



DISCUSSION PAPERS

COMMUNITY AFFAIRS DEPARTMENT

**THE IMPACT OF HOUSING REHABILITATION
ON LOCAL NEIGHBORHOODS:
THE CASE OF ST. JOSEPH'S CARPENTER SOCIETY**

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The views expressed here are those of the authors and do not necessarily represent the views of the Federal Reserve Bank of Philadelphia or the Federal Reserve System.

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Introduction

Across the nation, nonprofit organizations located in poor and declining neighborhoods are promoting homeownership in the hopes that their efforts will stave off further decline and contribute to neighborhood stability. A common homeownership strategy among nonprofits is to acquire boarded-up or deteriorated houses at a low price, rehabilitate them, and then offer homeownership education and counseling to help new buyers purchase these homes at an affordable price.

Such is the effort undertaken by the St. Joseph's Carpenter Society (SJCS) in the eastern part of Camden, New Jersey.¹ For the most part, the impact of these nonprofit organizations can be seen simply by walking through the neighborhoods they serve: Their handiwork is evident in single rehabilitated homes or in huge swaths of land where blocks have been rebuilt (see Figure for examples of SJCS's work). As housing revitalization programs continue, however, nonprofit organizations like SJCS want to show quantitatively that neighborhood revitalization works – that the funds devoted to an area stabilize neighborhoods or, even more, that they initiate a surge of upward progress. Thus, this study assesses the quantitative impact that SJCS has on its target neighborhood.

However, we are mindful of the obstacles involved in assessing the efforts of small community organizations. These difficulties are generally not associated with evaluating the neighborhood impact of larger community development efforts. A primary limitation is the availability of relevant data. This typically stems from the inability of small community organizations to fund the necessary task of data collection. Hence, this study will help illustrate what might be done to assess the efforts of a small community development organization.

¹Throughout this study, any reference to Camden refers to the city of Camden unless stated otherwise.



Background

St. Joseph's Carpenter Society (SJCS) is a nonprofit community development organization located in the eastern part of Camden, New Jersey. It was founded in 1985 by Msgr. Bob McDermott of St. Joseph's Pro-Cathedral as a means to address the blight, poverty, and overall decay in the neighborhoods in the eastern section of the city. Its mission is to "strive to improve the quality of life of the people of east Camden by promoting homeownership and neighborhood development. Through education initiatives, [SJCS] encourages people to take charge of their lives and to become active community members."² Initially, SJCS concentrated its efforts on rehabilitating abandoned houses that surrounded St. Joseph's Pro-Cathedral. However, from its early beginnings of rehabilitating one home at a time, SJCS has expanded its focus to rehabilitating whole neighborhoods by refurbishing single-family and rental housing as well as constructing new units. Currently, SJCS is focusing its efforts in several neighborhoods in the eastern part of Camden. The area in which its efforts are concentrated and two comparison areas examined in this study are included in the "Study Area" shown in Map 1. As of April 2004, SJCS had completed a total of 600 housing units in its target neighborhoods.³

SJCS's endeavor is not without its challenges. It has to contend with Camden's descent from being a center for industry and transportation, with thriving neighborhoods, to one of the nation's poorest cities. The loss of valuable manufacturing employment resulted in a dearth of jobs for a population with little education and few skills.⁴ Consequently, Camden has an unemployment rate nearly three times higher than the unemployment rate in New Jersey. Moreover, incomes of those in Camden are quite low. The 2000 census indicates that the median household income in Camden was \$23,421 in comparison to \$55,146 for the state. These statistics, coupled with a 36 percent poverty rate, considerably limit the effective demand for homeownership by Camden residents and the amount they are able to pay for a house.

This is particularly problematic since it costs SJCS approximately \$90,000 in total development costs for rehabilitating an abandoned unit and approximately \$125,000 for a newly constructed unit, while the average appraised value of comparable units is only \$46,900 and \$60,000, respectively.⁵ In the early years, this deficit financing of its revitalization efforts was fueled solely by volunteers and donations, which limited the level of production.⁶ Fortunately for SJCS, over time it has been able to rely on public subsidies and other government initiatives to help fund its rehabilitation activities. SJCS was successful

² From St. Joseph's Carpenter Society's website at www.sjcs Camden.org/.

³ See www.sjcs Camden.org/The%20Past.htm.

⁴ Manufacturing employment in Camden has fallen from 20,671 in 1970 to 3,460 in 2000. According to the 2000 census, only half of those 25 years of age or older in Camden are high school graduates, while 5.4 percent have a bachelor's degree, as compared to 82.1 and 29.8 percent, respectively, for the state of New Jersey.

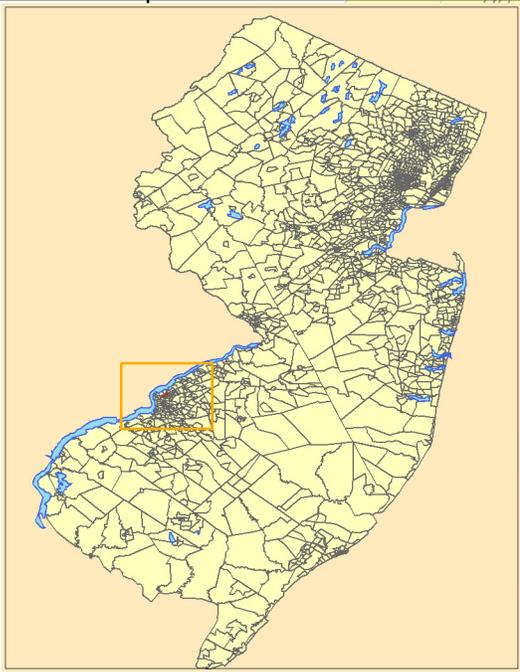
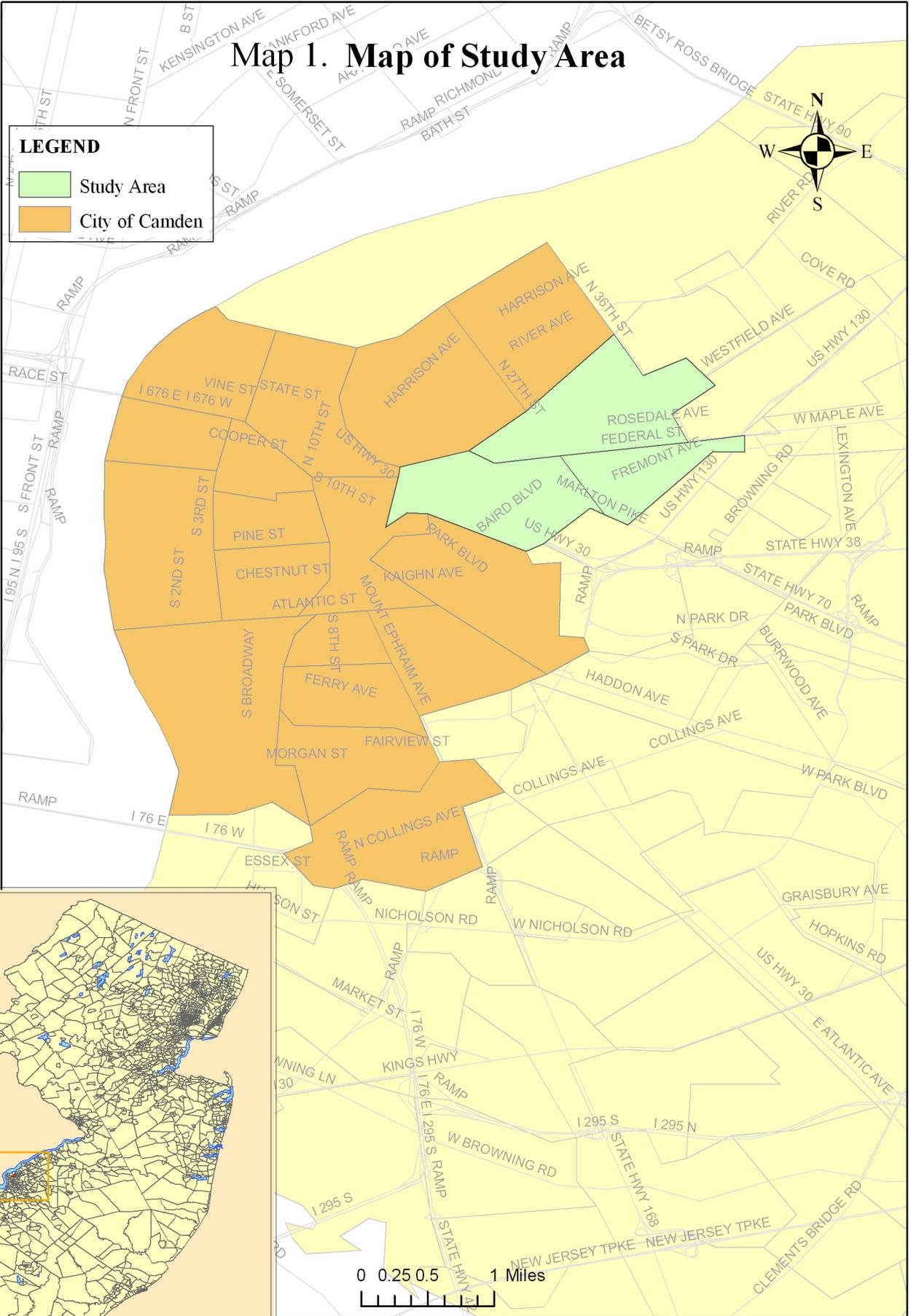
⁵ See the 2001 paper by Sean Closkey.

