State Low-Income Housing Credits: Impacts on Housing Affordability

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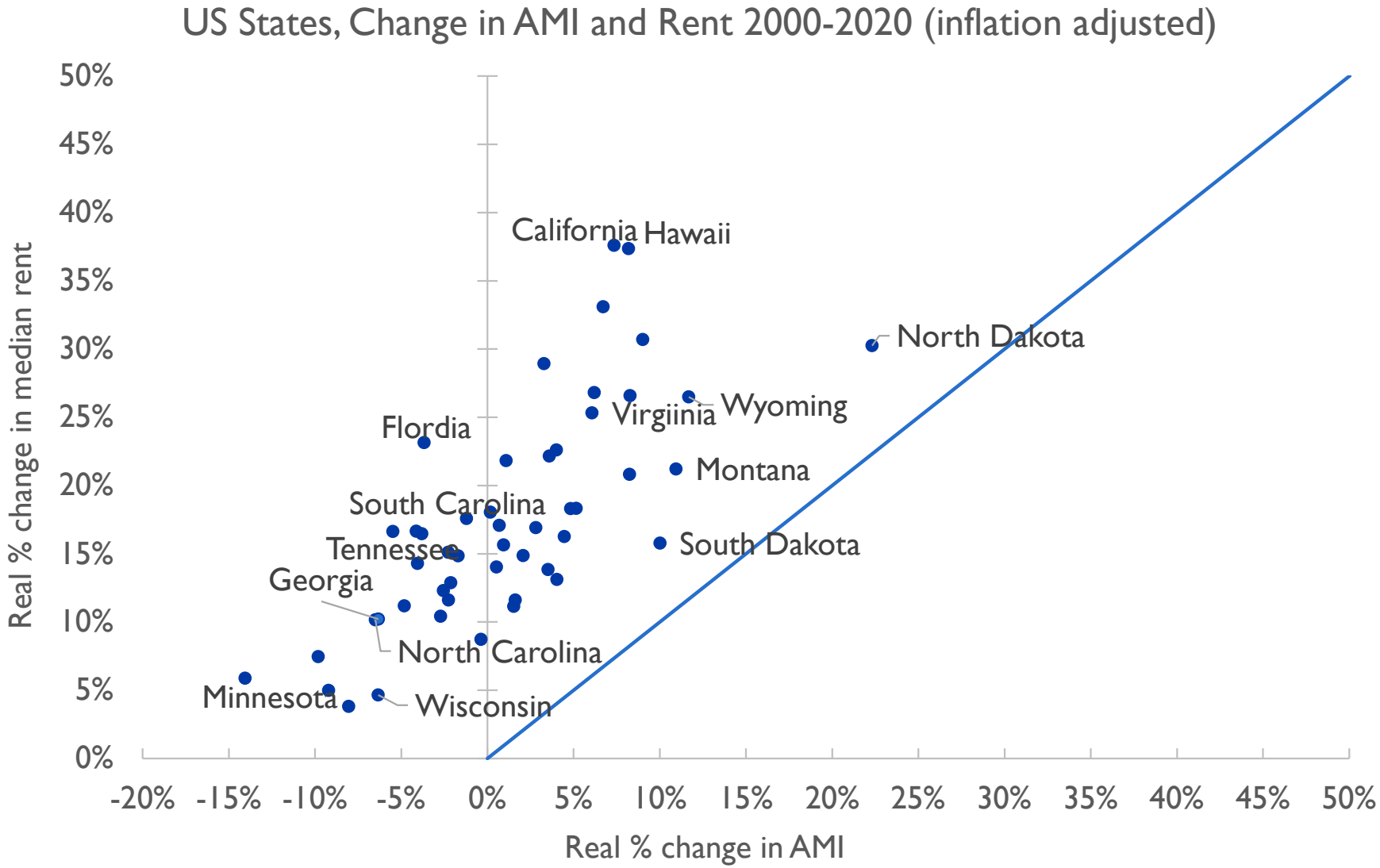
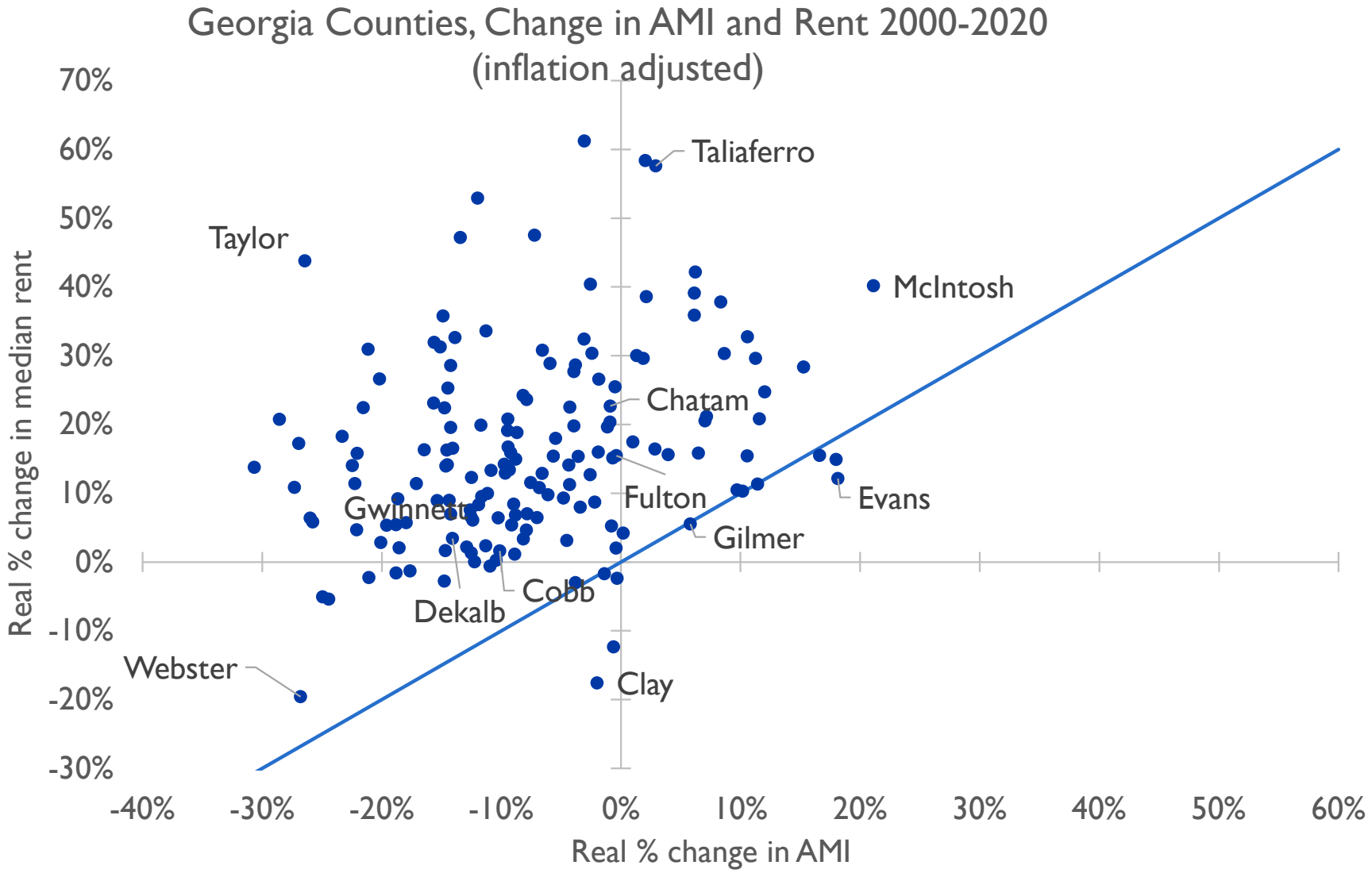
Motivation

