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Poverty concentration and the Low Income Housing Tax Credit: Effects of siting and tenant composition

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ABSTRACT

New evidence on the effects of growing up in neighborhoods of concentrated poverty has heightened policy interest in understanding the role housing programs may play in shaping the distribution of poverty. In particular, as the nation's largest source of funding for the construction of affordable rental housing, the Low Income Housing Tax Credit (LIHTC) could play a critical role in shaping the distribution of poverty. This paper examines whether the LIHTC affects the concentration of poverty by examining who lives in tax credit developments in different neighborhoods, and how neighborhoods and metropolitan areas change after LIHTC developments are built. Through assessing both the effects of siting and tenant composition, we find little evidence that the LIHTC is increasing the concentration of poverty – and we find some evidence that it is reducing poverty rates in high-poverty neighborhoods. We also make suggestions for states who want to use LIHTC to do more to deconcentrate poverty.

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1. Introduction

In 1987, in his influential book, "The Truly Disadvantaged", William Julius Wilson argued that the growing concentration of poverty in the United States, particularly the concentration of poor minority families, was contributing to the cycle of poverty. Since then, a growing body of observational research has supported the importance of neighborhood context for individual outcomes (Sharkey and Faber, 2014; Ellen and Turner, 1997; Mayer and Jencks, 1989) and recently experimental evidence has shown that childhood exposure to poverty concentration can have a causal impact on lifetime earnings (Chetty and Hendren, 2015; Chetty, Hendren and Katz, 2016).[2]

One year prior to the release of Wilson's book, the Tax Reform Act of 1986 included a provision for the Low Income Housing Tax Credit (LIHTC), which has since become the nation's largest subsidy for place-based, low income housing in the United States. Reducing revenues to the federal government by an estimated $8 billion each year,[3] the LIHTC has provided funding for about one-third of all new units in multifamily housing built in the U.S. since the late 1980 s (Khadduri et al. 2012). As such, it is potentially a critical policy lever for re-shaping the spatial distribution of poverty in the United States. Yet some critics charge that the LIHTC has failed to live up to this potential. Indeed, the recent Supreme Court case, *Texas Department of Housing and Community Affairs v. Inclusive Communities Project, Inc.*, was prompted by a lawsuit claiming that the Texas Department of Housing and Community Affairs was subsidizing a disproportionate share of LIHTC developments in largely minority neighborhoods with high poverty rates and thereby reinforcing poverty concentration and racial segregation.[4] The case underscores the importance of our research question: Is the Low

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[1] The analysis in this paper was conducted primarily while Professor O'Regan was a faculty member at NYU and does not reflect the opinions of the Department of Housing and Urban Development.

[2] Chetty and Hendren (2015) show that growing up in a county that is one standard deviation "better" can increase lifetime earnings by 10 percent. One of the key dimensions that makes for a "better" county is a lower level of poverty concentration. Chetty, Hendren and Katz (2016) re-examine long run outcomes of the Moving to Opportunity Experiment (MTO) and they find that for children in the experimental group of the Moving to Opportunity program (those who were given housing vouchers they could only use in low-poverty neighborhoods, and therefor left neighborhoods of concentrated poverty) who moved before the age of 13, their incomes increased by 31 percent. Together, these two studies provide strong evidence that childhood exposure to high poverty concentration can be detrimental for a child's lifetime earnings potential.

[3] http://www.huduser.org/portal/datasets/lihtc.html.

[4] http://www.scotusblog.com/case-files/cases/texas-department-of-housing-and-community-affairs-v-the-inclusive-communities-project-inc/.

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Income Housing Tax Credit concentrating poverty throughout the United States?

To date, many researchers and policy analysts have tried to answer this question by examining siting decisions – or specifically the distribution of LIHTC developments across neighborhoods (Freedman and McGavock, 2015; Baum-Snow and Marion, 2009; Ellen, O'Regan and Voicu, 2009). But these earlier analyses have not had access to two critical sources of data: information about proposed but unfunded developments in five states and information about the composition of tenants in 12 states. Access to data on tenant incomes is particularly important for LIHTC, as the range of incomes served is much broader than most other housing programs, and there is likely much greater variation in tenant composition across LIHTC developments. In this paper, we supplement public data on LIHTC developments with unique data from 12 states on the characteristics of LIHTC tenants and show, for the first time, that poor LIHTC residents are more likely than other LIHTC residents to live in developments in high-poverty neighborhoods. We show that variation in the presence of supplemental rental assistance among LIHTC developments can explain more than half of the variation in tenant income across developments. Thus, if state and local policymakers want LIHTC to do more to reduce the concentration of poverty in receiving neighborhoods, they should pay attention not only to the location of the developments they subsidize but also to the variation in tenant composition across developments.

Of course LIHTC developments remain in place for many years, and understanding how these developments shape the distribution of poverty also requires examining longer-term changes, both in neighborhood poverty rates after the completion of LIHTC developments (Freedman and McGavock, 2015; Ellen, O'Regan and Voicu, 2009) and in longer-term shifts in metropolitan area-level poverty concentration (Ellen, O'Regan and Voicu, 2009). This too may be particularly important for LIHTC, as the tax credits may be used as part of explicit revitalization plans, intended to spur redevelopment and neighborhood change. We update earlier analyses with current data and a new approach using LIHTC application data. Specifically, we first estimate longitudinal, census tract fixed effects models to test if the development of more LIHTC units within a given neighborhood is associated with higher poverty rates in the subsequent decade. Second, drawing on novel data from LIHTC applications in five states, we use the neighborhood location of developments that were proposed by developers but not funded, as counterfactuals. Lastly, to gain a sense of the aggregate impact of LIHTC on housing markets as a whole, we examine the relationship between the creation of LIHTC housing and poverty concentration within a metropolitan area, nationally.

Utilizing all of these approaches, our results largely support those of existing research, finding that poverty rates decline in high-poverty neighborhoods after the completion of LIHTC developments (Diamond and McQuade, 2015) but that on the whole, LIHTC investments do little to reduce poverty concentration (Freedman and McGavock, 2015; Ellen, O'Regan and Voicu, 2009). Importantly, however, they don't appear to increase poverty concentration either, as some fair housing advocates have charged (Kawitsky et al, 2013).

