The Low-Income Housing Tax Credit Program: A Comprehensive Review

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Abstract
This review explores literature assessing the Low-Income Housing Tax Credit (LIHTC) program. As the primary subsidy for affordable housing production and preservation in the U.S., there is a growing policy and research interest in this program. LIHTC has also been recognized as a tool for building equitable and inclusive communities. Scholars have been examining various aspects of the program such as production, operation, spillovers, policy levers, and tenants. There is a consensus that LIHTC plays a critical role in producing affordable housing. There is, however, ongoing debate about its reach and other impacts. Scholars have suggested potential avenues for improvement.

Keywords
Tax credit, Multifamily rental production, Neighborhoods, Housing policy, Housing subsidy

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The views expressed are those of the author and not those of Fannie Mae nor the Federal Housing Finance Agency.

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The shortage of affordable housing is an acute issue across America as rents rise amid soaring demand, leaving low-income households with increasingly few housing options. The federal Low-Income Housing Tax Credit (LIHTC) program is the primary federal source of funding to construct and rehabilitate affordable rental housing for low-income households. To date, the program has financed over three million affordable housing units.[1] LIHTC-financed units account for one-third of the subsidized rental housing stock in the U.S. (A. Schwartz 2015). Scholars have examined different aspects of the LIHTC program concerning housing production, efficiency and operation, siting locations, neighborhood spillovers, policy levers, and tenant outcomes. This comprehensive review synthesizes the literature on assessing these impacts.

There has been much research over the efficiency and efficacy of the program creating affordable housing and preserving existing housing stock. However, scholars, policy analysts and housing advocates also raise equality issues beyond increasing housing production. As the largest housing production subsidy today, the LIHTC program has a substantial influence over where low-income households live. There is a growing policy and research interest in this program motivated by the empirical evidence that neighborhood opportunities matter for disadvantaged populations, especially for children (*see* Freddie Mac Multifamily and National Housing Trust 2018; O'Regan 2015; Winkler, Varn, and Lee 2019; Department of Housing and Urban Development 2014). Advocates also promote the program as a tool to combat poverty and racial concentration, reversing historical segregation patterns while some hope LIHTC investments can revitalize blighted neighborhoods. The LIHTC program has been at the center of

[1] Tabulation includes the number of low-income units that ever received federal tax credits in U.S. Department of Housing and Urban Development's LIHTC project database with improvements from the National Housing Preservation Database (Public and Affordable Housing Research Corporation and National Low Income Housing Coalition 2022; Department of Housing and Urban Development 2022a). To avoid gaps in reporting, tabulations include LIHTC-financed low-income units allocated through 2018 and placed in service before 2022. A low-income household generally has income below 60% of the Area Median Income (AMI).

the debate between project-based housing subsidies and tenant-based assistance (Khadduri and Wilkins 2008; Olsen 2003a; 2003b). There is mounting uncertainty surrounding the future of LIHTC as a federal reform looms and affordability requirements start to expire for older developments (*see* Aurand et al. 2018; Khadduri et al. 2012; Lens and Reina 2016; McClure 2019b). Given the significance of the program, researchers and policymakers are increasingly interested in the operation of and outcomes associated with the program.

This paper first reviews existing research on program efficiency and operation, along with issues surrounding compliance and data collection. It then presents findings on tenant compositions and spatial distributions of LIHTC-subsidized properties and low-income households. It also examines evidence on the channels and outcomes of neighborhood spillovers from LIHTC developments and explores more recent research on policy levers and tenant experiences. The paper concludes with discussions on the ongoing legislative activities and the future of the program.

Background

Enacted by the Tax Reform Act of 1986, the LIHTC program provides tax incentives to the developers and investors in rental housing that serves low-income households. The credit was initially set up as a temporary program to offset the changes in the tax treatment of real estate and structures (Cordato 1991). After multiple extensions and modifications, the credit was made permanent in the Omnibus Budget Reconciliation Act of 1993. Since 1986, the program has financed over three million rent-restricted rental units to low-income households (Figure 1).[2] There are two types of credit: the 9% credit and the 4% credit, which refer to the percentage of

[2] *See* footnote 1.

qualified development costs (known as the eligible basis) that may be used to lower the federal income tax liability of developers or investors each year. Each funded development receives a ten-year stream of tax credits which can be used to offset the federal income tax liability of the developer. Developers often sell credits to investors, such as banks and insurance companies, to raise equity for the development. LIHTC is administered by the Internal Revenue Service (IRS), which distributes annual credits to state housing finance agencies (HFAs) based on population.[3] Figure 2 illustrates the rapid growth in tax expenditures for the LIHTC program. The cost is estimated to average $13 billion annually between 2022 and 2026 (Joint Committee on Taxation 2022).[4] In comparison, the Housing Choice Voucher program, a federal tenant-based rental assistance program, subsidized around 2.3 million households in 2022 and cost the Department of Housing and Urban Development (HUD) $30.4 billion to run it (Department of Housing and Urban Development 2021b).

An affordable housing development qualifies for LIHTC if at least 40% of households have incomes below 60% of the Area Median Income (AMI) or if at least 20% of tenants have incomes below 50% of AMI (known as the "40/60" and "20/50" rules).[5] In practice, the vast majority of units in LIHTC developments are qualified as low-income units, or units affordable to households earning under 60% of AMI or lower (Collinson, Ellen, and Ludwig 2016). Rents

[3] There are 66 state-level and, in limited instances, substate-level allocating agencies (Department of Housing and Urban Development 2021c).

[4] Discrepancies exist in estimates due to credit utilization and lags in reporting. Desai, Dharmapala, and Singhal (2010) find slightly higher estimates from tax returns. Most common estimates are from the Joint Committee on Taxation, the Department of the Treasury, and the project database/state limits.

[5] "Affordable housing," "low-income housing," and to some extent, "subsidized housing" are frequently used to categorize the LIHTC program. This paper uses these terms interchangeably when referring to housing financed by LIHTC. However, these terms are not synonymous with one or another in a broader context. U.S. Code 42(g)(2)(D), which is referred to as the "Next Available Unit Rule," sets a unit may continue to be treated as an eligible unit even though the tenant's income has exceeded 140 percent of the AMI after initial certification, so long as the unit continues to be rent-restricted and the next available unit of equal or smaller size is rented to a new tenant whose income meets the income requirement in the same property.

are capped at 30% of the income of the AMI tied to the unit, rather than varying by occupant's income. The Consolidated Appropriations Act of 2018 created a new minimum set aside election called income averaging which allows developers to serve households with incomes of up to 80% of AMI as long as average income in the development remains at 60% or less. Although the compliance monitoring requirements end after year 15, developments generally must meet affordability requirements for a minimum of 30 years, although some states require a longer period.[6] For example, California requires a 55-year extended use period for developments enabled by the 9% credit.[7]

States are given significant authority in determining how credits are allocated. Each state is required to issue a Qualified Allocation Plan (QAP), typically updated annually. This document guides developers on selection criteria set forth by the allocation agency. In addition to those required by federal regulation, states also adopt individually tailored priorities in their QAPs, such as setting aside credits for developments in areas with the greatest housing need or encouraging siting in lower-poverty neighborhoods. Since HFAs have broad discretion over allocations, criteria in QAPs can play a significant role in the final distributions of LIHTC units (Ellen et al. 2015; Ellen and Horn 2018; Kuai 2023). The Department of Housing and Urban Development, the agency which oversees many federal housing subsidies, provides limited technical assistance and, more recently, collects tenant data for the LIHTC program. LIHTC program requirements and administration differ significantly from other HUD programs.

