Community Development Investments and Neighborhood Change:
An Analysis of LISC's *Building Sustainable Communities* Neighborhoods

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Abstract

Since 2007, the Local Initiatives Support Corporation (LISC) has pursued a comprehensive strategy for the revitalization of the low-income neighborhoods where it works, emphasizing simultaneous investments in multiple community domains through community-based organizations. LISC researchers have assembled a large store of data on the demographic, economic, and social changes in the neighborhoods selected for comprehensive treatment. These data have been used to devise a set of performance measures, whereby changes in each target neighborhood are tracked annually against benchmarks set by statistically similar neighborhoods in the same city. This paper analyzes these neighborhood performance data together with information on LISC's current and historical investments and concludes that higher levels of LISC investment are associated with larger changes in target neighborhood income and employment outcomes *relative* to the set of comparison neighborhoods.

Introduction

The LISC *Building Sustainable Communities* initiative is a multi-year effort to revitalize low-income communities in the United States through a comprehensive program of investment, best realized through well-organized and capable community partnerships.

Comprehensive investment means that all of those working in various neighborhood domains, defined by LISC in terms of housing and real estate, economic development, income-generation and asset-building, healthy environments, including public safety, and education, must both step up their investments and do so cooperatively. For its part, LISC local and National staff commit to providing some of this support, and helping to arrange for the rest of what's needed.

Community partnerships can take a variety of forms, but LISC urges community leaders to identify agencies to lead a cross-sectoral coalition of public agencies, nonprofit leaders, and resident and business representatives in realize a consensus vision for the neighborhood. Local and sometimes national LISC offices provide direct support to this process, including placement of staff in lead agencies to lead an initial organizing effort, leading to creation of community governance structures, able to coordinate efforts to realize a community quality-of-life plan.

Beginning with the Chicago New Communities Program in 2003 and building city-by-city until 2007, when National LISC declared BSC as a national initiative, local LISC staff designated target neighborhoods willing to carry out these two broad efforts of comprehensiveness and community partnership formation. By early 2012, LISC had declared 106 target neighborhoods in 29 cities and several rural communities.

It is important to see this initiative in the context of previous and current efforts to pursue place-based comprehensive initiatives. Beginning in the late 1990s, large national philanthropies embarked on comprehensive community building efforts of various kinds, through which much was learned about the challenges and successes of doing this work. One of these early efforts – the South Bronx Comprehensive Community Revitalization Program – directly inspired the Chicago program. In 2009, the Obama Administration introduced a series of comprehensive place-based initiatives, including the Department of Education's Promise Neighborhoods Initiative and the Department of Housing and Urban Development's Choice Neighborhoods Initiative, most notably.

All of these efforts, including LISC's, share a strong interest in learning from each other about what works and what doesn't in doing comprehensive programming on a platform of strong community partnerships. All are involved in evaluation efforts to learn practical lessons for implementation, as well as to test the premise that comprehensive approaches, effectively implemented, can produce genuine neighborhood change.

Research Approach and Methods

The purpose of this paper is to examine the performance of BSC neighborhoods and consider the value LISC may have contributed to positive neighborhood change. This paper is part of a broader effort to examine the course of the Building Sustainable Communities Initiative and assess whether it has accomplished its goals. This paper relies primarily on information used to develop a set of performance measurement tools. The performance measures developed here are intended for repeated use over time as LISC senior managers track changes in BSC target neighborhoods.

It is worth spending some time on the difference between evaluation and performance measurement because the two are often confused. Moreover, evaluations are so difficult in the context of comprehensive community initiatives that less ambitious methods are needed to accomplish some of the same goals, but at less cost. We believe that performance measurement enables us to do this.

Evaluation and Comprehensive Community Development

Evaluations, particularly those intending to show impact, are best carried out under conditions that are not present in the BSC initiative, which means that this analysis will not produce results as convincing as those obtainable under ideal circumstances. This is not a LISC problem; it is field-wide.

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Convincing evaluations require five basic conditions in order to be effective: (1) a strong theory of change, (2) clear pre- and post- treatment conditions, (3) strong measures of treatments and outcomes; (4) treatments of sufficient dosage and duration and common to all members of a treatment group; and (5) a well-matched comparison group. Each of these, and their applicability in the BSC context, is treated in turn.

First, a theory of change specifies the pathways by which public action produces public outcomes. In the BSC context, this theory is reasonably well-specified for the institution-building, or process, side of community change, but not for the program and development side, beyond the well-established theory that ties real estate development to neighborhood quality improvements.   But comprehensive neighborhood change, including a slate of varied program activities in housing, employment, education and so on are expected to produce changes in housing, labor, retail and other markets that are interrelated in complicated ways.   Tracing all of these possible relationships is extraordinarily complicated. For now, what we do have is a series of partial statements about how various types of human capital investments might translate into population-level changes at the neighborhood level. Some of these are explicated in this paper.

