

Investing in Distressed Communities: Outcomes From the Neighborhood Stabilization Program

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Abstract

The Neighborhood Stabilization Program (NSP) is the largest public-policy effort to assist communities that were severely impacted by the housing crisis of 2007 through 2009. NSP's objective was to mitigate the impact of foreclosures on surrounding neighborhoods by reducing the stock of distressed properties and demonstrating positive investment. This article presents evidence on housing production outcomes and expenditures from the second round of NSP funding (NSP2) across 18 counties and Washington, D.C., in diverse housing markets. As intended, public and nonprofit grantees used NSP2 to invest in neighborhoods with initially weak housing markets. Local grantees undertook different approaches to NSP2 that resulted in varied outcomes—as measured by activity type, expenditures per property, scale, and spatial concentration of NSP2 investments. Basing our analysis on these findings, we outline research topics and suggested approaches for future research.

Introduction

The housing crisis that began in 2007 affected virtually every community in the United States. Nationwide, home sale prices declined about 30 percent, reflecting the incidence of mortgage default and foreclosure at levels not seen since the Great Depression (1929 to 1939), as well as rising unemployment (Been et al., 2011; Brown et al., 2012). Behind the aggregate statistics, many cities and neighborhoods struggled to contain the damage imposed by foreclosed and vacant properties on local physical, economic, and social conditions. Foreclosures can create negative spillover effects on surrounding neighborhoods through four hypothesized mechanisms: (1) the visual blight caused by poorly maintained properties may reduce the value of neighboring homes in the eyes of potential buyers, (2) completed foreclosures increase the supply of for-sale properties in the neighborhood, (3) the presence of foreclosed properties may be a negative signal to both sellers and buyers about the future stability of the neighborhood and the risk associated with a home purchase, and (4) the lower sales prices of foreclosures and short sales may affect the assessed value of neighboring homes if foreclosed homes are used as comparable properties for appraisals and list prices. A large empirical literature has documented significant negative relationships between foreclosures and neighborhood conditions (Anenberg and Kung, 2014; Campbell, Giglio, and Pathak, 2011; Fisher, Lambie-Hanson, and Willen, 2013; Gerardi et al., 2012; Harding, Rosenblatt, and Yao, 2009; Hartley, 2010; Ihlanfeldt and Mayock, 2013; Immergluck and Smith, 2006; Leonard and Murdoch, 2009; Lin, Rosenblatt, and Yao, 2009; Mian, Sufi, and Trebbi, 2011; Rogers and Winter, 2009; Schuetz, Been, and Ellen, 2008; Whitaker and Fitzpatrick, 2013). Several of these papers found that concentrated foreclosures are “contagious,” creating a downward spiral of falling home sales prices and inducing future defaults.

To help restore housing market stability and encourage broader economic recovery, the federal government adopted a slate of new programs.¹ One of these programs, the Neighborhood Stabilization Program (NSP), was specifically aimed at mitigating the impact of foreclosures on hard-hit neighborhoods and communities. Structured similarly to the Community Development Block Grant (CDBG) program, under NSP, the U.S. Department of Housing and Urban Development (HUD) awarded grants to state and local governments and qualified nonprofit organizations for five activities: (1) acquisition and rehabilitation of foreclosed properties, (2) redevelopment, (3) demolition of blighted structures, (4) land banking, and (5) purchase or development of affordable housing.² NSP was intended to address four mechanisms by which foreclosures create negative externalities: (1) reducing the stock of distressed properties, (2) removing sources of blight and crime, (3) placing new homebuyers in rehabilitated properties, and (4) creating a positive signal to residents about the neighborhood’s future. Neighborhoods—defined by the program and in this article as census

¹ Gerardi et al. (2011), Been et al. (2011), and Immergluck (2013) reviewed several housing recovery programs, including the Neighborhood Stabilization Program.

² Only public agencies and nonprofit organizations were eligible to receive NSP grants from HUD. Throughout the article, we use the term grantees to refer to these public and nonprofit grant recipients. The activities undertaken by NSP grantees are referred to throughout the article as investments, because the grantees viewed their work as investing in neighborhoods’ well-being, even when the activity did not yield a physical structure (that is, demolition). We use the term “investor” to refer to private individuals and for-profit corporations that purchased, rehabilitated, rented, and/or sold foreclosed properties in NSP neighborhoods. These private investors were not direct or indirect recipients of NSP funds.

tracts—were deemed eligible to receive NSP funds based on initial foreclosure and vacancy rates. With total funds of \$6.9 billion across three allocations, NSP was the largest federal effort to address the impact of foreclosures on neighborhoods and was a substantial influx of resources for many local communities.³

In this article, we present the first multicounty quantitative evidence on housing investments funded by the second round of NSP (hereafter, NSP2). We describe the context of neighborhoods that received these investments and document housing outcomes produced by the program, using administrative data from 28 grantees across 18 counties and Washington, D.C. (hereafter, counties). We specifically analyze the types of activities pursued, the quantity of housing properties affected, the scale of the activities, spatial concentration, and timing of investments. We examine variation in all these outcomes across geographic areas and housing market types.

Several key findings emerge from the analysis. As intended, census tracts targeted for NSP2 investment had poor economic and housing market conditions before NSP2, although the specific circumstances of local housing markets varied across geographic regions. The grantees in this study collectively spent slightly more than \$1 billion of NSP2 funds to acquire, rehabilitate, demolish, finance, or otherwise affect approximately 6,400 housing units. Local grantees implemented a number of different approaches to NSP2, often varying by market type. Grantees in counties in the Declining market type (in Arkansas, Michigan, and Ohio) mostly used NSP2 to demolish blighted structures and achieved the largest neighborhood scale and spatial concentration of investments.⁴ Grantees in counties in the Sand States market type (in Arizona, California, Florida, and Nevada) used NSP2 primarily for rehabilitation or redevelopment, at relatively low scale and concentration. Grantees among counties in the East Coast market type (in Illinois, New York, and Washington, D.C.) and counties in the Moderate market type (in Colorado, Minnesota, Pennsylvania, and Tennessee) used NSP2 for a mixture of rehabilitation, demolition, financing, and redevelopment. Acquisition and rehabilitation expenditures per property vary widely across counties but are not obviously correlated with geographic region.

The remainder of this article is organized as follows. The next three sections (1) review previous research on NSP, (2) provide additional context for the program and NSP2 neighborhoods, and (3) discuss the empirical methods used and present analytical results. The final section outlines a future research agenda for local and regional evaluators and concludes the discussion of this study.

Previous Studies of NSP

Very little academic research on NSP has been published to date, likely because most property investments have only recently been completed. We review several papers that focus on the planning and operational challenges faced by HUD and local NSP grantees, and a smaller set of papers conducting early analysis of production outcomes and impacts.

³ The first round of NSP funding, \$3.9 billion, was provided by the 2008 Housing and Economic Recovery Act. The second round, \$2 billion, was part of the 2009 American Recovery and Reinvestment Act. The third round, \$1 billion, was included in the 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act.

⁴ Market type groupings were developed based on home sales price levels and trends before NSP. The section NSP Context describes the groupings in more detail. Exhibit 1 shows all counties in the study, indicating groupings by market type.

Planning and Operational Challenges

Several academic papers and policy reports written concurrently with NSP's adoption and rollout discussed implementation challenges of the program that local grantees faced (Fraser and Oakley, 2015; Immergluck, 2013; Newburger, 2010; Nickerson, 2010; Reid, 2011). From the program's beginning, observers have noted that the amount of NSP funding across all three rounds was small relative to the scope of the foreclosure problem and other economic recovery programs.⁵ Even with optimal implementation, it was unclear whether the size of the program would be sufficient to create measurable impacts in severely affected markets. Both HUD and local grantees had difficulty identifying and targeting geographic areas with the greatest need because limited real-time data were available on the location of foreclosed properties. The lack of data on foreclosures also initially hindered grantees' ability to contact lenders and servicers to acquire real estate owned (REO) properties. Tight deadlines to obligate and spend their NSP funds sometimes limited grantees' ability to strategically target their investments in locations with the highest potential for positive impact.

Local grantees used NSP funds not only for foreclosure mitigation but also to pursue policy goals that predated the crisis, often working in areas already targeted for redevelopment or revitalization. Reid (2011) noted that grantees in Los Angeles used NSP for long-standing priorities such as the preservation of existing affordable rental housing, transit-oriented development, and achieving green building standards. Grantees in Cleveland targeted NSP funds to reinforce previous investments made through HOME, CDBG, and the Low-Income Housing Tax Credit (LIHTC) Program (Reid, 2011). Grantees in Nashville selected one neighborhood, Chestnut Hill, which city leaders had already designated as a priority location for redevelopment (Fraser and Oakley, 2015).