[6] The total commitment period in federal regulation was extended from 15 years to 30 years under the Omnibus Budget Reconciliation Act of 1989. However, property owners can opt out of the program after 15 years if the property is in foreclosure or where a "qualified contract" is presented to the state credit allocation agency. noncompliance during the extended use period is not reported to the IRS (*see* National Council of State Housing Agencies 2021).

[7] *See* Cal. Code of Regulations, 4 Div. 17 Ch 1.

The state maximum of the 9% credit is the greater of $2.75 multiplied by the state population, or $3,185,000 in 2023.[8] This type of credit covers up to 70% of the eligible costs and represents significant equity in a development, reducing the need for debt and other subsidies. The 9% credit is awarded on a competitive basis to mostly subsidizing new construction or substantial rehabilitation. Every HFA scores and ranks proposals in terms of the strength in financial proforma, locational opportunities, tenant composition, developer's experience, property management and supportive services, and criteria outlined in its QAP (Kuai 2023).

The 4% credit is typically claimed for rehabilitation or new construction on a non-competitive basis. This type of credit only covers 30% of the eligible basis and thus requires additional layers of financing. A 4% deal requires considerably more financial sources than a 9% deal (Reid and Kneebone 2021). Eighty percent of the 4% units to date are coupled with tax-exempt bonds (TEB).[9] The 4% credit is awarded "automatically" to developments in which 50% or more of the costs are funded by TEB.

TEBs are exempt from federal (and often state) income tax and offer better interest rates than other forms of debt (Keightley 2019). Just as states receive the 9% credit, they also receive an annual allocation of "volume cap" to issue bonds (Keightley 2019). The 2023 state ceiling for the volume cap is the greater of $120 times the state population, or $339 million.[10] Multifamily rental housing generally enjoys a high priority for bond issuance as it also competes with other eligible civil uses, such as single-family housing, student loans, and economic development projects (Cooper 2010). For many years, the supply of bond caps exceeded the demand across

[8] *See* Rev. Proc. 2022-38. Based on federal regulations, state allocating agencies should limit tax credits to the amount required to make a project financially feasible. Some states set guidelines for maximum per unit eligible basis or maximum per applicant.
[9] *See* footnote 1.
[10] *See* Rev. Proc. 2022-38.

the country (National Housing Conference 2017). However, at least nine states faced no carryforward or very limited carryforward of bond caps into 2019 (Novogradac 2019). This translates to more competition, as 21 states begin using a scoring mechanism in reviewing bond (and 4%) applications (Kuai 2023).

The federal statute provides a "basis boost" and a preference for LIHTC developments proposed in "Qualified Census Tracts" (QCTs) where at least 50% of the households have incomes of less than 60% of AMI or a poverty rate of 25% or more. Developers also receive higher credit if siting in a Difficult Development Area (DDA) with high land, construction, and utility costs.

Once awarded LIHTC, the developer can syndicate or sell credits to investors to raise equity for construction through a syndicator or forming a limited partnership between the developer and other investors (Keightley 2019). Each credit gives investors a dollar-for-dollar reduction in their federal tax liability after a development is placed in service. The developer, as a general partner, has a small share in ownership but builds and maintains the development. The tax credit investor, as a limited partner, owns the majority share of equity, but gets limited control of design and construction and is not involved in day-to-day management.

The majority of credits are claimed by finance and insurance institutions and holding companies (Desai, Dharmapala, and Singhal 2010). The larger the difference between the market price of the credit sold by developers and its face value ($1.00), the larger the return to credit investors. Early Ernst & Young (2005; 2009) reports indicate that the price for a credit is between a low of $0.45 in 1987 to $0.90 in the 2000s. The price fluctuates less today – typically ranging between mid-$0.80s to low-$0.90s under normal economic conditions (Keightley 2019). Other factors may also affect the pricing, such as project characteristics, cost (as well inflation and interest rate), location, regulatory uncertainty, and changes in market participants (Kincer and O'Meara 2020; Keightley 2019; Desai, Dharmapala, and Singhal 2010). Eriksen (2009) found that neighborhood attributes are correlated with the price of credit in California. Most investors are motivated by the Community Reinvestment Act, which considers LIHTC investments more favorably in some areas (CohnReznick 2023; Government Accountability Office 2012; Office of the Comptroller of the Currency, Department of the Treasury 2014). A lower federal corporate tax rate can reduce the market value of LIHTC as investors do not need as many credits to offset lower taxes. Since the passage of the Tax Cuts and Jobs Act of 2017 which reduced the corporate tax rate from 35% to 21%, the price of a credit has been between $0.90 and $0.95 (Novogradac & Company LLP 2022).

Twenty-nine states and the District of Columbia have set up state-level housing tax credits as of 2023 (Novogradac & Company LLP 2023). A development that receives federal tax credit is typically eligible for state credit as well. Many states apply similar selection criteria as their federal program.

Critics of Efficiency and Operation

Early criticisms of LIHTC centered on the complexity of the program and anticipated inefficiencies (*for example*, Clancy 2017; Stearns 1988; Stegman 1991; Wallace 1995; White 1997). These articles often appeared in tax or law journals. Stegman (1991) argued that the LIHTC approach to affordable housing production suffers from "high transaction costs, inappropriate targeting of benefits, and insufficient monitoring." Later studies empirically assessed the inefficiency around development costs and the crowd-out effect of market units. Cummings and DiPasquale (1999) found that LIHTC developments can be quite expensive and a dollar of credit only produces about 68 cents of housing through 1996 by comparing total development cost. However, Eriksen (2009) and Cummings and DiPasquale (1999) both showed that the program encourages the construction of higher-quality housing. However, some suggest the type of assisted housing program does not appear to have an appreciable effect on housing quality in recent years (Newman and Holupka 2018). The program has been at the center of the debate between project-based housing subsidies and tenant-based assistance (Khadduri and Wilkins 2008; Olsen 2003a; 2003b). In terms of efficiency, research generally shows that more money is spent on the program to produce the "same amount" of housing for recipients than provided by the Housing Choice Voucher (voucher) program (Deng 2005; Olsen 2000).