Second, BSC is ratification, extension, and formalization of a programmatic direction LISC and its community partners had been travelling for several years prior to formal announcement. Depending on the city and neighborhood, several years may elapse from announcement of BSC as a community process to completion of a quality-of-life plan. In the meantime, LISC and other actors continue to support community programs and projects, and the range and scale of this support does not ramp up immediately after plan completion. This means, then, that an analysis of BSC effects cannot be easily disentangled from an analysis of the effects of LISC support as a whole.

Third, three types of outcomes are contemplated by BSC: demographic, social, and economic changes in neighborhoods observable at the population level; a strengthened lattice of relationships among community leaders and between communities and the elites in the broader system; and a strong system of supports to community residents that enable them to get by and to get ahead.   Measurement of each of these is incomplete, although we know the most about population-level change.

Similarly, our measurement of interventions is partial. We have very good information on LISC real estate investments but limited data on funding for programs, which are direct services activities, such as workforce or community safety, carried out by the organizations LISC supports. We have no quantitative data on investments made by others, such as foundations, state and city governments, or major private investors that are not linked to the real estate projects we invest in. There are no sources of data on these except for local ones, and even then, not in every locality.

Fourth, we've supported what we call the Building Sustainable Communities (BSC) initiative in 106 neighborhoods in 29 cities to the tune of $592 million, spent on hundreds of separate programs and projects in housing, economic development, workforce development, education and so on.   Most of our neighborhoods, and hence much of this program support is relatively recent: 60 of the 106 neighborhoods were declared in 2009 or later. Nearly all of our investment decisions are made by local staff in response to specific needs and opportunities in each neighborhood; in several subject areas, such as community safety, there a national program to support a specific type of investment.   Finally, in many, if not most, of our target neighborhoods, BSC does not arise from untilled ground: we have been working in most of these neighborhoods for years.

So the multiplicity of cities and types of programs and the absence of a national program framework means that we can't collect outcomes data very easily.   And the relative recency of these programs means that it's too soon to use data to make judgments about program effects in any case.   And the fact that BSC is typically a continuation - in another form - of support we've offered for a long time means that there's no sharp pre- and post-intervention experience to compare, which is what makes clean judgments about effectiveness possible.

The LISC BSC effort is driven by a combination of available resources, community capacity, and investment opportunities. Interventions, therefore, are tailored to unique sets of city and neighborhood circumstances, which mean that a common treatment of neighborhood conditions are not possible.   Commonalities do exist, of course, as witnessed by the prevalence of housing and commercial real estate investments across many BSC neighborhoods, but these are sized very differently from place to place.

And fifth, in classic program evaluation, a premium is placed on using carefully constructed comparison groups to match treatment groups. Ideally, this is done through random assignment, a technique that is rarely possible in field settings. Differences in outcomes can then be confidently attributed to the effects of the treatment. Comparisons that fall short of random assignment are valuable, indeed essential, but they do not deliver the level of evidence that evaluators find optimal.

BSC and Performance Measurement

These barriers to good evaluation do not mean that we abandon the effort to find out whether and how we have been effective in promoting community change.   Performance measurement is different in several respects from evaluation, but it does enable us to make statements about program effects that carry some weight, albeit less than would be possible under experimental conditions.

Performance measurement requires a logic model that specifies inputs, activities, outputs, and outcomes, but it does not require a path model that identifies the series of actions and reactions that a full theory of change would call for.   Analysis of relationships among activities and outcomes can, however, support the theory-building needed to elaborate a theory of change. Some of the analysis in this paper supports this kind of theory-building.

Performance measurement sets a baseline of conditions and trends – whether of activities, outputs, or outcomes – that enables researchers to monitor change over whatever period is relevant to decisionmakers.

Performance measurements suffers the same measurement problems that evaluation efforts face, but because causal statements are not intended to be supported, partial measurement – whatever we can get away with – is more acceptable, though of course, less desirable than measurement of a full range of inputs, activities, outputs, and outcomes.

While program evaluation draws its power from analysis of groups of cases, performance measurement is relevant to individual cases. This means that differences in the intervention across cases is less problematic than it would be for good evaluation. That said, performance measurement can pertain, as it does here, to individual cases but also to the group of BSC neighborhoods where LISC has made investments. In view of the specially-tailored character of each intervention, it is clear that the "performance of what?" problem remains.

Performance measurement can rest on simple comparison of pre- and post-intervention conditions and trends, but it is much advantaged by judicious comparisons. In this analysis, we rely on comparison of BSC neighborhoods to statistically matched comparison neighborhoods within the same cities and where LISC has made little or no effort.

Performance will be considered in terms of population-level changes in target neighborhoods, although this is not only way of thinking about performance, as noted above. Institutional changes are the subject of another paper, and work to identify the quality of individual and family supports available in neighborhoods is only in its infancy.