- Follow-up to tax incentive evaluation of Georgia's LIHTC
  - Economic and fiscal impact analysis requested by General Assembly
  - Extend empirical analysis from LIHTC units to affordability and housing condition outcomes
- Negative affordability trends and growing affordable housing gap

Trends in Rental Housing Affordability



Trends in Rental Housing Affordability

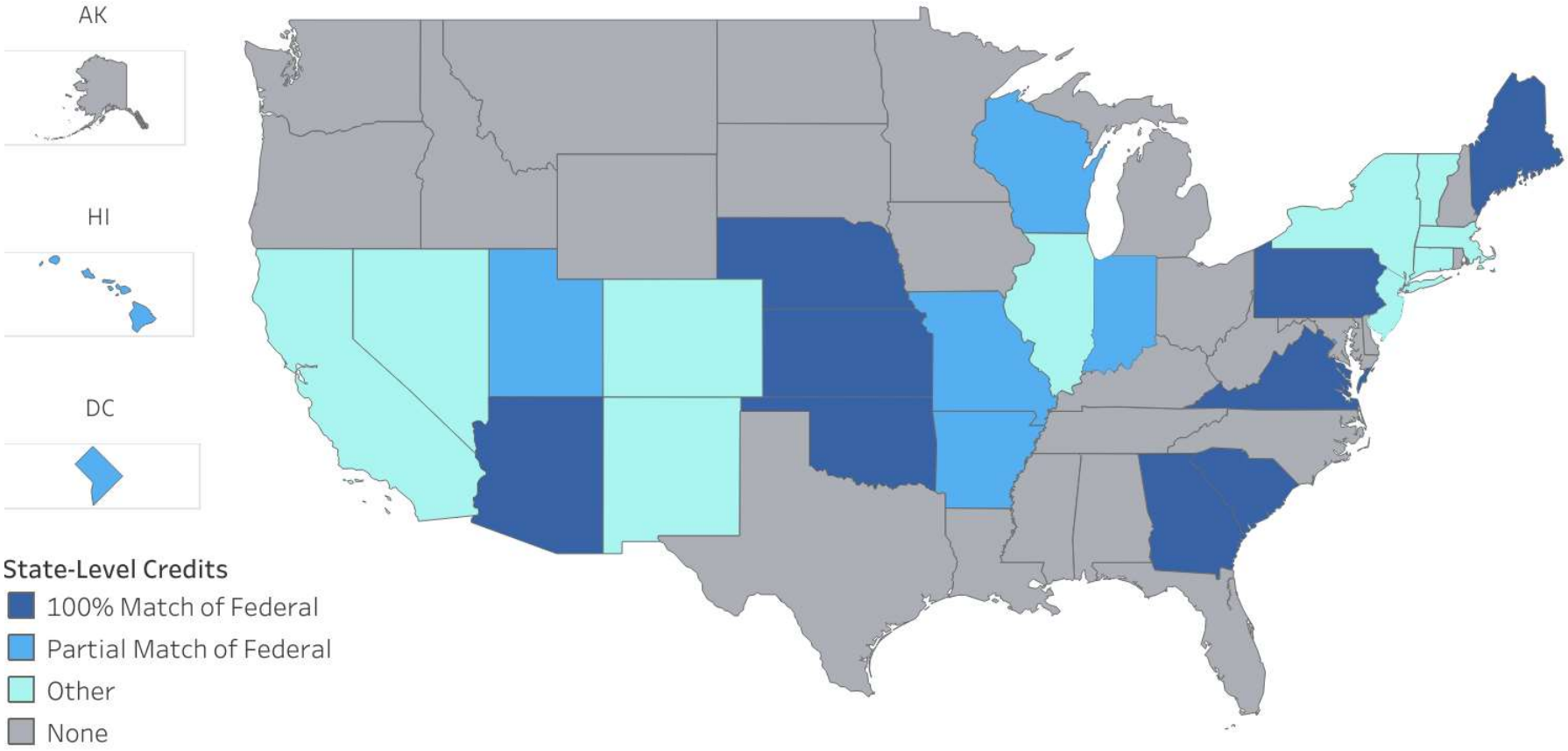


Federal LIHTC

- Nonrefundable, transferable income tax credits to developers to subsidize new construction and rehabilitation of housing for low-income families
- Credit amounts currently 9% or 4% of eligible project costs per year for 10 years
- Minimum set aside of 20% of units for HH's w/ incomes up to 50% of AMI (or 40% w/ incomes up to 60% of AMI)