Scholars also suggest that there is a substitution effect between LIHTC investment and other private-sector investment (Malpezzi and Vandell 2002; Baum-Snow and Marion 2009; Eriksen and Rosenthal 2010). Baum-Snow and Marion (2009) estimated that each LIHTC unit creates 0.8 units of housing – the other 20% is private market-rent housing that would have been built but was not. However, conclusions from the literature are that LIHTC affects the location of low-moderate income housing more than it affects the supply. Relatively little is known about the spillovers on neighborhood rental affordability (Eriksen and Rosenthal 2010).

In addition, some scholars argue that high profits have gone to the developers. Ballard (2003) claimed the high amount of competition suggests that the program is overly generous. More recent analysis indicates that more funds are going into construction activities as developers receive about 70 cents on the dollar for credits in California (Eriksen 2009). Burge (2011) concluded that rent savings by tenants constitute a small percentage of the program costs in Tallahassee, Florida, suggesting developers and investors are able to capture more benefits such as developer fees, higher rental income, and sale of their developments. The Government

Accountability Office (GAO) (2015; 2016; 2018) estimates that developer fees represented about 11% of development costs at the median.

Advocates and analysts have raised concerns on a few other aspects. Although the political environment continues to favor LIHTC-subsidized housing compared to housing directly provided by the government (Cummings and DiPasquale 1999; Eriksen and Lang 2018; Stegman 2017), some argue that there is a substantial difference between the behaviors of mission-driven, non-profit developers and profit-chasing private developers. Ballard (2003) alleged that for-profit developers use their political power to improve their situation relative to that of non-profit developers. On the other hand, Cummings and DiPasquale (1999) found that non-profit-developed housing is on average 20% more expensive than for-profit-developed housing. Investigative journalists have raised issues that some developers have inflated costs and misused funds (Sullivan and Anderson 2017) and banks have colluded with developers to drive down the price of credit (Gandel 2018). The GAO (2015; 2016; 2018) presented its findings that the oversight by the IRS has been minimal and HFAs do not have requirements to "help guard against misrepresentation of contractor costs." Furthermore, advocates argue that the program lacks tenant protection and affirmative marketing requirements (Jolin 2000; Haberle, Gayles, and Tegeler 2012). Federal law prohibits evictions, other than for good cause, of existing LIHTC tenants.[11] However, it does not define what constitutes good cause and IRS leaves the interpretation to local laws (National Housing Law Project 2021). There is very limited empirical research, and these issues deserve more attention, especially from policy analysts and makers.

[11] *See* IRS Rev. Rul. Ruling 2004-82.

LIHTC Data

The IRS has not published much data on the LIHTC program. Since 1996, HUD has voluntarily collected project data (Government Accountability Office 2015). However, this dataset suffers from considerable quality issues, especially for older developments (Department of Housing and Urban Development 2022b). The federal government did not actively monitor the tenants living in LIHTC developments until recently (Hollar and Usowski 2007; Shamsuddin and Cross 2020). Since 2010, the Housing and Economic Recovery Act (HERA) of 2009 requires each HFA to furnish HUD information concerning rent, income, and demographics of households residing in each LIHTC unit.[12] HUD has since only provided state-level aggregates with incomplete coverages and inconsistencies.[13] Data quality issues present a major challenge to researchers and analysts.

A few other data sources have become available to complement HUD's LIHTC project database. This paper uses the National Housing Preservation Database (NHPD) to derive better coverages on credit type and year of allocation for LIHTC developments in HUD's database. A few other studies have used state-supplied tenant records (*for example*, Ellen et al., 2016, 2018; O'Regan & Horn, 2013) or publicly-available state applications and allocation lists (*for example*, Deng, 2005; Ellen et al., 2015; Kuai, 2023).

The 4% program is relatively unexamined. Research on LIHTC does not often differentiate between the 4% and the 9% investments. While the 4% allocation must meet basic requirements outlined in the federal statue, it does not count toward the state's yearly cap and

[12] *See* Federal Register Volume 75, Issue 59 (Office of the Federal Register 2010).
[13] Data collection suffers from quality issues, such as incomplete coverage and data inconsistencies. There are variations across states. Income and rent information are collected across HFAs using fairly uniform standards. Demographic information is not standardized and, for some HFAs, not collected at all (Department of Housing and Urban Development 2021c).

often does not require competitive review. Recent studies have uncovered significant differences between the two credits. For example, Kuai (2023) documented that different allocation mechanisms have resulted in divergent spatial distributions of units. Oluku and Cheng (2022) found that deeper income targets have resulted in deeper reductions in rents in 9% properties in Chicago and Sioux Falls. Thus, findings of the 9% developments – presented in many of the studies below – may not apply to the 4% developments.

Tenant Compositions and Rent Burdens

Limited research on tenant compositions generally finds a significant portion of LIHTC units serve low-income and extremely low-income households. Despite the "40/60" and "20/50" rules, the program serves a much larger share of units for low-income households than required by the "40/60" and "20/50" rules. Early GAO (1997) and HUD-commissioned (Buron et al. 2000) studies provided snapshots of samples of LIHTC tenants. About three-quarters of tenants had incomes at or below 50% of AMI, with 40% of tenants being extremely low-income households[14] during the 1990s. Based on recent tabulations from HUD, close to 85% of LIHTC units serve low-income households and 53% of units serve extremely low-income households as of December 2019 (Department of Housing and Urban Development 2021a).[15] O'Regan and Horn (2013) compared tenant income levels across subsidies with 2019 and 2020 data from 18 states. While 76.3% of voucher holders and 76.8% of public housing residents are extremely low-income households, only 44.7% of LIHTC households are this poor. Studies generally show

[14] Extremely low-income means annual household income is less than 30% of AMI. Low-income means annual household income is less than 50% of AMI. Tabulations includes households with income certified in 2019, 2020 or 2021.
[15] HUD released its first public report under the HERA mandate in December 2014 (Hollar 2014). As of April 2023, HUD has released tabulations on tenant demographics from 2012, 2013, 2014, 2015, 2017, 2018, and 2019.

that the LIHTC program produces more income mixing than public housing (Ellen, Horn, and O'Regan 2016; Khadduri 2013; O'Regan and Horn 2013; Buron et al. 2000). O'Regan and Horn (2013) reported that 19% percent of LIHTC developments are mixed income[16], compared with 5% of public housing projects.