Population-level measures available include a number of housing, employment and income variables available from national data sources. (In four cities where we have local data partners, we have an expanded set of measures that will prove useful for a future, more sophisticated, evaluation of program effects.)   The performance measures used in this paper are selected by researchers based on outcomes that most, if not all, of our community partners aspire to; they are not matched to the specific strategies adopted in each community.

As noted, analysis of relative performance is not tied to a complete inventory of the possible influences on neighborhood performance, which would include many attributes of housing and employment markets, characteristics of resident households, and the full range of public,

private, and nonprofit investments and activities. The analysis is akin to that implied by current notions of "collective impact" in which a bundle of interventions – some measured and some not – are held to be responsible for changes in outcome measures.

Case study material will be used to identify possible sources of these influences, including assessments of the possible role of LISC – supported programs and projects as well as major investments made by others. (LISC performance tracking will be enhanced to capture more of these types of investments in the future.)
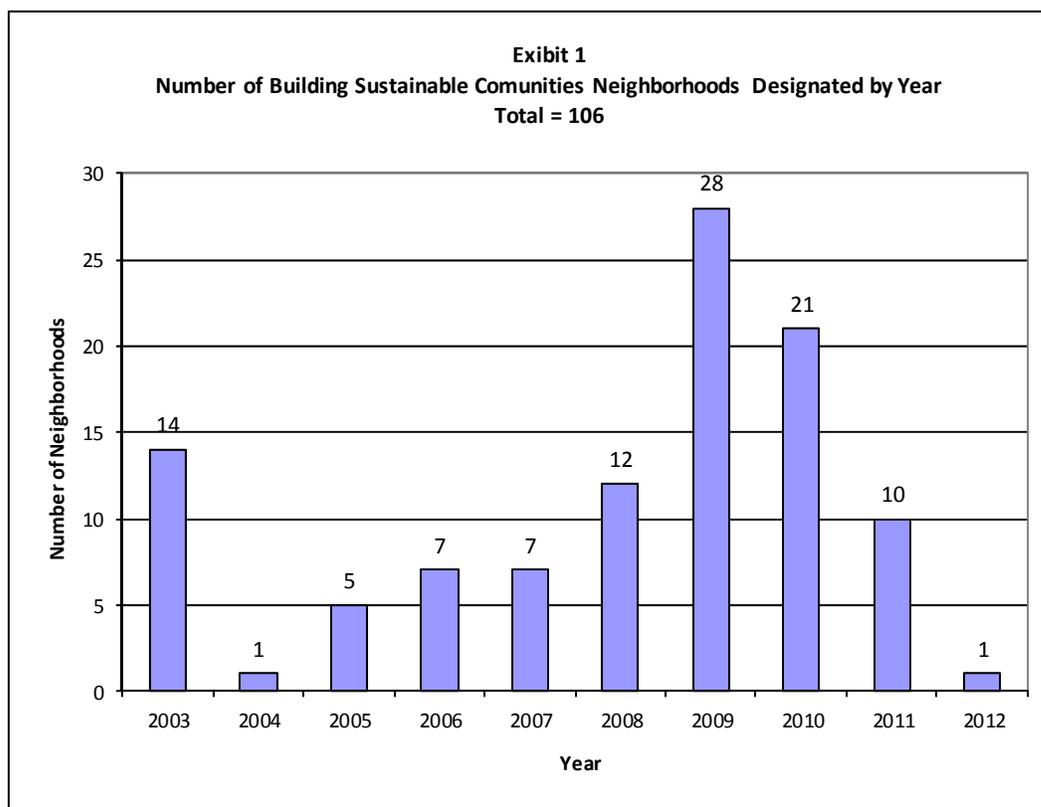
LISC BSC and Associated Investments

LISC has created a framework for continuing our capacity-building and investment support along lines that promote comprehensive responses to multiple and inter-related community challenges. We believe that this framework helps solve some of the chronic difficulties faced by the comprehensive initiatives of the past.

Because opportunities are spatially organized, we believe that spatial responses are needed. People and organizations depend on relationships that are spatially constrained, but which are critical to participation in health, education, and other opportunities.

Community engagement and enduring community partnerships, ideally spearheaded by a lead agency, can help take on the chronic problems of scale, coordination and accountability that have hampered past efforts. This is because investors would prefer to invest in well-prepared neighborhoods where they can be confident of supplemental supports. Neighborhoods are at such as scale as coordination problems can be more easily worked out. And lateral accountability is far superior to vertical accountability alone.

The BSC has been introduced gradually, reflecting local readiness to proceed, and building upon a diversifying LISC national portfolio of projects and broadened demand from out traditional community partners. The places we have selected are places where LISC has tended to invest heavily in the past, which is a strong programmatic foundation (though it does hamper efforts to evaluate program impact).