⁶ See the 2000 paper by Sean Closkey.

Map 1. Map of Study Area

LEGEND

-  Study Area
-  City of Camden



in obtaining a HOPE III grant from the U.S. Department of Housing and Urban Development. This program was established to provide low- and moderate-income individuals the benefits of homeownership and possible market appreciation.⁷ In addition to HOPE III assistance, SJCS's activities also benefited from the Community Reinvestment Act of 1977 (CRA).⁸ Many mortgage programs developed by financial institutions covered by the CRA provide SJCS's home buyers with special incentives, such as below-market interest rates, higher loan-to-value ratios, and lower down payments. These inducements help more potential buyers become eligible to buy homes. However, these below-market mortgage products are typically not transferable when homes are sold. Furthermore, some public subsidy funding has undesirable consequences. Some agencies made grants available to SJCS to develop homes with the stipulation that the homes remain restricted for low-income home buyers for periods up of to 20 years and the homeowners be allowed a minimal return on their equity.⁹ Consequently, the owners of SJCS's homes with these deed restrictions are somewhat disadvantaged when they sell their homes. The deed restrictions not only limit the owners' pool of prospective buyers but also interfere with the homeowners' accumulation of equity, a major source of wealth for most Americans.

SJCS's efforts have benefited from providing buyers of its houses with homeownership education and counseling through its Campbell Soup Homeowner Academy.¹⁰ The academy helps equip buyers with the requisite skills not only to succeed as homeowners but also to contribute to the betterment of their neighborhood. This is accomplished in part by teaching "families how to change their economic patterns, forge ties with neighbors of different cultures, and positively impact the conditions within their local community."¹¹ One notable indication of the benefit that accrues from offering this housing education and counseling assistance is that SJCS's default rate on mortgages is 1 percent,¹² close to the national rate of 0.87 percent.¹³

With funding assistance, SJCS is able to pursue its revitalization strategy of rehabilitating abandoned properties. Abandoned buildings are not only a blight on the neighborhood but also a deterrent to community stabilization efforts. While abandoned properties exist throughout Camden, they are more problematic when they are "clustered" within

⁷ HOPE (Homeownership and Opportunity for People Everywhere) III provides planning and implementation grants to eligible organizations that rehabilitate and/or transfer ownership of single-family properties that are publicly held to low-income families that are first-time home buyers. For more on HOPE III, see HUD's web site at www.hud.gov/sec.cfm.

⁸ The CRA encourages financial institutions to meet the credit needs of the local communities they serve, including low- and moderate-income neighborhoods, consistent with safe and sound operating procedures.

⁹ See the 1999 paper by Sean Closkey.

¹⁰ See Closkey's 2000 paper, p.6.

¹¹ See Closkey's 2000 paper.

¹² See www.sjcscamden.org/Quick%20Facts.htm.

¹³ This is the seasonally adjusted rate in the first quarter of 2005 for the U.S. as computed by the Mortgage Bankers Association.

areas. Consequently, a major part of SJCS's long-term strategy is to stem the tide of "clustered abandonment."¹⁴

Neighborhood Effects of SJCS's Revitalization Efforts

The literature contains numerous studies that deal with the impact of housing rehabilitation initiatives and the resulting increased homeownership on surrounding neighborhoods. Some studies point to the positive effects that expanded homeownership has on residents' tendency to express increased satisfaction with their neighborhood, participate more in community-related and civic-minded activities, and be less inclined to move (see Rohe, Van Zandt, and McCarthy 2000, and DiPasquale and Glaeser 1999). Other studies indicate that homeownership benefits children in terms of school retention, educational attainment, earnings, welfare use, and teenage childbearing (Aaronson 2000; Boehm and Schlottman 1999; Green and White 1997; Harkness and Newman 2003; and Haurin, Parcel, and Haurin 2002). There also seems to be a consensus that the improved quality of neighborhoods bolstered by increased homeownership through housing rehabilitation is reflected in higher housing prices. This is central to the analysis in this study.

In those studies where the impact of investment in both new housing and housing rehabilitation in low- and moderate-income neighborhoods is found to be capitalized in housing prices, the housing is typically a development of attached units or closely contiguous units. Given the proximity of the units, a popular approach used in some studies is to estimate "the difference between prices of properties in the microneighborhoods (or rings) surrounding [the housing units being studied] and the prices of comparable properties that are outside the ring, but still located in the same general neighborhood."¹⁵ The studies by Ellen, Schill, Susin, and Schwartz (2001) and Galster, Tatian, and Smith (1999) used this method. While this approach is appealing, it is not well suited to the study at hand, since the homes that SJCS rehabilitated are not centrally located but somewhat more scattered. As a consequence, we have taken a somewhat different approach, but one that still relies on the impact of rehabilitation efforts on neighborhoods being reflected in housing prices.

Another notable difference between this study and the analyses described above is that the focus here is on the activities of a small community development organization as opposed to a large community development organization. This raises some issues not faced by the other studies. Paramount among these concerns is the paucity of detailed data to carry out an analysis. This is not too surprising given the limited funds available to small, community-based organizations and the time demands placed on their staffs. Their budgets generally do not permit funding research design and data collection. Even if some funds were available, these organizations often lack the expertise necessary to compile a quality database. However, some small organizations do manage to collect some data on their community development efforts—as was the case with SJCS. This study will help

¹⁴ Clustered abandonment implies that the likelihood of an abandoned property occurring on a block increases if there are other abandoned properties on the same block. See Closkey, "Saint Joseph's Carpenter Society: Identifying Market Patterns," p. 3.

¹⁵ See the article by Ingrid Gould Ellen, Michael H. Schill, Scott Susin, and Amy Ellen Schwartz, p. 191.

demonstrate how an assessment might be carried out for a small organization of the size of SJCS by using the organization's data along with data from other sources.

Methodology

To explore the extent to which St. Joseph's Carpenter Society (SJCS) has benefited its surrounding areas, a three-tiered approach is adopted: a comparison of key characteristics of SJCS's target area to those in similar areas before and after the presence of SJCS's revitalization; regression analysis of SJCS's impact on local housing prices; and an examination of the relative market performance of SJCS's houses.