These studies also documented several common operational challenges around acquiring, rehabilitating, and reoccupying REO properties through NSP. Many local grantees, particularly in the first round of NSP, were not familiar with the REO acquisition process, which is less transparent and predictable than standard property acquisition. Grantees often did not have previous experience with property development or asset management skills, especially for monitoring portfolios of scattered-site homes. Moreover, grantees in many markets faced competition for REOs from private investors with deeper pockets and more streamlined acquisition processes. Lack of cooperation from lenders and servicers holding REO properties complicated grantees' ability to gain control of distressed properties (Newburger, 2010; Nickerson, 2010). A variety of bureaucratic rules—both from HUD and imposed by state and local agencies—slowed down grantees' property acquisition. Specific rules for grantees mentioned were the requirement to purchase REO properties at a discount from market value, mandatory environmental impact reviews, and compliance with tenant protection laws (Immergluck, 2013; Newburger, 2010; Nickerson, 2010; Reid, 2011). Grantees' inability to compete with investors often left them with properties in substantially poorer physical condition than expected; therefore, they incurred higher rehabilitation costs. As lenders tightened credit standards, grantees had difficulty finding borrowers who met NSP's income guidelines and were able to qualify for mortgages (Reid, 2011).

⁵ For instance, \$45.6 billion was allocated for mortgage modifications under the Home Affordable Modification Program, or HAMP, and about \$475 billion was allocated under the Troubled Asset Relief Program (Fleming, 2012).

The planning and operational challenges of NSP identified in these studies provide some context for the production outcomes we analyze in this article, especially the per-property expenditures, neighborhood scale, and spatial concentration of NSP2 investments.

NSP Outcomes and Impacts

Only a few studies have documented changes in neighborhood housing markets for areas that received NSP investments. Ergungor and Nelson (2012) examined the impact of NSP (mostly the first round) on vacancy rates in Cuyahoga County, Ohio, from 2006 to the end of 2010. They compared vacancy rates of former REO properties purchased with NSP funds with vacancy rates of comparable former REOs not acquired through NSP. They found that NSP properties tend to be older, smaller, of less value, and in more heavily minority neighborhoods. Investors were the most common purchasers of former REO properties in Cuyahoga County during this time period. The authors concluded that in NSP targeted areas, “vacancy rates decline if the property was purchased out of REO by an individual” (presumably an owner-occupant), compared with REO properties purchased by investors or nonprofit organizations (Ergungor and Nelson, 2012: 12).

Graves and Shuey (2013) conducted a small-scale, mostly qualitative analysis of changes in social conditions around properties that were rehabilitated using NSP funding. The study area includes 16 city blocks in Boston, one-half with NSP properties (one per block) and one-half with non-NSP REO properties. The authors conducted visual inspections and surveyed nearby residents. It is notable that they found that only one-half of the NSP properties were renovated or undergoing renovation, while seven of the eight control properties had been rehabilitated. The authors found no significant difference in residents’ perceived sense of community between NSP blocks and control blocks. It is striking that most residents on both treatment and control blocks did not realize that the vacant homes had undergone foreclosure and did not list the presence of vacant homes as a substantial source of concern. Boston had unusually low foreclosure and vacancy rates relative to other NSP grantees, so it is unclear whether these results can be extrapolated to other cities, including the ones in this analysis.

The Reinvestment Fund (TRF) has investigated the spatial concentration of NSP properties and changes in sales prices and vacancy rates in NSP neighborhoods (TRF, 2013). The report identifies clusters of NSP investment and compares changes in home sales prices and vacancy rates between each NSP cluster and three matched block groups (referred to in the report as “comps”). The study concludes that one-half of NSP clusters performed better on home sales prices than two or three “comps,” while one-half performed better than zero or one “comps.” No tests of statistical significance for the comparisons are presented. Essentially these results are consistent with expectations of a random draw: if home sales prices in NSP clusters do not really differ from other neighborhoods, the probability that home sales prices in an NSP cluster fall in the upper one-half of the distribution would be 0.5. Thus the TRF study provides no evidence that NSP clusters performed better or worse than non-NSP block groups.

NSP Context

NSP was adopted during highly unusual conditions in the U.S. housing market, which had implications for the grantees' ability to implement the program. Although NSP shares some goals and structural elements with previous housing and community development programs, particularly the Community Development Block Grant program, it also has several unusual features, discussed in more detail in the following section.

Program Administration and Goals

NSP2 funds were awarded to 56 grantee organizations operating in 133 counties across 26 states and the District of Columbia. More than one-half of the grantees were local public agencies, such as city and county housing and redevelopment agencies, which used NSP2 funding within their primary political jurisdictions. Four state governments (Massachusetts, Michigan, Ohio, and Oregon) were responsible for administering NSP2 across multiple localities within the state. The remaining grantees were nonprofit organizations; most of these organizations also implemented NSP2 in a single location, but four large nonprofit organizations (Center for Community Self-Help, Chicanos Por La Causa, Habitat for Humanity® International, and The Community Builders, Inc.) created national consortia that worked in multiple cities and states.

The overall NSP was designed around three distinctive features (Immergluck, 2013; Joice, 2011). First, the range of allowable activities gave grantees flexibility to tailor their strategies to local housing market conditions. Second, to ensure that NSP funds were spent quickly—as required of other stimulus programs during the Great Recession—grantees were required to expend funds within a fairly short time from the initial allocation. Third, grantees were encouraged to concentrate their investments in a few targeted neighborhoods, at sufficient scale to improve housing market outcomes (Reid, 2011). The program's relatively decentralized nature enabled grantees to pursue fundamentally different strategies.

NSP2 was intended to correct several limitations of the first round of NSP (hereafter, NSP1), particularly targeting funds to organizations with demonstrated capacity to carry out the work under short deadlines, and achieving greater spatial concentration of investment (Joice, 2011). Local and state government agencies and qualified nonprofit organizations applied to HUD for funds, which were allocated through competitive bidding. Applications had to indicate the census tracts in which grantees intended to work, the type of activities they intended to carry out, and provide evidence of organizational capacity (previous experience carrying out similar work). HUD allocated grant funds in January 2010; grantees were required to obligate 50 percent of funds by February 2012 and 100 percent of funds by February 2013.

Relative to previous housing and community development policies, NSP2 is difficult to categorize neatly. Like traditional public housing or many urban renewal programs, funds were targeted directly at places, rather than “people-based” programs that target individual households, such as Section 8 voucher holders. The broad goals and flexible set of activities permitted under NSP2 overlap with several different types of previous policies, including blight removal, development, and rehabilitation of affordable housing, and homebuyer assistance. Yet, NSP2 also differs from

these previous policies in important ways. Most properties targeted by NSP2 (either for rehabilitation or demolition) were scattered site, single-family houses. Previous policies such as CDBG, LIHTC, and HOPE VI have frequently been used for larger multifamily structures. Compared with previous blight removal policies, most demolitions conducted under NSP2 resulted in vacant land, rather than new structures.

Study Overview and Data Collection

This study uses administrative data collected from a national sample of 28 grantees across 18 counties and Washington, D.C. The analysis focuses on the program's production outcomes: the number of properties treated, type of activities, neighborhood scale, spatial concentration, and timing of investments. The sample counties were selected to offer diversity in underlying housing markets (for example, sales price levels and trends, composition of the housing stock), and to include large grant recipients who represented the bulk of NSP2 funds. Exhibit 1 lists the counties studied, the total NSP2 allocations and number of completed investments. Almost all the sample counties had received investments through the first round of NSP funding as well, although in some cases

Exhibit 1

Summary of NSP Counties (Including Washington, D.C.) Studied

County	Market Type	NSP Spent (\$ millions)	Properties	\$/Property
Cook, IL	East Coast	132.0	262	503,817
Cuyahoga, OH	Declining	25.9	758	34,169
Davidson, TN	Moderate	31.0	116	267,241
Denver, CO	Moderate	35.5	119	298,319
Ingham, MI	Declining	18.6	215	86,512
Kings, NY	East Coast	35.5	46	771,739
Los Angeles, CA	Sand States	220.0	558	394,265
Maricopa, AZ	Sand States	115.0	494	232,794
Miami-Dade, FL	Sand States	90.0	296	304,054
Palm Beach, FL	Sand States	66.5	235	282,979
Philadelphia, PA	Moderate	58.6	494	118,623
Pulaski, AR	Declining	16.2	236	68,644
Ramsey, MN	Moderate	17.7	149	118,792
Riverside, CA	Sand States	8.9	54	164,284
Sarasota, FL	Sand States	21.5	71	302,817
Stanislaus, CA	Sand States	23.3	94	247,872
Washington, D.C.	East Coast	21.7	66	328,788
Washoe, NV	Sand States	22.4	146	153,425
Wayne, MI	Declining	75.6	1,947	38,829
Total		1,035.9	6,356	
Average		54.5	335	162,975

NSP = Neighborhood Stabilization Program.

the grantee organizations changed (for instance, NSP1 funds were administered through the state government, while NSP2 funds were allocated to the city and county). Each grantee organization provided data on the location and timing of NSP2 investments, types of activities carried out at each property and expenditures. Data were collected in the summer of 2013, shortly after the deadline for obligating 100 percent of funds.⁶ Many grantees reported that construction had only been completed shortly before data collection, or in some cases was still ongoing.