Drawing from HUD's tabulations again, about 38% of households are rent burdened, and 9.4% are severely rent-burdened in 2019 (Department of Housing and Urban Development 2021a).[17] Early surveys also uncovered that a large share of tenants have no rent burden while a small group of tenants faced severe rent burdens (Buron et al. 2000; Government Accountability Office 1997). The incidence of severe rent burdens is considerably lower among LIHTC tenants relative to other renters, even for those with extremely low incomes (O'Regan and Horn 2013).[18] However, extremely low-income LIHTC households, including those with rental assistance, experience rent burden levels that are markedly higher than tenants in other deep subsidy programs. There is very limited data on rent burden by race and ethnicity. Williamson (2011) found that white residents do not typically fare better than minorities in terms of rent burden.

HUD's tabulations also indicated that more than 40% of households receive rental assistance with Section 8 project-based rental assistance and vouchers being the top two sources (Department of Housing and Urban Development 2021a). The share of tenants receiving rental assistance has increased slightly since the 1990s (Buron et al. 2000; Government Accountability Office 1997). Williamson, Smith, and Strambi-Kramer (2009) estimated that about 16% of the

[16] The authors define "a development as mixed-income if at least 20% of the units are occupied by households earning at or below 30% of AMI and at least 20% of the units occupied by households earning above 50% of AMI."
[17] "Rent burden" and "severely rent burden" are defined as spending more than 30% and 50% of income on rent, respectively. As discussed above, the rent is capped at 30% of the income of the AMI tied to the unit, rather than occupant's income, unlike many other federal housing subsidies.
[18] Tenant records from 18 states.

vouchers in Florida are used in LIHTC units. Vouchers are disproportionately used in high-poverty areas that meet the criteria as QCTs.

There are a few recent studies on tenants' rent savings. Using actual rents paid across 12 metropolitan areas, Oluku and Cheng (2022) found that rent savings are greatest in large cities with strong housing markets and considerably less in small cities with weak housing markets. Two city-specific studies showed that rent savings also vary by building age and unit size (Burge 2011; Oluku 2019).

Buron et al. (2000) and Horn and O'Regan (2011) both reported that LIHTC developments disproportionately house minorities. Recent tabulations from HUD showed that more than 30% of householders are African Americans and 15.5% are Latinos (Department of Housing and Urban Development 2021a).[19] An early study revealed that non-profit-developed housing is more likely to house minority tenants (Buron et al. 2000).

(Re)Distribution of Poverty and Residential Segregation

The recent heightened interest in LIHTC is motivated by the theory that relocating low-income households to healthier, resource-rich, and lower-poverty communities yields improved outcomes for them (*see summaries* in Freddie Mac Multifamily and National Housing Trust 2018; Winkler, Varn, and Lee 2019; Ellen and Turner 1997). Chetty, Hendren, and Katz (2016) provided strong causal evidence that neighborhoods affect the earning trajectory of young children from low-income households in the long run. Other research from the Moving to Opportunity experiment, a tenant-based subsidy, finds that moving to lower-poverty

[19] Race and/or ethnicity is not reported for 22.3% of householders. Tenant demographics are as of December 2019.

neighborhoods improves the well-being of low-income individuals (Baum-Snow and Marion 2009; Clampet-Lundquist et al. 2011; Katz et al. 2003).

Many scholars have examined the spatial distributions of properties as the project data are readily available. Research generally finds that LIHTC tenants live in neighborhoods with poverty rates that are higher than average (Ellen, O'Regan, and Voicu 2009; Freeman 2004; McClure and Johnson 2015), similar to those where poor renters and voucher holders live (Lens, Ellen, and O'Regan 2011; McClure 2006), but lower than those where residents of public housing units and other forms of project-based housing reside (Cummings and DiPasquale 1999; Freeman 2004; Rohe and Freeman 2001). Ellen, O'Regan, and Voicu (2009) reported little change in these trends between the 1980s and the early 2000s.

There is a considerable concern that place-based policies can contribute to the concentration of poverty, specifically through the experience with public housing (Schill and Wachter 1995; Vale 2007). Overall, LIHTC tenants appear to be more likely to reach lower-poverty neighborhoods as compared to recipients of other federal housing assistance. This is arguably a low bar. LIHTC units are still three times more likely to be sited in high-poverty neighborhoods compared to all rental units in 2003 (Ellen, O'Regan, and Voicu 2009). A recent study found that newly constructed 4% units are increasingly allocated in higher-poverty neighborhoods while a larger share of 9% units are sited in lower-poverty neighborhoods (Kuai 2023).

LIHTC units are also located in minority-concentrated areas on average. Freeman (2004) found that units are located in neighborhoods with a high concentration of minority residents during the 1990s. However, LIHTC units are built in neighborhoods with a higher share of white residents than other federally subsidized units. An early report showed that developments built by non-profit developers are overwhelmingly sited in neighborhoods of high minority concentration, whereas developments built by for-profit developers are more evenly distributed across neighborhood categories of racial concentration (Buron et al. 2000). More recent work by Horn and O'Regan (2011) found that LIHTC units are almost twice as likely to be located in tracts with relatively high concentrations of minorities, as are housing units overall between 1987 and 2007. Units built in QCTs, in central-city locations, and those by non-profit developers are more likely to be situated in high minority concentration areas. McClure et al. (2020) illustrated that the LIHTC program is over-represented in HUD-designated Racially or Ethnically Concentrated Areas of Poverty. The share of units in these areas grew from 13% between 1987 and 1999 to 16% between 2008 to 2015.

Developers receive a credit boost if the development is located in a high-cost area called DDA.[20] With a regression discontinuity design, Eriksen (2017) concluded that the designation of a DDA at the metropolitan level reduces LIHTC new construction units per capita by 33% to 43% between 1993 and 2013. However, the designation does increase the share of subsidized units in higher-income neighborhoods (Eriksen 2017). HUD started designating metropolitan DDAs based on ZIP Code Tabulation Areas in 2016. There were only 35 DDAs at the county level in a handful of states before this change (Shelburne 2016). The revised approach is intended to incentivize siting in lower-poverty "opportunity areas."

Siting Patterns Beyond Poverty and Racial Composition

Other studies have included additional measures to analyze the siting patterns, such as proximity to other subsidized housing, employment activity, crime, amenities, and school quality

[20] *See* 26 U.S.C. § 42(d)(5)(B)(iii).

(*for example,* Dawkins 2013; Ellen, Horn, and Kuai 2018; Horn, Ellen, and Schwartz 2014; Lens 2014; Lens, Ellen, and O'Regan 2011; McClure and Johnson 2015). These studies generally show that LIHTC units are sited in less desirable neighborhoods than rental units as a whole, but in more desirable locations than public housing. LIHTC properties tend to be far more clustered than other subsidized housing and market-rate units (Dawkins 2013; Oakley 2008; Van Zandt and Mhatre 2009; Voith et al. 2022). LIHTC units are more likely to be clustered in central-city locations with elevated levels of poverty, minority concentration, and renter shares (Dawkins 2013; Basolo, Huarita, and Won 2022).

