The effects of low income housing tax credit developments on neighborhoods ☆

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ABSTRACT

This paper evaluates the impacts of new housing developments funded with the Low Income Housing Tax Credit (LIHTC), the largest federal project based housing program in the U.S., on the neighborhoods in which they are built. A discontinuity in the formula determining the magnitude of tax credits as a function of neighborhood characteristics generates pseudo-random assignment in the number of low income housing units built in similar sets of census tracts. Tracts where projects are awarded 30% higher tax credits receive approximately six more low income housing units on a base of seven units per tract. These additional new low income developments cause homeowner turnover to rise, raise property values in declining areas and reduce incomes in gentrifying areas in neighborhoods near the 30th percentile of the income distribution. LIHTC units significantly crowd out nearby new rental construction in gentrifying areas but do not displace new construction in stable or declining areas.

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1. Introduction

Means tested government programs are an important part of the U.S. housing market and rival in magnitude other public programs for the poor such as food stamps and TANF. In 2002, $26 billion was spent on housing programs for the poor by the Department of Housing and Urban Development through rental subsidies, mortgage interest subsidies, public housing construction, homeless programs, and block grants to states (U.S. House of Representatives, 2004).[1] The Low Income Housing Tax Credit (LIHTC) program, which provides tax subsidies for developers building rental units targeted to low-income households, has become a key component of housing policy. With few new public housing projects expected to be built in the future and a recent expansion in LIHTC funding, the LIHTC is now the primary project based federal housing program.

Table 1 shows trends in the importance of LIHTC subsidized housing construction in the U.S. housing market. The growth in the number of LIHTC units since 1993 is significant. Developers established 479 thousand LIHTC units between 1993 and 1999, making up 2.4% of the occupied rental housing stock at the end of the period. By 2003, LIHTC units

accounted for 3.6% of rental units in the U.S.[2] Meanwhile, the number of occupied public housing units declined from 1.3 million in 1993 to 1.1 million in 2000, representing 3.3% of occupied rental housing units nationwide. New LIHTC construction thus more than compensated for the decline in the stock of occupied public housing units over this period.

This paper explores the impacts of low-income housing developments on the neighborhoods in which they are built. Since LIHTC subsidized units are almost entirely populated by households below the 30th percentile of the income distribution, new developments may generate a decline in local amenities because they lead to an influx of lower than average income residents in most neighborhoods. However, new LIHTC units may also represent amenity improvements if they replace vacant buildings or unsightly empty lots. As local amenities change, the Tiebout (1956) resorting of the population potentially leads to turnover in neighborhood residents. Furthermore, the new neighborhood characteristics may be capitalized into home prices. Finally, the local aggregate supply of new rental and owner occupied housing may be affected by new subsidized units in the neighborhood.

Two factors complicate this evaluation. First, an LIHTC developer's choice of building location is likely to be influenced by expectations about future rents in the neighborhood. Second, households endogenously sort across neighborhoods based on unobserved attributes. It is therefore difficult to isolate the amenity and new neighbor effects of new low income housing construction from other factors that might drive neighborhood gentrification and decline. To overcome these difficulties, we exploit plausibly exogenous variation in the location of LIHTC projects generated by rules governing the allocation of LIHTC units across space. Projects located in census tracts where at least 50%

[2] The LIHTC program has grown in importance in more recent years as well. In 2004 and 2005, an additional 207 thousand units were placed in service, 126 thousand of which were new construction.

Table 1
Components of the United States Housing Stock 1993–2003 (thousands).

	1993	1995	1997	1999	2001	2003
LIHTC: all units	338	475	634	817	1000	1205
LIHTC: New construction only	149	221	317	433	543	670
Occupied public housing units	1295	1129[a]	1,127	1109[b]	1078[c]	NA
Total occupied subsidized units	NA	4500[a]	4571	4531[b]	4033[c]	NA
Renter occupied housing	33,472	34,150	34,000	34,007	33,996	33,604
Owner occupied housing	61,252	63,544	65,487	68,796	72,265	72,238
Total occupied units	94,724	97,694	99,487	102,803	106,261	105,842
Fraction of rentals LIHTC	0.010	0.014	0.019	0.024	0.029	0.036
Fraction of rentals public housing	0.039	0.033	0.033	0.033	0.032	NA

Notes: LIHTC stands for Low Income Housing Tax Credit. LIHTC data is calculated by the authors using the LIHTC data set available from the department of Housing and Urban Development (HUD). The LIHTC numbers assume no projects were taken out of service prior to the listed year. Information on public housing and other subsidized units is calculated from "A Picture of Subsidized Households". Remaining housing stock numbers are from the American Housing Survey. All housing stock numbers are for the 50 US states and the District of Columbia only.
  [a] Numbers are for 1996.
  [b] Numbers are for 1998.
  [c] Numbers are for 2000.

of the households are eligible to rent an LIHTC unit are designated as Qualified Census Tracts (QCT) and receive 30% higher tax credits. This tax credit bonus generates more LIHTC projects in census tracts just above the eligibility threshold than those tracts just below.