Begun in 2003, the Initiative proved immediately attractive to other LISC program areas. These sought to start-up similar efforts, built explicitly on the Chicago approach: Milwaukee, Indianapolis, and Kansas City, all began their efforts prior to 2007, when the National LISC initiative was announced. But as shown in **Chart 1**, and under the impetus of National LISC encouragement, local program offices began to designate BSC neighborhoods. So that of the 106 neighborhoods designated by early 2012, 60 of them were declared after 2008. (This means, among other things, that it's way too soon to consider any evaluation of BSC per se, at least as a national effort.)

Exibit 1
Number of Building Sustainable Comunities Neighborhoods Designated by Year
Total = 106

[Bar chart: Number of Neighborhoods by Year]

Year	Number of Neighborhoods
2003	14
2004	1
2005	5
2006	7
2007	7
2008	12
2009	28
2010	21
2011	10
2012	1

LISC has backed its declaration of target neighborhoods with real resources.   Over the last decade, LISC had put substantial amounts of money into BSC neighborhoods even before they were declared target areas. After formal declaration, LISC substantially ramped up its loan and grant commitments to BSC neighborhoods.

Whether in BSC neighborhoods or not, LISC is a major provider of capital and operating support to community-based projects and institutions. In any given recent year, LISC has invested upwards of $1 billion in loans, grants, and equity nationwide.   Each of these three sources has different origins and has different uses.

Equity investments come from the federal Low-Income Housing Tax Credit and New Market Tax Credit programs and support housing and commercial real estate and community facilities investments in low-income neighborhoods nationwide. Loans may come from many sources, both public sector and private –the Community Development Financial Institutions Fund of the US Department of Treasury most prominently. These loans almost exclusively support real estate investments, particularly in the risky early stages of project.   Grant funding comes from public and private sources, including major national philanthropies and the US Housing and Urban Development's Section 4 program, and are used to support operations of community-

based organizations, including the delivery of public safety and health, education, and other programs.

By inviting community organizations and their partners to participate in a comprehensive initiative like BSC, LISC makes an implicit commitment to support their work going forward and to seek out local and national sources of funding to pay for it.   If the program is to be more than a paper exercise, we should expect to see a ramp up in LISC support for communities designated as BSC target areas.

In fact, and despite the recent vintage of the program in most sites, the amounts of investment directed to BSC neighborhoods nationally after designation are substantial.   The table below summarizes all LISC investment from 1999 to 2011 in BSC neighborhoods, classified according to whether they were made before or after any neighborhood was designated as a BSC target area. The figures include investment in 104 of 106 active neighborhoods (two of which did not receive any investments as of December 2011).

Exhibit 2
Summary of LISC Investments in BSC Neighborhoods by Time Period

	Time Period		
	Total 1999-2011	*Pre-BSC*	*Post-BSC*
Total	1,290,143,133	697,696,872	592,446,261
Consultants			1,621,947
Grants	138,350,912	39,913,943	98,436,969
Loans	369,504,024	185,060,748	184,443,276
Equity	780,666,250	472,722,181	307,944,069

Over the course of the decade, LISC invested almost $1.3 billion in BSC neighborhoods, roughly $700 million prior to BSC – a period of seven years, on average – and $600 million after BSC designation, over an average of three years.

Reflecting the large volumes of equity generated from the LIHTC program, in particular, both nationally and by LISC's tax credit affiliate, the National Equity Fund, this source represents the bulk (61 percent) of the investment total over the full period -- $781 million of the total $1.3 billion. The $138 million in grant funding, by contrast, amounts to 11 percent of the total.

After designation, the composition of this investment changes: equity investments declined as a share of the total from 68 percent pre-designation to 52 percent afterwards. The grant share increased from 6 percent to 17 percent.

These figures mean, among other things, that LISC investments in BSC neighborhoods continue to be concentrated in real estate. This real estate is predominately residential, though over the decade, the extent of commercial and community uses have increased.   At the same time, and as reflected by the increasing share of the total comprised by grants, we have ramped up support for non-real-estate investments.

The amounts reported in Exhibit 2 represent ever-increasing shares of LISC's total loan and grant volume, reflecting LISC's commitment to neighborhoods post-BSC designation.   (Equity investments are much harder to steer to specific neighborhoods in view of the relatively unusual combination of factors that must come together to make tax-credit projects work.)

Exhibit 3 displays the percentage of all LISC loan and grant funding that went to a subset of BSC neighborhoods each year. The chart shows that over time, the percentage of total grant support began to increase in 2007 and loan support in 2008 as new neighborhoods were declared and earlier-designated neighborhoods began to receive larger amounts of available LISC investment.   By the end of the period (2011) the share of all loans going to BSC neighborhoods approached 45 percent; the share of all grants– LISC's most flexible source of support -- exceeded 60 percent.