State LIHTC's

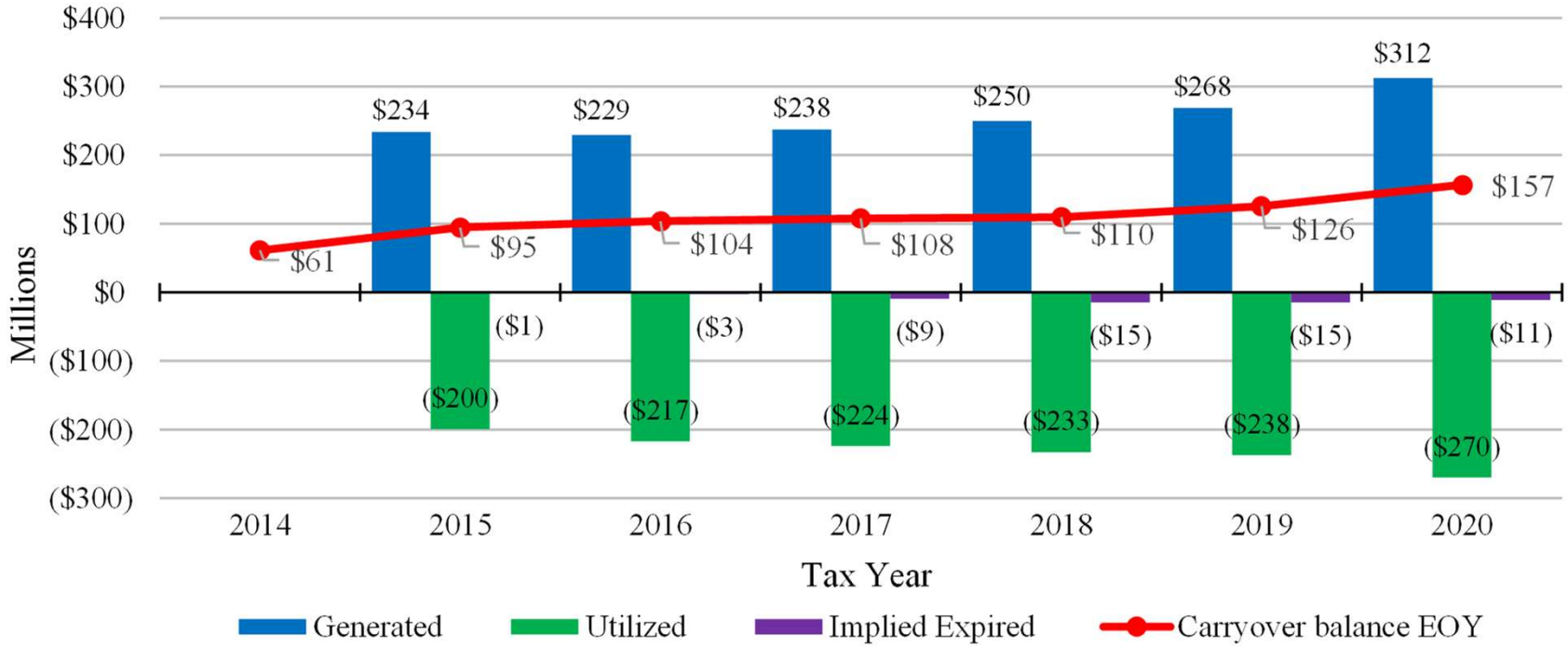
- 25 states + DC now have LIHTC programs.



Georgia LIHTC (enacted 2000)

- 100% match of federal credits, 9% and 4%
- Taken against state PIT, CIT, or IPT