We find that developers' location choices respond strongly to the tax credit incentives. Census tracts just above the QCT threshold receive on average an additional six LIHTC units on a base of seven units per tract between 1994 and 1999 relative to tracts just below the threshold. The response of LIHTC units to QCT status seems driven by developers' location choices rather than government preferences, as we find that the discontinuity in units at the threshold is driven by the number of applications by developers rather than state housing authorities' acceptance rate of proposed projects. In addition, we provide evidence that developers differentially select gentrifying neighborhoods as locations for their developments, a fact that to our knowledge has not been previously considered in the literature. Failure to account for this selection may lead to faulty conclusions about the impact of these developments on several important outcomes of interest.[3]

Using the resulting exogenous variation in the location of LIHTC units, we find sizable effects on several key neighborhood attributes. We show that owner turnover rates are significantly higher near new LIHTC projects. On average, 100 additional LIHTC units cause a 5.9 percentage point increase in the fraction of owners moving to the neighborhood between 1995 and 2000. We also find that neighborhood income declines as a result of new LIHTC units nearby, and this effect is concentrated in gentrifying areas. In addition, we find a positive effect of LIHTC units on neighborhood home values. Every 100 additional LIHTC units lead to a 14.9% increase in the median home value, though this effect is close to zero in gentrifying areas.

Finally, we evaluate the extent to which the construction of LIHTC units crowds out private development. Overall, each new LIHTC unit increases the number of recently built rental units by 0.8 units within 1 km of the project site, while we find no effect for owner occupied units. However, in gentrifying areas there appears to be significant crowd-out of private construction, as each additional LIHTC unit is only associated with 0.37 newly constructed rental units overall.

The cost of the regression discontinuity approach taken here is that without strong and probably unreasonable assumptions about the homogeneity of treatment effects as a function of neighborhood characteristics, we can only make causal statements about the impacts of low income housing developments on areas that are fairly poor,

though not extremely poor. Developers' incentives to build low income versus market rate housing may differ markedly by local economic conditions. Furthermore, as argued in Eriksen and Rosenthal (2007), the magnitude and even the sign of the external effects of LIHTC construction may differ as a function of initial neighborhood composition.

This paper expands and builds on a body of research assessing the impact of subsidized housing on neighborhoods. Schwartz et al. (2006) examine the impact of housing developments in New York City, finding that low income housing developments have large positive effects on local housing values. They suspect this is due to a positive amenity effect of new construction. Green et al. (2002) present weak evidence that LIHTC projects in Milwaukee decrease property values but show mixed evidence for other areas. Sinai and Waldfogel (2005) study the extent to which publicly supported housing affects total housing supply. Finally, Lee et al. (1999) examine the correlation between the location of various types of federally subsidized housing units and nearby property values. They find that the relationship depends on the type of program, with public housing developments, users of Section 8 vouchers, and LIHTC developments associated with declines in housing values.

More generally, a literature going back to Schelling's (1971) classic model of neighborhood tipping attempts to understand how exogenous changes in neighborhood attributes can shift equilibrium neighborhood composition. A more recent literature studies the impacts of neighborhood attributes on outcomes of individual residents. An essential element required to make convincing empirical progress on both topics is some sort of random variation of people across neighborhoods. One approach used in the series of studies on Moving to Opportunity (most recently Kling et al., 2007) is to actively randomize poor subjects into various groups across which incentives to move to more affluent neighborhoods differ. This paper sheds light on the first topic by making use of the pseudo-random variation across neighborhoods in the number of new residents who are poor generated by the LIHTC tax credit bonus.

This paper proceeds as follows. Section 2 describes the LIHTC program. Section 3 discusses the empirical methodology. Section 4 discusses the data. In Section 5, we demonstrate that the tax credit bonus strongly influences the location of new low income units. Section 6 evaluates the impacts of subsidized rental units on neighborhood outcomes. Finally, Section 7 concludes.

2. The LIHTC program

The LIHTC program was established as part of the Tax Reform Act of 1986 to encourage the development of affordable rental housing for low-income households. Each year, Congress allocates federal tax credits to states based on population, which are then paid out to developers over the subsequent ten years. In 2007, the allocation was $1.95 per state resident per year.[4] Developers apply for tax credits by proposing a specific project to a state, which then selects the projects to fund from these applications. Potential projects must meet one of two criteria to be eligible for the tax credit. Either at least 20% of the units must be occupied by tenants earning below 50% of the Area Median Gross Income (AMGI) or at least 40% of units must be occupied by tenants earning below 60% of the AMGI.[5,6] Annual rents on these units cannot

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[3] For the purposes of this paper, we define neighborhoods in the top tercile of the distribution of housing value appreciation between 1980 and 1990 in each metropolitan area as "gentrifying", those in the middle tercile as "stable" and those in the bottom tercile as "declining".

[4] Congress allocated $1.25 per state resident all years 1986 to 2001 except 1989 when it allocated $0.93. In 2001, funding was increased to $1.75 per resident, and has been indexed to inflation since 2003. These figures are annual commitments for 10 years. Therefore the total cost is about 10 times greater.

[5] The AMGI is calculated by the Department of Housing and Urban Development for all metropolitan areas and counties using data from the Internal Revenue Service, the American Housing Survey and the decennial Census of Population and Housing. The income limits are adjusted for family size on a base of four family members. The 50% figure is adjusted upward by 4 percentage points for each additional family member and downward by five percentage points for each family member short of four. The 60% figure is obtained for each family size by multiplying the 50% income limit by 1.2.

[6] A household's income may grow over time to exceed the income limit. When this happens in buildings where there exist market-rate units, the next vacancy created by the departure of a market rate tenant must be filled by a low-income tenant. When a building is entirely composed of low-income units, no action is needed.