Exhibit 3
Share of Total LISC Loan and Grant Volume to BSC Neighborhoods, 1999-2011
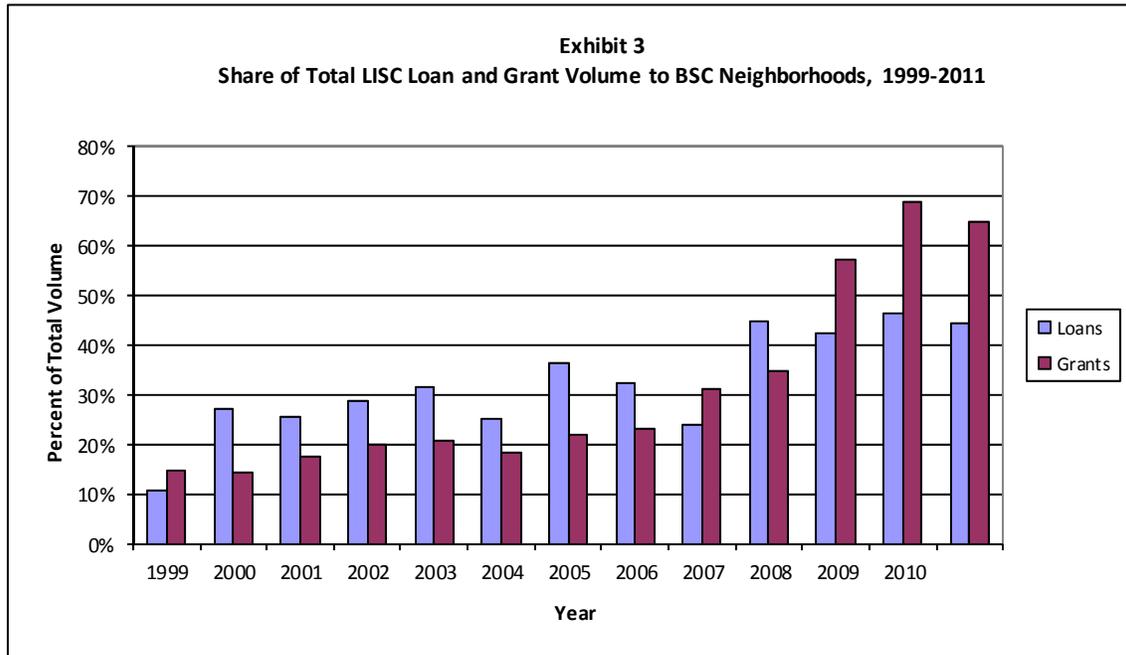
These percentages are influenced by the changing numbers of neighborhoods that enter the mix in any given year. They also capture the share of total grant and loan funding going to BSC neighborhoods, but not the actual volume of investment before and after designation.   Exhibit 4 shows the actual flows of grant support to BSC neighborhoods for the years prior to and after designation. (Year 0 corresponds to the year of designation.)   As shown in Exhibit 4, grant

support ramps up fairly dramatically after designation, particularly for the cohorts that include neighborhoods added relatively recently – in 2009 and 2010.

Exhibit 4
Total Grant Dollars Awarded to BSC Neighborhoods for Selected Cohorts
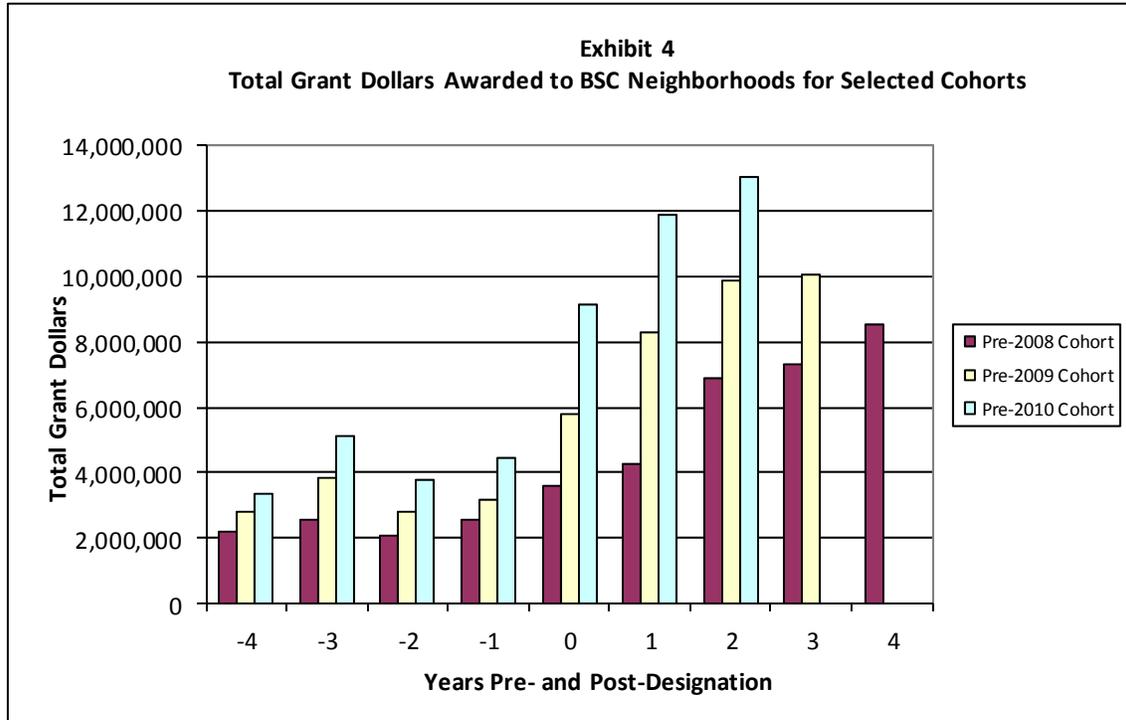
The pre-2008 cohort includes all neighborhoods declared in 2007 and earlier. The chart traces the flow of grant dollars to these neighborhoods in each of the four years prior to designation, and for each of the four years after designation. The pre-2009 cohort includes these same neighborhoods and those declared in 2008. Because there are only three years of post-designation experience for those that are added (2009, 2010, and 2011), only the three available post-years for all members of the cohort are shown.