For purposes of sampling and analysis, we grouped counties into the four housing market types identified previously, based on sales price levels and changes during the boom and bust periods that preceded NSP. Counties in the Sand States market type (Los Angeles, Riverside, and Stanislaus, California; Maricopa, Arizona; Miami-Dade, Palm Beach, and Sarasota, Florida; and Washoe, Nevada) experienced high home sales-price appreciation and high volumes of new construction during the boom period and dramatic sales price declines during the bust. Counties in the East Coast market type (Cook County, Illinois; Kings County, New York; and Washington, D.C.) also saw large sales price appreciation during the boom period, but with more modest rates of new housing construction.⁷ Counties in the Declining market type (Cuyahoga County, Ohio; Ingham and Wayne Counties, Michigan; and Pulaski County, Arkansas) experienced declining population and housing values for many years before the onset of the housing crisis. The final group of counties (Davidson, Tennessee; Denver, Colorado; and Philadelphia, Pennsylvania) is referred to as Moderate because these counties (although quite geographically and economically diverse) saw fairly moderate rates of housing appreciation and depreciation during the period, although, in general, without construction booms. Results of analysis are presented for individual counties with indications of the market types to illustrate similarities and variation across counties within each market type.

Targeted Areas of NSP2 Investment

We begin by presenting some context on the baseline conditions of NSP2 neighborhoods before implementation of the program (exhibit 2). NSP2 was intended to help census tracts with high concentrations of foreclosed and vacant properties; therefore, NSP2-targeted areas might be expected to differ from non-NSP2 census tracts along other economic and demographic characteristics.⁸

In accordance with the program's design, grantees targeted their NSP2 investments to census tracts with highly distressed housing markets and weak economic fundamentals—notably low income and educational attainment—before intervention. Because NSP2 funds were limited, however, and grantees were encouraged to concentrate their investments, not all initially distressed census tracts

⁶ Abt Associates Inc. (2014) provides more details on the sampling strategy, data collection, and methodology. The obligation deadline applied to NSP2 funds initially allocated to grantees from HUD. Grantees that rehabilitated or redeveloped properties received additional income when those properties were sold, and they could use this additional program income for further work. There is no deadline for obligation or expenditure of ongoing program income.

⁷ Cook County is grouped with counties in the East Coast market type because of similarities in pre-NSP2 housing market trends rather than geographic proximity.

⁸ Data on housing market conditions—sales prices, financially distressed property inventory, and investor purchases—come from CoreLogic, Inc. Vacancy data were obtained from the U.S. Postal Service. Population characteristics used in this analysis were obtained from the 2005–2009 American Community Survey, or ACS. The full list of variable definitions and data sources appears in appendix exhibit A-1. The section NSP2 Production Outcomes provides more detail about variable construction.

Exhibit 2

Comparison of NSP2 and Non-NSP2 Tracts, 2008

	NSP2 Tracts	Non-NSP2 Tracts	NSP2 – non-NSP2
Housing markets			
Price (\$)	150,048	310,869	– 160,821*
Percent change in price, 2000–2006	76.14	72.78	3.36
Distressed properties per 1,000 housing units	57.88	31.56	26.32*
Vacancies/1,000 housing units	118.83	75.90	42.93*
Investor purchases (%)	57.44	40.57	16.87*
Population characteristics			
Income (\$)	43,690	64,050	– 20,360*
Population with less than 12 years education (%)	30.56	19.63	10.92*
Hispanic (%)	34.96	25.59	9.37*
Black (%)	39.63	20.99	18.64*
Central city	0.80	0.62	0.18*
Population density	11,347	13,221	– 1,874*
n	862	7,443	

NSP2 = Neighborhood Stabilization Program (second round).

* $p < .01$.

received NSP2 investments. In 2008, home sales prices in NSP2 tracts were less than one-half of those in non-NSP2 tracts (about \$150,000 per housing unit compared with \$310,000), although sales price appreciation during the housing boom was similar in NSP2 and non-NSP2 tracts.⁹ NSP2 tracts had greater prevalence of properties in any stage of financial distress (the inventory of properties in a census tract that had received foreclosure notice, had completed a foreclosure sale, or had moved into REO status). About 58 properties per 1,000 housing units were in financial distress in NSP2 tracts, compared with 32 properties per 1,000 in non-NSP2 tracts. The vacancy rate in NSP2 tracts was substantially higher, as was the prevalence of investor purchases. Some of the differences in housing outcomes can be explained by differences in population characteristics. On average, NSP2 tracts had lower median household incomes and lower educational attainment (higher share of residents with no formal education beyond high school degrees). They had larger shares of Black and Hispanic residents and slightly lower population density. Although the housing crisis hit neighborhoods in central cities and in suburban or exurban locations, within the 18 sample counties and Washington, D.C., census tracts that received NSP2 investments were more likely to be in central cities. These descriptive statistics suggest that grantees did indeed focus their NSP2 investments in low-income census tracts with distressed housing markets, which the program was intended to serve.

⁹ All dollar values are adjusted to constant 2012 values, using the Consumer Price Index, or CPI, for all urban consumers, by census region.

Housing Markets During Boom, Bust, and Recovery

Exhibit 2 offers a single-period snapshot of NSP2 tracts before the program. To provide a longer context of housing market changes in NSP2 tracts, exhibits 3 through 6 show the trajectory of four census tract-level housing metrics: (1) median sales prices, (2) the inventory of distressed properties, (3) number of vacant properties, (4) and number of investor purchases. Three of these metrics (excluding vacant properties) are aggregated from property-level data on housing transactions obtained from CoreLogic, Inc. These data include all residential properties with a recorded transaction between January 2000 and February 2013. Median sales prices are calculated using arms-length transactions of two types of properties: one- to four-family buildings and condominium units. Properties are considered in financial distress any time after a foreclosure filing (also referred to as notice of default or *lis pendens*) and before sold to a new third-party owner (that is, leaving REO). A property purchased by an investor (nonowner-occupant) is identified by the purchaser's name.¹⁰ The fourth housing metric, vacant properties, is assembled from U.S. Postal Service data. To normalize for the size of housing stock, the vacant property counts and distressed property counts per census tract are divided by 1,000 housing units in each tract, using data from the 2005–2009 American Community Survey, or ACS.

For descriptive purposes, we divide non-NSP2 census tracts in the sample counties into two groups based on the median home sales price in 2008 (during the recession but before NSP2 implementation). Most NSP2 tracts had sales prices below median value in their counties, so we would anticipate that the trajectory of housing markets in NSP2 tracts would more closely follow that of other lower value census tracts. Exhibits 3 through 6 show the trajectories of all four housing metrics for NSP2 tracts and other low- and high-value census tracts. The tracts are grouped together by market type rather than shown separately for each county because of the small number of census tracts in most sample counties.

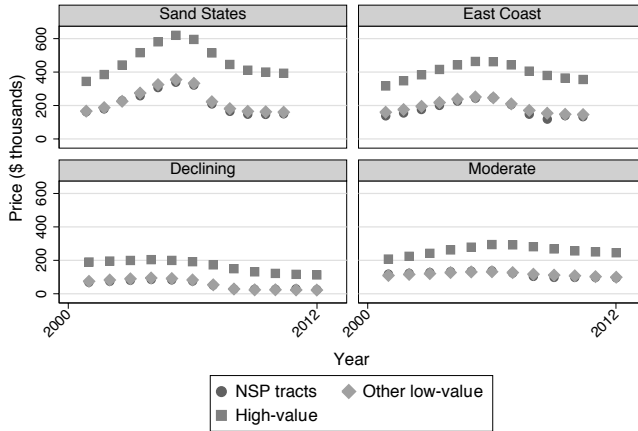
Consistent with national trends, home sales prices in the sample counties increased rapidly during the boom years (2000 to 2006), collapsed during the bust (2007 to 2009), and stabilized somewhat during the recovery (2010 to 2013), as shown in exhibit 3. The biggest swings in sales prices in both directions occurred in Sand States. Census tracts in East Coast and Moderate market types show similar time trends to tracts in the Sand States type, but with much smaller variation. Tracts in the Declining market type showed little growth during the boom and weaker recovery. In all four market types, median sales price levels in NSP2 tracts were similar to other low-value tracts and well below high-value tracts. Over time, sales price trends, in general, were similar across all three groups of tracts within each market type.

