Building Better Affordable Housing: A Survey of Existing Research on the Relationship Between Affordable Housing and Neighboring Property Values

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There remains a widely-held belief that affordable housing of various types, and under various federal programs, lowers neighboring property values. However, recent methodological improvements seriously undercut this conclusion. While gaps in the research remain, there is now a clear path for how future research in this area should proceed, and a better understanding of which forms of affordable housing might be more positive. This paper serves primarily as a review of the literature, with some conclusions about how the data impacts housing policy.

Introduction

In an economic climate in which the ranks of those classified as low or moderate income continue to grow, while market-rate housing prices also climb, the provision of affordable housing remains a key policy issue. Although defined in many different ways, affordable housing at its most basic reflects the need for residential development that will fill the gap for many citizens between real income and housing rents or prices. It is often justified as an equity concern: we should build affordable housing because this is fair and ensures property ownership is accessible to all. But embracing an ideal does not always translate to accepting the reality. Affordable housing is often stereotyped, sometimes rightly so, as poorly designed, out-of-place, and detrimental to its host community. It is viewed too often as the problem of "those people," and proposed developments are frequently met with strong "not in my backyard" responses.

The need for such housing, though, is not abating. We may not be able to immediately impact the underlying socioeconomic causes. However, we can make decisions about the form and function of affordable housing projects, and we can help to break down the negative stereotypes that have developed. The question, therefore, is what is the best way to build affordable housing for its consumers while ensuring that any externalities experienced by neighboring properties are positive or neutral?

In attempting to answer that question, or at least start a discussion, this paper will first explore the relationship between affordable housing and neighboring property values. Many potential arguments exist in the toolbox of NIMBY activists—increased traffic, lack of community building, the appearance of a criminal element, a decline in school quality, and similar impacts. To varying degrees, all of these are reflected in property value, which has been a frequently-studied dependent variable. As

will be seen, the impact on property values is highly dependent on several factors: the design of the affordable housing, its spatial concentration, and its compatibility with the neighborhood.

Having reviewed the relationship, the paper will shift focus to what policies would promote more favorable forms of affordable housing. Some of the more innovative recent proposals will be discussed. The literature is ripe with these; for the sake of brevity, the discussion will center on the broad concept of what is termed "opportunity housing."

The Relationship Between Affordable Housing and Property Values

Definitions and Background

Before embarking on this section, it is useful to clearly state the boundaries of this paper. "Affordable housing" will not be clearly defined because empirical studies use varying definitions. However, it will be delimited: manufactured housing, senior citizen housing, and housing for the mentally disabled will be excluded. While these are important questions that typically overlap with the affordable housing issue, they are outside the scope of this paper. Also, the paper will focus on urban areas because these areas have been most studied in the literature. Save these limitations, a full range of affordable housing types (privately-owned/publicly subsidized, publicly-owned and subsidized, HOPE VI, etc.) and building methods (newly constructed, rehabilitated, and converted existing) will be explored. Host neighborhoods vary from lower to higher income in several metropolitan areas.

Importantly, the studies being reviewed are also restricted to those that are somewhat current (post-1990) and employ superior analytical techniques[1] for relatively large data samples. To understand what makes one statistical approach better than another, it is worth considering exactly what information is desired. For a given property, one would desire a resulting number that captures *only* the effect of affordable housing. Therefore, the model would have to control for the other attributes of that property and of that neighborhood, while also considering the economic conditions in the neighborhood *before and after* the entry of affordable housing. Research dates to the 1960s, but older studies tended to use a matching approach whereby a neighborhood with affordable housing was "matched" to one without. Apart from the difficulty of finding quality comparables, the method failed to utilize structural and locational control factors and also disregarded conditions in the neighborhood over time.