2. Background and literature

Although poverty concentration in the United States declined during the 1990 s after two decades of increasing, metropolitan areas witnessed a reversal in this trend in the past decade.[5] The appropriate role of the federal government in addressing poverty concentration remains contested. There is considerable evidence that federal policies have contributed to the concentration of poverty in the past, specifically through the public housing and federal mortgage assistance programs (Schill and Wachter, 1995). There is more disagreement about current policies, and few have considered impacts of the LIHTC (Goetz, 2004; Ellen et al, 2009; Kucheva, 2011; Owens, 2012; Gayles and Mathema, 2014; Freedman and McGavock, 2015).

The Tax Reform Act of 1986 (TRA86) was not designed with the intention of deconcentrating poverty, but rather aimed to eliminate a number of tax shelters in the existing tax code (Birnbaum and Murray, 1987). In the process the TRA86 removed many incentives that were designed to support the construction of affordable housing.[6] As a way to provide continued support for affordable housing, Senate Finance Committee Chair, Robert Packwood, proposed the creation of the Low Income Housing Tax Credit (LIHTC) as a late addition to the Act (Stearns, 1988). Although it was enacted with little discussion or debate, the LIHTC has now become the primary federal subsidy for place-based, affordable rental housing in the United States.

2.1. About the Low Income Housing Tax Credit

Low Income Housing Tax Credits are limited in supply and allocated annually to states on a per capita basis. Each annual allocation authorizes a ten-year stream of tax credits, which is estimated to reach $8 billion in 2014. By the end of 2012, the LIHTC had helped to create over 2.5 million total housing units.[7]

States are permitted to issue these credits to developers to support the construction or rehabilitation of qualified, low income rental housing projects. A project can qualify for tax credits if at least 20% of its tenants have incomes below 50% of area median income (AMI) or if at least 40% of households have incomes below 60% of AMI.[8] Rents are capped for the low income units to be affordable to households at these income levels, but they are set for the unit rather than varying by occupant income. Currently, developments must meet these requirements for a minimum of 30 years to qualify for the ten-year stream of tax credits. In practice, the vast majority of LIHTC projects contain only low income units, or units affordable to households earning under 60% of AMI or lower, with 95% of units in tax credit projects qualified as low income units.

LIHTC is administered by state allocating agencies, which determine the priorities for LIHTC, and award credits. They are required to issue Qualified Allocation Plans (QAPs), typically updated annually or every other year, which provide guidance to developers on selection criteria the agency will use when awarding tax credits. Some criteria are required by the federal government, such as a preference for projects serving the lowest income tenants and for those committing to affordable rents for the longest period of time. But states also adopt additional, individually-tailored priorities, such as providing set asides for developments in rural areas, or awarding bonus points for developments in geographic areas with greatest need (based on low vacancy rates, and/or high rents). As the competition for credits has increased, these

[5] In 1990 14.1 percent of poor individuals lived in distressed neighborhoods (those with poverty rates greater than 40 percent). That percentage declined to 9.1 percent in 2000 but then increased to 12.2 percent in 2010. http://www.brookings.edu/research/papers/2011/11/03-poverty-kneebone-nadeau-berube.

[6] The Tax Reform Act of 1986 removed such prior incentives as accelerated depreciation, full deductibility of construction period interest, and special capital gains treatment (Stearns, 1988).

[7] http://www.huduser.org/portal/datasets/lihtc.html.

[8] While the credit sets a minimum share of units within developments that are deemed affordable, the amount of tax credits available for a project increases with the share of units that is affordable.

criteria may play a greater role in the final distribution of tax credit projects.[9]

Those who worry that the LIHTC is concentrating poverty point to a few specific LIHTC features, most notably, the federal requirement that developments in high poverty census tracts (Qualified Census Tracts or QCTs), be eligible for a 'basis boost', or a larger allocation of credits (PRRAC, 2004; Roisman, 2000).[10] Research suggests that this basis boost leads to an increased allocation of credits in these designated tracts (Baum-Snow and Marion, 2009), though Lang (2012) argues that the opportunity costs (or the costs of land in higher value neighborhoods), rather than the basis boost, could be driving these patterns.

Further, since the LIHTC is a tax credit, and not a federal outlay for housing, the Internal Revenue Service (IRS) is responsible for overseeing it, rather than the Department of Housing and Urban Development (HUD). Advocates have argued that LIHTC should be bound by the same siting guidelines adopted by HUD in the 1970 s to minimize the concentration of poor and minority households (PRRAC 2004; Roisman 2000). While these regulations are aimed primarily at racial concentration, they also discourage the development of new subsidized housing in areas of high poverty concentration (Ellen and Yager, 2015). The LIHTC is not administered by HUD, however, and no federal agency reviews the proposed location of new developments.

Despite these concerns, there are several reasons why LIHTC may not be furthering the concentration of poverty and may even be reducing it. First, states and localities may not be allocating credits disproportionately to qualified census tracts (QCTs), or at least not disproportionately enough to have much effect on poverty concentration levels. Although existing research shows that at the margin tax credit developments have been sited in QCTs (Baum-Snow and Marion, 2009),[11] this does not suggest that most LIHTC units are located in QCTs, nor does it preclude the possibility that many are being constructed in higher income communities. Although developers receive higher credit amounts when building in high-poverty neighborhoods, they still may choose to build in higher income areas, perhaps because of the potentially greater rents such developments can command, especially when they are eligible to convert to market rents. Moreover, while Congress requires states and localities to give preference to projects located in qualified census tracts that are part of a concerted community revitalization plan, it is only one of a set of preferences that states and localities use in allocating their tax credits, including preferences and in some cases, basis boosts, that may be tied to locating in higher income areas.

Second, even if tax credit projects are disproportionately located in QCTs, the QCTs may not in fact differ much from the neighborhoods that LIHTC households would otherwise live in, absent the opportunity to live in a subsidized, tax credit unit. Numerous studies show that even with portable rent subsidies, poor households tend to live in fairly high poverty communities (Pendall, 2000; Devine et al., 2003; Galvez, 2011).

Third, it is possible that the tenants living in LIHTC developments have higher incomes than the existing residents of the high-poverty neighborhoods where developments are built. While the LIHTC targets low income households, guidelines allow tenants to earn up to 60% of an area's median income and some tax credit developments include market-rate units. The few studies that examine the characteristics of qualifying LIHTC tenants find that their incomes are higher on average than the incomes of tenants living in other forms of federally-subsidized housing (Buron et al, 2000; McClure, 2006; O'Regan and Horn, 2013). This is not to say that no LIHTC tenants are poor. Many if not most LIHTC developments receive additional layers of housing subsidies, including project-based and tenant-based vouchers, which may enable tenants with extremely low incomes to afford LIHTC rents. Recent estimates suggest that 44 percent of LIHTC tenants had incomes at or below 30% of AMI, which is approximately equivalent to the poverty level in many areas and slightly below it in others (O'Regan and Horn, 2013; U. S. Department of Housing and Urban Development, 2014).