First, our analysis centers on the evaluation of select census variables that were chosen because they describe some aspect of a neighborhood characteristic. These variables are taken at two points in time—a period before (1990) and after (2000) SJCS's revitalization activities—and are used to provide insight into the likelihood that SJCS's target area had improved over time. Additionally, a simple analysis is undertaken to further explore the prospective progress of SJCS's target area by using a calculation that compares the relative performance of several key variables with their counterparts in two comparison areas. This analysis is presented by using the rate of growth (or decline) in the key variables in the comparison areas between 1990 and 2000 to calculate what the target area values for these variables would have been in 2000 had they grown (or declined) at the same rate as in the comparison areas. Thus, the extent to which the target area has progressed (or deteriorated) vis-à-vis the comparison areas is shown by comparing these hypothetical values for the target area's select variables with its actual values in 2000.

Second, regression analysis is used to explore the effects of SJCS's impact on its target neighborhood as reflected in housing prices. We use statistical techniques to isolate the effects of SJCS's activities on the sales price of property located in SJCS's target area before (1990) and after (2000) its revitalization efforts as compared to the comparison areas for the same two periods.

Third, we focus on the change in housing prices of SJCS houses that have been resold. Resold houses refer to SJCS houses that were subsequently sold by their initial owners at the prevailing market price. Presumably, after a certain time lapse, one can determine whether a resold SJCS house has increased or decreased in value, as compared to the value of other non-SJCS houses sold around the same time.

Identification of SJCS's Target Area and Comparison Areas

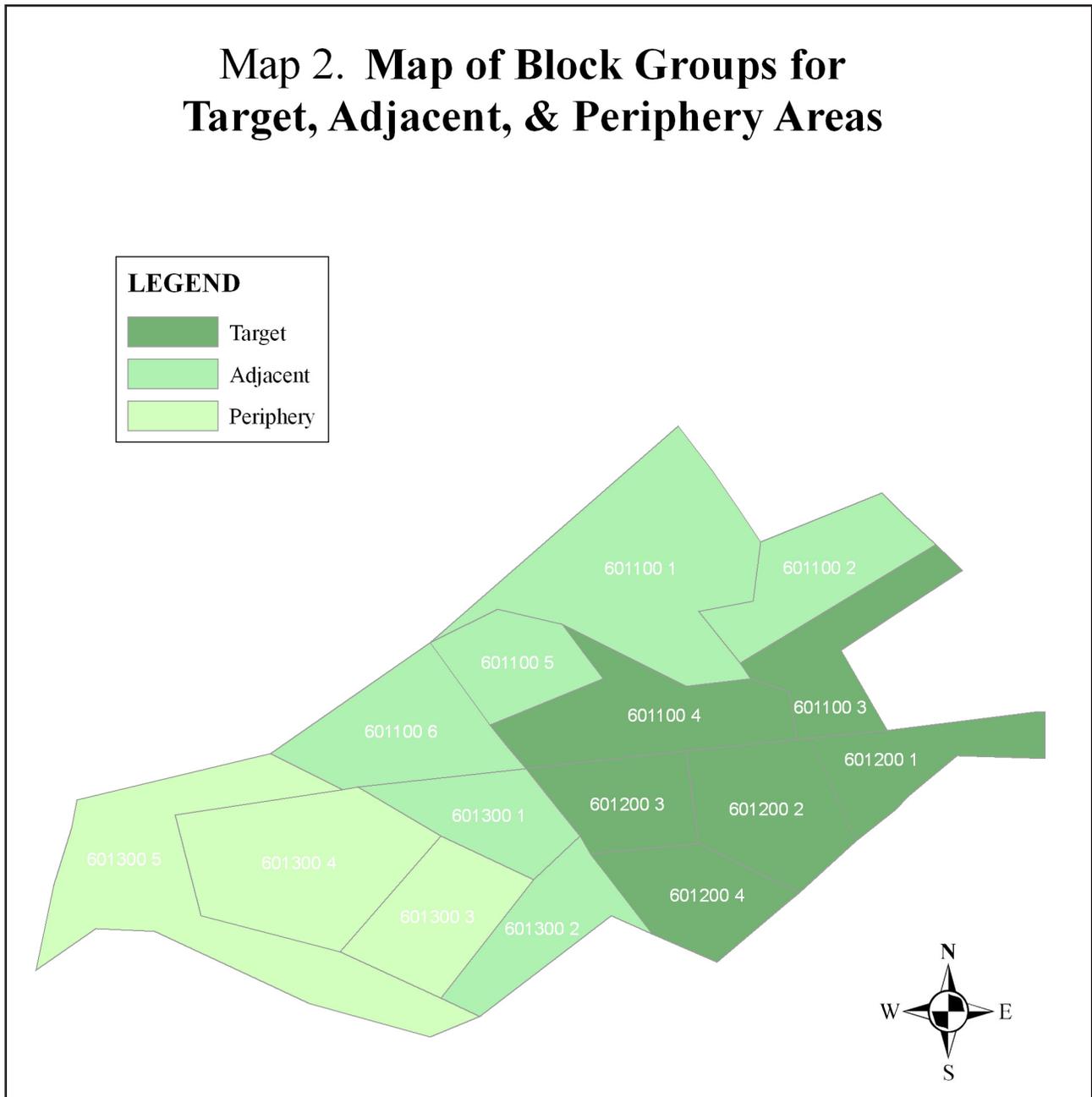
A crucial methodology employed in all three approaches involves the comparison of SJCS's target area to two comparable geographic areas, referred to as the adjacent and periphery comparison areas. The comparison areas are similar in land size and located in the same area in Camden; thus, they are subject to the same social or economic forces emanating from the larger MSA, city, or nation. As a consequence, the differences separating them from SJCS's target area would most likely stem from local initiatives, such as the efforts of a nonprofit aimed at promoting homeownership. In the next section, the exact boundaries of SJCS's target area and the comparison areas are defined.

Census Block Groups Versus Census Tracts

Census block groups rather than census tracts were chosen as the basic level of analysis. Thus, SJCS's target area includes census block groups in the 1990 census tracts 6011 and 6012, while the adjacent comparison area includes other block groups in tract 6011¹⁶ and part of 6013, and the periphery comparison area includes other block groups in tract 6013 (Map 2).¹⁷ This was done for several reasons. Given the dispersion of SJCS's units within a limited number of block groups, there is more of an opportunity for spillover effects from SJCS's efforts to occur in nearby block groups than across entire census tracts.¹⁸ Moreover, the lack of concentration of SJCS's units would probably involve a longer time

¹⁶ In 2000, census tract 6011 split into two census tracts: 60110 1 and 60110 2.

¹⁷ Map 2 shows the green area in Map 1 broken down by census block groups.



frame to affect areas in surrounding census tracts—bearing in mind that any effects that might occur could be small. Another advantage of analysis at the block group level is that there is less chance of the complicating factor of other organizations performing similar housing revitalization efforts in the same area. An additional benefit of block-group analysis is that when using a hedonic housing price regression, as is the case in this study, there is less concern that the value of “fixed” structural parameters actually exhibit spatial variability.^{19, 20}

Data

Evaluating the impact of a nonprofit organization’s efforts is typically handicapped by the availability of data that allow the chronicling of the organization’s progress or that capture the behavior of key variables that it affects. This is understandable, since nonprofits are first and foremost concerned with the delivery of services, which leaves little time, available personnel, or funds to collect the requisite data. While we were fortunate to obtain information on SJCS’s mission and its change in focus, we were not immune from this difficulty of satisfying all of our data needs. However, we were able to draw on relevant data in the public domain, as well as obtain information on the housing market in which SJCS operates and specific information on the houses that SJCS rehabilitated. Thus, the data used in this study are obtained from multiple sources. The 1990 and 2000 Census of Population and Housing supply data describing neighborhood characteristics, such as demographics, educational attainment, housing, and employment levels. These sources also provide block-group-level data that are critical to the analysis.