The prevalence of financially distressed properties rose steadily throughout the bust years, peaking around 2009 for most market types, and then declined substantially during the recovery period (exhibit 4). As with sales prices, the most variation over time occurred in Sand States, with all three tract types experiencing large increases in distressed properties from 2006 to 2009, before recovering nearly to precrisis levels in 2013. In counties in the Sand States market type, NSP2 tracts showed higher distress rates during the bust years than either low- or high-value tracts.

¹⁰ Consistent with the previous literature, investor purchases are defined by corporate entities in the purchaser's name, the purchaser's mailing address, and multiple purchases by the same entity. For further discussion, see Ellen, Madar, and Weselcouch (2014); Fisher and Lambie-Hanson (2012); and Immergluck (2013).

Exhibit 3

Median Housing Sales Prices, by Market Type (2000–2012)



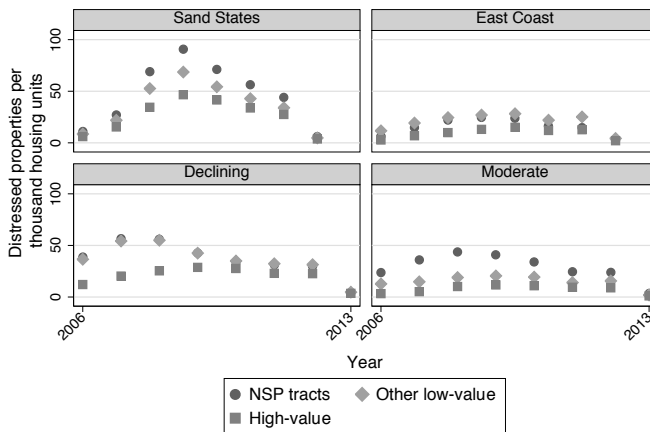
NSP = Neighborhood Stabilization Program.

Note: Market types group counties with similar housing market characteristics.

Source: mkttype

Exhibit 4

Financially Distressed Properties, by Market Type (2006–2013)



NSP = Neighborhood Stabilization Program.

Note: Market types group counties with similar housing market characteristics.

Source: mkttype

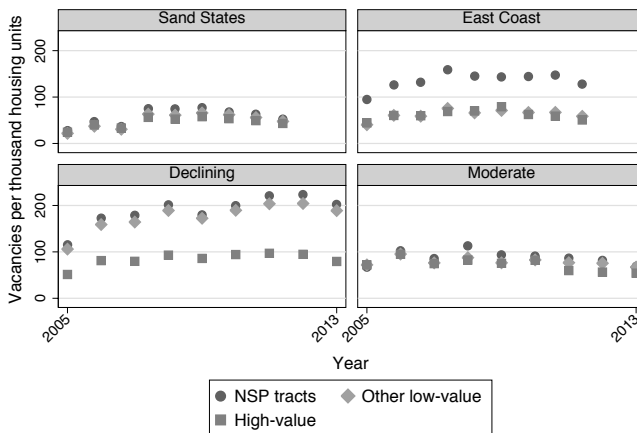
NSP2 tracts in counties in the Moderate market type also had larger distressed property inventories during the bust and recovery than either low- or high-value tracts. For counties in the East Coast and Declining market types, NSP2 tracts had similar distress rates to non-NSP low-value tracts. Distressed property inventories in Declining and Moderate market types hit their peak slightly earlier than inventories in the Sand States and East Coast market types.

Vacancy rates (in levels and changes over time) differ noticeably across market types (exhibit 5). Vacancy rates are highest throughout all years in the Declining market type, with vacancy rates continuing to rise even during the recovery. In the Declining market type, vacancy levels in NSP2 tracts were similar to those in low-value census tracts and much higher than those in high-value tracts. NSP2 tracts in counties in the East Coast market type (mostly in Cook County) had higher vacancy rates than either low- or high-value tracts. For counties in the Sand States and Moderate market types, vacancy rates in NSP2 tracts were slightly higher than in low-value census tracts and well above vacancy rates in high-value tracts, but they were relatively stable over time.

Investor purchase shares followed similar trajectories over time in all four market types, although the levels varied across markets (Exhibit 6). In all market types, NSP2 tracts and other low-value census tracts saw large growth in investor purchase shares, implying a decline in owner occupancy over time. Counties in the Sand States market type experienced relatively low rates of investor purchases during the boom, with rates increasing sharply after 2009. Investor purchases in NSP2 tracts were slightly higher than in low-value census tracts and, during the bust and recovery, substantially higher than in high-value tracts. Investor activity in counties in the East Coast market type was notably higher among NSP2 tracts than among low- or high-value census tracts during all years, with investor shares in all tracts rising rapidly after 2006. For counties in the Declining market type, investors accounted for 60 to 80 percent of all purchases among NSP2 tracts during the entire period examined, much higher than investor purchases in high-value tracts. Investor purchases were lower and less volatile over time in counties in the Moderate market type for all tract types. NSP2 and low-value tracts had similar rates of investor activity, both noticeably higher than in high-value tracts.

Exhibit 5

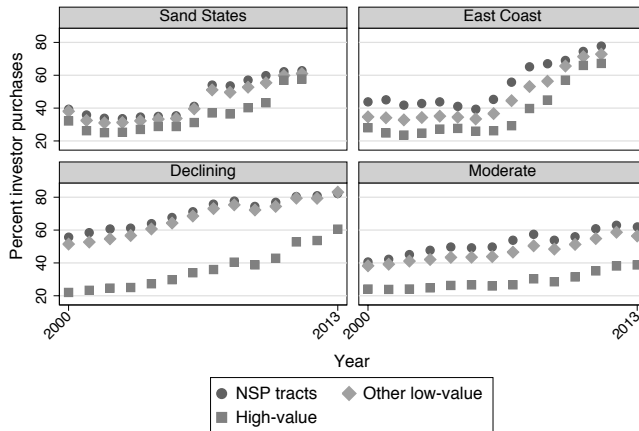
Vacancy Rates, by Market Type (2005–2013)



NSP = Neighborhood Stabilization Program.
 Note: Market types group counties with similar housing market characteristics.
 Source: mktype

Exhibit 6

Purchases by Nonowner-Occupants, by Market Type (2000–2013)



NSP = Neighborhood Stabilization Program.

Note: Market types group counties with similar housing market characteristics.

Source: *mktype*

Overall, the data in these exhibits confirm the general trends in housing markets during three time periods. Home sales prices increased during the boom, decreased from 2007 through the collapse, and stabilized during the recovery. Indicators of financial distress increased from 2006 to 2008; they then declined somewhat from 2008 to 2012, although, in general, not to preboom levels.¹¹ The exhibits provide additional evidence that NSP2 investment went into census tracts with lower home values, more distressed properties, and more investor activity (implying lower homeownership rates) compared with average census tracts in the same market types.

NSP2 Production Outcomes

NSP2 was intentionally designed to be flexible, so that grantees could tailor their approaches to local housing market conditions and organizational expertise. It is not surprising, therefore, to find that approaches to and outcomes from NSP2 vary considerably across local grantees. We analyze the housing investments funded by NSP2 along several dimensions: types of activities undertaken by grantees, the number of housing units affected, NSP2 dollars spent, the neighborhood scale, spatial concentration, and timing of investments. For some of the investment metrics, similar outcomes are apparent across housing market types.