A final reason why building tax credit developments in high poverty areas may not further poverty concentration is that those neighborhoods may improve over time. Indeed, allocators and developers may intentionally choose to build LIHTC housing in high poverty neighborhoods they expect to improve, or alternatively, the housing investments supported by tax credits (and associated resources) may improve the high poverty neighborhoods through spillovers. There is some evidence that LIHTC developments can make distressed neighborhoods more appealing to higher-income households through removing blight, building attractive new housing, repopulating a community, and/or inviting other investment and improvements (Ellen et al, 2006; Baum-Snow and Marion, 2009; Ellen, O'Regan, and Voicu 2009; Eriksen and Rosenthal, 2010; Diamond and McQuade, 2015).

2.2. What we currently know about LIHTC and poverty concentration

Past studies examining the location of LIHTC developments typically find that LIHTC units are built in neighborhoods with poverty rates that are higher than the average U.S. neighborhood but lower than the average neighborhood where public housing units and other forms of project-based housing are located.[12] Ellen et al (2009) report little change in neighborhood siting patterns between the 1980 s and the early 2000 s. In the 1980 s, the 1990 s, and the early 2000 s, just over 20% of LIHTC units were built in high-poverty neighborhoods and roughly one third in low-poverty census tracts.

As for comparisons with voucher holders, McClure (2006) finds that on average LIHTC tenants end up in neighborhoods with approximately the same poverty rate as the neighborhoods where Section 8 voucher holders live, though there is more variability in the poverty rates of LIHTC locations. As compared to homes occupied by voucher holders, LIHTC units are more likely to be located in both high-poverty neighborhoods and low-poverty neighborhoods.

In short, LIHTC tenants appear to be more likely to reach low-poverty areas as compared to recipients of other housing assistance programs, even voucher holders. This is arguably a low bar, however, given the poor track record of other federal housing programs in deconcentrating poverty. Consider that as of 2003, LIHTC units were about three times more likely to be located in high-poverty tracts, as compared to all housing units (Ellen et al., 2009).

[9] LIHTC projects that are 50% financed through tax-exempt bonds can automatically qualify for LIHTC credits of 4%. While these credits must meet all LIHTC restrictions, such developments do not go through the competitive process set forth in QAPs, so would not necessarily be affected by state priorities. These tax credits do not count towards the state yearly per capita cap.

[10] QCTs are defined as neighborhoods where at least 50 percent of the households have incomes below 60 percent of their metropolitan area's median family income or 25% of the population is poor (approximately equivalent thresholds). And in 2000, Congress modified the program to require states and localities to give a preference to projects located in qualified census tracts "that contribute to a concerted community revitalization plan" (Orfield 2005).

[11] Baum-Snow and Marion (2009) show that a significantly greater share of rental units are subsidized through the LIHTC in tracts that are just above the QCT threshold (those in which between 50-51 percent of households earn less than 60 percent of the area median income) as compared to tracts that are just slightly below the threshold (those in which between 49-50 percent of households earn less than 60 percent of the median income).

[12] See Newman and Schnare, 1997; Cummings and Dipasquale, 1999; Rohe and Freeman, 2001; Freeman, 2004.

While these studies analyze siting patterns, they do not answer the question of the extent to which the LIHTC has affected poverty concentration. A few recent papers explicitly address this question. Ellen et al (2009) examine the location of developments built through 2003 and find little evidence that the LIHTC is exacerbating poverty concentration. Indeed, their results suggest that the LIHTC is associated on average with modestly lower levels of poverty isolation, likely due to some combination of siting choices, tenant mix, and positive spillovers in high-poverty neighborhoods.[13] Of course, LIHTC may still be heightening poverty concentration in particular metropolitan areas.

More recently, Freedman and McGavock (2015) take advantage of local caps on QCT eligibility, which allow them to compare similar neighborhoods in different metropolitan areas, and they find evidence that new tax credit developments increase the poverty rates in the neighborhoods where they are built. However, unlike Ellen et al (2009) and Diamond and McQuade (2015), they do not consider whether impacts vary by initial neighborhood poverty rates. Further, they conclude that these impacts are small and appear to be driven primarily by in-migration of LIHTC residents themselves, rather than by any spillovers, or changes in the composition of other residents attracted to the neighborhood as a result of the development.

While these recent papers consider the same question that we aim to address, they do so without the benefit of either data on the incomes of tenants living in LIHTC developments or data on the location of proposed developments that were not funded due to the limited supply of tax credits. With these two additional data sources, we are able to directly examine how new developments affect the composition of the population living in high-poverty neighborhoods and employ an alternative counterfactual when modeling neighborhood changes over time. In combination, these data permit us to shed new empirical light on the question of how tax credits affect poverty concentration.

3. Data

To conduct this analysis we rely on the Department of Housing and Urban Development's 2013 Low Income Housing Tax Credit database, which provides project-level data on developments placed in service from the LIHTC's inception in 1987 through 2011.[14] This dataset includes, for each LIHTC development, the number of low-income units (and the number of market-rate units where relevant), the date the development was placed in service, the census tract, and whether or not the development received project-based rental assistance subsidies (though this last variable is missing for most developments in most states). Like previous researchers, we supplement these data with information from the Decennial Census (1980, 1990 and 2000) and the American Community Survey (2005–2009 and 2007–2011) to describe the neighborhoods where planned and constructed LIHTC developments were located.

Unlike prior researchers, we also use two additional administrative datasets that we obtained from state housing finance agencies: one providing data on tenants of tax credit developments in 12 states and the other providing information on the full set of LIHTC applications filed by developers in five states during the 2000 s.

Data on the tenants living in particular LIHTC developments are not publicly available below the state level. Indeed, states were not required to provide any data on the tenants of tax credit developments until the passage of the Housing and Economic Recovery Act of 2008 (HERA), which mandated that states submit data on tax credit tenants annually to HUD. Through the cooperation of the National Council of State Housing Agencies (NCHSA), a number of state housing finance agencies (HFAs) have shared these data with us.[15] These data include detailed information on the income and household composition of tenants, as well as the rents they pay for their units, and whether the owner receives additional rental assistance for that unit (either tied to the unit or through the tenants). We base our analysis on tenant incomes reported within the most recent year available (which is either 2011 or 2012) for 12 states. We match these data on LIHTC tenants to HUD's LIHTC database described above.

