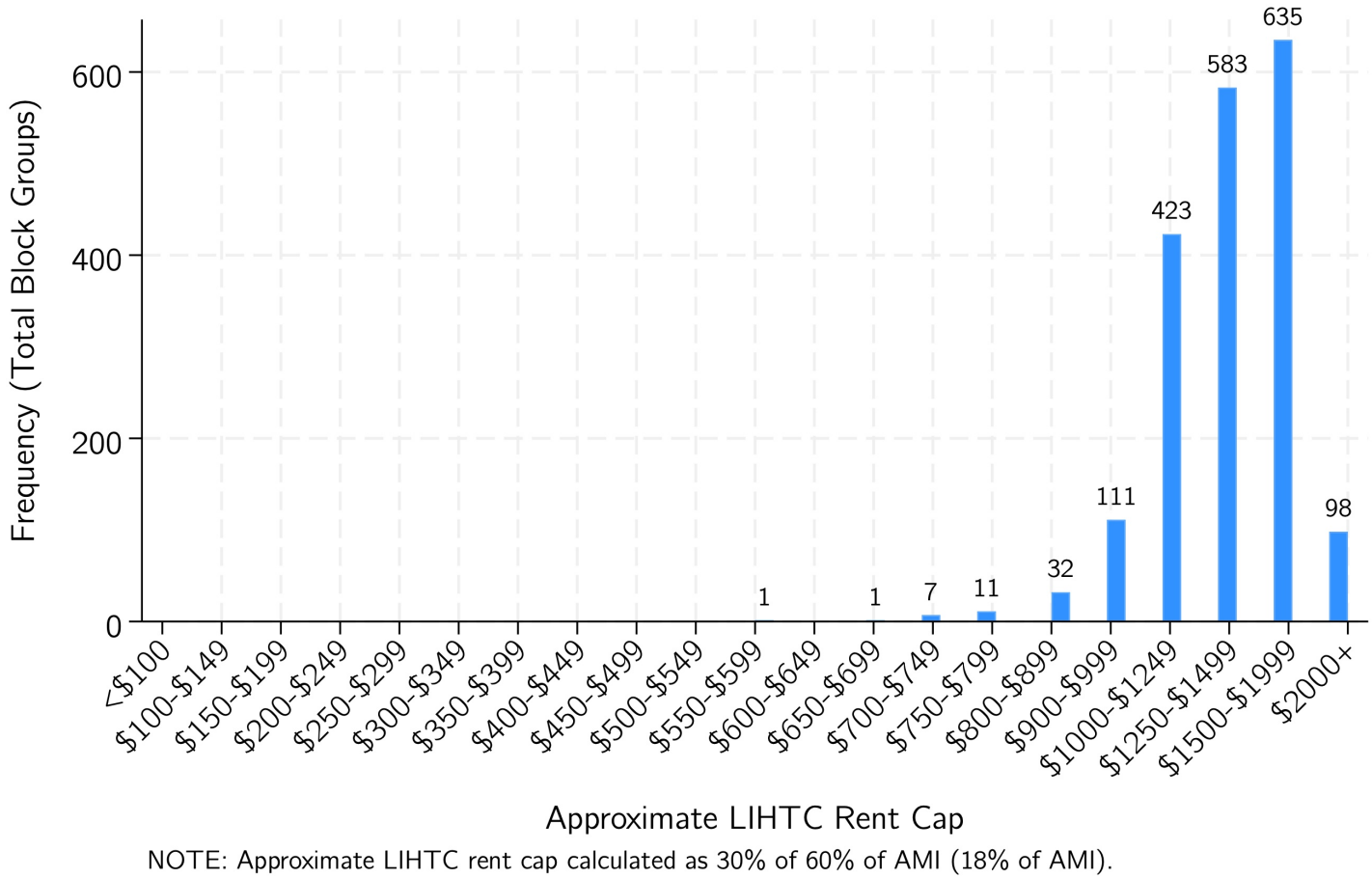
Rents, baseline sample

VARIABLES	(1) Avg Contract Rent	(2) Log(Avg Contract Rent)	(3) Avg Gross Rent	(4) Log(Avg Gross Rent)
1990	-15.506	-0.002	8.716	-0.005
	(30.441)	(0.023)	(21.798)	(0.023)
2000	-33.697	-0.029	-19.757	-0.032
	(27.861)	(0.022)	(19.454)	(0.020)
2005-2009	0	0	0	0
	(0)	(0)	(0)	(0)
2010-2014	-38.099	-0.017	-12.543	-0.019
	(31.950)	(0.022)	(21.184)	(0.021)
2015-2019	-39.052	-0.022	-26.051	-0.025