In addition to the census data, the study also makes use of several sources of housing sales data. First, 1990 and 2000 housing sales data (MOD IV) are obtained from the New Jersey property tax assessor’s office. Second, an additional set of housing sales data that recorded sales from 1998–2003 in Camden County was provided by Trend, a private company that serves as a multiple listing service for real estate professionals. Finally, SJCS supplied sales data associated with the homes the organization had rehabilitated.

Notwithstanding the various sources of information used, the study does not have the detailed data on housing characteristics contained in the study by Ding and Knaap (2003) nor does it use the range of house prices in the regression analysis as was used in studies such as Ding and Knaap (2003), Ellen et al. (2001), and Galster et al. (1999).²¹ Other differences are discussed in the section on regression analysis.

¹⁸ Furthermore, the dispersion of rehabilitated units offers a greater chance that the positive effects of the revitalization initiative will affect more of the neighboring community within the block group and within the target area as opposed to a cluster of centrally located rehabilitated units, a situation that might give rise to an “oasis” or gated community with little spillover effects.

¹⁹ Hedonic pricing in the housing market implies that the price of a property is determined by internal characteristics (house features) and external factors (characteristics of the neighborhood – poverty rate, racial composition, employment level, etc.). Therefore, the hedonic pricing model can be used to estimate the extent to which each factor affects price (see, for example, Ding and Knaap).

²⁰ See the article by Ayse Can.

²¹ See the article by Chengri Ding and Gerrit-Jan Knaap.

Results

Since a key feature of the analysis of the impact of SJCS's revitalization efforts involves comparing its target area and two comparison areas, the selection of the period of comparison must be undertaken with care. The year 1990 was chosen as a base year for our analysis because it represents a point in time before SJCS's influence in its target area. Although SJCS was founded in 1985, data shared by the organization indicate that it had rehabilitated only one house before 1990. Thus, the balance of its activity occurred in 1990 and after. The start date also has the added advantage that 1990 census data can be included in the analysis. The year 2000 was a logical comparison year because it would be the next time housing and population data would be collected by the Census Bureau. It also represents a time after which SJCS had rehabilitated and sold a number of houses. As of 2000, SJCS had sold 162 homes. Presumably, if SJCS had an influence in its target area, that influence would more likely be captured in certain census variables as of 2000.

Comparison of the Target, Adjacent, and Peripheral Areas from 1990 to 2000

General Trends. An analysis of selected statistics from 1990 and 2000 census data shows the state of decline in the neighborhoods that comprise the target, adjacent, and peripheral areas (Table 1). They generally reflect Camden's overall decline during the same period. From 1990 to 2000, all three geographic areas experienced a net loss of residents from their neighborhoods, with the peripheral area losing the largest percentage of residents (-27.4 percent), as compared to the adjacent area (-17.8 percent), and SJCS's target area (-6.5 percent). Families also left these neighborhoods in the same relative proportions: 27 percent in the peripheral area, 21 percent in the adjacent area, and 5.7 percent in SJCS's target area. Interestingly, the number of people 25 years and older decreased 21.8 percent and 9.8 percent in the peripheral and adjacent areas, respectively, while the number increased 1.5 percent in the SJCS's target area.

Underlying the movement of people in these neighborhoods is the demographic shift in its residents. From 1990 to 2000, whites and African-Americans left the areas in large numbers, resulting in a decreased proportion of the population of the two groups. In 2000, whites represented 4.8 percent, 3.7 percent, and 2 percent of the population in the SJCS's target, adjacent, and peripheral areas, respectively. Although many African-Americans also left the areas, they remained a significant proportion of the population – 40.5 percent in the SJCS's target area, 36 percent in the adjacent area, and 46 percent in the periphery area. In contrast, Hispanics and Asians represented a larger share of the population in 2000 than in 1990. Hispanics overtook African-Americans as the largest racial/ethnic group in the three areas. On the one hand, in 2000, Hispanics represented 45.1 percent, 49.6 percent, and 50.2 percent of the population in the SJCS's target, adjacent, and peripheral areas, respectively. Asians, on the other hand, made up 7.2 percent, 8.6 percent, and 0.2 percent of the population in 2000 in the three areas, respectively.

Housing statistics paint a somewhat bleak picture. As Table 1 shows, occupancy levels decreased from 1990 to 2000 in all three areas. In SJCS's target area, the occupancy level decreased 2 percentage points, to a level of 88.4 percent, in 2000. The peripheral area had a slightly larger decrease of 5.6 percentage points and a 2000 occupancy level of 75 percent, while the adjacent area had the largest decline of 11.7 percentage points and an occupancy

Table 1. Selected Statistics from 1990 and 2000 Census Block-Group Data for Target, Adjacent, and Periphery Areas

Variables	Target Area			Adjacent Area			Peripheral Area			City of Camden		
	1990	2000	Percent Change	1990	2000	Percent Change	1990	2000	Percent Change	1990	2000	Percent Change
Population	9,505	8,887	-6.5%	10,354	8,508	-17.8%	3,363	2,440	-27.4%	87,492	79,904	-8.7%
Persons 25 Years and Over	4,506	4,573	1.5%	5,035	4,544	-9.8%	1,629	1,274	-21.8%	45,822	42,746	-6.7%
Families	2,145	2,023	-5.7%	2,390	1,889	-21.0%	768	561	-27.0%	19,096	17,434	-8.7%
Housing Units	2,903	2,940	1.3%	3,613	3,315	-8.2%	1,255	1,064	-15.2%	30,138	29,769	-1.2%
Median Housing Value	\$36,431	\$44,809	23.0%	\$32,533	\$44,558	37.0%	\$36,935	\$41,551	12.5%	\$31,300	\$40,700	30.0%
Median Family Income	\$21,826	\$30,474	39.6%	\$15,124	\$27,187	79.8%	\$18,517	\$18,782	1.4%	18,874	24,612	30.4%
Median Household Income	\$21,813	\$30,233	38.6%	\$15,065	\$25,980	72.5%	\$16,364	\$17,520	7.1%	17,386	23,421	34.7%
Per Capita Income	\$8,758	\$11,061	26.3%	\$7,243	\$9,261	27.9%	\$7,316	\$7,561	3.3%	\$7,276	\$9,815	34.9%
Percent White	10.8%	4.8%	-6.0%	8.6%	3.7%	-4.9%	5.1%	2.0%	-3.1%	19.0%	16.8%	-2.2%
Percent African-American	47.8%	40.5%	-7.2%	48.3%	36.0%	-12.4%	54.6%	46.0%	-8.6%	56.4%	53.3%	-3.1%
Percent Hispanic	37.3%	45.1%	7.7%	39.2%	49.6%	10.4%	39.3%	50.2%	11.0%	31.2%	38.8%	7.6%
Percent Asian	3.5%	7.2%	3.7%	3.2%	8.6%	5.4%	0.2%	0.2%	0.0%	1.3%	2.6%	1.3%
Percent Vacant Housing Units	9.6%	11.6%	2.0%	12.2%	23.9%	11.7%	19.4%	25.0%	5.6%	11.7%	18.8%	7.1%
Percent Occupied Housing Units	90.4%	88.4%	-2.0%	87.8%	76.1%	-11.7%	80.6%	75.0%	-5.6%	88.3%	81.2%	-7.1%
Percent Renter-Occupied Housing Units	45.0%	48.7%	3.7%	63.2%	57.6%	-5.6%	67.9%	63.4%	-4.5%	51.6%	53.9%	2.3%
Percent Owner-Occupied Housing Units	55.0%	51.3%	-3.7%	36.8%	42.4%	5.6%	32.1%	36.6%	4.5%	48.4%	46.1%	-2.3%
Percent Less than High School education	41.4%	45.2%	3.9%	52.2%	53.5%	1.3%	47.6%	54.6%	7.0%	50.3%	49.0%	-1.3%
Percent High School Graduate	30.3%	31.3%	1.0%	27.2%	25.2%	-2.0%	27.3%	26.9%	-0.4%	27.7%	28.6%	0.9%
Percent Associate's Degree or Some College Experience	19.7%	17.7%	-2.0%	17.1%	15.6%	-1.5%	19.7%	15.6%	-4.1%	15.5%	17.0%	1.5%
Percent Bachelor's Degree	6.9%	4.0%	-3.0%	2.4%	4.3%	1.9%	4.2%	1.9%	-2.3%	4.8%	3.5%	-1.3%
Percent Graduate Degree or Higher	1.7%	1.8%	0.1%	1.2%	1.4%	0.3%	1.2%	1.0%	-0.2%	1.6%	1.9%	0.3%
Unemployment Rate	18.8%	10.3%	-8.5%	16.4%	13.0%	-3.4%	16.6%	24.6%	8.0%	16.3%	15.9%	-0.4%
Poverty Rate	33.8%	30.0%	-3.8%	39.8%	31.8%	-8.0%	33.5%	51.3%	17.8%	36.6%	35.5%	-1.1%