Overview of County-Level Production

Through July 2013, NSP2 grantees working in the 18 sample counties and Washington, D.C., had obligated a total of \$1.04 billion in NSP2 funds to treat 6,356 properties (exhibit 1). This

¹¹ CoreLogic, Inc., did not consistently track foreclosure starts, sales, or entry into and exit from REO status before 2006; therefore, measures of mortgage distress are not available for during the boom period.

translates into an average of \$54.5 million and 335 properties per county, but the size of NSP2 investments varied considerably. Los Angeles County received the largest allocation of NSP2 funds at \$220 million, spread across six local grantees. Wayne County, Michigan (home to Detroit), treated by far the largest number of properties (nearly 2,000), however, with a much smaller NSP2 allocation of \$75.6 million. The rank order of counties differs when investment size is measured by expenditures rather than properties because of grantees' different approaches. In Wayne County, the State of Michigan concentrated mostly on demolitions, while Los Angeles County's grantees primarily invested in acquisition and rehabilitation. This variation is also evident in the average NSP2 funds per property (last column). The four counties with the lowest NSP2 dollars per property—Cuyahoga, Ohio; Ingham, Michigan; Pulaski, Arkansas; and Wayne, Michigan—are all in the Declining market type and focused on demolition. Grantees in Kings County, New York (Brooklyn) had the highest per-property expenditures and financed redevelopment of multifamily properties.

Distribution of Activity Types

The distribution of investments by activity—measured both by property counts and expenditures—are shown in exhibit 7. Acquisition and rehabilitation accounted for 36 percent of all NSP2 properties treated, but 64 percent of NSP2 expenditures. Demolition accounts for 44 percent of properties but only 3 percent of funds. Most grantees doing demolition did not purchase the property before demolition, which reduced the costs relative to acquisition and rehabilitation, and the labor and materials costs required for demolition, in general, are less expensive than those required for rehabilitation or redevelopment. Together, rehabilitation and demolition account for four-fifths of NSP2 properties and two-thirds of expenditures. Land banking was the least frequently used activity, and stand-alone financing was also relatively scarce. The final column in exhibit 7 shows the average per-property cost by activity type. It is not surprising to find that redevelopment—which sometimes involved removing an existing structure and developing a new structure—had the highest cost per property, at \$375,000, followed by acquisition and rehabilitation (\$290,000), and multiple activities (often a combination of demolition and redevelopment, at \$228,000 per property).

Exhibit 7

NSP2 Investments by Activity Type

Activity	Properties (%)	Expenditures (%)	\$/Property
Acquisition/rehabilitation	35.9	64.2	291.3
Demolition	44.1	2.9	10.6
Financing	4.1	5.1	203.1
Land bank	1.8	0.5	42.7
Multiple	5.9	8.3	228.9
Redevelopment	8.3	19.1	375.1
Total n	6,356	1,034.9	162.8

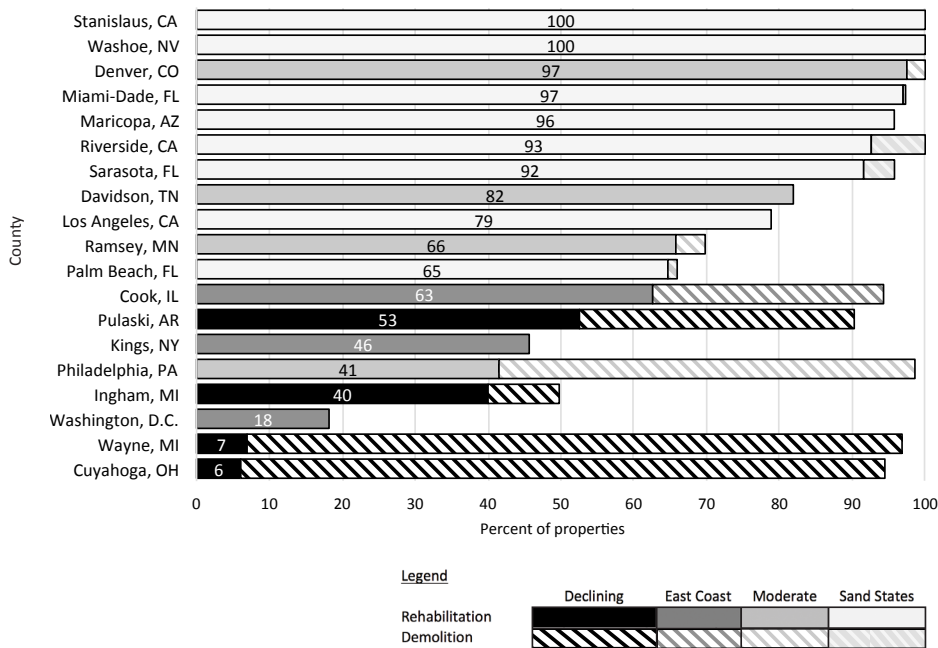
NSP2 = Neighborhood Stabilization Program (second round).

Notes: \$/Property shown in thousands. All data provided by grantees.

The most fundamental part of grantees' strategy—what activities to undertake—varied considerably across counties, with some discernable geographic patterns (exhibit 8). All counties in the Sand States market type and three of the four counties in the Moderate market type pursued acquisition and rehabilitation as the dominant strategy; for most of these counties, more than 90 percent of NSP2 properties were rehabilitated. At the other end of the spectrum, Cuyahoga and Wayne Counties used demolition and land banking for more than 90 percent of NSP2 properties, with small numbers of rehabilitated properties. Cook, Philadelphia, and Pulaski Counties had the most even split between rehabilitation and demolition, with 40 to 60 percent of properties rehabilitated and 30 to 60 percent demolished. Only three counties—Ingham County, Kings County, and Washington, D.C.—did not treat most of their NSP2 properties with either rehabilitation or demolition. For these three counties, stand-alone financing was the largest single activity.¹²

Exhibit 8

NSP2 Activity Choice: Rehabilitation Versus Demolition, by County



NSP2 = Neighborhood Stabilization Program (second round).

Notes: Rehabilitation includes redevelopment. Demolition includes land banking. Finance and multiple activities are not shown. Data provided by NSP2 grantees.

¹² The percentage of properties for all five activities, along with all numbers used in the graphs, are shown in appendix exhibit A-2.

Among the sampled 18 counties and Washington, D.C., rehabilitation and redevelopment activities focused mostly on one- to four-family structures (exhibit 9).¹³ This focus is particularly pronounced in the Sand States market type, where 88 percent of NSP2 properties were one- to four-family buildings. Grantees in the East Coast market type used NSP2 funds to rehabilitate and redevelop a more diverse building stock, with about one-third of NSP2 properties composed of one- to four-family buildings, 28 percent multifamily structures, and 19 percent condominiums. Structure type was not provided for large numbers of rehabilitated properties in counties in the Declining and Moderate market types; most of the properties reporting structure type were one- to four-family buildings.

Exhibit 9

Distribution of NSP2 Property Types for Rehabilitated and Redeveloped Properties

	All	Sand States	Declining	East Coast	Moderate
One- to four-family (%)	75.1	87.5	48.6	34.0	69.6
Condo/coop (%)	2.9	1.5	3.6	18.8	1.0
MF (five or more families) (%)	5.8	4.6	0.5	27.9	5.4
Other (%)	5.0	5.9	5.4	4.1	2.3
Unknown (%)	11.2	0.6	41.9	15.2	21.6
n	2,809	1,707	391	197	514

condo = condominium. coop = cooperative. MF = multifamily. NSP2 = Neighborhood Stabilization Program (second round). Notes: One- to four-family properties include single-family detached, townhouse, duplex, triplex, and quadriplex buildings. Totals include only properties that were purchased and rehabilitated or redeveloped. Structure type corresponds to post-NSP2 investment status.