	(31.464)	(0.024)	(26.925)	(0.023)
2019-2023	-54.061	-0.056**	-56.214	-0.049**
	(34.079)	(0.026)	(35.738)	(0.025)
State FE	✓	✓	✓	✓
Ctrl Grp Avg	$782	6.6	$1011	6.8
Observations	11252	10957	10741	10741

Note: All prices are in 2023 dollars, adjusted using CPI-U-RS.

- Rent $\downarrow$ 6% for average contract rent and $\downarrow$ 5% for average gross rent.

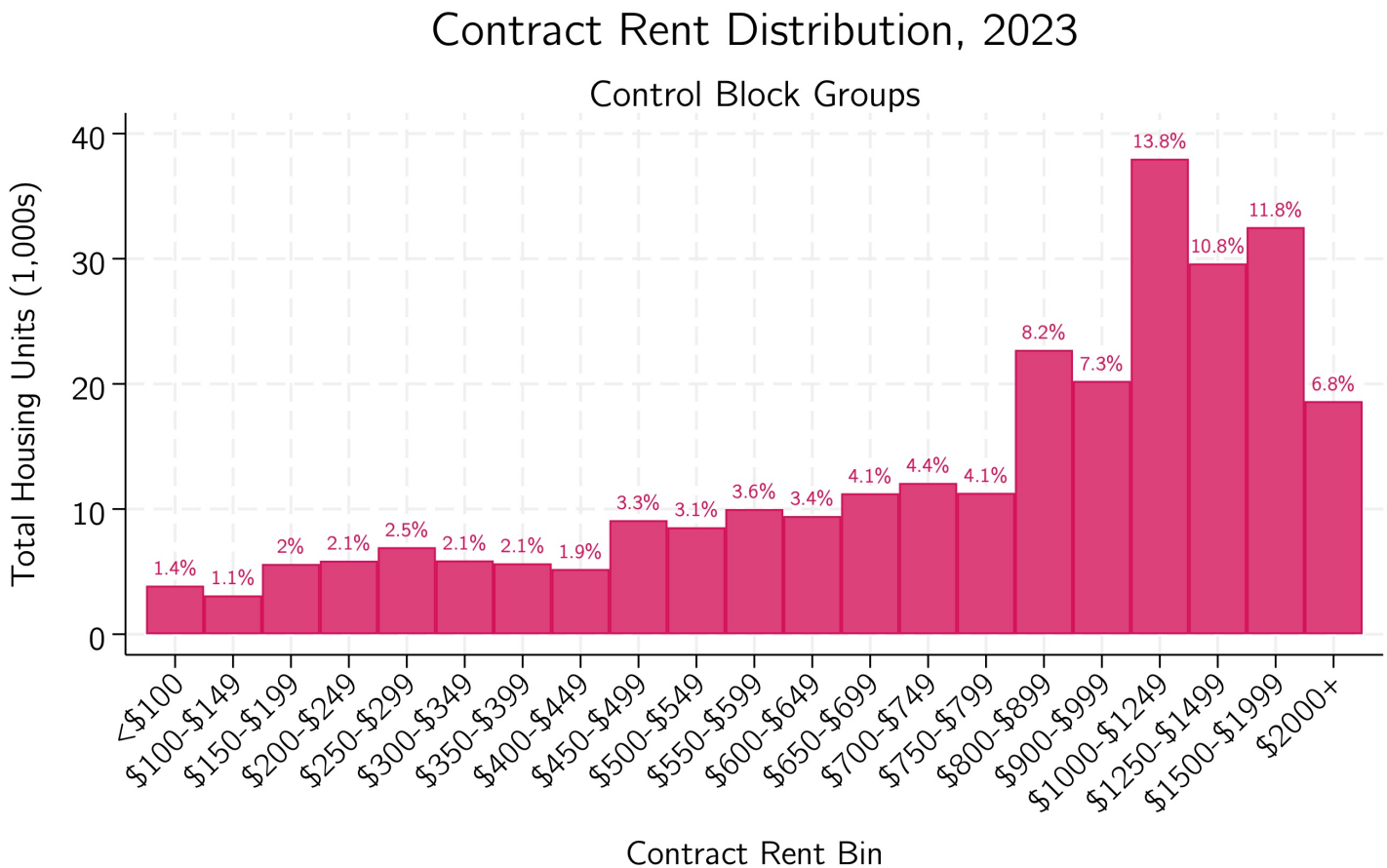
Distribution of maximum LIHTC contract rent, baseline sample