level of 76.1 percent in 2000. Vacancy levels increased during the same period in all three geographic areas. Perhaps more revealing are the changes in total housing units, percent owner-occupied housing units, and percent renter-occupied housing units. In the target area, the percent of owner-occupied housing fell from 1990 to 2000, while the percent of renter-occupied housing rose. The pattern was the reverse for the adjacent and peripheral areas. However, part of SJCS's efforts during the period involved increasing rental housing. Although a shift in the mix between owner-occupied and renter-occupied units occurred in all three areas, only SJCS's area experienced an increase in total housing units. According to census data, median housing values increased in all three areas between 1990 and 2000, and the largest percentage change occurred in the adjacent area followed by the SJCS's target and peripheral areas.

Educational attainment levels remained depressed and significantly below national levels. According to statistics, in 2000, over 75 percent of the population 25 years and older in all three geographic areas received either a high school diploma or less. Even more striking is that 45 percent to 55 percent had less than a high school education, and those percentages were up in all areas between 1990 and 2000. Less than 20 percent of the population 25 years and older either have received an associate's degree or have some college experience. Only about 4 percent received bachelor's degrees in SJCS's target and adjacent areas and less than 2 percent in the peripheral area, while less than 2 percent in all of the areas received graduate degrees or higher.

Labor statistics reveal that from 1990 to 2000, the unemployment rate fell more sharply in the target area than in the adjacent area and it rose in the peripheral area. During this period, the unemployment rate fell 8.5 percentage points, to a level of 10.3 percent, in the target area, while it fell 3.4 percentage points, to a level of 13 percent, in the adjacent area, and rose 8 percentage points, to a level of 24.6 percent in the peripheral area. Nonetheless, these rates in 2000 stand in stark contrast to the state of New Jersey's unemployment rate, which was 5.8 percent in 2000, a slight increase of 0.1 percentage point (i.e., one-tenth of 1 percentage point) from its 1990 level of 5.7 percent. However, the target and adjacent areas fared better than Camden's overall unemployment rate over this period.

Income or the lack thereof in the three areas is also quite revealing. The poverty rate for both the target and adjacent areas is high compared to national and state levels, but it appears to have moved in a direction consistent with that in the state and the nation—decreasing 3.8 percentage points, to a level of 30 percent, in SJCS's target area and 8 percentage points, to a level of 31.8 percent, in the adjacent area. In contrast, the poverty rate in the peripheral area increased 17.8 percentage points, to a level of 51.3 percent, in 2000. Both median family income and median household income increased in all three areas between 1990 and 2000.²² Similarly, per capita income in SJCS's target, adjacent, and peripheral areas in 2000 ranged from about \$11,000 to \$7,500, which encompassed Camden's per capita income of \$9,815, but was substantially below the state's per capita income of \$27,006. Nonetheless, per capita income increased in the three areas, with the target and adjacent areas

²² According to census data, income of families includes the income of all family members 15 years or older, while the income of households includes the householder's income and all persons 15 years or older residing in the house, whether or not the individual is related to the householder. See the report by the U.S. Department of Commerce.

enjoying increases of 26.3 and 27.9 percent, respectively, while the peripheral area had a more modest increase of 3.3 percent.

Despite these seemingly grim statistics, however, a small number of variables do tend to move in a positive direction, suggesting that some positive changes are taking place, at least with respect to the area targeted by SJCS. In this regard, we should point out that the success of nonprofits such as SJCS can be assessed not only by positive trends in neighborhood quality but also by whether its efforts help to slow the deterioration in a neighborhood.

Simple Analysis: SJCS’s Target Area vs. Adjacent and Peripheral Areas

In the target area, several selected variables that reflect neighborhood quality suggest positive effects, in comparison to the adjacent and peripheral areas (Table 2). To further investigate these effects, we employ a straightforward calculation that allows us to more formally compare the rate of progression (or deterioration) of SJCS’s target area with areas similar to it (i.e., comparison areas). This approach involves applying the rate of change of a variable from the comparison area to SJCS’s base year, in this case 1990, in order to extrapolate a value for the SJCS variable in 2000—which would reflect that it had increased or decreased at the same rate as the comparison area’s variable. This would yield a set of hypothetical values for SJCS’s area in 2000 that would imply that the relative differences between the SJCS and comparison areas remained the same between 1990 and 2000.²³

Comparing SJCS’s actual numbers in 2000 to its hypothetical values provides a way in which we can efficiently summarize whether SJCS’s area compares favorably or unfavorably to a similar geography.

Four selected variables, namely, the percent of vacant housing units, the unemployment rate, the poverty rate, and median household income, suggest that conditions in the

²³ Alternatively, this can be represented as follows:

$$R\Delta Var_{Comparison} \times Var_{SJCS}^B = Var_{SJCS}^P$$

where:

$R\Delta Var_{Comparison}$ is the rate of change in the selected variable between 1990 and 2000 in the comparison area, Var_{SJCS}^B is the value of the selected variable in 1990 in the SJCS’s target area, and Var_{SJCS}^P is the hypothetical value for the selected variable in the SJCS’s target area in 2000.

Census Variables	Hypothetical			Hypothetical	
	SJCS00	SJCS00 _{Adj}	SJCS00 - SJCS00 _{Adj}	SJCS00 _{Perphry}	SJCS00 - SJCS00 _{Perphry}
Percent of Vacant Housing Units	11.6%	18.9%	-7.2%	12.4%	-0.8%
Unemployment Rate	10.3%	15.0%	-4.6%	27.9%	-17.5%
Poverty Rate	30.0%	27.0%	3.0%	51.7%	-21.6%
Median Household Income	\$30,233	\$37,617	-\$7,384	\$23,354	\$6,879

target area improved between 1990 and 2000 relative to the peripheral area. But the target area's improvement is less clear relative to the adjacent area.

Vacant Housing Units. Since housing rehabilitation is the primary focus of SJCS's mission, the variable describing the percent of vacant housing units is particularly instructive, since it reflects SJCS's primary efforts in view of vacancy levels increasing in all three areas. Using the above simple analysis, the percent of vacant housing units for the target area in 2000 based on the rate of change in the adjacent and peripheral areas is estimated to be 18.9 percent and 12.4 percent, respectively. Thus, the actual value (11.6 percent) in 2000 for the percent of vacant housing units in the SJCS's target area is not only lower than in the adjacent and peripheral areas, it is also lower than the hypothetical values.

Although an overall increase in vacancy levels in all areas may appear to be discouraging—particularly since SJCS's desire is to lower it—a lower rate of increase in vacancies may be an important sign of a positive impact, especially when the number of vacant units in the housing market can grow at an increasing rate.²⁴

The percent of vacant housing units is also a key variable insofar as it affects other housing statistics. The value of other variables, such as percent owner occupied, median value of homes, and median year built, is affected, since vacant units are not included in their calculation. This is particularly noteworthy, since areas with a higher percentage of vacant homes, which according to common perception generally tend to be older and worth less, may yield housing statistics that appear rosier. Such is the case when comparing the change in these variables between the target and the two comparison areas.²⁵

Unemployment Rate. Table 2 also shows that the actual unemployment rate of 10.3 percent in 2000 in the target area compared more favorably than the hypothetical unemployment rate based on either the adjacent or peripheral areas, which were estimated to be 15 percent and 27.9 percent, respectively.