Expenditures

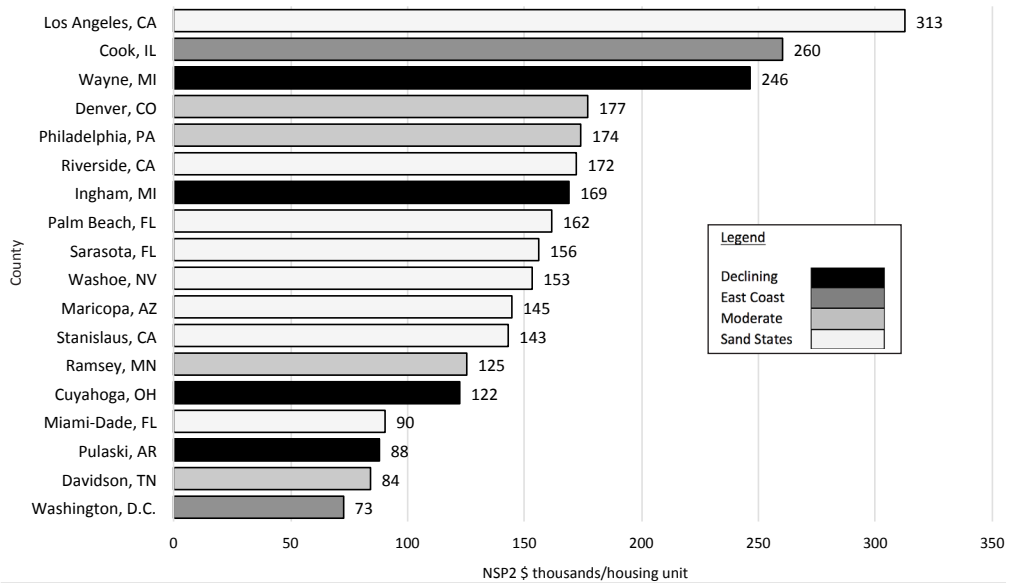
A comparison of per-property expenditures across all NSP2 properties—as shown in the last column of exhibit 1—is difficult to interpret because of the variation in activity type and property size. For a more useful comparison, therefore, we calculate the expenditures per housing unit (not per property) only for rehabilitated properties.¹⁴ Exhibit 10 shows the per-unit NSP2 expenditures with counties ranked in descending order. Unlike for the distribution of activity, no obvious correlations were observed between housing market type and expenditures. Most counties in the Sand States market type cluster in the middle, with expenditures on acquisition and rehabilitation between \$140,000 and \$170,000 per housing unit. But Los Angeles spent nearly double that (more than \$300,000 per unit), while Miami-Dade County had one of the lowest average expenditures (around \$90,000). Nor do these differences obviously match overall differences in home sales prices; the county-level correlation between rehabilitation expenditures per unit and median home sales prices is 0.14. Los Angeles County (which has a median sales price of \$388,000) had the highest rehabilitation expenditures per unit, while Washington, D.C. (median sales price

¹³ Demolished or land-banked properties had no observable structure type after treatment, and information on structure type or unit count was missing for many of the financed properties. Housing unit counts are missing or inconsistent for most properties, thus no analysis can be done based on size of multifamily properties.

¹⁴ Property type and housing unit counts are missing for many of the demolished or land-banked properties, and redevelopment and financing are more heterogeneous activities.

Exhibit 10

NSP2 Acquisition and Rehabilitation Costs, by County



NSP2 = Neighborhood Stabilization Program (second round).

Notes: Graph shows average per census tract. NSP2 expenditures and housing unit counts provided by grantees.

of \$374,000) had the lowest. Wayne County, which had a median home sales price slightly less than \$40,000, spent on average \$246,000 for each rehabilitated property. Developing a better understanding of what drove the difference in expenditures across counties and across grantee organizations is an important area for future research.

Concentration and Scale of Investment

An important difference in program design between NSP1 and NSP2 is NSP2's emphasis on concentrated investment. Whereas NSP1 was allocated across grantees by formula and resulted in small amounts of funding being spread over spatially dispersed areas, NSP2 encouraged grantees to spend sufficient funds in targeted areas to achieve a scale of intervention that could halt the downward spiral of foreclosures and decreased property values. We create three metrics to analyze the neighborhood scale and concentration of NSP2 investments. First, the number of NSP2 properties in each census tract is divided by the total number of housing units per tract to account for differences in the size of the housing stock. Second, the value of NSP2 expenditures for each census tract is divided by the median home sales price in the tract.¹⁵ The scale of spending might differ from the scale of properties for several reasons. For instance, if grantees tended to work on larger properties, acquired properties in worse condition that needed more extensive rehabilitation, or used more costly materials, then the scale of spending might exceed the scale of properties.

¹⁵ Housing unit counts are taken from the 2005–2009 American Community Survey, or ACS, median sales prices as of 2009 from CoreLogic, Inc. The numbers vary slightly when using housing units in one- to four-family properties, or a different year of home sales prices, but the general range and differences across market types are similar.

Third, we calculate a nearest neighbor index for each NSP2 property (Clark and Evans, 1954; Fischer and Harrington, 1996). The index measures the average distance from each property to its five spatially closest NSP2 properties, with increasing index values indicating greater diffusion or lower concentration. The nearest neighbor index is calculated for all NSP2 properties within each county/area and is a property-level concentration measure. Equation 1 shows the calculation; d_{ij} is the pairwise distance between each NSP2 property (i) and all other NSP2 properties (j).

$$D_{min} = \frac{\sum_{j=1}^5 \text{Min}(d_{ij})}{5} \tag{1}$$

Whereas the first two metrics capture the relative scale of NSP2 investment within each census tract, the distance index is an absolute measure of spatial concentration that is interpreted the same way regardless of census tract size. Tract geographic and population sizes vary across sample counties; in general, tracts in counties in Western states have larger land areas and lower housing densities than counties on the East Coast of the nation. It is unclear in theory whether the relative or absolute concentration of NSP2 investments matters more for the program's goal of mitigating negative spillover effects from foreclosures; therefore, we present results for all three metrics. In practice, at the county/area level, all three metrics are highly correlated.¹⁶

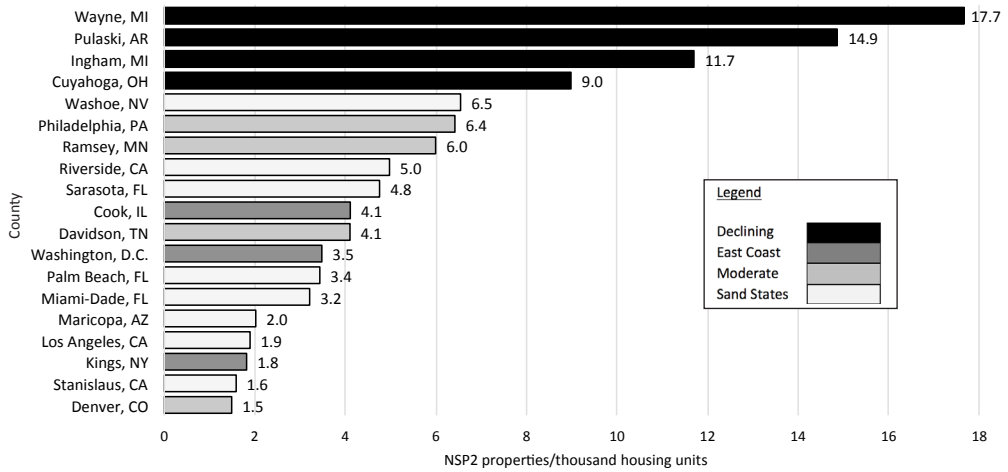
The four counties in the Declining market type had the largest tract-level scale of NSP2 investments, using the property concentration metric (exhibit 11). The values range from 9 NSP2 properties per 1,000 housing units in Cuyahoga County to nearly 18 NSP2 properties in Wayne County—a considerable dispersion within the Declining market type—but all four counties have substantially larger scale investments than any county in the other three market types. In five counties—Denver, Kings, Los Angeles, Maricopa, and Stanislaus—the scale of NSP2 investment was 2 or fewer properties per thousand housing units. The remaining counties invested in 3 to 6 NSP2 properties per 1,000 housing units, or less than 1 percent of the housing stock in NSP2 tracts. Because this metric does not take into account property size, it could underestimate the visible scale of NSP2 activity in counties that treated mostly multifamily structures, such as those in the East Coast market type—Cook County, Kings County, and Washington, D.C.

Somewhat similar patterns emerge using the expenditure scale metric (exhibit 12). Wayne County had the largest scale of expenditures, spending approximately 55 times the median house sales price, followed by two counties in the Declining market type: Ingham (33) and Pulaski (28). Four of the five counties that ranked lowest in the property scale metric also had relatively low expenditures: Kings, Los Angeles, Maricopa, and Stanislaus. In these counties, NSP2 expenditures were between 4 and 9 times the median home sales price. The relatively small scale of NSP2 investments in these counties, measured by both properties and expenditures, raises questions about whether the program could generate measurable changes to census tract-level housing markets.

¹⁶ The correlation between properties per housing unit and spending divided by sales price is 0.9, the correlation between properties per housing unit and average distance is -0.7, and the correlation between spending and sales price and average distance is -0.6.