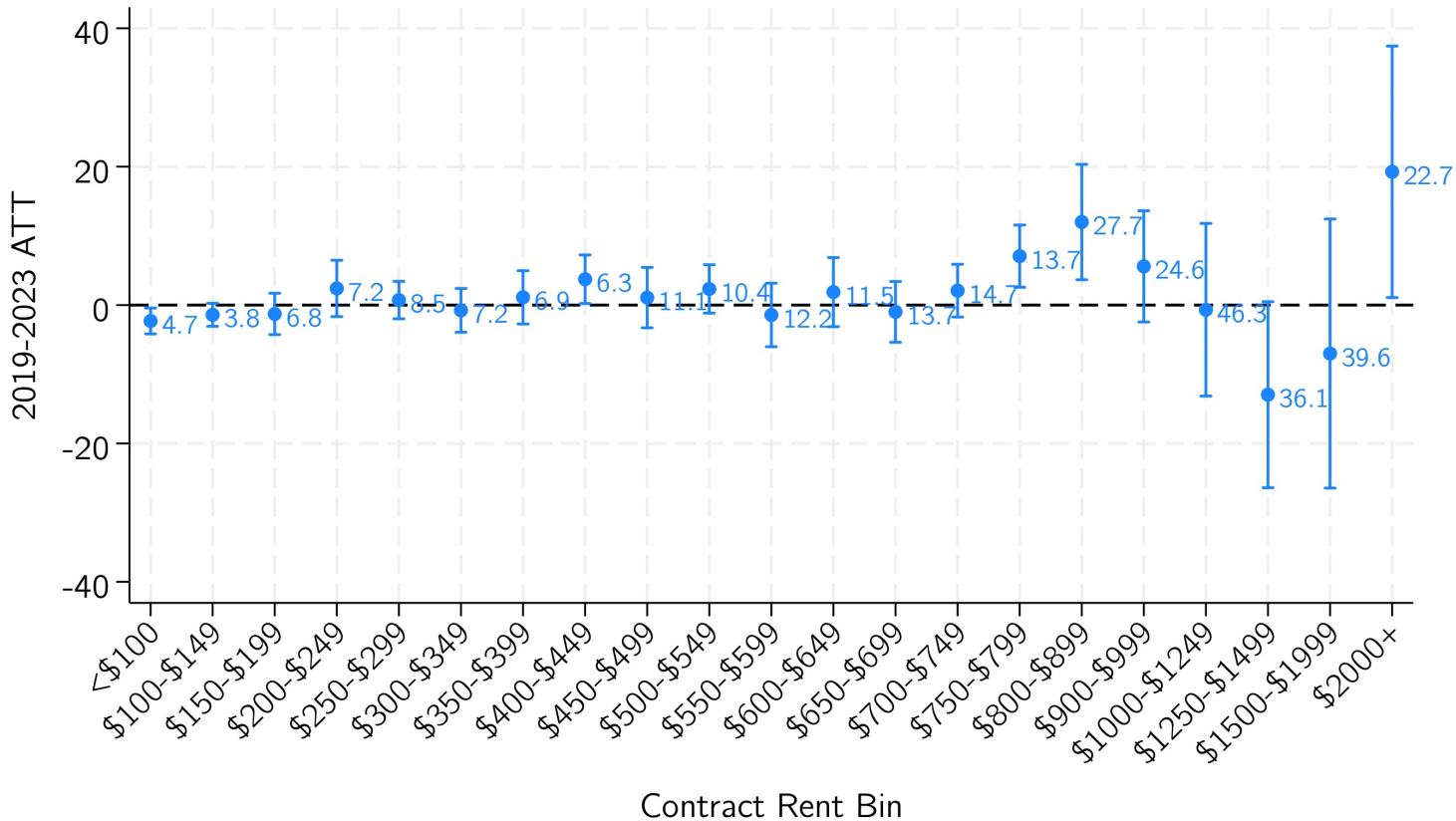
NOTE: Approximate LIHTC rent cap calculated as 30% of 60% of AMI (18% of AMI).