Poverty Rate. As far as the level of poverty is concerned, the actual poverty rate for the target area in 2000 (30 percent) is slightly higher than the hypothetical poverty rate based on the adjacent area (27 percent); however, it compares much more favorably to the hypothetical poverty rate based on the peripheral area (51.7 percent).

Median Household Income. Median household income in SJCS's target area in 2000 (\$30,233) is less than the hypothetical level (\$37,617) based on the rate of change in the adjacent area, but it is greater than the hypothetical level (\$23,354) based on the peripheral area.

On balance, these selected variables tend to paint a mixed picture about how well the SJCS target area did relative to the adjacent area, although it seems to have been dis-

²⁴ See the 1998 article by Closkey, p. 2.

²⁵ Housing-related calculations that exclude vacant units might be misleading, since, in reality, vacant housing depresses house prices. However, if other variables that are highly correlated with percent of vacant housing units are included in a regression, the inclusion of vacant units might be ill advised.

tinctly better than the peripheral area. Nonetheless, this mixed portrait can be resolved (at least to some extent) by focusing on how people value the neighborhood as it changes. Given that some studies indicate that housing prices can be a proxy for neighborhood quality, we will now explore the house price data in more detail.²⁶

Regression Analyses

In our second line of analysis, we rely on the difference-in-difference approach using a log linear hedonic price equation with fixed effects.²⁷ Thus, the effect of SJCS's housing activities is documented as the difference between property values in SJCS's target area and comparison areas, before and after SJCS's housing efforts. This underscores the view of housing as a composite good that reflects a myriad of structural and neighborhood characteristics. Our use of such an estimating equation to explore SJCS's impact on neighborhoods is bolstered by Ding and Knaap, who state that "housing prices and neighborhood quality tend to be closely correlated."²⁸ They further observe that "many studies have found neighborhood quality capitalized in housing prices."²⁹ The data set used for this segment of our analysis was compiled by merging 1990 and 2000 MOD IV sales data from the New Jersey property tax assessor's office with 1990 and 2000 census data, respectively. Specifically, the properties included in the MOD IV sales data were geocoded to the block group level, using Arcview, a mapping software, and subsequently merged with census data aggregated at the block group level. Dummy variables were created in order to isolate the effects on sales price of a property located in SJCS's target area in 1990, or in 2000, or in comparable geographies in 1990 or 2000. Our intent is to compare the increase in the price of houses in SJCS's target area with two comparison areas.³⁰ We estimate two regressions using sales price and census block-group-level data. The estimating equations have the following form:

$$\text{Price}_{ijt} = \beta_0 + \beta_1 \theta_{ijt} + \beta_2 \text{SJ}_j + \beta_3 (\text{SJ}_j * \text{After}) + \beta_4 \text{Comp}_j + \beta_5 (\text{Comp}_j * \text{After}) + \mu_{ij}$$

where the dependent variable is the log of home i 's sales price in census block group j at time t ; θ is a vector of control variables at the census-block-group level (see Table A1 for a list of such variables); SJ is a dummy variable that specifies that if a property was located in SJCS's target area, it is equal to 1, or 0 otherwise. Likewise, the Comp variable is a dummy variable equal to 1 if the property was located in a comparison area or 0 otherwise. The two comparison areas are referred to as the adjacent and peripheral block groups. Both the SJ and Comp variables were interacted with a time dummy "after" to indicate whether SJCS had begun its revitalization efforts. The β s are vectors of parameters, and μ_{ij} is a stochastic

²⁶ See the article by Chengri Ding and Gerrit-Jan Knaap.

²⁷ For an example of a study that uses this approach, see the article by Ellen, et al.

²⁸ See the article by Ellen, et al.

²⁹ Ding and Knaap cite the article by Allen Goodman; the article by Knaap; and the one by Mingche Li and James Brown.

³⁰ This approach uses individual home price data for the analysis, whereas Table 1 shows just the median home value.

component with the usual properties.³¹ We hypothesize that, controlling for certain house and block-group characteristics, housing prices appreciated more in SJCS's target area than in the two comparison areas during the period.³² Moreover, we anticipate the house price appreciation in the target area to be less closely related to the price appreciation in the peripheral area, relative to the adjacent area.

Table 3 shows the results of the regressions.³³ In the adjacent area regression, housing prices in SJCS's target area are estimated to be 42 percent higher after SJCS began its revitalization efforts, since the coefficient on the SJCS*After variable is 0.42 and is statistically significant. The price of houses in the adjacent comparison area after SJCS's housing rehabilitation efforts is estimated to be 21 percent higher, since the coefficient on the Adjacent*After variable is 0.21 (but is not statistically significant). Furthermore, we are able to reject the hypothesis that these two coefficient estimates are equal. The census data indicated that the increase in the median price of houses in the target area was smaller than in the adjacent area. This analysis reveals that, after taking account of various control variables to account for certain differences in house and block-group characteristics, the houses in SJCS's target area appreciated more than those with similar characteristics in the adjacent comparison area.³⁴ The peripheral area regression reports that the sale prices of houses in SJCS's target area are estimated to be 20 percent higher after SJCS's revitalization activities, while prices for homes in the peripheral area are estimated to be 27 percent lower. Moreover, the estimated coefficients are statistically significantly different from each other. Thus, there appears to be some evidence that SJCS had a positive effect on housing prices in its target area after controlling for certain house and block-group characteristics.³⁵

Our regression analysis, however, differs from the work of Ding and Knaap (2003), Ellen et al. (2001), and Galster et al. (1999). Owing to data limitations, we were unable to include some of the independent variables detailing housing characteristics used in the aforementioned studies and we had a substantially smaller sample size. The lack of such variables and the small sample size contributed to the low explanatory power reflected in the R^2 . While other studies were able to use continuous data on house sale prices during the study period for the dependent variable, we were limited to the sale prices at two dates—before and after. Also, we were unable to include an explicit geographic distance measure to examine the effects of price changes in the target area on price changes in the adjacent area relative to price changes in the peripheral area; nor did our data allow the use of busi-

³¹ The error terms are assumed to be normally distributed with mean = 0 and variance = σ^2 or $\mu_i \sim N(0, \sigma^2)$.

³² We will test whether $\beta_3 = \beta_5$.

³³ The percent of vacant housing units was not included in the regressions because it is correlated with the percent owner occupied and percent with kitchen facilities. Likewise, the poverty rate was not used, since it is correlated with median household income and percent owner occupied.

³⁴ This underscores the notion that performing regression analysis allows us to control for characteristics of houses (and/or neighborhoods) that cause prices to rise as opposed to simply looking at housing values.

³⁵ We do not include a measure for distance. However, the peripheral area is more distant from the target area than the adjacent area, and it appears that the price changes in the target area are not as closely related to price changes in the peripheral area as they are to the adjacent area. Without the inclusion of a specific distance measure, this observation should be considered as suggestive at best.