However, the spatial distribution of newly constructed units is changing. Ellen et al. (2015) and Kuai (2023) both demonstrated that new 9% units are increasingly sited in low-poverty areas in the 2010s. McClure (2006) also found that more units are located in low-poverty suburbs, providing more access to these neighborhoods than the voucher program. However, many suburbs still exclude LIHTC housing. Among municipalities that grow in population and multifamily housing between 2010 and 2019, those that are smaller, wealthier, whiter, and have less rental housing are more likely to have no LIHTC housing (A. Schwartz and McClure 2023).

Ellen, Horn, and Kuai (2018) added a comprehensive set of measures and examined neighborhood access by tenant demographics. Their results showed that LIHTC units are more likely to be located in neighborhoods with higher poverty rates, weaker labor markets, more pollution, and lower-performing schools, but better transit access when compared to other rental units. Poor and minority LIHTC tenants live in neighborhoods that are significantly more disadvantaged.

Scholars have also studied a particular type of neighborhood opportunity with the LIHTC development. McClure and Johnson (2015) found that LIHTC units are located in neighborhoods with unemployment rates that are lower than where public housing units are located, but higher than the average unemployment rate of rental units as a whole. Lens (2014) concluded that LIHTC residents live in neighborhoods with more job opportunities than other renters with similar incomes and voucher households, but significantly fewer opportunities than public housing residents; however, the difference largely disappears after accounting for competition for these jobs. Park and Choi (2021) confirmed this finding in Harris County, Illinois, and found that LIHTC tenants have a lower level of low-paying job accessibility than voucher holders. Studies generally find a mismatch between job and home for LIHTC tenants as the program has not placed low-income workers close to their jobs and out of distressed neighborhoods (Joassart-Marcelli 2007; H. J. Park and Choi 2021).

Although LIHTC developments are better integrated with the surrounding community, they are often located near poorly connected transit stops (Welch 2013). Adkins, Sanderford, and Pivo (2017) found that LIHTC units tend to concentrate in neighborhoods with better access to transit and jobs than other types of housing across the nation. However, less than half of the units built between 2007 and 2011 are in “location-efficient” places, which are neighborhoods with compact and mix-used designs to facilitate easy walking and biking access. Freemark (2018) noted that mixed-use developments are rare within the LIHTC program. These mix-used developments are more often located in wealthier, whiter, and already retail-rich communities in Chicago. Other studies find LIHTC units are in high-traffic areas but less likely than where voucher holders live in Orange County, California (Houston, Basolo, and Yang 2013) and more likely to be in neighborhoods with low sidewalk coverage in Austin, Texas (Woo, Yu, and Lee 2019).

As for crime, Lens, Ellen, and O'Regan (2011) identified that LIHTC units are in neighborhoods with higher crime rates than both the neighborhoods where an average poor renter household lives and a voucher holder lives nationally. Other studies generally find that LIHTC developments are located in areas with high crime rates in their cities (Fallon and Price 2020b; Tillyer and Walter 2019; Woo and Joh 2015; Zandt and Mhatre 2013).

For school quality, Ellen and Horn (2012) and Horn, Ellen, and Schwartz (2014) found that LIHTC residents live in neighborhoods with slightly lower school quality than an average renter household and an average poor household across the country.[21] School quality is higher for public housing residents and voucher holders on average. In California, Pfeiffer (2009) observed that most LIHTC units are located in low-performing school districts.

Neighborhood Spillovers

Many researchers have studied the price spillovers of LIHTC developments on surrounding properties. Dillman, Horn, and Verrilli (2017) summarized these findings that developments in distressed neighborhoods produce modest property value gains, while production in higher opportunity neighborhoods[22] results in small property value reductions. In more detail, Baum-Snow and Marion (2009) estimated that each 100 additional units are associated with an increase in home prices of 1.1% in block groups with LITHC developments. Diamond and McQuade (2019) found significant increases in property values after LIHTC investments are made in the lowest-income quartile tracts in 129 counties across 15 states.

[21] State variations do exist. These authors use units with two or more bedrooms as a proxy for households with children.

[22] There is no consistent definition for a high-opportunity neighborhood. The authors listed definitions applied in each paper they reviewed. These definitions often enlist resident income and wealth and the share of white residents as proxies for opportunities.

Multiple local studies have also documented small- or non-adverse effects of LIHTC properties on surrounding property values. Schwartz et al. (2006) and Ellen et al. (2007) uncovered that there is little impact on home values before the completion of a development, but a significant positive impact after the completion in New York City. Similarly, Woo, Joh, and Van Zandt (2016b) found positive price spillovers in Cleveland – a stagnant housing market, but insignificant negative impacts in Charlotte – a more active residential market.

One quasi-experiment study finds construction of developments for seniors is associated with a faster rate of growth in surrounding home values in Polk County, Iowa (Funderburg and MacDonald 2010). There is no clear relationship between either project design or neighborhood compatibility on any price spillovers using visual inspections. More recently, Voith et al. (2022) identified positive spillovers with the strongest benefit within one-quarter mile of a development in Cook County, Illinois. The impacts remain strong for at least 10 years after the initial development. The cumulative effect is positive in both lower- and higher-income areas, but more significant in lower-income areas (Voith et al. 2022). Additional research can be found in Ellen and Voicu (2007), Ezzet-Lofstrom and Murdoch (2007), and Green, Malpezzi, and Seah (2002).

For other spillovers, Woo, Joh, and Van Zandt (2016a) observed that LIHTC developments can generate significant homeowner turnovers by examining time to sale in Charlotte and Cleveland. Drawing from Diamond and McQuade (2019) again, LIHTC developments do not appear to increase crime in high-income areas. However, Lens (2013) found no effect on crime in New York across neighborhood types. For a case study of one development in New Jersey, Albright, Derickson, and Massey (2013) also found no impacts on crime in a suburban, majority-white, middle-class community using a mix-method research design. They emphasized the role of management, such as maintaining landscaping, similar to that of nearby properties, thorough applicant screening, and maintaining close contact with the local police.

One Feature in Focus: Qualified Census Tracts

Some advocates fear that a few specific features of the LIHTC program may work to heighten poverty concentration and racial segregation. The primary feature that attracts criticism is that developers are eligible for a "basis boost" when undertaking developments in QCTs that contribute to a community revitalization plan.[23] This preferential treatment was likely designed to provide incentives to rehabilitate or replace rental housing stock in very low-income areas (Hollar and Usowski 2007). Some states give additional incentives to encourage investments in revitalizing blighted communities (Ellen et al. 2015; Ellen and Horn 2018; Kuai 2023; Lang 2012). However, the federal government provides very little guidance on what constitutes a community revitalization plan (Ellen et al. 2015). States may prioritize areas with concentrated poverty and/or pay no attention to revitalization (Kazis and O'Regan 2023, Orfield 2005; Roisman 1998).