We restrict our sample to LIHTC developments constructed in metropolitan areas in our 12 states. We focus our analysis on newly constructed LIHTC developments (rather than those that undergo renovation), as these are the developments most likely to bring new tenants into a neighborhood, and thus most likely to shape the composition of a neighborhood's population immediately upon completion.

Table 1 presents descriptive statistics for all of the newly constructed LIHTC units placed in service for the states in our sample as well as for the full set of newly constructed LIHTC units nationally, the full universe of LIHTC units nationally (which includes developments that were rehabilitated through LIHTC), and the full universe of rental units. The states in our sample are large, covering over half of the newly constructed LIHTC housing stock. The developments built in our states have been, on average, slightly larger than developments constructed nationally. As for geographic distribution, our sample includes an over-representation of units in the South and an underrepresentation of states in the Midwest and Northeast. The majority of tax credit units are located in tracts with moderate poverty levels, that is, poverty rates between 10 and 30%. Our sample includes a representative distribution of units according to neighborhood poverty rates and year of construction. The majority of units in our sample were built in the 2000 s, as is the case with the full set of LIHTC units.

For five of these 12 states we were also able to acquire data on the full set of projects for which developers filed applications during the 2000 s (including those that were ultimately not funded).[16] Data on applications include the proposed site of the project, requested credits, date of the application, proposed number of units and estimated project costs.

4. LIHTC tenant composition and poverty concentration

Our first question is simple but previously unexplored because of a lack of data on tenants: how does the poverty composition of tenants moving into LIHTC developments compare to the overall poverty rate in the neighborhood, at the time developments are completed? If the poverty rate among LIHTC tenants is higher than that in the surrounding neighborhood at the time the development opens, then that development will by definition increase the poverty rate in the neighborhood, at least in the short run. We restrict our analysis to newly constructed developments

[13] They also report evidence from New York City showing that the siting of tax credit units in high poverty, urban neighborhoods can increase property values and encourage community revitalization, at least when part of an explicit revitalization effort. These findings are supported by Diamond and McQuade (2015) who find evidence that tax credit developments can lead to increased property values in high poverty neighborhoods.

[14] As part of our cleaning and matching process, we supplement HUD's project dataset with publicly available data on all federally assisted housing (called the Preservation Dataset) available at: http://www.preservationdatabase.org/. We further supplement these data with additional project level data available through state HFAs.

[15] For additional details on the tax credit tenant data see O'Regan and Horn (2013).

[16] For two of the states we have applications from 2000-2009. For one state we have applications from 2002-2009 and for the two remaining state we have applications from 2003-2009.

Table 1
LIHTC sample description, as of 2011 (includes all Metropolitan areas).

	All rental units*	All LIHTC units	All new construction LIHTC units	All new construction LIHTC units 12 state sample
Total developments	–	29,528	15,898	6,859
Total units	34,922,396	2,031,361	1,061,575	541,766
Average dev. size (Total units)	–	71	68	82
Total low income units	–	1,776,328	948,908	494,180
Average dev. size (LI units)	–	65	62	76
Region (shares)				
Northeast	20.3	15.3	10.3	7.3
Midwest	18.5	21.9	18.4	7.6
South	34.7	39.5	45.4	55.4
West	26.5	23.3	26.0	29.7
Tract poverty status (shares)				
<10% Poverty	32.3	18.0	24.0	22.9
10% 20% Poverty	32.8	26.8	29.4	30.9
20% 30% Poverty	18.1	23.0	21.7	21.3
>30% + Poverty	16.8	32.1	24.9	25.0
Year units built (shares)				
Before 1990	74.9	4.7	14.0	2.7
1990–1999	11.7	35.9	24.5	33.7
2000–2008	12.7	50.2	52.5	54.9
2009–2011	0.7	9.2	9.0	8.7

Note: Data on rental units comes from the 2007–2011 ACS. Data on LIHTC units comes from the HUD 2013 LIHTC database. *Counts of rental units are drawn from the 2009–2013 ACS in order to include appropriate age distribution of units. Census reports units built before 1990, between 1990–1999, 2000–2009 and 2010–2013.

Table 2
Poverty rate comparisons of LIHTC tenants and tract residents by neighborhood poverty.

	All	≤10%	10–20%	20–30%	30% +
Number of units	51,049	13,023	15,106	10,781	12,139
Distribution of units (shares)	100.0	25.5	29.6	21.1	23.8
% Poor LIHTC tenants	35.5	25.6	32.5	37.3	48.2
% Poor in the tract	17.7	6.4	14.3	24.2	41.7
N of tracts	539	137	156	116	130

Note: Sample includes tax credit projects that were newly constructed between 2009–2011 in our 12 state sample. Tract level data is drawn from the 2005–2009 American Community Survey.

completed (or "placed in service") between 2009–2011, to ensure that our income data, which were collected between 2009 and 2011, capture the income of tenants when developments were first constructed.[17] We compare the poverty rate of tenants in these newly constructed developments to the poverty rates of the surrounding census tract just before the construction of the LIHTC housing (using the 2005–2009 ACS).[18]

The top two rows of Table 2 show the distribution of newly constructed LIHTC units across census tracts with varying poverty rates. In these 12 states, approximately 26% of new LIHTC developments were placed in service in census tracts with low poverty rates, 51% in moderate poverty tracts and 24% in high poverty tracts. Three quarters of tax credit developments are located in low or moderate poverty tracts.

The next two rows compare poverty rates among LIHTC households in new LIHTC developments to the poverty rates of their surrounding census tracts. On average, tenants moving into LIHTC developments are more likely to be poor than their neighbors, with 36% of LIHTC households living in poverty compared to 18% of residents in the surrounding neighborhoods. Notably, the share of LIHTC households that are poor varies greatly by tract poverty rate. Indeed, the poverty rate among tenants in LIHTC developments built in high poverty tracts is almost twice as high as it is for tenants in LIHTC developments in low poverty tracts. Put another way, poor LIHTC tenants are far more likely to live in developments in high-poverty neighborhoods than other LIHTC tenants.[19]

One possible explanation for this systematic difference is that tenants in high-poverty neighborhoods may be more likely to benefit from some form of rental assistance. As the rents set for tax credit developments are meant to be affordable to households at 50 and 60% of Area Median Income, approximately double the poverty line, some form of additional rental assistance –either project or tenant based, is generally needed to house poor households in LIHTC developments (O'Regan and Horn, 2013).

