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Input distortions in the Low-Income Housing Tax Credit: Evidence from building size☆

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ABSTRACT

The Low-Income Housing Tax Credit subsidizes the non-land construction costs of low-income housing units. Because land costs are not subsidized, it may incentivize developers to produce buildings with too much capital from the viewpoint of optimal production. Using data on construction in Los Angeles County between 1993 and 2007, this paper estimates how the Low-Income Housing Tax Credit subsidy affects the size of newly constructed apartment buildings. Holding land area constant, I find the average subsidized building includes 25 to 29% more square footage than unsubsidized buildings constructed in the same year and zip code. The effect is primarily driven by subsidized buildings including more, instead of larger, housing units. Consistent with theoretical predictions, the effects are strongest in locations with low market rent. This input distortion is one reason that housing subsidies that fund the construction of low-income housing may be less cost-effective than subsidies given directly to tenants.

1. Introduction

The Low-Income Housing Tax Credit (LIHTC) subsidizes private housing developers with tax credits in exchange for the construction of low-income housing. Currently, LIHTC is the second largest housing subsidy in the United States and the largest of the project-based programs that fund the construction of new apartments. The total funding for LIHTC is quickly approaching the level of the largest program in the country, the tenant-based Section 8 Housing Voucher, which gives households a voucher to supplement rent payments in the housing unit of their choice (Desai et al., 2010).

The growth in the LIHTC program is surprising, given the substantial evidence that tenant-based subsidies provide the same quality of housing services at a lower cost (HUD, 1974; Mayo et al., 1980; Olsen and Barton, 1983; Olsen, 2000; GAO, 2001; GAO, 2002; DiPasquale et al., 2003; Deng, 2005; Olsen, 2008). One potential reason for higher average costs in the LIHTC program is that it only subsidizes the non-land costs of construction. This feature could incentivize developers to construct buildings with higher capital-to-land ratios than they would have used without the subsidy (Olsen, 2000; Olsen, 2009; Eriksen, 2009). The intensive capital investment may create subsidized buildings that are larger and have higher average costs than the buildings that would have been built in their place.[2]

Previous research has characterized the nature of this input distortion, but few papers examine it empirically. Using data from Los Angeles County between 1993 and 2007, I estimate that the average LIHTC apartment building is 25 to 29% larger per square foot of land than unsubsidized buildings constructed in the same year and zip code. These results provide preliminary evidence that the LIHTC subsidy motivates developers to increase capital inputs relative to land, but it is not sufficient to conclude that LIHTC is the only incentive motivating this behavior.

Another potential reason that LIHTC buildings may be larger is because of California's Density Bonus Law (California Code 65915–65918). The Bonus Law allows developers of rent-restricted and senior housing to construct buildings with 35% higher density than is permitted by local zoning regulations. Nearly all LIHTC buildings are eligible for the density bonus, so the law should affect all LIHTC buildings equally. To differentiate the effect of LIHTC from the density bonus, I theoretically show that LIHTC should have the largest effects in locations with low market rent. In these locations, developers receive the subsidy but are less restricted by the LIHTC rent ceiling, which is constant across the county. Construction in higher-rent locations become subject to a

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[2] Building with a higher capital-to-land ratios could be manifested in many ways, such as being taller, having less open space or less parking. I use the term "larger" throughout the paper to describe a building that has more square footage than another building, holding land area constant.

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more binding rent ceiling, which reduces profitability and decreases optimal building size relative to unsubsidized buildings.

Estimates indicate that the size difference between LIHTC and unsubsidized buildings is isolated to locations in the bottom half of the rent distribution, where subsidized buildings are up to 42% larger than unsubsidized buildings. For most building classifications in high-rent locations, there is not a significant size difference between subsidized and unsubsidized buildings.[3] Because this effect varies with market rent, it is stronger evidence that LIHTC may be motivating relatively larger subsidized construction.

Finally, I investigate whether the size difference is driven by the construction of larger housing units or buildings that house a greater number of housing units. It is important to understand the source of this effect because if the subsidy creates larger housing units than the unsubsidized market, increased costs may be justified by higher quality housing for low-income tenants. Subsidized units for families in low-rent locations are approximately 13% larger than nearby unsubsidized units, which represents about one-third of the total size effect. This difference in unit size may also result from regulations that require 30% of housing units in family-designated LIHTC buildings to include at least three bedrooms. For LIHTC buildings that are not subject to this requirement, the effect is completely driven by buildings that include more housing units.

These results provide new evidence in the debate between the relative merits of project and tenant-based housing subsidies. Estimates indicate that some portion of the higher total and average costs found in previous research for LIHTC may be the result of developers creating larger and more capital-intensive buildings. While this outcome does not negate the benefits of LIHTC housing, it identifies a distortion in the program that may lead to higher costs. Future program evaluation should consider if it is possible to reduce the costs of this distortion or redirect its effects to more effectively improve housing quality.