Exhibit 11

Scale of Tract Investment: NSP2 Properties, by County

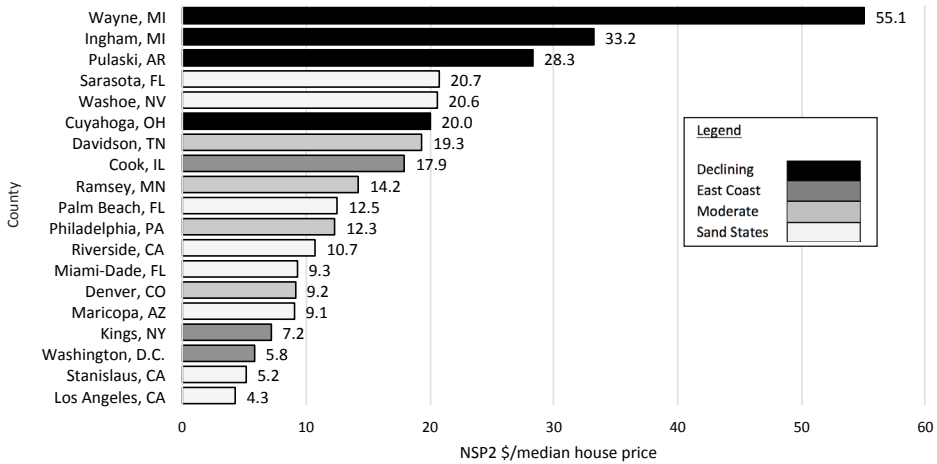


NSP2 = Neighborhood Stabilization Program (second round).

Notes: Graph shows average per census tract. NSP2 property counts provided by grantees. Housing unit counts for census tract come from 2005–2009 American Community Survey, or ACS.

Exhibit 12

Scale of Tract Investment: NSP2 Expenditures, by County



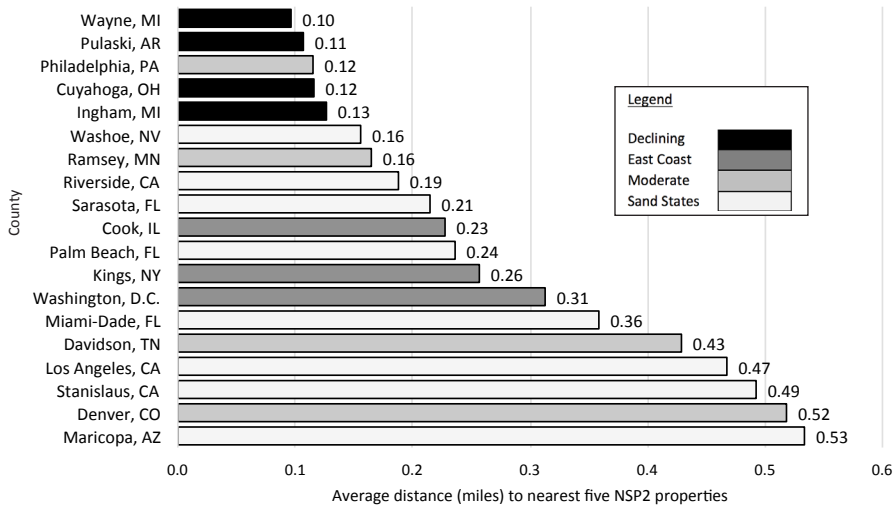
NSP2 = Neighborhood Stabilization Program (second round).

Notes: Graph shows average per census tract. NSP2 expenditures provided by grantees. Median home sales price per tract calculated from CoreLogic, Inc., using 2008 data.

The third measure of NSP2 investment concentration, the average distance between NSP2 properties, shows similar patterns to both tract-level scale metrics (exhibit 13). NSP2 investments were most spatially concentrated in counties in the Declining market type; NSP2 properties were within about one-tenth of a mile from five other NSP2 properties in the four counties of the Declining market type and in Philadelphia County in the Moderate market type. In the three counties in the East Coast market type, the average distance between NSP2 properties was between about one-fourth and one-third of a mile. The remaining three counties in the Moderate market type and all eight counties in the Sand States market type have a greater dispersion of distances. As might be expected, several counties in the Western states (Denver, Los Angeles, Maricopa, and Stanislaus), which tend to have lower housing densities, had spatially diffuse NSP2 investments: in those counties, the average distance between NSP2 properties was nearly one-half of a mile.¹⁷

Exhibit 13

Spatial Diffusion of NSP2 Properties, by County



NSP2 = Neighborhood Stabilization Program (second round).

Note: Distance measure is the average distance from each NSP2 property to the five nearest other NSP2 properties.

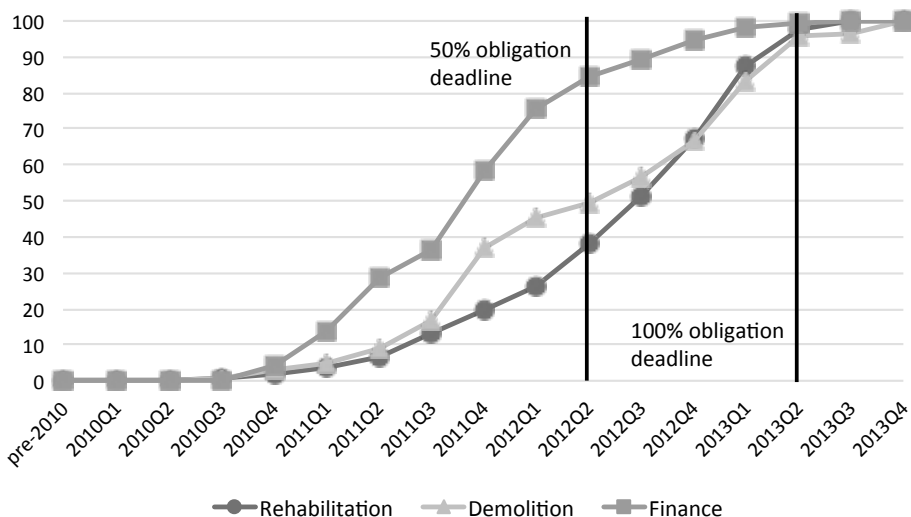
Timing

Because NSP2 was part of the overall economic stimulus, and because a goal of the program was to provide immediate support to hard-hit neighborhoods, grantees had a fairly short window during which to obligate the funds. As noted in the section Previous Studies of NSP, this challenge was compounded by the difficulty of acquiring properties in various stages of financial distress. Exhibit 14 shows the timing of completed NSP2 interventions by activity type. HUD awarded NSP2 grants in January 2010; grantees had to obligate 50 percent of funds by February 2012 and 100 percent of funds by February 2013. Some grantees layered NSP2 onto projects started with NSP1 or used the

¹⁷ Nearest neighbor indices that measure the distance from NSP2 properties to both NSP1 and NSP2 properties have very similar distributions, because NSP1 investments were considerably more dispersed across space. Results are available upon request from the authors.

Exhibit 14

Timing of Completed NSP2 Investments



NSP2 = Neighborhood Stabilization Program (second round).

Notes: Rehabilitation category includes redevelopment. Demolition category includes land banking. Data collection from grantees ended in August 2013, so completions through the fourth quarter of 2013 are estimated. Properties that were missing the year of completion or had projected completion after the fourth quarter of 2014 are excluded.

third round of NSP (NSP3) funds to complete NSP2 projects, complicating the question of when projects appeared complete to external observers. All grantees met the two obligation deadlines, but the timing of completed investments varied by activity type. At all points in time, more of the financing projects were completed than either rehabilitations or demolitions: more than 80 percent of finance projects were obligated by the second quarter of 2012, compared with 50 percent of demolition projects and about 40 percent of rehabilitation or redevelopment projects.¹⁸ Funds for demolition projects were obligated faster than funds for rehabilitation or redevelopment projects through the end of 2012. Across all activities, by the fourth quarter of 2012, about two-thirds of NSP2 projects were complete. The relatively recent completion date of most NSP2 investments projects gives only a short window to observe the performance of housing markets after the program's implementation.

¹⁸ Very little difference in timing exists between demolition and land banking or between rehabilitation and redevelopment, so the activities are shown collapsed into three categories. Holding constant activity type, not much difference exists in timing across market types.

Discussion and Future Research Agenda

During the housing crisis from 2007 to 2009, unprecedented levels of foreclosures threatened not only individual homeowners but also entire neighborhoods and communities and the stability of major financial institutions. The Neighborhood Stabilization Program was the primary federal effort to assist cities and neighborhoods heavily impacted by concentrated foreclosures. This article presents evidence collected during a 3-year evaluation of NSP2 on housing investments achieved by the program.

Census tracts that received NSP2 investments had weaker initial housing markets than typical tracts in the same counties, with lower household income and housing values and with higher rates of foreclosed and vacant properties. Across a nationwide sample of 18 counties and Washington, D.C., grantees used NSP2 funds to invest in more than 6,300 properties. About one-half of these properties represent newly developed or renovated properties that will become available to low-income households. Grantee approaches and outcomes differed substantially across housing market types. Grantees in counties in the Declining market type used NSP2 funds mostly to demolish blighted properties; they achieved the highest scale and spatial concentration of investment. Grantees in the counties in the Sand States market type focused mostly on rehabilitation and redevelopment; they produced relatively low-scale, spatially diffuse investments. Grantees in the counties in the East Coast and Moderate market types undertook more mixed approaches, combining rehabilitation, demolition, and financing. Expenditures per property and spatial concentration varied across counties and across the four market types.