While we cannot distinguish between project- and tenant-based assistance in our tenant data, the absence of new federal rental assistance during this time period means few newly constructed developments would have received federal project-based rental assistance. For our sample, the bulk of rental assistance is likely tenant based.

Table 3 reveals substantial variation in the presence of rental assistance by neighborhood type. In low-poverty neighborhoods, just under 30% of LIHTC tenants receive some form of rental assistance, whereas almost half of LIHTC tenants in high-poverty neigh-

[17] Unfortunately, our tenant data captures the current incomes of tenants, not their incomes when the development was placed in service. Note that for four of the states in our sample we only have tenant data for 2009-2010, not 2009-2011.

[18] We include all LIHTC units in the new developments. For developments with market rate units for which tenant data are not collected, we assume households in such units are not poor.

[19] We also created this table for all LIHTC units, rehabilitation and newly constructed units. Just under one third of the units in this sample of states during this time period were renovations. Results for this set of projects are qualitatively similar and available from the authors upon request. Poverty rates are higher overall in rehab developments (47 percent), and the variation across neighborhood types is slightly attenuated.

Table 3
Use of rental assistance by neighborhood poverty.

	All	≤10%	10–20%	20–30%	30% +
Number of units	40,352	9,323	13,540	7,774	9,715
% of tenants with rental assistance	37.3	27.4	37.3	35.8	48.1
% of tenants with rental assistance who are poor	65.3	57.4	60.6	65.2	74.8
% of tenants without rental assistance who are poor	24.1	19.9	20.9	26.7	32.6
N of tracts	496	121	148	106	121

Note: Sample includes tax credit projects that were newly constructed between 2009–2011 in 10 states with complete rental assistance data. Tract level data is drawn from the 2005–2009 American Community Survey.

borhoods have some form of rental assistance. And households with rental assistance are much more likely to be poor than LIHTC tenants without rental assistance (65% of LIHTC tenants with rental assistance are poor versus 24% of LIHTC tenants with no rental assistance). Thus, if states wish to achieve a more even distribution of poor tenants throughout LIHTC developments, rental assistance appears to be one important tool.

However, unlike project-based rental assistance which is revealed in the underwriting process and therefore visible in the LIHTC application process, allocating agencies would not know at the time of application how many future residents will have housing choice vouchers or other tenant-based assistance. Voucher households apply directly to individual developments that have available units for which their income is low (and high) enough to qualify, after developments are completed.[20] The state policy levers are less clear in this case; households with tenant-based subsidies may simply be more likely to know about or feel comfortable applying for units in developments closer to their current neighborhoods, which tend to be high poverty. Patterns across states do suggest, however, that there may be local factors or policies that can shape this outcome. In two of the eight states where sample sizes across neighborhoods permit comparison, rental assistance does *not* vary by neighborhood poverty rates. In those two states, poverty rates of LIHTC tenants also don't increase with neighborhood poverty. While the data we have in hand cannot shed light on why these two states differ, this is an important area for additional research.

That said, rental assistance fails to explain the full variation. Even among LIHTC tenants who do not receive any additional form of rental assistance, the share who are poor is higher in high-poverty neighborhoods, as shown in the last row of Table 3. We explore several explanations for this pattern. First, we test if rents are lower in LIHTC developments in high-poverty neighborhoods, but we find no differences in rents charged by neighborhood poverty rate. A second possibility is that poor households are more likely to apply to developments in high-poverty neighborhoods simply because they are more likely to live nearby these developments. Unfortunately, we have no information on prior addresses, so we cannot directly test this hypothesis. However, we can examine whether we see less variation in tenant income composition in states that explicitly require that developers engage in affirmative marketing to reach a broader set of residents. We find no evidence that such affirmative marketing requirements reduce the link between tenant and neighborhood poverty rates. We find that the six of our 12 states that explicitly include a requirement for an affirmative marketing plan in their Qualified Allocation Plans are also those states in which we see the largest correlation between neighborhood and tenant poverty levels.

Table 4 explores whether the root of this neighborhood variation among tenants without rental assistance is the locational

Table 4
Poverty rate of LIHTC tenants by developer type.

	All	≤10%	10–20%	20–30%	30%+
Total number of units:					
Non profit developers	10,278	2,278	2,919	2,488	2,593
For profit developers	28,198	6,516	9,901	4,860	6,921
Distribution of units (shares):					
Non profit developers	100.0	22.2	28.4	24.2	25.2
For profit developers	100.0	23.1	35.1	17.2	24.5
% LIHTC tenants with no rental assistance who are poor (shares):					
Non profit developers	28.0	18.7	19.1	32.6	49.4
For profit developers	23.4	21.3	22.5	23.1	27.7
N of tracts	486	117	144	105	120

Note: Sample includes tax credit projects that were newly constructed between 2009–2011 in the full sample of 10 states with tenant data where developer status and rental assistance are known. Tract level data is drawn from the 2005–2009 American Community Survey.

choices of nonprofit developers, who by virtue of their mission, may be more likely to serve lower-income tenants without rental assistance.[21] Perhaps surprisingly, we find that nonprofit developers are no more likely to develop units in high-poverty neighborhoods than their for profit counterparts. However, the nonprofit developers that build housing in high-poverty neighborhoods (most likely community-based nonprofits) are more likely than other nonprofit developers to serve unassisted, poor households. The share of unassisted tenants who are poor in nonprofit developments climbs steadily with the poverty rate of the neighborhood, while the share of unassisted tenants who are poor in for-profit developments is fairly constant across neighborhoods. Among developments in high-poverty neighborhoods, nearly half of the LIHTC tenants without rental assistance in developments built by nonprofits are poor, compared to just over one quarter of those living in developments built by for profit developers.[22] To the extent that nonprofit developers employ additional subsidies in order to serve a poorer population, these subsidies and associated rent/income distributions in the development would be visible to State allocating agencies during the allocation process.

In sum, the observed difference in the composition of poverty across LIHTC tenants can primarily be explained by both the greater prevalence of rental assistance in developments in high-poverty neighborhoods, and the tendency of nonprofit developers in high-poverty neighborhoods to serve unassisted, poor tenants. While the policy levers driving these patterns are not clear, we do find considerable variation across states.[23] This strongly suggests

[20] As the maximum rent is set for the unit and does not vary by the income of the tenant, many owners also set minimum income requirements to assure some level of affordability. This means that applicants must be able to prove a certain level of income to qualify for a unit in the development.