2. The Low-Income Housing Tax Credit

The United States government has been funding the construction of low-income housing since it created the Public Housing Program in 1937. Since that time, many housing subsidies have been instituted in a variety of formats. The first tenant-based housing program was created in 1965 and in the years that followed, economists provided ample evidence that tenant-based housing assistance was more cost-effective than subsidies that funded the construction of housing. In response to these studies, the government reduced the number of new apartment units built with government funding. That money was reallocated to maintaining existing units and expanding the housing voucher program. This pattern continued until the Tax Reform Act of 1986, when the Low-Income Housing Tax Credit was instituted into the U.S. tax code.[4] From 1986 to 2006, LIHTC units accounted for approximately one-third of new multi-family rental construction with nearly 1.6 million new housing units (Eriksen, 2009; Eriksen and Rosenthal, 2010).

The LIHTC program is federally funded, but private developers apply for the subsidy through state housing finance agencies each year.[5] These agencies create a systematic process to determine which proposals receive the subsidy (Gustafson and Walker, 2002). If a proposal is selected for funding, the developer is awarded a ten-year stream of tax credits to reduce tax liability. New construction and significant rehabilitation are awarded the "nine percent credit" over ten years, equal to approximately 70% of construction costs in present value. Projects with less than $3000 of development cost per unit or projects with at least 50% of financing from tax-exempt bonds are awarded the "four percent credit" over the ten years. The four percent credit is equal to approximately 30% of construction costs in present value. New construction projects funded with either the nine or four percent credit are both included in this study, but I control for which subsidy the project receives.[6]

In exchange for the subsidy, the developer must build and manage an apartment complex that will rent for no more than a program-designated rent ceiling for at least 30 years.[7] Because the tax credits are nonrefundable and most developers do not have sufficient tax burden to utilize them, the future credit stream is usually sold to investors to raise the necessary capital for construction. This process is called syndication and research has examined and questioned its efficiency (Eriksen, 2009; Case, 1991; Stegman, 1991).

In California, demand for tax credits has outweighed the supply by a factor of three to one since the year 2000 (CTCAC Annual Report, 2012). To determine which proposals receive the subsidy, the California Tax Credit Allocation Committee (CTCAC) has developed a point system based on project attributes. In cases where proposals receive the same number of points, the CTCAC uses a tie-breaker system based on housing goals, location, and the proposal's ability to acquire external funds. In 2012, only 17 of the 236 new construction proposals did not receive the maximum number of points and a total of 102 projects received the subsidy (CTCAC Regulations, 2012; CTCAC Applicant List, 2012).[8] These statistics indicate that there is substantial demand for these subsidies, which may suggest large potential gains for private developers.

Project attributes may affect the probability of receiving the subsidy through the allocation process, but those attributes may also alter the amount of funding a developer receives. There are two primary attributes that are important for my study. First, the subsidy is reduced by 1% for every 1% of units that do not conform to the rent ceiling. Consequently, most buildings dedicate nearly all units to low-income use. In the empirical analysis, I control for the fraction of units within the building that are rent-restricted.

Second, federal regulations require that projects located in qualified census tracts (QCTs) or difficult to develop areas be eligible for a 30% increase in the subsidy. A census tract is designated as a QCT when the poverty rate in the tract is at least 25%. Census tracts where at least 50% of households in the tract report earning less than 60% of the area median gross income (AMGI) are also designated as QCTs. Difficult to develop areas are MSAs or counties that have high construction, utility or land costs relative to AMGI. Because Los Angeles County is designated as a difficult to develop area over the entire time period, all proposals in this study are eligible for the subsidy boost. I control for the QCT because locating in one of these tracts may increase the probability that the proposal receives the additional 30% subsidy.

The LIHTC program in California solicits applications for buildings that are targeted to different populations. Those housing categories are large family, senior, single-room occupancy, at-risk and special needs. I examine the effect of the subsidy on each type of housing construction separately.

Unlike many housing subsidies, LIHTC rents are not determined by an individual tenant's income. Instead, the developer chooses the rent ceiling by designating the income of the tenant that will live in the unit. If the targeted tenant is a household that makes 50% of the AMGI, as reported by the Department of Housing and Urban Development, then the LIHTC rent level is determined by multiplying 50% of AMGI by 0.3. The goal of this calculation is to ensure that the targeted

[3] The exception to this result is LIHTC buildings constructed for seniors, which constitute one-fourth of LIHTC construction in the sample. Senior LIHTC buildings are larger than unsubsidized buildings across the entire rent distribution. I present some evidence that additional incentives from the state and local authorities to build senior housing may contribute to this result.

[4] For a more comprehensive history of subsidized housing programs in the United States, see Olsen (2003).

[5] Some states, including California, also supplement the subsidy with state tax credits.

[6] A more detailed explanation of the credit calculation is found in Schwartz (2014).

[7] The federal requirement has been increased since the inception of the program and states can require longer compliance periods. In California, the compliance period was increased to 55 years in 1996 (CTCAC Compliance Manual 2013).

[8] California has quotas for projects that meet certain requirements, like being partnered with a non-profit or being located in a rural area. Because of this, a project may sometimes receive the subsidy even if its point total is lower than another proposal.