In each cohort, grants increased in the year of designation and thereafter. This increase was particularly noteworthy as neighborhoods declared in 2007 and 2008 are added to the cohort. As new grant dollars flowed to LISC, increasing amounts (and shares) of these dollars flowed to BSC neighborhoods.

These dollars are programmed locally, for the most part. LISC National Programs steer no more than about 10 percent of all grant dollars; the remainder are allocated based on local LISC staff judgments about local funding needs, opportunities, and community capacity to spend dollars wisely. To account for the fact that national funding flows might be influenced by relatively few

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local program areas or neighborhoods, we calculated the percentages of loans and grants to BSC neighborhoods that flow to BSC neighborhoods for each local program.

Exhibit 5 summarizes the averages for loans and grants for periods before and after the designation of the first BSC neighborhood within any LISC program area, regardless of the actual year in which the designation was made.   The chart shows that total non-equity support to BSC neighborhoods rose from 24 percent to 43 percent of all LISC loans and grants in the 29 LISC program areas.   For grants, the increase is dramatic: from 19 percent to 61 percent of all grants made. Loans increase from 28 percent to 39 percent.

Exhibit 5

Average Percentage of LISC Investment in LISC Local Program Areas Flowing to BSC Neighborhoods, 1999-2011

	Average Percentage of Total Amount	
	Prior to BSC	*After BSC*
Total Loans and Grants Before	24%	43%
Total Grants Before	19%	61%
Total Loans Before	28%	39%
Number of LISC Local Program Areas	29	

LISC has made the diverse set of investments that comprehensiveness requires, though obviously not to the scale needed to mount a fully effective response, which requires resources from many other partners. Data on these investments are not currently available.

Consistent with the BSC emphasis on comprehensiveness, we should expect to see support for a range of activities across the five pillars of BSC neighborhoods, even if they are not traditional areas of LISC investment.   For each loan and grant made after BSC designation, the LISC management information system captures the goals supported, in five overlapping categories or domains.   These include:

1. Housing and other Real Estate. These include investments in housing construction and renovation, commercial spaces, community facilities, such as recreation centers, health clinics and other buildings for delivery of community services.

2. Economic Development. These include investments in commercial and industrial buildings, brownfield clean-up, community infrastructure in support of commercial district revitalization, other investments to support employment and business development, including investments to create clusters of arts and cultural activity in neighborhoods.

3. Healthy Environments.   These include community policing as well as anti-crime strategies tied to physical redevelopment, greenways, bike trails and other recreational infrastructure, health clinic construction or renovation, community gardens and other efforts to improve access to healthy foods, energy efficiency, and physical redesign to create walkable neighborhoods.

4. Income and Assets. These include investments in home purchase programs as well as foreclosure prevention efforts, LISC's extensive network of Family Opportunity Centers, which provide financial counseling, credit-building,, public benefits access, and employment services, employment and training services, business development, and other efforts.

5. Education. These include investments in charter schools, school-based community services delivery, out-of-school time opportunities for youth, high-quality childcare, youth development through arts and culture, volunteer opportunities, and other efforts.

Our BSC approach in designated target neighborhoods is expected to provide a framework within which a diverse set of investments supported by multiple funders and LISC programs can be channeled into the same communities. Through this concentration of effort, LISC aims to create synergies among these that ramp up the effectiveness of each. For example, LISC has long supported coordinated housing, commercial and public safety investments to simultaneously dampen crime and increase commercial corridor vitality.