[21] Nonprofit developers are mission driven and may be targeting specific populations or households with special needs, many times offering additional services to these vulnerable populations.

[22] We are unable to observe whether developments are providing specific services to a particular population that might correlate with poverty and location, such as providing supportive services to the formerly homeless.

[23] We find no differences in rents charged by neighborhood poverty rate. However, it is still possible that poor households are more likely to apply to developments

that some combination of local program and policy decisions is contributing to the patterns we observe, and could be altered if a more even distribution of tenants across neighborhoods is a goal. For example, if the root of the issue is that poor households generally do not learn about developments in low-poverty neighborhoods, perhaps states should adopt a single application for LIHTC developments within metropolitan areas. To the extent that patterns are driven by voucher use, states might want to explore the lists of available units that housing authorities provide to new voucher holders. To the extent that additional subsidies tied to developments support serving poorer tenants, these would be visible to states during the allocation process and are more directly within the control of allocating agencies.

5. LIHTC and neighborhood change

The above analysis focuses solely on the compositional effect of new housing on a neighborhood's population when it is first created. But the construction of a development may also affect the composition of other residents moving into or out of that neighborhood over time. Indeed, one of the main arguments for building affordable housing in high-poverty neighborhoods, is that these developments could spur neighborhood improvements, often described as 'spillover' effects. Research has shown that investments in subsidized housing can change the trajectory of a poor neighborhood, decreasing its poverty rate over time, at least when part of a concerted revitalization strategy (Ellen et al, 2006; Ellen et al, 2009; Diamond and McQuade, 2015). Alternatively, it is possible that allocators and developers are selecting poor neighborhoods that are already improving, and thus if they are able to build LIHTC developments in these neighborhoods before they gentrify, they could also be contributing to the overall deconcentration of poverty by locking in some economic diversity.

While there are good reasons to believe that poverty rates may fall in high-poverty neighborhoods following the construction of new LIHTC developments, we expect poverty rates to rise after the completion of LIHTC developments in low poverty neighborhoods, as tax credit developments are bringing additional poor tenants into neighborhoods that previously had very few poor households. If LIHTC developments are making low-poverty neighborhoods more accessible to poor households this is another mechanism through which LIHTC could decrease poverty concentration.

5.1. Tract changes and census tract fixed effects

We estimate a panel model, pooled across three decades to examine how tract poverty rates change after LIHTC developments are constructed. To isolate the impacts of LIHTC developments on neighborhood changes, we estimate models with census tract fixed effects, to control for fixed differences between the tracts that receive allocations and those that do not receive allocations.

$$\mathrm{Pov}_{\mathrm{nmt}} = \alpha + \beta \mathrm{X}_{\mathrm{nmt}-1} + \gamma \mathrm{LIHTC}_{\mathrm{nmt}} + \eta \mathrm{TRACT}_{\mathrm{n}} + \theta \mathrm{MSA}^{*}\mathrm{Year}_{\mathrm{ct}} + \varepsilon \quad (1)$$

Pov represents the tract poverty rate in tract *n*, MSA *m*, in time *t* (after LIHTC units are placed in service). *LIHTC* represents the total number of units placed in service in a tract as of one year prior to *t*. That is, for each tract we model poverty rate as of 1990, 2000, and 2009[24] as a function of counts of LIHTC units as of 1989, 1999 and 2008, respectively, and a collection of lagged, time-varying tract characteristics ($X_{\mathrm{nmt}-1}$), which describe the characteristics of the tract as of 1980, 1990 and 2000, respectively. We also include census tract fixed effects and MSA by decade fixed effects to control for broader trends within the metropolitan area that might affect both LIHTC creation and poverty rates. We estimate this model on all tracts, and then interact LIHTC units by tract poverty rates at the start of the time period. Table 5 presents results for the full set of U.S. metropolitan areas.

The first column presents results with no controls, but with census tract, and MSA by decade fixed effects. Focusing on our main variable of interest, the coefficient on the number of LIHTC units is positive but quite small; indicating that on average, the completion of 100 LIHTC units is followed by an increase in the poverty rate over the course of a decade of approximately 0.1%. When we add interactions by tract poverty levels at the start of the time period (based on 1980 poverty rates), we find some evidence that impacts of LIHTC developments vary by neighborhood poverty rates. Columns 2 and 3 show a negative and significant impact on poverty rates in high-poverty neighborhoods, in line with the findings of previous research (Ellen et al, 2009; Diamond and McQuade, 2015).[25]

As for magnitudes, the coefficients suggest that an additional 100 units in a tract with a poverty rate below 10% would increase the poverty rate on average by 0.6 percentage points over the decade. As an example, if we take a tract with 4000 people and 300 poor individuals (poverty rate of 7.5%), and add an LIHTC development with 100 individuals and 26 people living below the poverty line (the average poverty rate in developments located in low-poverty neighborhoods), this would raise the tract poverty rate by 0.5 percentage points. Thus, it appears that the impact in low-poverty neighborhoods can be explained largely through the composition of the new LIHTC tenants moving into the neighborhood.

In moderate poverty tracts, we see almost no connection to subsequent poverty rates. In high-poverty neighborhoods, however, the impact of an additional LIHTC development is negative and of a substantial magnitude: our estimates suggest that adding a 100-unit development to an average tract is associated with a decline in poverty of approximately 2 percentage points, which appears to be due to spillovers. Again, to provide an example, in a tract of 4000 people, 1500 of whom are poor (poverty rate of 37.5%), adding 100 individuals to the tract, 48 of whom are poor (the average poverty rate in developments located in high-poverty neighborhoods), would directly *increase* the poverty rate by 0.3 percentage points. Spillover effects must therefore explain the longer-run decline in poverty. Specifically, an additional 225 non-poor individuals would have to be drawn to the neighborhood to produce a decrease in the poverty rate of 2 percentage points.

These results, however, do not prove that this positive impact is driven by changes occurring in the neighborhood after a development is placed in service. It is possible that developers and/or allocators are choosing poor neighborhoods that are changing in

in high-poverty neighborhoods simply because they are more likely to live nearby these developments. Unfortunately, we cannot test whether households are more likely to apply to a development if they live in the same neighborhood because we have no information on prior addresses. We can examine whether we see less variation in tenant income composition in states that explicitly require that developers engage in affirmative marketing to reach a broader set of residents. We find no evidence that such affirmative marketing requirements reduce the link between tenant and neighborhood poverty rates. We find that the six of our 12 states that explicitly include a requirement for an affirmative marketing plan in their Qualified Allocation Plans are also those states in which we see the largest correlation between neighborhood and tenant poverty levels.