Recently, improvements have been made as multiple-regression techniques have been used, although many of these were still cross-sectional rather than longitudinal (i.e. they also did not look at trends over time). Two other critical flaws are noteworthy.[2] First, many studies look at characteristics of a census tract as a proxy for neighborhood characteristics. Because census tracts are roughly population-based, densely-populated areas may indeed yield tracts that are "neighborhood-size," but other times

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1   While it is easy to discern the considerable differences in quality between studies, this section owes its clarity to Galster (2002), who promoted his own improved techniques by examining flaws in those of his colleagues.

2   Actually, there are more than two flaws; these were simply the most obvious and critical. For example, many studies also do not consider the dependence between house sale prices (in other words, the "there goes the neighborhood" phenomenon whereby each low sales price has a cumulative effect, creating a depressed market) (Can 1997). Or, those that use distance always employ a linear model (for example, going from 50 to 51 feet away from a development is thought of as having the same marginal effect of going from 500 to 501 feet), when effects might in fact be non-linear (Green 2002, 13-14). There are also overarching critiques about inadequate sample size, limited time frames, etc. that prevent generalized conclusions, but data-based constraints are common across the social sciences.

a neighborhood will have unique features not experienced in the larger tract that influence property value but are wrongly attributed to the presence of affordable housing. While it would be tempting to disregard such studies, the definition of "neighborhood" is malleable. Moreover, the impact on property value is dependent on the size of the affordable housing complex. A large-scale apartment building might impact several census tracts and engender widespread NIMBYism; hence, the idea of "neighboring property values" would be quite broad. By contrast, rental certificates might involve a few low-income families per square mile, in which case the relevant "neighborhood" might be a single block or street.

A second common flaw is best thought of as a "chicken or egg" causation issue: do property values decline because of the presence of assisted housing, or do authorities locate assisted housing in neighborhoods already experiencing a decline? To overcome this quandary, a study would have to isolate price *trends* in neighborhoods before the presence of assisted housing; most have not. For example, a seriously declining neighborhood would have a lower price level regardless of whether affordable housing was built or occupied, but these downward-trending property values would be wrongly attributed in their entirety to the affordable housing.

The strongest approach to date has been developed by George Galster and colleagues. It ameliorates these critical errors by isolating before-and-after price levels *and trends* in a multiple regression technique. The resulting coefficient isolates more effectively the impact of affordable housing. The difference, not surprisingly, is captured best by Galster:

> The previous method essentially produces a result like, "Within X feet of assisted housing sites property values are $Y different, though we can't be sure what other factors within X feet may also be affecting values or whether these differences were already present before the assisted housing was present." The new method produces a result like, "Within X feet of assisted housing sites property values are $Y different from what they would have been had the assisted housing not been developed" (Galster 2002, 22-23).

Because of a more rigorous approach, the results obtained by Galster et al. in their studies of Baltimore and Denver deserve top billing in the following review. However, other multiple-regression studies still provide useful insights, so long as they are viewed with the appropriate caution; they will be summarized more briefly in a following section.

Results from Studies Employing the Superior Longitudinal Multiple-Regression Technique

1. Baltimore, Maryland - In 1999, Galster, Tatian, and Smith studied the impact of the Section 8 certificate program[3] on property values in Baltimore County for 1990 to 1995 (Galster 1999). In very basic terms,[4] the study utilized three models focusing on the effects of different relationships to the affordable housing: first, a model for proximity to any Section 8 site; second, a model for proximity to a certain number of Section 8 sites; and third, a model for proximity to a certain number of units. The distinction between sites and units is apparent when one considers a neighborhood with single-family dwellings versus a large apartment complex. The former might have ten sites with ten units; the latter might have one site with 20

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3 These are the primary form of tenant-based subsidies offered by HUD. In the early 1990s, certificate and voucher laws were changed to allow movement into outside jurisdictions. In other words, recipients no longer had to live in the typically low-income areas where housing authorities were located, and such mobility was strongly encouraged (Peterson and Williams 1995).
4 887-90.

units.[5] Proximity was measured by drawing concentric circles around each site at 500 feet or less, 501 to 1000 feet, and 1001 to 2000 feet.[6] The data set contained 43,361 sales and the *R*-squares were .79 across all models, indicating that the models were well-specified.[7]

Since this study looked at tenant subsidies (case in which the affordable housing was not being built), pre- and post-occupancy were the only relevant time periods. Though Section 8 certificates do carry certain rehabilitation requirements, this activity would not be readily associated with affordable housing since remodeling is a common occurrence. In short, host neighborhoods would likely have no "visual cues" that Section 8 tenants were moving in. Changes in property values, then, would have more to do with prevailing host neighborhood conditions and the behavior of the Section 8 tenants or stereotypes regarding such tenants.