Exhibit 6
Percent of BSC Neighborhoods Receiving LISC Loan and Grant Support
in Indicated Domain

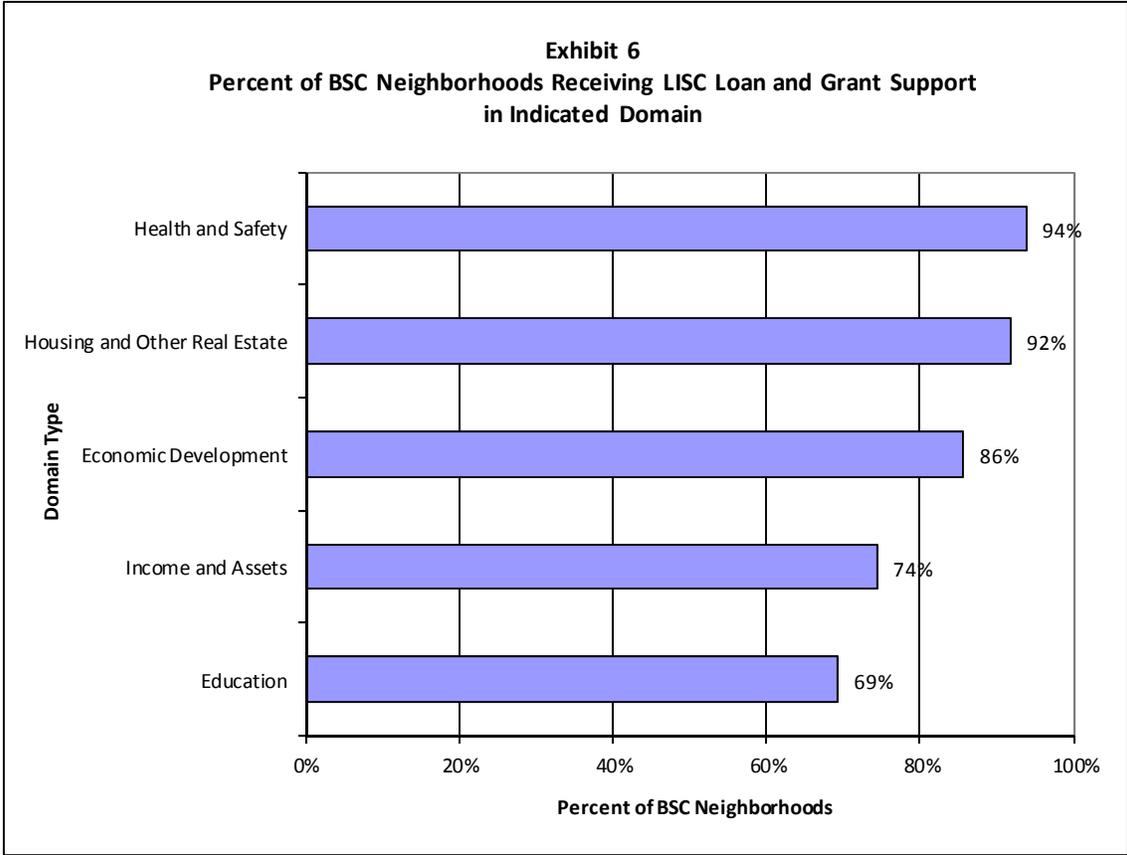| Domain Type	Percent of BSC Neighborhoods
Health and Safety	94%
Housing and Other Real Estate	92%
Economic Development	86%
Income and Assets	74%
Education	69%

Exhibit 6 shows the diversity of LISC support for projects in programs in each domain after BSC designation. (It should be clear from the percentages that some LISC investments support more than one type of activity, as when investments in commercial facilities also include space for the delivery of health programs.)   The first chart shows that nearly all BSC neighborhoods receive some support in the health and safety and housing and other real estate domains, with coverage exceeding 90 percent of all neighborhoods. Support in other categories is quite high, as well, amounting to 86 percent for economic development, 74 percent for income and assets, and 69 percent for education.

Exhibit 7
Number of Neighborhood Domains Supported By LISC Investments in BSC Neighborhoods