Table 3. Results of Regression Analysis

Variable	Adjacent Regression	Periphery Regression
SJCS	0.22400 (0.16993)	-0.06943 (0.09392)
SJCS After	0.42232** (0.17857)	0.19789* (0.10651)
Adjacent	0.34178 (0.20985)	
Adjacent After	0.20756 (0.15179)	
Periphery		-0.18701 (0.22157)
Periphery After		-0.26964 (0.17261)
Percent Owner Occupied	-2.59915** (1.03359)	-2.58100** (1.03729)
Percent High School Graduate	-0.69917 (0.57643)	-0.91866* (0.51688)
Percent Bachelor	-0.91033 (1.22803)	-0.8327 (1.22358)
Unemployment Rate	1.61740** (0.66936)	1.46674** (0.61997)
Median Household Income	-0.568E-05 (0.109E-04)	-0.835E-05 (0.102E-04)
Percent without Mortgage	0.08965 (0.33031)	0.06720 (0.32942)
Percent One Unit, Detached	-0.19372 (0.44631)	-0.00669 (0.36578)
Percent Single Head of Household	-1.14529 (0.80879)	-1.06599 (0.81607)
Percent Same Home	-0.51504 (0.64645)	-0.81137 (0.71404)
Percent White Householder	0.55571 (0.47032)	.043571 (0.46461)
Percent Hispanic Householder	0.00956 (0.38624)	-0.14825 (0.31695)
Percent Management or Professional	-1.67635 (1.13105)	-1.96266 (1.18669)
Percent Sales	-1.51911** (0.72244)	-1.53973** (0.73812)
Percent Construction or Production	-1.58693* (0.92090)	-1.77332* (0.90712)
Percent One Car	-2.25325*** (0.71344)	-1.97749*** (0.70746)
Percent Five or More Bedrooms	-0.92907 (0.57679)	-1.01991* (0.57001)
Percent with Telephone	4.03828*** (1.03829)	3.92211*** (1.02329)
Percent Moved in 30 Years or Earlier	1.71124 (1.11394)	1.91957 (1.33573)
Median Housing Value	0.190E-04* (0.105E-04)	0.136E-04** (0.637E-05)
Percent with Kitchen Facilities	0.92094 (1.22856)	0.80377 (1.24843)
Intercept	10.29285*** (1.54480)	11.26176*** (1.48244)
R ²	0.13950	0.13900
N	539	539

Note: Standard errors are in parentheses.

***significant to the 1% level

**significant to the 5% level

*significant to the 10% level

ness cycle, seasonal, or time variables. Notwithstanding these limitations, which small community development organizations are likely to encounter, the analysis demonstrates what might be done to assess their efforts. The assessment, however, could be enhanced if small organizations planned in advance the data to be collected for the analysis, provided the necessary funds are available.

Assessing the Change in Housing Values Using Resold Homes

To further explore SJCS's impact in its target area, we focus on the value of SJCS's houses over time. More specifically, we trace the sale prices of all resold homes rehabilitated by SJCS in order to determine whether homes rehabilitated by SJCS were able to maintain their value once they left SJCS's purview and gain further insight into any positive spillover effects in the neighborhoods in which SJCS rehabilitated homes.

This analysis focuses on a select segment of SJCS homes that were resold by their initial owners (owners who initially purchased the homes from SJCS). We will refer to these homes as SJCS resold homes. Although only a small sample of homes have been resold, the sale prices of SJCS resold homes provide an interesting glimpse into the local housing market at the time of sale as well as serve as a measure of housing and neighborhood quality.

For this inquiry, we use sales data collected by SJCS and sales data obtained from Trend, a company that serves as a multiple listing service for real estate professionals. From SJCS, we obtained the *SJCS acquisition price*—the price at which SJCS purchased the property; and the *SJCS sales price*—the price SJCS obtained from the initial owner, after rehabilitation. From Trend, we obtained the *Trend sales price*—the price that the initial owner received from the resale (Table 4). For each resold home, Table 4 also includes the median sales prices of homes sold in the same block group in the same year. (Therefore, because the median sale prices are year-specific, they can vary even for the same block group in Table 4 [see last 2 columns]).

After merging SJCS sales data and Trend data, we identified seven SJCS homes, located in SJCS's target area, that were sold by their initial owner between 1998 and 2003, the period for which Trend data were available.³⁶ A comparison of the SJCS sales price and the Trend sales price shows, for the most part, that homes rehabilitated by SJCS not only retained their value with the passage of time but also appreciated.³⁷ Of the seven homes that were resold, the Trend sales price of five homes increased over the original SJCS sales price. While rising sale prices are positive signs for individual homes, they also bode well for the neighborhood in general. Because housing prices generally reflect a home's overall condition and the myriad of characteristics of the neighborhood surrounding it, the increased

³⁶ Although the number of homes is small, they might be viewed as indicative of SJCS's homes, as well as providing some insight into the impact of SJCS's houses on neighboring homes.

³⁷ These homes were sold between three to 12 years after the initial owner purchased the home from SJCS, with the average home reselling after six years. There were no clear correlations between the time an owner sold his home and whether the home appreciated or depreciated or the amount of appreciation or depreciation.

Table 4. Housing Values of Resold Homes in the Target Area

Location of Home	Price of Individual SJCS Homes			Median Price of Homes by Corresponding Block Group and Year	
	Acquisition Price SJCS	Sales Price SJCS	Sales Price Trend	All Homes Trend	Non-SJCS Homes Trend
Tract 601200 BG 3 (Year Sold)	N/A	\$9,151 (1992)	\$14,500 (2000)	\$23,500 (2000)	\$34,900 (2000)
Tract 601102 BG 3 (Year Sold)	N/A	\$28,712 (1993)	\$49,999 (2002)	\$47,860 (2002)	\$47,382 (2002)
Tract 601102 BG 3 (Year Sold)	N/A	\$42,725 (1994)	\$42,400 (2001)	\$21,390 (2001)	\$19,446 (2001)
Tract 601200 BG 2 (Year Sold)	\$2,744 (1996)	\$48,000 (1996)	\$62,500 (1999)	\$34,057 (1999)	\$31,447 (1999)
Tract 601200 BG 4 (Year Sold)	\$18,000 (1996)	\$48,000 (1997)	\$37,000 (2000)	\$26,000 (2000)	\$25,000 (2000)
Tract 601102 BG 3 (Year Sold)	\$1 (1997)	\$48,000 (1997)	\$60,000 (2001)	\$21,390 (2001)	\$19,446 (2001)
Tract 601102 BG 3 (Year Sold)	\$1 (1997)	\$48,000 (1997)	\$59,900 (2002)	\$47,860 (2002)	\$47,382 (2002)

sale prices suggest that, at the very least, the housing conditions of the homes featured in Table 4 have a positive effect on the neighborhood and might contribute to its stability.

Two of the homes, however, appeared to have depreciated in value over time, although the lower sale prices might be due to constraints placed on the condition of the sale. It may be the case that the original SJCS sales price took into account incentives that SJCS was able to obtain for its initial owner—incentives that may not have carried over as the property changed ownership. Or it may be that certain SJCS homes were required to sell within a specified price range in order to satisfy the conditions of lien holders interested in increasing homeownership among low- and moderate-income families. In the absence of these restrictions, the SJCS sale prices might have been adjusted to meet the demands and capacity of market rate borrowers. Nonetheless, there is another possible reason for the depreciation of these two homes. It should be kept in mind that the character and behavior of individual homeowners play a large part in the proper maintenance of a property. No matter how well-intentioned a nonprofit like SJCS is and no matter what the quality of the neighborhood is, wayward homeowners, through their negligence, can decrease the value of their home.

Note, however, that the sale prices of these two homes compare favorably when they are measured against the median sale prices of homes sold in the same block group in the same year. In fact, in all but one instance, resold homes sold for a markedly higher price than the median sales price of the area.

For each resold home, Table 4 also shows a comparison of the median sales price of all homes sold (inclusive of SJCS homes) in the same block group to the median sales price of all non-SJCS homes in the block group. As can be seen, in all but one instance, having SJCS homes in the area raises the median sales price and may suggest a positive spillover effect in the neighborhood.³⁸

Interestingly, Table 3 suggests that house prices in SJCS's target area after SJCS began its revitalization efforts were 42.2 percent higher, while the actual prices of SJCS properties shown in Table 4 increased, on average, 26.6 percent (not at an annual rate). This 26.6 percent figure, however, does not account for the fact that it is averaging over different periods, including two as short as three years and one as long as nine years. Extrapolating the annual rates of change in actual house prices shown in Table 4 for a 10-year period, to make the period more comparable to the 10-year census interval in the regression shown in Table 3, results in an overall percentage change for a 10-year period that is even closer to the 42 percent estimate from Table 3.³⁹ Bearing in mind that Table 4 includes only a few observations, the resulting price appreciation in these properties coupled with Table 3's estimate for house prices in SJCS's target area after SJCS began its revitalization efforts, both support the notion that SJCS has been a positive influence in the neighborhood.