Sample mean AMI is \$96k $\Longrightarrow$ LIHTC rent cap \$1,442/mo. On average, LIHTC rent cap is not binding.

Distribution of contract rent, ACS



Supply changes by ACS contract rent bins, baseline sample



Note: Numbers next to point estimates reflect the average number of households in that rent bin among the control group in 2019-2023.

Heterogeneity: Rich vs. poor neighborhoods

If we split the sample into above and below median average income, we find that,

- Rich: 8% crowd-in, 6% rent decrease.
- Poor: 23% crowd-out, 4% rent decrease.
- Rich/Poor point estimates not distinguishable at conventional levels of significance.

Demographics, baseline sample

VARIABLES	Avg Household Income	Log Avg Household Income	Share of Pop 25+ with HS Degree, No College	Share of Pop 25+ with Some College, No Bachelor's	Share of Pop 25+ with Bachelor's
1990	1269.343	0.021	-0.001	0.004	0.001
	(1611.043)	(0.020)	(0.007)	(0.007)	(0.007)
2000	-460.441	0.007	-0.003	-0.001	-0.006
	(1741.885)	(0.017)	(0.006)	(0.006)	(0.005)
2005-2009	0	0	0	0	0
	(0)	(0)	(0)	(0)	(0)
2010-2014	3032.965*	0.044**	-0.004	-0.001	0.007
	(1560.138)	(0.019)	(0.007)	(0.007)	(0.006)
2015-2019	-41.854	0.014	-0.004	0.010	-0.005
	(2047.962)	(0.020)	(0.007)	(0.007)	(0.007)
2019-2023	2349.872	0.024	0.003	-0.004	-0.005
	(1966.132)	(0.021)	(0.007)	(0.009)	(0.008)
Ctrl Grp Avg in '05-'09	73837.3	11.1	0.3	0.3	0.2
Observations	11368	11368	11398	11398	11398

No measurable changes in demographics.

Quality/composition, baseline sample

VARIABLES	Total Crowded Units	Avg Rooms: Renter Hshlds	Avg Rooms: Owner Hshlds
1990	-0.444	-0.042	-0.057
	(3.757)	(0.089)	(0.113)
2000	1.498	-0.119	-0.124
	(4.052)	(0.102)	(0.131)
2005-2009	0	0	0
	(0)	(0)	(0)
2010-2014	-1.425	-0.094	-0.065
	(3.664)	(0.111)	(0.134)
2015-2019	3.561	-0.169*	-0.155
	(4.501)	(0.088)	(0.120
2019-2023	6.054	-0.112	-0.115
	(4.403)	(0.100)	(0.126)
Ctrl Grp Avg in '05-'09	19.5	4.1	5.7
Observations	11412	10859	10730

LIHTC units are newer, but no sign of size effects.

Property Values, baseline sample

VARIABLES	(1) Avg Sale Price (CoreLogic)	(2) Log(Avg Sale Price) (CoreLogic)
1990	.	.
	.	.
2000	-1.38e+04	-0.000
	(15461.99)	(0.024)
2005-2009	0	0
	(0)	(0)
2010-2014	-1.74e+04	0.002
	(15641.78)	(0.026)
2015-2019	-3.10e+04	-0.020
	(25572.40)	(0.022)
2019-2023	7002.968	0.010
	(17603.43)	(0.020)
State FE	✓	✓
Ctrl Grp Avg	$253,778	12.2
Observations	7070	7070

All prices are in 2023 dollars, adjusted using CPI-U-RS

Very preliminary estimation.