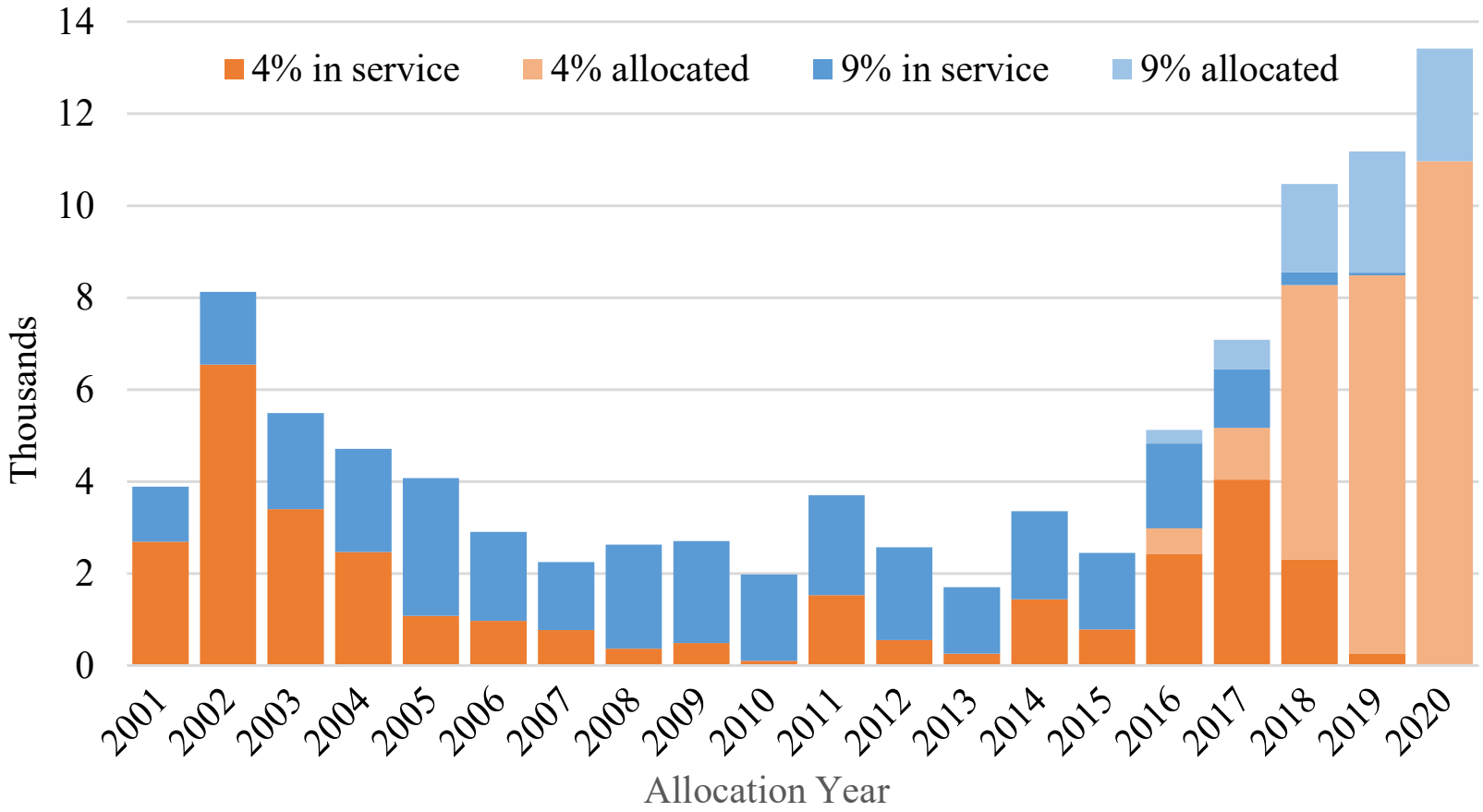
Figure 10. Reported LIHTCs Generated and Utilized, and End-of-Year Carryforward Balances with Implied Expiring Credits by Tax Year*



Sources: DOR and OCI

Georgia LIHTC

Figure 7. GA Low-Income Units Receiving Credit Allocations, 2001-2020



Source: DCA, downloaded from ArcGIS property tables for the Housing Tax Credit Properties Map (Mar 12, 2021)

Evaluating State LIHTC's

- Research questions and outcome measures
  - *Do state LIHTC's increase the production of low-income housing?*
    - LIHTC units placed in service
  - *Do state LIHTC's reduce rent burdens or improve housing conditions for low-income renters?*
    - rents paid
    - crowding (people per bedroom)

Methodology – part 1

- Diff-in-diffs framework
  - 2001 implementation of GA LIHTC
- Production/supply effects:
  - LIHTC units placed in service, 1990-2009 (5-year periods, 2 pre- and 2 post-treatment)
  - HUD project data aggregated by geocoded location to 2010 census tract
  - Georgia tracts matched by nearest-neighbor matching to tracts in untreated states
  - NHGIS "geographically standardized" time series for matching and explanatory variables

Methodology – part 1

- Matching variables:
  - exact match on Qualified Census Tract
  - NN-matching (Mahalanobis distance) on
    - 1995-99 low-income unit additions
    - population, population density
    - percent of population under age 18
    - percent black, percent white
    - county median family income
    - county pct in poverty
    - percent living in rental housing