An interesting finding was that before occupancy, the neighborhoods "were valued less and/or had lower rates of appreciation than other neighborhoods within the same census tracts that were not within 1,000 feet of [any sites]" (Galster 1999, 899). To use NIMBY terms, the "backyards" were not in great condition to begin with.[8] Lower income residents were consistently moving into areas already in decline; perhaps they were being prompted to locate there due to outside actors such as participating landlords, or they were drawn by the presence of a family/friend network.

After occupancy, model one showed that within 500 feet (but not beyond) there was a positive and significant impact on neighboring property sale price levels. Model two, however, showed that within that same range, a certain tipping point existed at six sites (not units). While there was always an initial drop in price level, below six sites the post-occupancy trend in prices was positive.[9] Six or more sites, however, resulted in a greater initial drop in level and a declining trend thereafter. Model three looked at units rather than sites and indicated that within 500 feet a higher number of units (not exceeding eight) led to higher sales prices.

Taken together, this implies that any clustering should ideally take place in the form of a single-site, multiple-unit dwelling (up to eight units), rather than a comparable number of individual households. This conclusion about dwelling form holds for the 501 to 1,000 foot distance: after an initial price level drop (which is larger with more sites or units), the price trend becomes positive when the number of sites exceeds 28 or the number of units exceeds 14.

However, at the 1,001 to 2,000 foot range, all results are negative. This seems counterintuitive: why would microneighborhood effects be potentially positive, while macroneighborhood effects were always negative? The answer was found when the results were stratified into census tract clusters according to median home value and change in real

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5   Stated differently, site corresponds to an address, while unit corresponds to a tenant (individual or family).

6   The authors never indicated why these values were chosen. This author views them as being somewhat arbitrary.

7   *R*-square is a percentage indicating how much of the independent variable the model explains. Here, the models are explaining 79% of the change in property values.

8   There were, moreover, proximity differences. Within 500 feet of future Section 8 sites, the market level of prices was 4.1-6.1 percent lower than in the census tract; the corresponding figures from 501-1000 feet are 3.0-3.5 percent. Beyond 1000 feet, there is no statistically significant difference (Galster 1999, 899).

9   Positive enough, in fact, that the initial drop is overcome within three and a half years and prices were eventually higher than they would have been without the affordable housing occupants. This might also point to greater permanency of affordable housing recipients than previously thought (a common NIMBY concern), although Galster et al. do not comment on this possibility.

median home value from 1990 to 1996, as well as by race. This revealed that high-magnitude positive impacts occurred in wealthier[10] and predominantly white neighborhoods. Areas with low to moderate home values that had been declining and a mixed or primarily minority demographic, experienced small negative effects. In the 500 foot range, these small negative effects are masked by the highly positive effects in the stronger neighborhoods; outside this range, the effects do not counterbalance each other and small negative impacts are revealed. While the racial composition of the host neighborhood had an impact, the race of the Section 8 household had no significant impact at any distance in any neighborhood. In other words, racial bias did not seem to affect property values, which is perhaps the most significant finding in this study.