Conclusions

St. Joseph's Carpenter Society (SJCS) is one of many nonprofit organizations in the nation that has the dual goals of assisting low-income individuals to become homeowners and revitalizing decaying neighborhoods in the process. Its success in promoting homeownership among those with low incomes might be gauged by counting those who become homeowners through SJCS's efforts.⁴⁰ The enhancement of the neighborhoods in which SJCS rehabilitates houses is also readily apparent by visual inspection. However, what is more difficult to measure is its general impact on local communities. In this study we investigate this aspect of SJCS's housing rehabilitation activities, focusing particularly on house prices.

³⁸ In all likelihood, SJCS's activities have positive effects on neighborhoods other than through changes in property values. Thus, SJCS's influence on neighboring housing prices might be considered a lower-bound estimate of the total impact of its efforts. See the article by John Kain and John Quigley.

³⁹ Since the interval between the sales of the homes in the sample in Table 4 is not uniform, we also calculated the annual rate of change for each home sold between the dates of the two sales, then extrapolated these annual rates for a 10-year period to compute an overall percentage change for a 10-year period, to make the period more comparable to the 10-year census interval in the regression shown in Table 3. If we extrapolate using compound annual growth rates, the average increase over 10 years turns out to be 53.5 percent – higher than Table 3's 42 percent figure. On the other hand, if we extrapolate using simple growth rates (i.e., multiplying the annual rate by 10), the average increase over 10 years turns out to be 33.3 percent – somewhat lower than Table 3's 42 percent figure. See Table A2 for more details.

⁴⁰ However, for SJCS's efforts to register as a net increase in homeownership rolls, this assumes that those counted by this method would not have become homeowners anyway.

SJCS is like many small community development organizations that are committed to the delivery of services but also strive to measure the impact of their efforts. When these organizations attempt to accomplish the latter, they are usually constrained by the lack of funds to finance the collection of the data necessary to demonstrate the impact or the expertise to perform the analysis, or both. This study illustrates what can be accomplished in assessing the impact of a small community-based organization when faced with data limitations.

Our analysis revealed that neighborhoods in Camden were generally on the decline from 1990 to 2000, based on selected census characteristics. However, using simple analysis, our results showed that the SJCS census block groups were declining at a slower rate vis-à-vis the block groups in the comparison peripheral area but had a mixed performance relative to the block groups in the comparison adjacent area. These results were reflected in certain selected variables, such as the percent of vacant housing units, unemployment rate, poverty rate, and median household income.

Moreover, our regression analysis, which controls for a number of housing characteristics and demographic variables at the block-group level, revealed that houses in the SJCS census block groups had a greater appreciation in price than those in two comparison block groups during the same period. The results for both the adjacent and peripheral comparison block groups were statistically significant. If housing prices are a proxy for neighborhood quality, SJCS's activities improved the neighborhoods in its target area compared to those in the adjacent and peripheral areas.

Finally, we undertook a further examination of SJCS's impact by evaluating the sale prices of SJCS houses that were subsequently resold by their owners. When SJCS houses were initially sold, the selling price might not have reflected market prices because of special financing to accommodate low-income buyers. However, SJCS houses that are resold would be more likely to reflect market prices, unless certain restrictions have been imposed that prevent the selling price from responding to market forces. Our examination of a small number of SJCS homes that were resold between 1998 and 2003 revealed that, by and large, they not only retained their value over time but also appreciated. Moreover, the analysis showed that the presence of SJCS houses generally raised the median sales price in the target area. If housing prices can be viewed as a proxy for the quality of neighborhoods, as many housing studies contend, SJCS houses appear to generate positive spillover effects in the neighborhood.

All told, our analysis suggests that SJCS's rehabilitation and homeownership education activities appear to have a positive influence on the neighborhoods in its target area in the eastern part of Camden, New Jersey. While we cannot establish causality and attribute all of the positive effects entirely to SJCS, our analysis indicates patterns of positive association of certain neighborhood variables and home prices with SJCS's work.

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Table A1. Definition of Regression Analysis Variables

SJCS	Dummy variable that equals one if the property is located in the target area, and was sold in 1990
SJCS After	Dummy variable that equals one if the property is located in the target area, and was sold in 2000
Adjacent	Dummy variable that equals one if the property is located in the adjacent area, and was sold in 1990
Adjacent After	Dummy variable that equals one if the property is located in the adjacent area, and was sold in 2000
Periphery	Dummy variable that equals one if the property is located in the periphery area, and was sold in 1990
Periphery After	Dummy variable that equals one if the property is located in the periphery area, and was sold in 2000
Percent Owner Occupied	Percent of occupied housing units that are owner occupied
Percent High School Graduate	Percent of the population 25 years and older with a H.S. diploma (includes equivalency)
Percent Bachelor	Percent of the population 25 years and older with a bachelor's degree
Unemployment Rate	Percent of the labor force 16 years and older who are unemployed
Median Household Income	Median household income of households in the block group
Percent without Mortgage	Percent of specified owner-occupied housing units without a mortgage
Percent One Unit, Detached	Percent of owner-occupied housing units that are one unit, detached
Percent Single Head of Household	Percent of households with a single head of household
Percent Same Home	Percent of the population 5 years and over who resided in the same house at least 5 years prior to the next census (i.e., 1985 for the 1990 census and 1995 for the 2000 census)
Percent White Householder	Percent of occupied housing units with a householder who is white
Percent Hispanic Householder	Percent of occupied housing units with a householder who is Hispanic
Percent Management or Professional	Percent of the employed civilian population 16 years and over with an occupation in management, professional, and related occupations
Percent Sales	Percent of the employed civilian population 16 years and over with a sales or office occupation
Percent Construction or Production	Percent of the employed civilian population 16 years and over with an occupation in construction, extraction, maintenance, production, transportation, and material moving occupations
Percent One Car	Percent of owner-occupied housing units with one car
Percent Five or More Bedrooms	Percent of owner-occupied housing units with five or more bedrooms
Percent with Telephone	Percent of owner-occupied housing units with a telephone
Percent Moved in 30 Years or Earlier	Percent of owner-occupied housing units whose householders moved in their homes over 30 years before the relevant census in our study (i.e. 30 years before the 1990 census and 30 years before the 2000 census)
Median Housing Value	Median housing value of specified owner-occupied housing units in the block group
Percent with Kitchen Facilities	Percent of housing units with complete kitchen facilities

Table A2. Annual Rate of Change

Location of Home	SJCS Sales Price	Trend Sales Price	Annual Rate of Change	Rate of Change over 10 Years
Tract 601200 BG 3 (Year Sold)	\$9,151 (1992)	\$14,500 (2000)	5.9%	59.2%
Tract 601102 BG 3 (Year Sold)	\$28,712 (1993)	\$49,999 (2002)	6.4%	63.6%
Tract 601102 BG 3 (Year Sold)	\$42,725 (1994)	\$42,400 (2001)	-0.1%	-1.1%
Tract 601200 BG 2 (Year Sold)	\$48,000 (1996)	\$62,500 (1999)	9.2%	92.0%
Tract 601200 BG 4 (Year Sold)	\$48,000 (1997)	\$37,000 (2000)	-8.3%	-83.1%
Tract 601102 BG 3 (Year Sold)	\$48,000 (1997)	\$60,000 (2001)	5.7%	57.4%
Tract 601102 BG 3 (Year Sold)	\$48,000 (1997)	\$59,900 (2002)	4.5%	45.3%
		Mean	3.3%	33.3%