Results – part I

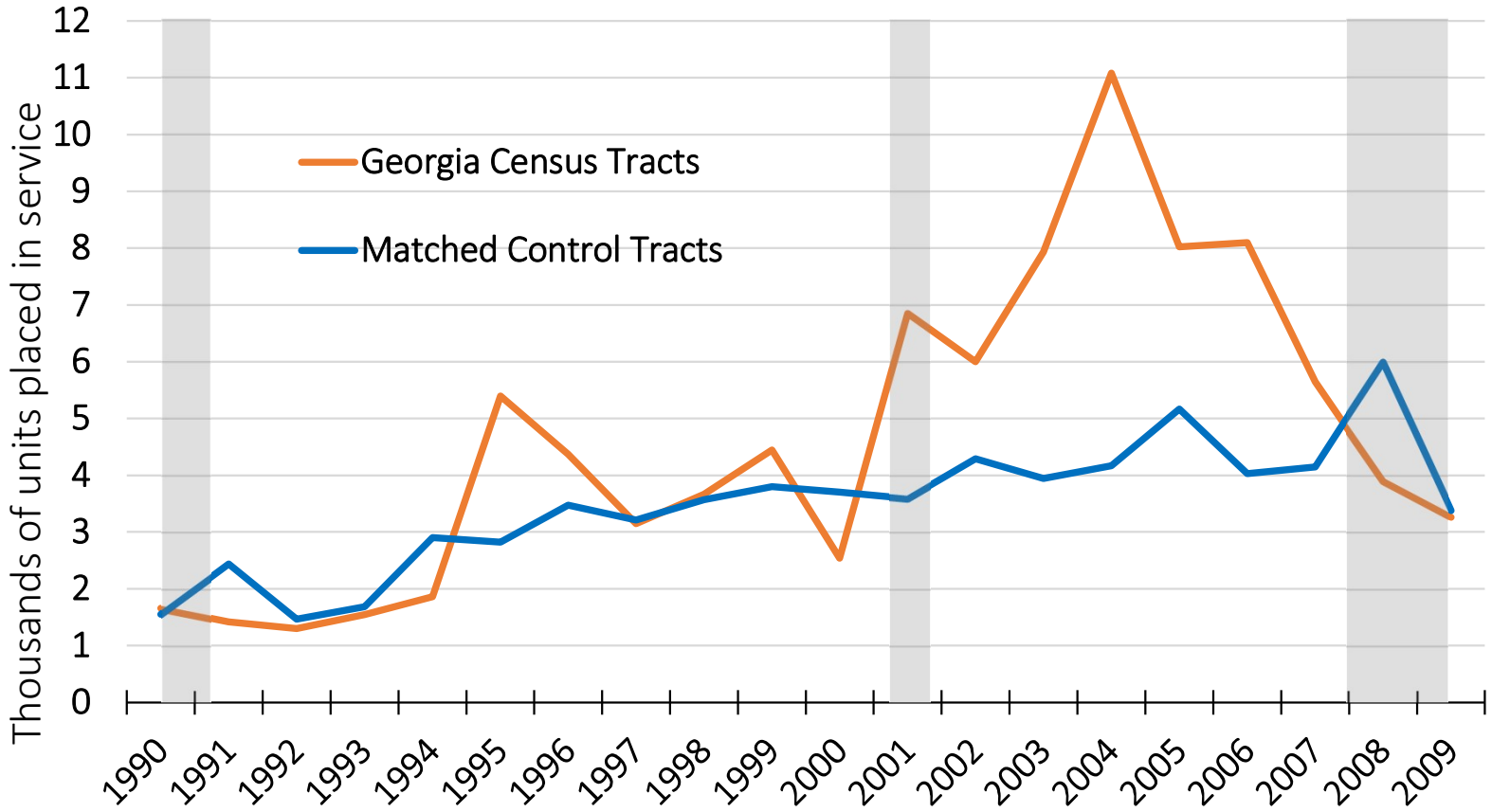
Covariate Balance, Georgia vs. Untreated Census Tracts (2000 values)

	Georgia	Unmatched		Matched	
Observations	1,957	56,862		3,176	
Covariate	Mean	St. Mean Diff.	Var. Ratio	St. Mean Diff.	Var. Ratio
Pretreatment Units	14.72	0.113	1.802	0.020	1.049
Qualified Census Tract	0.11	-0.035	0.921	0.000	1.000
Population[+]	4.18	0.233	1.072	0.021	1.083
Population Density[#]	0.60	-0.382	0.029	-0.056	0.635
Percent Under 18	27.89	0.212	0.903	0.028	1.157
Percent Black	29.30	0.597	1.496	0.074	0.972
Percent White	64.90	-0.437	1.204	-0.072	0.972
Median Family Income (co)[+]	49.69	-0.058	0.976	0.031	1.037
Percent Poverty (co)	13.59	0.226	1.180	0.007	1.028
Percent Renter Occupied	82.27	0.079	1.062	0.039	1.074