2. Denver, Colorado - Two years after the Baltimore study, Santiago, Galster, and Tatian applied the same basic technique to a small-scale, limited-density, dispersed housing subsidy program in Denver for the period 1989 to 1995; it included three models and the same distance rings (Santiago 2001). Whereas Baltimore experienced some clustering, the program by the Denver Housing Authority "evince[d] a remarkably uniform distribution of dispersed public housing units" (Santiago 2001, 74). Despite this, there remained "a systematic tendency for dispersed housing sites to be acquired in declining, lower-priced pockets within census tracts" (Santiago 2001, 75). Across all three distance rings, future sites were located in areas that had prices trending three to four percentage points below average. The reasons for this phenomenon were different than those hypothesized in Baltimore: here, housing authorities acknowledged the need to spread their limited resources, which often required purchasing vacant sites at a low cost per square footage. Naturally, these were located predominantly in declining neighborhoods.

Post-occupancy results reveal that within 500 feet, sale price trends were positive, enough to counteract preoccupancy decline within three and a half years. For greater distances, positive effects were also witnessed. This seems logical, since rehabilitating a vacant site, as was often the case, should be beneficial. In fact, the program on average spent $21,432 on rehabilitation per unit, by no means a small amount. Regarding the number of sites, the initial effect was a positive increase as the number of sites and units increased; however, no corresponding impact on price trends could be found.

As with the Baltimore study, the next step was to disaggregate by home value and race. Positive effects were strongest, once again, in the stronger neighborhoods: those with a mostly white population and with higher median home values that were appreciating. Interestingly, positive effects also occurred in lower-value neighborhoods but only at 1,001 to 2,000 feet; the authors posited that negative externalities counteracted the positive effects of rehabilitation at the microneighborhood level, perhaps because of tenant behavior or ingrained biases. Consistent negative effects were found at all distances for those host neighborhoods that were predominantly black.[11] From these findings, the authors conclude that, while there are positive effects from rehabilitation, they are sometimes counteracted by negative externalities. In particular, weaker neighborhoods seem to experience an aggregate disadvantage from the increased concentration of poverty and its attendant socioeconomic problems, especially at the closest proximity.

Other Multiple-Regression Studies and Results

The two studies discussed thus far offer the best statistical techniques currently being utilized; however, they suffer from an obvious limitation of scope. Specifically, the subject matter focuses primarily on dispersed housing. Baltimore had some clustering; for example, in a 500-foot radius circle, the maximum

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10   Those in the top third of median home value that experienced appreciation in median home value.
11   Unlike with the Baltimore study, the authors did not address whether the race of the head of the affordable housing household had any impact.

observation was 46 Section 8 sites with 206 total units. But this was the exception. Most sites were single-family or small-scale dwellings that involved rehabilitation or occupancy of existing sites rather than the medium-scale to large-scale developments that more readily engender NIMBY attitudes. Moreover, the Galster studies did not look at any one program across more than one city or multiple programs in one city. Researchers have broached these questions and, unlike in some earlier studies,[12] employed a multiple-regression analysis.[13] While imperfect, they still warrant consideration.

1. **Yonkers, New York: "Scattered-site" public housing -** Although the term "scattered-site" might appear to be a synonym for "dispersed," here it referred to court-ordered desegregation of public housing simultaneous with that of public schooling.[14] The resulting 200 units were styled as single-family townhomes. However, they were only scattered across seven sites in middle to high income, predominantly white neighborhoods, somewhat clustered on the east side of the city. The intent of a "scattered-site" strategy is to deconcentrate poverty. Nonetheless, as this case evidenced, it can still be somewhat clustered. Briggs, Darden, and Aidala examined seven developments in Yonkers, the largest city in mostly-suburban Westchester County (Briggs 1999). The data sample was 3,101 sales over a decade beginning in 1985. Their approach has the benefit of looking at pre- and post-price *levels* (but not trends); it also delineates between post-announcement of development and post-occupancy. Their method, therefore, comes rather close to the Galster approach.[15]

The results evinced no detectable price effect, either after announcement or after occupancy. The authors note that prices do drop in the years following announcement, but that these appear in line with downward trends in the site neighborhood (again, this hearkens to the Galster analysis, which explicitly considered trends). The authors hypothesize that greater dispersal might have proven beneficial, but they lack any data to support this conclusion.