This article presents the earliest evidence on NSP2, but we anticipate that, as more data become available, additional research will investigate the implementation, outcomes, and impacts of the program. The complexity of NSP—especially the variation in strategies and outcomes across localities—creates both challenges and opportunities for such research. Based on our initial findings, we outline several topics of interest for further study and suggest some useful empirical approaches and caveats of which to be aware.

The diverse approaches and outcomes suggest several lines of inquiry focused on analyzing program implementation. Specific research questions of interest include: how did grantees develop initial strategies? How and why did strategies change over time? What were challenges to implementation, and how did grantees meet those challenges? What factors explain variations in outcomes and expenditures? In particular, it would be valuable to understand how much of the variation in strategies, outcomes, and expenditures can be explained by economic factors, such as differences in home sales prices or competition from investors, and how much is because of institutional or organizational factors, such as the grantees' expertise, staff capacity, or organizational structure. These questions lend themselves both to qualitative approaches, such as indepth interviews with staff at grantee organizations, and statistical analysis of the relationship between local housing markets and quantifiable production outcomes. Comparing strategies and outcomes across multiple markets for the large nonprofit organizations that worked in several counties would be one useful approach for distinguishing between locally varying and invariant factors.

Another set of questions could focus on the impacts of NSP on local economic and social conditions. Outcomes of interest include home sales prices, property distress, vacancy rates, housing tenure, crime rates, and population characteristics. The main challenge to conducting large-scale statistical analyses of NSP impacts is that there is no “average” NSP treatment; therefore, it will be difficult to find an average treatment effect. Because of the variation in NSP implementation, analyses of smaller local areas are more likely to yield informative results than pooling large numbers of counties together in regressions. Moreover, the analysis should attempt to measure the type and quantity of NSP investments completed in a local area. Two particular challenges arise: establishing the appropriate geographic scale of the analysis and the timeframe during which impacts might become apparent. Although NSP was conceived of as an intervention that could alter census tract-level housing markets, the scale of investment in the average NSP tract raises questions about whether tracts will be too large to observe any mitigating impact from aggregate NSP properties. One approach would be to focus on the subset of NSP2 tracts that received large-scale investments, either large volumes of single-family properties or those tracts in which NSP2 was used to rehabilitate and redevelop larger multifamily buildings. Researchers alternatively could examine NSP2 impacts at smaller levels of geography, using event-history methods for individual property transactions near NSP2 properties. The latter approach is also complicated by thin volumes of arms-length property sales during much of the implementation period, so it may be feasible for only a few NSP2 counties.

In a similar way, future research should attempt to measure both short-term and long-term impacts of NSP2. It is not obvious a priori when positive spillover effects from NSP2 are likely to begin. If the negative spillover effects of foreclosure are mitigated only after the vacant property has been completely rehabilitated (redeveloped) and reoccupied, then an impact analysis will need to occur after a sufficient window of time has passed beyond the completion of NSP2 properties. On the other hand, if NSP2 begins to improve neighborhood perceptions at early stages, for instance with the acquisition of a foreclosed property or the beginning of rehabilitation, observations of spillover effects to nearby property markets concurrent to program implementation will be more likely. The timeframe of the current analysis may be too early to detect the effects of NSP2: the most recent outcomes described in the study were measured when nearly 27 percent of the property investments were not complete or had only been completed. Moreover, many grantees viewed NSP2 as a complement to their longer term neighborhood revitalization strategies. Approximately one-half of the study grantees reported purposely targeting areas with long-standing distress, and almost all grantees reported that they chose areas to coordinate with other community development activities (including NSP1 and NSP3 and CDBG). When we view NSP2 investments through the lens of long-term community development, it is likely too early to draw conclusions about the impact of NSP2 on neighborhood revitalization outcomes. Indeed, the literature on neighborhood revitalization suggests that altering the outcomes of distressed neighborhoods requires concentrated investment over a multiyear timeframe (Galster et al., 2006; Galster et al., 2004; Pooley, 2014). Examining neighborhoods that received not only NSP2 funding but also other investments such as CDBG, either before or after NSP2, would enable researchers to test for longer term impacts of neighborhood revitalization.

Appendix

Exhibit A-1

Variable Definitions and Sources

Variable	Definition	Source
NSP activity/treatment status		
NSP treat	= 1 if at least one NSP2 property in tract, = 0 otherwise	Grantee data
NSP props	Total # NSP properties in tract	Grantee data
NSP spent	Total \$ value of NSP spent in tract (not average/property)	Grantee data
Housing market outcomes		
Price	Median sales price of arms' length housing sales (3-year average)	CoreLogic, Inc.
Distress	Properties in any stage of mortgage distress per 1,000 housing units	CoreLogic, Inc.; ACS
Vacancy	Vacancies per 1,000 housing units	USPS, ACS
Investor	Investor purchases/total purchases	CoreLogic, Inc.
Population and housing market characteristics		
Central city	= 1 if tract belongs to designated central city, = 0 otherwise	OMB
Pop density	Population density (per square mile)	ACS 2005–2009
Hispanic	% Hispanic	ACS 2005–2009
Black	% African-American	ACS 2005–2009
Income	Median household income	ACS 2005–2009
No HS grad	% population age 24+ with high school degree or less	ACS 2005–2009
Housing 1–4 fam	% housing units in 1–4 family properties	ACS 2005–2009
ΔPrice, 00–06	% change in median housing price, 2000–2006	CoreLogic, Inc.

ACS = American Community Survey. NSP = Neighborhood Stabilization Program. OMB = Office of Management and Budget. USPS = U.S. Postal Service.

Exhibit A-2

County NSP2 Outcomes

County	Grantees	Tracts	Activities (%)			Rehab Cost (\$ 000s)	Scale/Concentration			
			Rehab	Demo	Finance		Prop/Tract	Prop/Housing	NSP2 \$/Price	Distance (miles)
Cook, IL	5	44	66	33	1	253.4	6.0	4.1	17.9	0.23
Cuyahoga, OH	1	89	6	92	2	122.3	8.5	9.0	20.0	0.12
Davidson, TN	1	18	82	0	18	84.2	6.4	4.1	19.3	0.43
Denver, CO	2	29	97	3	0	177.0	4.1	1.5	9.2	0.52
Ingham, MI	1	17	80	20	0	169.0	12.6	11.7	33.2	0.13
Kings, NY	2	20	46	0	54	NA	2.3	1.8	7.2	0.26
Los Angeles, CA	6	205	83	0	17	293.1	2.7	1.9	4.3	0.47
Maricopa, AZ	2	113	100	0	0	127.8	4.4	2.0	9.1	0.53
Miami-Dade, FL	2	56	100	0	0	89.0	5.3	3.2	9.3	0.36
Palm Beach, FL	2	33	73	1	26	163.9	7.1	3.4	12.5	0.24
Philadelphia, PA	2	49	42	58	0	173.9	10.0	6.4	12.3	0.12
Pulaski, AR	2	11	58	42	0	87.4	21.5	14.9	28.3	0.11
Ramsey, MN	1	22	94	6	0	125.3	6.8	6.0	14.2	0.16
Riverside, CA	1	5	93	7	0	146.5	10.8	5.0	10.7	0.19
Sarasota, FL	1	7	96	4	0	156.1	10.1	4.8	20.7	0.21
Stanislaus, CA	1	29	100	0	0	143.9	3.2	1.6	5.2	0.49
Washington, D.C.	3	17	18	0	82	78.6	3.9	3.5	5.8	0.31
Washoe, NV	1	6	100	0	0	145.5	24.3	6.5	20.6	0.16
Wayne, MI	1	92	7	93	0	299.5	21.2	17.7	55.1	0.10

Demo = demolition. NSP2 = Neighborhood Stabilization Program (second round). Prop = properties. Rehab = rehabilitation. Notes: In Activities, Rehab includes redevelopment and Demo includes land-banking. Rehab Cost is per housing unit in completed NSP2 properties. Kings County, New York, had no rehabilitated properties. Prop/Housing is NSP2 properties per tract divided by 1,000 housing units. NSP2 \$/price is NSP2 expenditures per tract divided by median housing sales price. Distance is average distance to five nearest NSP2 properties.

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