Since not all households in LIHTC funded buildings are low-income, there can be income mixing and positive spillovers from siting units in QCTs. Studies show that the program does produce some degree of income mixing (Ellen, Horn, and O'Regan 2016; Khadduri 2013; O'Regan and Horn 2013; Buron et al. 2000). Other research suggests that this boost leads to an increased clustering of low-income housing in these designated communities (Baum-Snow and Marion 2009; Dawkins 2013) and small increases in poverty rate (Freedman and McGavock 2015). Lang (2012) argued that the opportunity costs of building subsidized housing, rather than

[23] *See* 26 U.S.C. § 42(d)(5)(C)(ii)(I) and 26 U.S.C. § 42(m)(1)(B).

the boost, could be driving these patterns. Developers are more likely to build LIHTC housing where market rent is low. They prefer cheaper land in low-value neighborhoods as land costs are not covered by LIHTC. So LIHTC housing is most likely to be built in low-rent and low-income neighborhoods without additional locational incentives like QCTs. In addition, states may not be willing to site the majority of units in high-poverty neighborhoods (Freeman 2004; McClure 2006) and understand the tradeoff between siting in opportunity neighborhoods and investing in blighted communities (Ellen et al. 2015; Kuai 2023). HERA relieved states from the obligation of awarding basis boosts to developments in QCTs and DDAs. States can offer boosts to other developments to make them "financially feasible."[24] It is unclear whether there are any impacts because of this change.

Neighborhood Revitalization

While fair housing advocates argue that affordable housing should generally be placed in high-opportunity areas to improve the socioeconomic mobility of low-income households (Dawkins 2013; Orfield 2005; Sanbonmatsu et al. 2011; Shamsuddin and Cross 2020), community-oriented development supporters believe that investment should be made in struggling neighborhoods to revitalize disadvantaged communities (Baum-Snow and Marion 2009; Diamond and McQuade 2019; Ellen, O'Regan, and Voicu 2009; Shamsuddin and Cross 2020). Although making LIHTC investments in distressed neighborhoods may spark neighborhood revitalization (Nguyen 2005; A. Schwartz 2016), research points to a mixed track record for the program on this issue.

[24] I.R.C. §42(d)(5)(B)(v).

First, the program has not meaningfully contributed to poverty deconcentration and residential desegregation (Freedman and McGavock 2015; Ellen, Horn, and O'Regan 2016; Dawkins 2013; Williamson, Smith, and Strambi-Kramer 2009; Shamsuddin and Cross 2020; Freeman 2003; Ellen, O'Regan, and Voicu 2009). Ellen, Horn, and O'Regan (2016) found very small negative coefficients on poverty concentration from LIHTC investments across 319 metropolitan areas between 1990 and 2010. Ellen, O'Regan, and Voicu (2009) also concluded that LIHTC is associated with modestly lower levels of poverty isolation, likely due to a combination of siting decisions, tenant mix, and spillovers in high-poverty neighborhoods. Freedman and McGavock (2015) compared similar neighborhoods in different metropolitan areas by using local caps on QCT eligibility. There is some evidence that new investment increases poverty rates in disadvantaged neighborhoods, although these small impacts appear to be driven by the relocation of poor residents, rather than by changes in the composition of other residents in the neighborhood.

Studies also find small effects on desegregation. Deng (2011) showed that investments in majority African American and high-poverty neighborhoods produce mostly positive changes, including decreasing minority and poverty concentration in Miami-Dade County. Horn and O'Regan (2011) concluded that LIHTC contributes to lower levels of segregation at the metropolitan level with units placed in service between 1987 and 2007.

In addition, Freedman and Owens (2011) offered empirical evidence utilizing the variations in designating QCTs that LIHTC investments significantly reduce violent crime, but not property crime, in the poorest neighborhoods. Again, Lens (2013) finds no effect on crime across subsidies and neighborhood types in New York. Lastly, Di and Murdoch (2013) found no evidence that LIHTC developments substantially impact school performance in distressed neighborhoods.

Allocation Mechanisms and Outcomes

Although the program was established before the federal government specifically promoted poverty deconcentration and racial desegregation and long before HUD tried to overcome fair housing issues, housing advocates have nonetheless charged suggested that those should be a goal of the LIHTC program (Hollar and Usowski 2007; Shamsuddin and Cross 2020; Steil and Kelly 2019; Tisdale 1999; McClure 2008). States have increasingly used QAPs to achieve a wider set of policy goals related to economic mobility, education, health, environment, and revitalization (Ellen et al. 2015; Ellen and Horn 2018; Kuai 2023; Reid 2019). For example, requiring developers to obtain community approval may drive developments to higher-poverty neighborhoods as residents and community leaders may be less likely to successfully oppose these proposals in these neighborhoods (Khadduri 2013). Conversely, priorities like avoiding the concentration of affordable housing may directly limit poverty concentration.

A branch of research focuses on how state QAPs influence developers' location choices. Some states encourage siting developments in "areas of opportunity," defined either broadly or using specific metrics like low poverty rate, high quality of schools, and great economic opportunities – based on the neighborhood effects literature (Ellen et al. 2015; Kuai 2023). Many state housing finance agencies have increasingly paid more attention to this aspect in order to balance revitalization goals after the Supreme Court ruled that the Texas Department of Housing and Community Affairs allocated too many tax credits in predominantly black inner-city neighborhoods.[25] Ellen et al. (2015) analyzed QAPs across the nation and illustrated that states have significantly increased overall prioritization of opportunity and improved siting outcomes for the 9% credit in recent years. Kuai (2023) suggested that increased competition and stronger policy levers in QAPs have enabled states to influence the siting of 4% units. The relative effects of different features on the locational outcomes remain unclear. Walter, Wang, and Jones (2018) reached a similar conclusion that more units are sited in lower-poverty and higher-racial-diversity neighborhoods after Texas incorporated an opportunity provision in 2009.[26]

Broader research, however, shows that mobility to opportunity neighborhoods provided by subsidized housing does not always translate into increased subjective well-being, earning, and satisfaction (Blumenberg and Pierce 2014; Lens and Gabbe 2017). Reid (2019) uncovered a disconnect between California's opportunity requirements and LIHTC tenant outcomes by conducting qualitative interviews. Furthermore, some siting outcomes may be purely driven by partisan loyalty and political affiliation with little relationship to QAP criteria (Gay 2017).