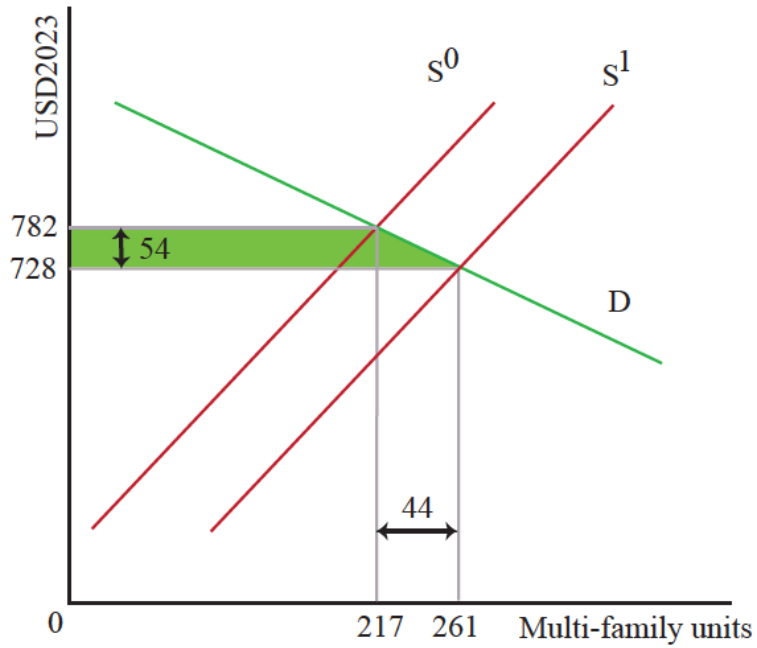
Summary: LIHTC impact on rents and other outcomes

On average, adding extra 51 LIHTC units to a block group with 217 multifamily units (24% supply shock) causes a 5.6% ($54) rent decrease for all multi-familiy units in the neighborhood

- Similar results with robustness samples.
- Asquith et al. [2023] estimate a 6% rent decline within 250 meters of a new market rate apartment with 110 units (35% supply shock).
- We still need to further investigate rent redistribution within a block group.

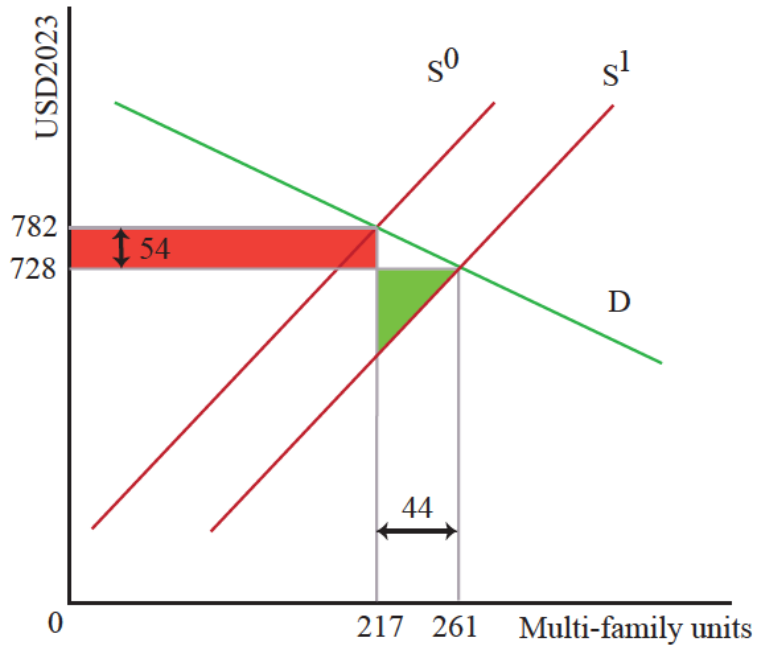
Composition and externalities unlikely to matter much - simple supply/demand model may provide a good approximation for welfare calculations

Welfare I



- Green area: Δ Consumer Surplus per block group from an average increase of 51 LIHTC units = \$12,906/month.
- Annualized gain at 10% PV is \$1.55m.
- This is \$30,367 per marginal LIHTC unit. 91% of effect due to changes in market rents for non-LIHTC residents.

Welfare II



- Red rectangle represents landlord losses = \$11,718/month
- Annualized loss at 10% PV is \$1.41m.
- This is \$27,571 loss per marginal LIHTC unit (redistribution from landlords to renters).