2. **Wisconsin Cities: Low Income Housing Tax Credit[16] -** In 2002, Green, Malpezzi, and Seah looked at LIHTC developments in the Madison and Milwaukee metropolitan areas. The technique used here is unique among the studies in that it looks at repeat sales from 1991 to 2000 for Madison and 1995 to 2001 for Milwaukee.[17] Therefore, it attempts to "build in" the controls for idiosyncratic house characteristics, including even less tangible ones such as "curb appeal." The same property is generally assumed[18] to have had no significant price-impacting structural or locational changes before or after the arrival of LIHTC development. By looking at the same house across time, this study has a partial advantage even over the Galster studies. Of course, it also has many shortcomings, the most important of which is its artificially restrained sample size.

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12 These include seminal (for their time) studies by Nourse (1963), Schafer (1972), Baird (1980), and Sedway and Associates (1983), among others. Excellent synopses of these can be found throughout the literature. See especially Nguyen 2005, 17-18 and Galster 2002, 14-15. However, the author recommends reading the actual studies, especially as they provide an excellent understanding of *why* later studies are superior.

13 Unfortunately, the study by Goetz 1996 was not available for this analysis. Summarized elsewhere, it shows that in Minneapolis, those developments built by a Community Development Corporation yielded positive effects, while those that were public housing, or privately-owned but publicly subsidized, caused negative effects. The CDC properties were neighborhood-managed and therefore "fit" better with the neighborhood. Moreover, they had better upkeep in general (Nguyen 2005, 21). Another study was also unavailable by traditional means. Lyons and Loveridge in 1993 looked at various property types in Ramsey County, Minnesota, and found no effects from Section 8 vouchers, mixed effects from Section 8 certificates, and positive effects from public housing. Importantly, they found some negative effects from clustering (Nguyen 2005, 22, 23).

14 Interested readers can consult United States v. City of Younkers, 1985. However, the opinion reads 665 pages.

15 It is the only study to use a semi-longitudinal method applied to newly built public housing.

16 The Credit is awarded to developers under Section 42 of the Tax Reform Act of 1986 and is a primary funding vehicle for multifamily developments.

17 Over 3000 such observations were available.

18 Remodeling and other practices would undermine such presumptions.

For Madison, a quintessential college-town, the results are sometimes weakly positive but generally not statistically significant. Quite simply, LIHTC appears to have no impact. However, in Milwaukee, a larger and more urban area, "proximity to a development seems to matter, and seems to have a negative impact on appreciation rates" (Green 2002, 22). In two relatively affluent neighboring counties of Milwaukee—Waukesha and Ozaukee, where the median household income at the time of study was almost double that of Milwaukee County, the poverty rate was just three percent (more than five times less than that in Milwaukee County), and the population was overwhelmingly white—the impact of LIHTC development was near zero, and, most importantly, it was statistically significant.

3. Six Metropolitan Area Developments: HOPE VI - HOPE VI was a direct response in 1992 by the Clinton administration to a perceived need to create less dense, mixed-income affordable housing; it included both revitalization (new construction and rehabilitation) to meet these new goals and the Section 8 vouchers and certificates mentioned earlier. Bair and Fitzgerald in 2005 studied the revitalization program in several cities: Atlanta, Georgia; Charlotte, North Carolina; Kansas City, Missouri; Boston, Massachusetts; Denver, Colorado; and Philadelphia, Pennsylvania (Bair 2005). All developments were large—over 200 units—because data was aggregated by census block group, and data for block groups within 1.5 miles of the site was analyzed. The study has the benefit of breadth but lacks depth and has some quality issues. First, it aggregates, which may mask some localized effects. Second, it uses self-reporting from census data, which could be less reliable. It also garners its control characteristics from the census, which includes limited structural and locational characteristics and is more demographic in nature. Whereas the other studies had at least some mixture of host neighborhoods, the nature of HOPE VI necessitated that all the revitalization projects occurred in neighborhoods that already had affordable housing; not surprisingly, all were lower-income with declining price trends.