Multiple studies have examined other components in QAPs. For example, all HFAs have green building criteria – most recognize the benefits of energy-efficient buildings and smart growth (Yeganeh et al. 2021; Zhao et al. 2018). Zhao et al. (2018) found that green LIHTC building reduces energy expenditure by about 35% for low-income households in Virginia. On contrary, results from Reina and Kontokosta (2017) indicated the overall LIHTC program has yet

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[25] Under this ruling, the disparate impact claim that is a policy had a greater negative impact on people of color, can be upheld under the Fair Housing Act of 1968 even if the adverse impact of such a policy or practice is unintentional.

[26] In 2009, Texas established new criteria to award points to developers locating projects in high-opportunity areas. research the US Supreme Court ruled that the Texas Department of Housing and Community Affairs (TDHCA) allocated too many tax credits in predominantly black urban neighborhoods. Under this ruling, disparate impact claims (when minorities are adversely impacted by certain practices) can be upheld under the Fair Housing Act of 1968 even if the adverse impact of the policies and practices are unintentional (*Texas Department of Housing and Community Affairs v. Inclusive Communities Project, Inc.*, 576 U.S. 2015). This finding has caused state housing finance agencies to reconsider the scoring criteria that determine the allocation of tax credits.

to outperform other subsidized and private-sector properties in energy consumption and being sub-metered in New York City. They pointed to the utility allowance structure and limited funding for maintenance and upgrades in explaining these patterns. Nedwick and Burnett (2015) identified conflicting priorities and high costs as two obstacles in implementing transit incentives through interviews. Ahrentzen et al. (2022) acknowledged the most frequently required health provision is to address housing quality, whereas the most incentivized one is to address proximity to services and amenities. However, there is a lack of clear standards for best practices for health-related incentives (Shi, Baum, and Pollack 2020). Lastly, Mehta, Brennan, and Steil (2020) found only 24 states and territories include disaster-related provisions.

Tenant Experience and Outcomes

Prior literature is quite limited on tenant experience and the linkage between the LIHTC program and tenant outcomes. Reid (2019) interviewed 251 tenants in California and reveals a strong attachment of tenants to the neighborhoods where they move from. This work highlighted the importance of social connections for navigating the application process to get into the building. Tenants also face significant obstacles in improving labor and housing positions rather than a lack of access to labor markets.

Researchers in Ohio used a series of surveys to gauge housing satisfaction among tenants. Senior citizens are mostly satisfied and want to age in place (Fallon and Price 2020a). Residents with disabilities have lower housing satisfaction overall (Fallon and Price 2020a). On a different topic, LIHTC tenants' perceived neighborhood safety is slightly impacted by the building design (Price and Fallon 2022).

Due to a lack of quality data, assessing tenants' educational, economic, and mobility outcomes is not currently feasible. Using a commercial address database, a preliminary study implied that LIHTC developments attract low-income households while deterring higher-income families in Franklin County, OH (S. Park et al. 2021).

Future of LIHTC and A Looming Reform

One pressing issue is that many LIHTC developments are near or at the end of their affordability period. The affordability restriction for over 115,000 units expired between 2019 and 2023 (Scally et al. 2018). Lens and Reina (2016) found that a large share of LIHTC properties that ended their compliance period between 2000 and 2010 either recapitalized through new tax credits or continued to receive support from another federal subsidy. However, the neighborhood and spillover effects from the expiration of affordability requirements are still unclear. HFAs also face a new tradeoff, deciding whether to use scarce resources to recapitalize existing LIHTC properties, preserve affordable housing stock, or develop new housing. One QAP study summarized state QAPs and found that states have increased their focuses on preservation in recent years (Kuai 2023). In addition, HUD's Rental Assistance Demonstration (RAD) program, which converts public housing and certain types of project-based rental assistance to project-based housing choice vouchers or Section 8 project-based rental assistance, makes significant use of LIHTC. Schwartz and McClure (2021) suggest that RAD could significantly constrain future LIHTC preservation and production efforts outside of the RAD program.

Studies have identified the significance of year 15 in preserving LIHTC properties when property owners can opt out of the program[27] (Khadduri et al. 2012; Meléndez, Schwartz, and Montrichard 2008; A. Schwartz and Meléndez 2008). There are early signs that most owners plan to maintain low-income occupancy after the compliance period, but they also express concerns about cash flows and financial performance (Abravanel and Johnson 2000; A. Schwartz and Meléndez 2008). Case studies in Detroit and New York City highlighted the obstacles in preserving LIHTC properties, such as significant capital needs, capacity constraints, data issues, and administrative challenges (Deng 2020; Dewar, Deng, and Bloem 2020; Kim 2023). Advocates and industry leaders are calling for more engagement from property owners, especially from for-profit owners, to participate in preservation efforts and better identify all stakeholders and resources (Deng 2020). A study on the implementation of the Year-15 Program in New York City, which helps property owners with capital restructuring and improvements in return for an additional regulatory period of at least 30 years, underscored the critical role of public financing in controlling exit and depreciation risks for LIHTC properties (Kim 2023). Studies generally point to the importance of non-profit organizations in syndicating and restructuring preservation deals (Deng 2020; Kim 2023; A. Schwartz and Meléndez 2008).

Furthermore, many studies call for state officials to use the plan as a critical planning tool and pay careful attention to balancing neighborhood opportunities, revitalization, and preservation goals (Ellen and Horn 2018; Kuai 2023). Some scholars also suggest that the LIHTC program should be reconfigured to promote mixed-income housing while also increase more supply in tight markets (McClure 2019a; 2019b).

[27] *See* footnote 6.