[+] Population and income in thousands; # population density measured as persons per 1000m^2

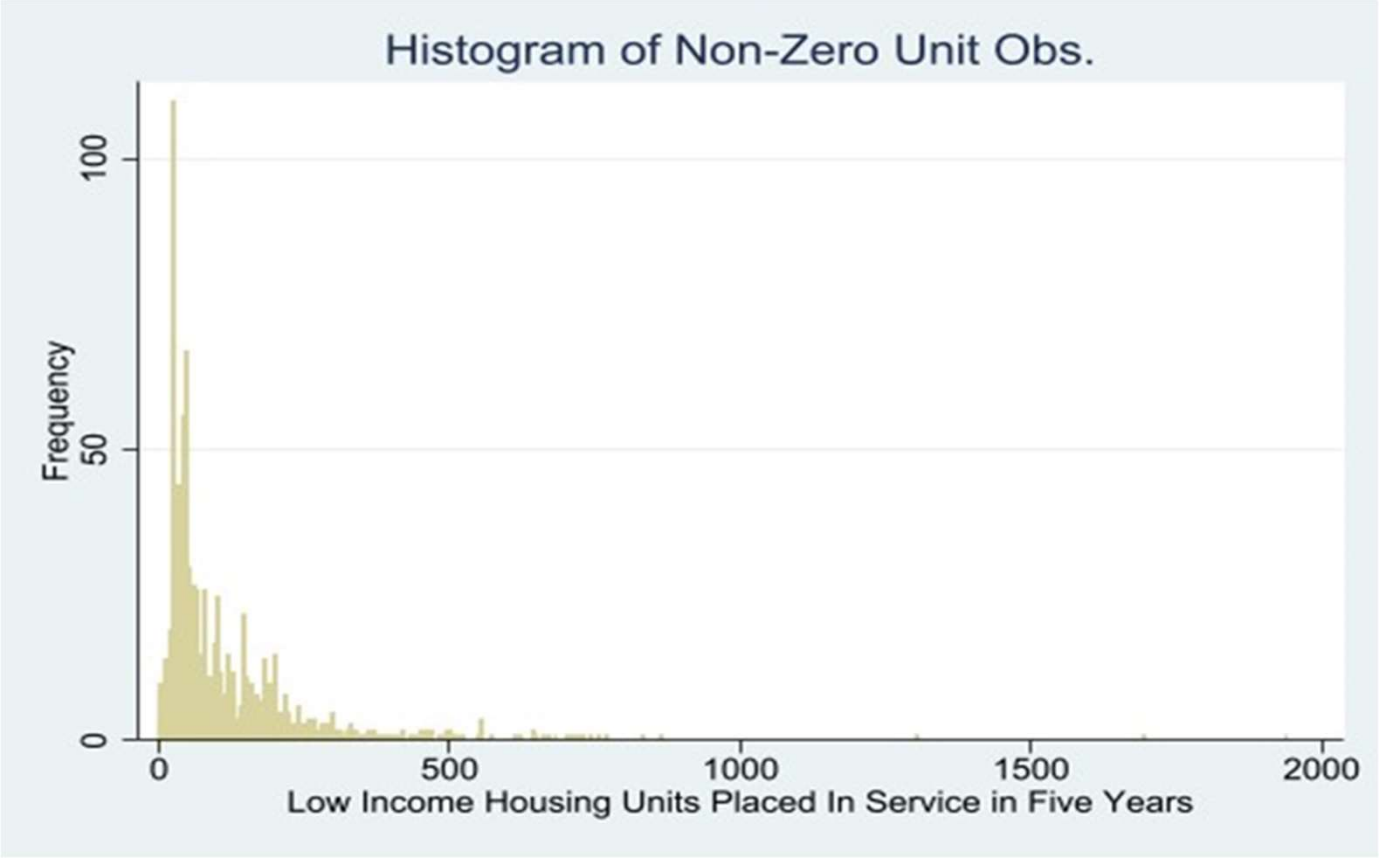
Results – part 1

Low-Income Units Placed in Service, Georgia vs. Matched Control Group



Methodology – part 1

- Diff-in-diffs regressions: OLS & zero-inflated Poisson
  - Unit additions truncated and observable at zero
  - In ~92% of observations, units added = 0