Ultimately, the study found that for every quarter mile *away* from a HOPE VI development, prices *decreased* 8.25 to 10.25 percent. Comparatively, other public housing caused a decrease of 0.5 percent. Thus, it would appear that the impact on property values from neighboring properties is always positive and is extremely positive for HOPE VI developments. This may indicate a significant short term benefit from rehabilitation. However, as already noted, this study is deficient in several ways.

4. Philadelphia Case Study of Various Programs - One of the more promising recent studies, conducted by Lee, Culhane, and Wachter, looked at the differential impacts of a variety of housing programs in Philadelphia. The affordable housing types included public housing developments, scattered-site public housing, Section 8 certificates and voucher unit rentals, Federal Housing Administration-assisted units (FHA), public-housing homeownership program units (PHA), Section 8 (HOPE VI) New Construction and Rehabilitation units, and LIHTC sites (Lee 1999, 75). A total of 18,062 sales within a relatively modest time frame, 1989 to1991, were included. The approach was a basic cross-sectional, multiple-regression technique looking at sales within 1/8 mile or between 1/8 and 1/4 mile for traditional public housing developments, or within 1/4 mile for the remaining types (except for a fourth model, which looked at the 1/8 mile distance throughout). The most complex of the models specified for dummy variables such as "high-rise" or "large scale."

The significant results indicate that only FHA housing, PHA homeownership sites, and Section 8 New Construction and Rehabilitation produce positive effects,[19] while the remaining types have slight negative impacts. Surprisingly, a high-rise or large-scale development had no negative effect within ¼ mile, and within 1/8 mile, with all results statistically insignificant. This perhaps runs counter to common stereotypes.

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19   This is consistent with the preceding Bair study of HOPE VI, which focused on the revitalization aspect.

Insights for Future Research

Based on the above studies, one can draw a few important conclusions. First, affordable housing cannot be generalized as having either a negative or positive impact in all situations; this would be a great oversimplification. Second, the data consistently supports the idea that neighborhoods can absorb any negative externalities from affordable housing. Strong neighborhoods with higher incomes, home values that are appreciating at a market pace, and predominantly white residents, can experience no impact or even a positive impact from assisted housing occupancy or development of various types. By contrast, neighborhoods with low incomes, depreciating home values, and a more mixed racial composition—by far the most common current sites of affordable housing, for various reasons—suffer negative impacts. Third, while larger-scale developments do not seem to have an adverse impact, clustering of units or sites seems to reach a tipping point after which concentration of poverty produces negative externalities. Fourth, rehabilitation appears to have positive effects, at least in the short term and for the immediately surrounding area. Last, there was no indication that the race of affordable housing occupants had any impact or that a mismatch between the neighborhood and the site had any significant impact. One study also indicates that homeownership might be more positive than rental subsidies, but this is too isolated a conclusion to be useful.

Clearly, the scope of affordable housing demands increased research into this area. Some studies have the advantage of a superior statistical methodology, while others have superior breadth and depth. Ideally, future studies would employ the techniques developed by Galster et al., strengthened by a repeat sales analysis of the full range of affordable housing types or at least a subset that reflects important dichotomies. For instance, a study could compare dispersed versus clustered housing, homeownership versus rental subsidies, or newly-constructed versus rehabilitated/converted. In this way, sound conclusions about what is quantitatively "better" could be drawn. One could also argue that a single study with data from several cities would be useful. However, this might mask the importance of community-level considerations. Housing is ultimately a very local issue; therefore, a qualitative approach should be coupled with quantitative analysis. Some studies have already employed this technique somewhat by interviewing neighbors about their feelings, beliefs, and experiences. This approach enriches the level of understanding about *why* property values decline (or appreciate), and its continued use should be encouraged.

Balancing these considerations will require a careful approach that acknowledges local differences. Importantly, any policy changes must remain voluntary or else we risk imposing an entirely new set of inequities on the users of affordable housing. Uncertain conclusions abound with these questions; the clearest conclusion we can reach is that more research is needed. Fortunately, we now have a solid understanding of how the research should proceed.

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