[24] As these data are drawn from the Decennial Census and the 2007-2011 American Community Survey, they report on income earned in the previous year, and therefor represent poverty rates in 1989, 1999, and 2009 (approximately) respectively.

[25] We have also run these analyses using bootstrapping techniques to correct for potential bais that occurs with lagged dependent variables, a small number of time periods and large sample sizes. Results are consistent for the first two specifications, the third specification would not converge given the large number of control variables. Results are available from the authors upon request.

Table 5
Decade change in neighborhood poverty rate, 1990–2010.

	(1)	(2)	(3)
Number of new LIHTC units built/100	0.001**	0.010***	0.006***
	(0.000)	(0.001)	(0.001)
LIHTC units built/100* tract with poverty rate 10% 20%		−0.004***	−0.003***
		(0.001)	(0.001)
LIHTC units built/100* tract with poverty rate 20% 30%		−0.014***	−0.010***
		(0.001)	(0.001)
LIHTC units built/100* tract with poverty rate > 30%		−0.034***	−0.026***
		(0.001)	(0.001)
Tract population/1000, lagged			−0.000
			(0.000)
Percent black, lagged			0.124***
			(0.003)
Percent Hispanic, lagged			0.104***
			(0.004)
Percent foreign–born, lagged			0.023***
			(0.004)
Percent college graduates, lagged			−0.046***
			(0.003)
Home ownership rate, lagged			−0.056***
			(0.002)
Percent of housing units built before 1940, lagged			0.076***
			(0.004)
Percent of housing units built in the last 5 years, lagged			−0.001**
			(0.000)
Observations	151,492	151,492	151,492
R-squared	0.9	0.9	0.9
Tract fixed effect	Yes	Yes	Yes
MSA by decade fixed effect	Yes	Yes	Yes

Note: Wyoming and Indiana are not included in the national sample, as it is not possible to separate new construction or rehabilitation units in these states. Results are qualitatively similar for the full sample of states, which include rehabilitation and new construction, and available from the authors on request. Data on neighborhood characteristics are drawn from the 1980, 1990 and 2000 Decennial Census and the 2007–2011 American Community Survey. Data on LIHTC units are drawn from the 2013 HUD LIHTC database.
Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

ways that we are not able to control for with tract fixed effects. In our next approach we rely on applications data from five states to construct an alternative counterfactual of where LIHTC developments may have otherwise been located, which can more clearly control for selection by developers, as all of these neighborhoods have proposed projects.

5.2. Applications data

In addition to estimating tract fixed effects models, we also limit our analysis to only neighborhoods where developers actually proposed tax credit developments, which allows us to rule out the possibility that any association we identify between LIHTC development and subsequent changes in the concentration of poverty within a neighborhood is driven by developers selecting neighborhoods that they expect to improve over time. This approach, however, does not control for the possibility that allocators are awarding credits to projects in the tracts experiencing improvements that we cannot observe.

For five states, we have application data from early in the 2000 s through 2009. Focusing on this sample of tracts, we model 2000–2009 changes in tract poverty as a function of the number of LIHTC units placed in service over the decade, controlling for (lagged) tract characteristics. Specifically, we estimate the following regression:

$$\Delta \mathrm{Pov}_{\mathrm{nm(t-1,t)}} = \alpha + \beta \mathrm{X}_{\mathrm{nmt-1}} + \gamma \mathrm{LIHTC}_{\mathrm{nmt}} + \eta \mathrm{MSA}_{\mathrm{m}} + \varepsilon_{\mathrm{nmt}} \quad (2)$$

where ΔPov represents the change in a tract's poverty rate from 2000 to 2009.[26] *LIHTC* represents the number of units placed in service from 2000 to 2008. $X_{\mathrm{nct-1}}$ is a collection of tract characteristics at the start of the decade, and MSA is an MSA fixed effect.

We present results from this analysis in Table 6. We begin with the national sample of metropolitan tracts, showing that results for this single decade model are similar to those presented in Table 5. We then limit our sample to the five states where applications data are available, in column 2. Finally, in column 3 we present results for the sample of census tracts in those five states where tax credit developers proposed to build LIHTC developments. In these single-decade specifications, we find very similar results to those presented in Table 5. We find modest increases in poverty in low-poverty tracts nationally and modest reductions in poverty in high-poverty tracts in the five states.

More work needs to be done to isolate the mechanisms driving these results, but these results suggest that reductions in poverty in high poverty neighborhoods in the decade following the construction of LIHTC housing are not driven by developer selection of improving neighborhoods. They could potentially be driven by allocators' selection of improving neighborhoods, but this seems far less plausible. Instead, our results are more consistent with the argument made by Diamond and McQuade (2015) that the declines in poverty following LIHTC construction are driven by the in-movement of higher income households. Regardless of the mechanism, it appears that LIHTC developments appear to be contributing to modest reductions in poverty rates in high-poverty neighborhoods.

[26] The 2009 poverty rate is drawn from the 2007 through 2011 American Community Survey. As the ACS only provides tract level estimates based on five year averages this sample represents the most appropriate data point, though it does include two years of data before some of the LIHTC developments were put in place.

Table 6
Change in neighborhood poverty rate between 2000–2009.

	(1) National	(2) 5 states, all census tracts	(3) 5 states, ensus tracts with applications
Number of LIHTC units built/100, 2000–2008	0.008***	0.009***	0.010**
	(0.001)	(0.003)	(0.005)
LIHTC units built/100* tract with poverty rate 10%-20%	−0.003	0.001	−0.001
	(0.002)	(0.004)	(0.005)
LIHTC units built/100* tract with poverty rate 20%-30%	−0.006***	−0.004	−0.007
	(0.002)	(0.004)	(0.006)
LIHTC units built/100 tract with poverty rate > 30%	−0.027***	−0.030***	−0.030***
	(0.002)	(0.004)	(0.006)
Tract population/1000, 2000	0.000***	0.001**	0.001
	(0.000)	(0.000)	(0.001)
Percent black, 2000	−0.003	0.007**	−0.001
	(0.002)	(0.003)	(0.014)
Percent Hispanic, 2000	−0.011***	−0.007	0.005
	(0.003)	(0.007)	(0.029)
Percent foreign-born, 2000	0.007*	0.042***	0.096*
	(0.004)	(0.012)	(0.049)
Home ownership rate, 2000	−0.013***	−0.020***	−0.017
	(0.002)	(0.004)	(0.016)
Percent of housing units built between 1995–2000, 2000	−0.028***	−0.035***	0.041
	(0.004)	(0.009)	(0.041)
Percent of housing units built befeore 1940, 2000	0.001	0.022***	0.030
	(0.002)	(0.004)	(0.022)
Percent college graduates, 2000	−0.032***	−0.045***	−0.044
	(0.002)	(0.005)	(0.031)
Constant	0.043***	0.046***	0.031*
	(0.002)	(0.004)	(0.018)
Observations	51,022	11,610	813
R-squared	0.01	0.04	0.07
Number of MSAs	283	71	65
MSA fixed effect	Yes	Yes	Yes