Results - part 1: Units Placed in Svc 1990-2009

Variable	OLS		ZIP		Margins at Means	
Georgia = 1	-0.6920		-0.0238		-0.1630	
Post-2000 = 1	-1.6050		-0.1910		-1.3080	
Georgia × Post-2000	**4.5360**	***	**0.4610**	***	**3.1546**	***
Qualified Census Tract	4.8470	**	-0.1700	**	2.5142	***
Population+	0.0017	***	0.0432	**	0.2955	**
Population Density#	-0.0020	***	0.0000		-0.0007	**
Percent Under 18	0.1080		0.0037		0.0253	
Percent Black	0.4420	***	0.0055		0.0375	
Percent White	0.2620	**	-0.0001		-0.0007	
Median Family Income (co)+	0.0003	***	0.0255	***	0.1741	***
Percent in Poverty (co)	0.0612		-0.0072		0.1705	***
Percent Renter Occupied	0.1150	***	0.0035	***	0.0660	***
Constant	-54.590	***	2.6600	***		
Observations	20,484		20,484			
Number of Tracts	5,135		5,135			

*** p<0.01, ** p<0.05, * p<0.1; period effects included; + Population and income in thousands;
# population density measured as persons per 1000m^2

Results – part 1

- Model 1 results suggest additional 12.3 thousand low-income units (3.15 • 1,957 tracts • 2 periods) added during this period b/c of state-level credit.
- With 63.6 thousand LIHTC units built in 2000-09, roughly 1/5 of those could fairly be attributed to the policy.

Methodology – part 2

- Diff-in-diffs framework, 2001 GA LIHTC
- Rent burden/housing conditions effects:
  - Rent paid and crowding (people per bedroom)
  - IPUMS-ACS data for all variables.
  - "Consistent PUMA" ID's for geo fixed effects
  - NN-matching of Georgia to untreated HH's
  - Sample restricted to HH income < 50% of AMI

Methodology – part 2

- Matching variables:
  - exact match on census year
  - NN-matching (Mahalanobis distance) on
    - household income
    - number of people & working adults in HH
    - indicator variables for HHs identifying as white or black, and head of HH with at least a high school diploma
    - PUMA variables: median income, shares of renters below FPL and under age 18

Results – part 2

Dep. Var. Summary Stats (Georgia 50% of AMI sample)

Variable	Count	Mean	Std. Dev.	Median
Monthly Rent	163,894	551.96	402.43	501.00
People/Bedroom	163,894	0.73	0.46	0.67

Covariate Balance, Georgia vs. Untreated HHs

	Georgia	Raw		Matched	
Observations	93,032	1,754,557		70,862	
	Mean	St. Mean Diff.	Var. Ratio	St. Mean Diff.	Var. Ratio
Household income	13.864	-0.082	0.870	0.004	1.014
Household Size	2.153	0.107	1.092	0.001	1.009
No. Working Adults	0.568	0.019	0.995	0.000	1.002
White	0.465	-0.455	1.161	-0.001	0.999
Black	0.473	0.549	1.447	0.001	0.998
PUMA Median Income	19.352	-0.167	0.629	0.005	0.990
PUMA Renters < FPL	0.482	0.461	0.290	0.010	0.995
PUMA Renters < 18	0.321	0.654	0.471	0.047	0.966

* Income in thousands

Results – part 2

Variable	Monthly Rent		People/Bedroom	
Georgia = 1	-725.5	**	-0.0486	
Post-2000 = 1	15.19		-0.17	***
Georgia × Post-2000	**-38.0**	***	**0.0139**	
Household Income+	4.52	***	0.00208	***
No. of Working Adults	38.07	***	0.0706	***
No. of Dependent Children	32.83	***	0.106	***
White	-1.966		-0.182	***
Black	-38.98	***	-0.104	***
High School Diploma	105.3	***	-0.103	***
PUMA Median Income	27.67	***	-0.00108	
PUMA Renters Poverty Pct	-205.4	**	0.0900	
PUMA Pct Renters <18	-233.8	**	0.00903	
State Pop. Growth Rate	-167	**	-0.487	***
Constant	1,046	***	1.495	***
Consistent-PUMA FE's	yes		yes	
Year FE's	yes		yes	
Observations	163,884		163,884	
R-squared	0.342		0.135	

Robust standard errors in parentheses; *** indicates significance at the 1% level, ** at 5%, and * at 10%

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