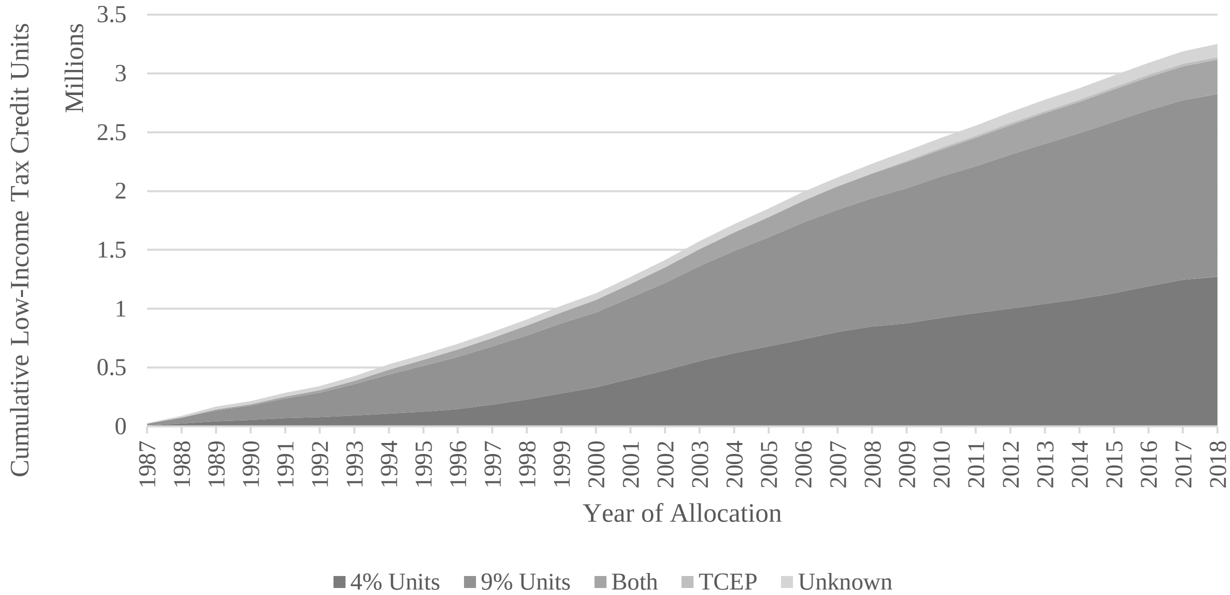
While there is a consensus that LIHTC plays a critical role in producing affordable housing across the U.S., many scholars highlight the urgencies to improve efficiency and equality. There is an ongoing discussion about LIHTC reforms. The most discussed is to increase the annual allocation cap (Eriksen and Lang 2018; Fischer 2018). The allocation of tax credits is also tied to population growth. As population growth stalls, there will be fewer credits to create new units to replace dilapidated affordable housing stock and sustain preservation and renovation efforts. Other scholars call for changes in siting criteria, tenant mix, set-asides, rural support, tenant protections, building standards, data collection, and compliance (Galster 2019; Eriksen and Lang 2018; Bipartisan Policy Center 2013; Fischer 2018; Aurand et al. 2018; McClure 2008). Many LIHTC proposals have also been discussed in Congress – most notably in the Affordable Housing Credit Improvement Act and the Build Back Better Act.[28] The federal government also tries to increasing operation efficiency by improving the alignment of federal funds to reduce transaction costs and duplications, finalizing average income tests, and strengthening Fannie Mae and Freddie Mac financing (The White House 2022).

There is mounting uncertainty surrounding the future of LIHTC and some of its programmatic features. Researchers across disciplines need to generalize their results for a more coherent approach towards policy recommendations. Additional research is needed on the efficiency and compliance issues, especially in a highly competitive tax credit market and a period of high construction cost. A few new program components deserve more attention, such as locational levers in QAPs and the new income averaging rule. LITHC studies should also connect housing with other disciplines, such as health and social work, to better understand and address the affordability crisis. These insights are extremely valuable to state and federal

[28] For a list of adopted and proposed legislation, *see* https://www.novoco.com/resource-centers/affordable-housing-tax-credits/2023-2024-federal-lihtc-legislation.

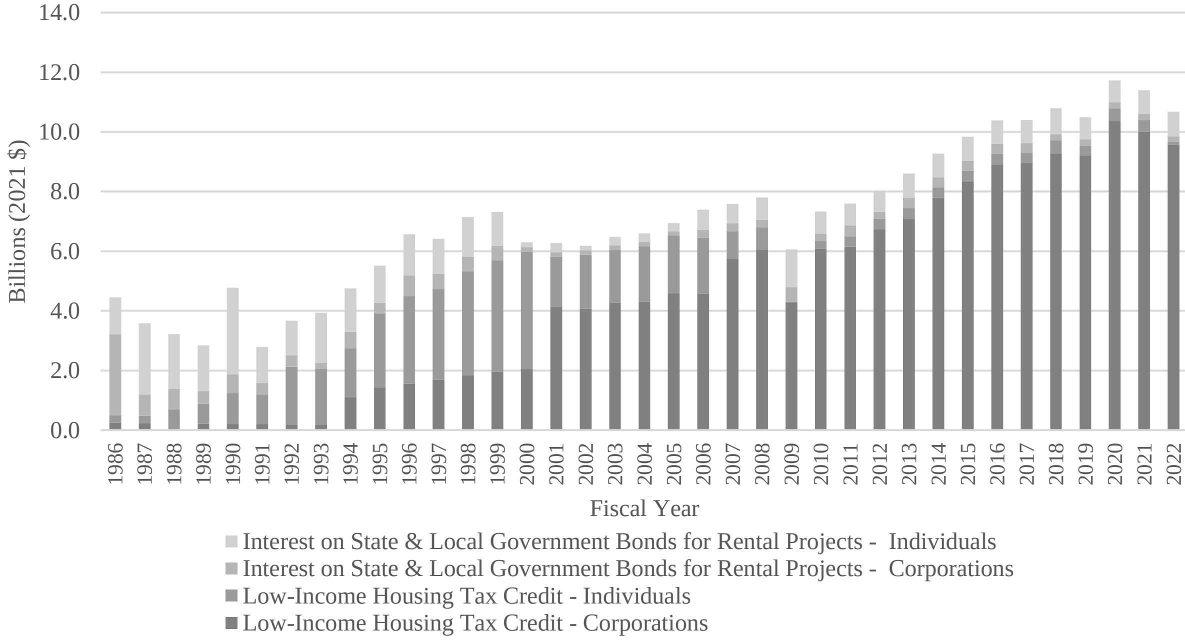
policymakers in drafting LIHTC and housing financing guidelines and legislations. We also need more insights into the 4% program, state tax credits, and other sources that are typically coupled with the federal tax credits. Scholars need to push for better data from federal and state agencies and conduct more comprehensive analyses into tenants and their educational, economic, and mobility outcomes. As more developments are nearing the end of their affordability periods, scholars have an urgent task to address constraints, issues, and challenges associated with preserving existing LIHTC properties. Finally, expanded and longer-term analyses of neighborhoods with LIHTC developments will be helpful to determine the influence of developments on the revitalization or decline of neighborhoods.

Figure 1. Number of Tax Credit Units by Year of Allocation and Credit Type



Note: TCEP = Tax Credit Exchange Program under the American Recovery and Reinvestment Act of 2009. The author's tabulations include subsidized low-income LIHTC units allocated through 2018 and placed in service before 2022.
Sources: HUD's LIHTC project database with improvements from the NHPD.

Figure 2. Estimated Tax Expenditure by Fiscal Year



Note: Tabulations are based on the Joint Committee on Taxation's annual Estimates of Federal Tax Expenditures. Figure for a given year is taken from the report immediately preceding that year, except for 2013. All figures are in 2021 dollars. The amount of housing tax credit from corporation is less than 50 million in 1988. Chart also includes expenditure on interest on state and local government bonds and qualified private activity for rental projects. The interest on which is exempt from federal income taxation.
Sources: Joint Committee on Taxation, 1985-2022.

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