Note: Samples change in each column. The first includes all census tracts across the US within metropolitan areas. The second includes all metropolitan census tracts with the five states where we have applications data. The third column includes only the census tracts within those five states where applications were made, including both those that were funded as well as those that were not funded. Data on neighborhood characteristics are drawn from the 2000 Decennial Census and the 2007–2011 American Community Survey.
Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

6. LIHTC and poverty concentration

The analysis so far has focused at the neighborhood level, in isolation from the rest of the housing market. Yet creating LIHTC housing in one neighborhood may affect the poverty rate of other neighborhoods too. For example, building a new LIHTC development might lead to an increase in poverty in the receiving neighborhood but also lead to a decrease in poverty in those neighborhoods from which tenants move. This section focuses on the effect of the LIHTC on poverty concentration in the metropolitan area as a whole. We estimate a series of MSA-level panel models that encompass the combined effects of siting, variations in tenant composition across neighborhoods, and spillovers.

Our basic model is as follows:

$$\text{PovCon}_{mt} = \alpha + \beta \text{X}_{mt} + \gamma \text{LIHTC}_{mt} + \eta \text{MSA}_{m} + \theta \text{Region}^{*}\text{Year}_{t} + \varepsilon \quad (3)$$

where *PovCon* is the poverty concentration in MSA *m* in year *t*, and *X* is a vector of metropolitan-level characteristics that may affect poverty concentration and vary over time. *LIHTC* represents the total units in MSA *m* one year prior to year *t*. We also include MSA fixed effects to control for differences across MSAs that are constant over time and region by decade fixed effects to allow for different time trends in the four regions of the country. We use three different measures of poverty concentration: poverty isolation (or the exposure of the average poor person to other poor people), the share of poor people who live in high poverty tracts (poverty rates of 30% or more), and the share of poor people who live in tracts with extreme poverty (40% poverty or more).

Table 7
MSA-level relationship between total new LIHTC units and poverty isolation and exposure (1990–2010).

	Poverty isolation (1)	High poverty exposure (2)	Extreme poverty exposure (3)
LIHTC / 1000	−.001***	−.003***	−.003***
	(0.000)	(0.001)	(0.001)
Constant	−0.070	−0.275	0.353
	(0.169)	(0.449)	(0.393)
Observations	957	957	957
R-squared	0.57	0.38	0.28
Metropolitan controls	Yes	Yes	Yes
MSA fixed effects	Yes	Yes	Yes
Region-by-year interactions	Yes	Yes	Yes

Note: Sample includes 319 metropolitan areas in 1990, 2000 and 2010. Metropolitan controls include population, racial composition, foreign born, share with college degree, share over 15 and share under 65, share employed in manufacturing, and share of rental units built in past decade, drawn from the 1990, 2000 Decennial Census and 2007–2011 American Community Survey. LIHTC data is drawn from the 2013 LIHTC HUD database.
Standard errors are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Results for models using our three dependent variables are presented in Table 7. For all three of our measures of poverty concentration, across the various models, the coefficient on LIHTC units

is negative and significant.[26] Within MSAs, poverty concentration is lower in years when more units have been placed in service in the prior decade, not higher. These results suggest little reason to be concerned that LIHTC developments are leading to increased concentrations of poverty at the metropolitan area level. These results are again in line with those of the existing literature (Ellen et al, 2009; Freedman and McGavock, 2015). It appears that the tax credit may be leading to an overall de-concentration of poverty in the average metropolitan area, though these coefficients are quite small.[27]

Based on our previous analysis, LIHTC developments could be driving this outcome by simultaneously increasing poverty rates in the lowest poverty neighborhoods, through providing housing for a significant share of poor households, and by locating poor LIHTC tenants in high-poverty neighborhoods that subsequently experience small declines in poverty rates. These results provide additional evidence that LIHTC developments are not contributing to concentrations of poverty, and that if anything they may be supporting the deconcentration of poverty.

8. Conclusion

As poverty concentration is again on the rise, and the evidence on the importance of place for the adult outcomes of low income children grows stronger, there is heightened interest in policy levers that might deconcentrate poverty. The Low Income Housing Tax Credit has become by far the largest production vehicle for affordable housing in the country, and thus has the potential to meaningfully shape the neighborhood opportunities that poor households face. In assessing the combined effects of siting choices and tenant composition, we find little evidence that the LIHTC is increasing the concentration of poverty – and using new data on development applications, we find some evidence that LIHTC developments are reducing poverty rates in high-poverty neighborhoods, at least over time.

That said, as implemented in these states, the residents of LIHTC developments in high-poverty neighborhoods are far more likely to be poor than LIHTC residents in low-poverty neighborhoods. A cross-sectional picture of the location of LIHTC developments would overstate the extent to which LIHTC is providing its lowest income tenants with access to low poverty, high opportunity neighborhoods.

With improved data, we have also highlighted the importance of paying attention not only to where these developments are located but also to how policy choices, like the presence of rental assistance, are contributing to differences in occupant income levels across neighborhoods. Further research is needed to understand the full set of reasons why poor LIHTC residents are more likely than other LIHTC residents to live in high-poverty neighborhoods, particularly to probe the extent to which these patterns are driven by tenant choices or result from policy choices.

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[26] We have also run these models including a variable describing the share of LIHTC units that were built in high poverty neighborhoods (those with poverty rates greater than 30 percent), to test whether outcomes were different in MSAs where a greater share of allocations were going to high poverty neighborhoods, and find our results are unchanged and that there is no significant correlation between this new variable and changes in overall poverty concentration.

[27] To provide a sense of the magnitude of these results, an MSA with 2,000 LIHTC units (the average built in an MSA during this time period) would experience a decline in poverty isolation of 0.002 and poverty exposure of 0.006.

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