Welfare III

LIHTC developer gains:

- Rent for marginal 44 units, \$728 x 44 = \$32,032 per month.
- PV at 10% is \$3.84m, or \$75,369 for each unit.

LIHTC developer costs:

- Ward and Schlake [2025] estimate mean cost of a LIHTC unit: \$85k in Texas, \$94k in Colorado, and \$400k in California.
- We use \$100k; Of this, 10% is land costs (not LIHTC eligible).

Green triangle is the net gain (without subsidies) = -\$24,631

After LIHTC subsidies = \$38,369

- LIHTC subsidy is about 70% of capital = \$63k per unit.

$\Rightarrow$ Producer surplus net gain = \$10,798 per marginal LIHTC unit

Welfare IV

LIHTC subsidies of $63k p/unit create:

- Consumer + Producer surplus net gains of $41,165 (-$21,835 without subsidies).
- Plus significant transfers from landlords to renters.
- Public Housing Agencies also get paid - those costs are added to the development costs and subsidized with tax credits.

Future work

- We could do this calculation block-group by block-group or by state
- Heterogeneity within block group
- Add additional structure/calibration to better define supply curves

Comparisions with Soltas (2024)

Soltas (2024) uses different definition of crowd-out (rejected projects re-apply for new LIHTC subsidies in subsequent years), noisier data, and does not estimate market effects.

VARIABLES	(1) Total LIHTC Units (NHPD)	(2) Total Multifamily Properties (CoreLogic)
1990	-1.705	.
	(4.876)	.
2000	2.811	.
	(3.585)	.
2005-2009	0	0
	(0)	(0)
2010-2014	23.114***	-0.132
	(2.849)	(1.673)
2015-2019	29.255***	0.281
	(3.242)	(1.836)
2019-2023	29.347***	1.913
	(3.279)	(2.238)
State FE	✓	✓
Ctrl Grp Avg	27.2	35.1
Observations	11412	7608

Callaway Sant'anna standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

Conclusion

We investigate the effect of LIHTC on housing markets. We find

- Each LIHTC unit adds about one multi-family rental unit to the housing stock. There is essentially zero crowd out.
- An average LIHTC project reduces rental prices by about 5-6%.
- No sign of spillovers to other markets.
- Composition + quality effects appear small or non-existent.
- At the low end of construction costs, and on average, LIHTC transfers \$63k to developers to create \$41k of surplus plus a fair amount of redistribution to low-income renters via market competition effects.

Bibliography I

Todd Sinai and Joel Waldfogel. Do low-income housing subsidies increase the occupied housing stock? *Journal of public Economics*, 89(11-12):2137–2164, 2005.

Michael D Eriksen and Stuart S Rosenthal. Crowd out effects of place-based subsidized rental housing: New evidence from the lihtc program. *Journal of Public Economics*, 94(11-12):953–966, 2010.

Evan Soltas. Tax incentives and the supply of low-income housing. *Unpublished manuscript*, 2024.

Nathaniel Baum-Snow and Justin Marion. The effects of low income housing tax credit developments on neighborhoods. *Journal of Public Economics*, 93(5-6):654–666, 2009.

Bibliography II

Rebecca Diamond and Tim McQuade. Who wants affordable housing in their backyard? an equilibrium analysis of low-income property development. *Journal of Political Economy*, 127(3): 1063–1117, 2019.

Sean Mcculloch. Continuous spatial difference in differences for welfare evaluation. *Unpublished manuscript*, 2025.

Gregory S Burge. Do tenants capture the benefits from the low-income housing tax credit program? *Real Estate Economics*, 39(1):71–96, 2011.

Kate Pennington. Does building new housing cause displacement?: The supply and demand effects of construction in san francisco. *unpublished working paper*, 2021.

Brian J Asquith, Evan Mast, and Davin Reed. Local effects of large new apartment buildings in low-income areas. *Review of Economics and Statistics*, 105(2):359–375, 2023.

Bibliography III

Pedro HC Sant'Anna and Jun Zhao. Doubly robust difference-in-differences estimators. *Journal of econometrics*, 219 (1):101–122, 2020.

Michael Pollmann. Causal inference for spatial treatments. *arXiv preprint arXiv:2011.00373*, 2020.

Jason M Ward and Luke Schlake. The high cost of producing multifamily housing in california. 2025.