Number of Domains	Number of Neighborhoods
1	3
3	8
2	13
4	16
5	58
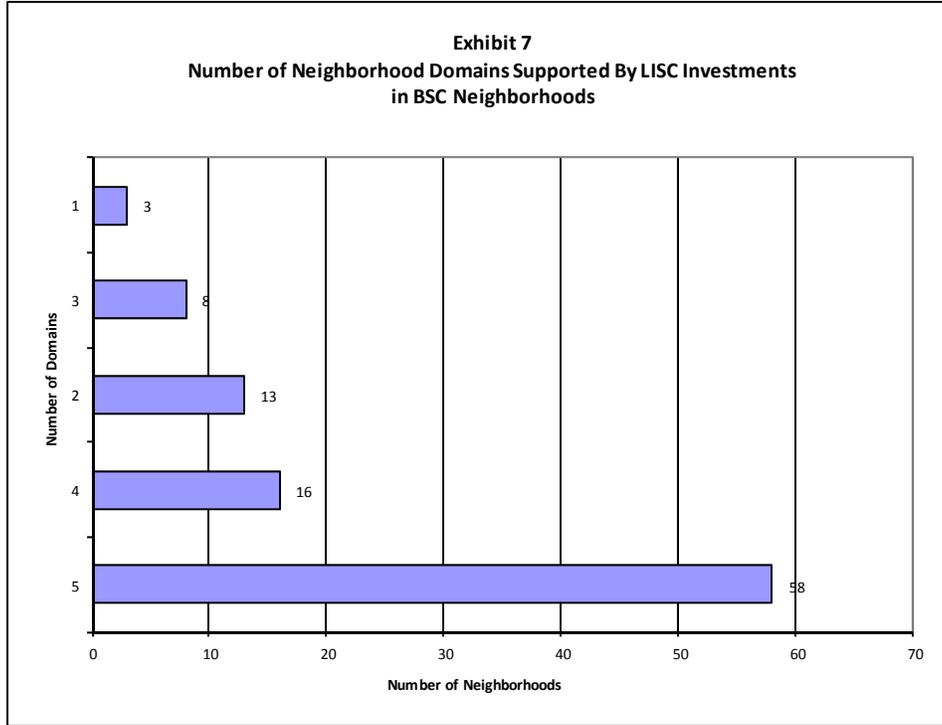
As expected given these high percentages of support, Exhibit 7 shows that most BSC neighborhoods receive LISC support for multiple goals, with the majority – 58 of 98 – receiving support in all five BSC goal areas.   (Information on the purposes of LISC investment is missing for the remaining six neighborhoods where we have made investments to date).   Relatively few neighborhoods received support in only one or two goal areas

Exhibit 8							
Summary of Project Outputs and Leverage in BSC Neighborhoods, 1999-2011							
Project Type	Total Amount	Grants	Loans	Equity	Housing Units	Facilities Square Feet	Total Development Costs	Leverage
Housing	760,923,973	6,246,490	82,287,214	672,390,270	20,177		3,194,233,920	4.2
Commercial	203,800,176	5,172,200	179,421,596	19,206,381		6,636,877	914,567,825	4.5
Mixed-Use	56,583,108	3,014,970	50,546,457	3,021,682	5,272	2,010,133	1,339,555,065	23.7
Total	**1,021,307,258**	**14,433,659**	**312,255,267**	**694,618,333**	**25,449**	**8,647,010**	**5,448,356,810**	**5.3**

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The exhibits in this section have shown the continuing importance of real estate investments to LISC's support of BSC community revitalization.   These real estate investments should be viewed as vital community infrastructure, not just in housing, but in support of economic development, health, and education goals.   In addition, these are outcomes visible to all, and therefore likely to signal an upturn in community prospects or acceleration of continuing revitalization activities, which at scale and under the right circumstances, should induce other publicly motivated as well as for-profit actors to invest in these same neighborhoods.   (This investment may be financial, or as we shall see, might include decisions by individuals and households to buy or rent homes in target neighborhoods.)

Exhibit 8 presents figures on the scale of LISC real estate investments in BSC neighborhoods over the full 1999-2011 period.   The $1 billion in total investment leverages up to total development value of $5.4 billion, more than five times the LISC investment.   These dollars have supported more than 25,000 affordable housing units and 8.6 million square feet of commercial and community facilities space.

BSC Neighborhood Characteristics

Target neighborhoods are selected by local LISC staff based on social and economic distress, community willingness and ability to initiate the BSC community process and subsequent comprehensive programming, special community revitalization opportunities, the strength of existing LISC relationships with community organizations, and local political considerations.

In part because LISC does not insist upon national standards for neighborhood selection, the size of BSC neighborhoods vary widely, as do their demographic, social, and economic characteristics.   As shown in Exhibit 9, the median neighborhood contains 16,248 residents; that is, half of all BSC neighborhoods have fewer than this number of residents and half have more.   At the higher end – the 75th percentile in terms of size, neighborhoods contain 35,877 residents or more.

Exhibit 9
Demographic Characteristics of BSC Neighborhoods

Demographic Characteristics	Distribution			
	25th Percentile	*Median*	*75th Percentile*	*Mean*
Population	8,127	16,248	35,877	27,647
Percent White 2010	6%	17%	44%	27%
Percent Black 2010	11%	33%	73%	41%
Percent Hispanic 2010	1%	8%	36%	21%
Percent Asian 2010	0%	1%	4%	6%
Percent Other 2010	2%	3%	4%	3%

Source: LISC Neighborhood Monitoring
Database, compiled from US Census 2000 and
American Community Survey

It becomes difficult to marshal resources to scale when neighborhoods are large, and in a number of these large neighborhoods, *de facto* target areas emerge because investments tend to be concentrated at specific locations within neighborhoods. This can occur, for example, when commercial corridor investments, including housing and commercial real estate loans and equity investments, are a prominent aspect of LISC activity.

The exhibit also shows the racial and ethnic breakdown of BSC neighborhoods, which tend to be heavily minority.   On average, the 2000 African-American population of BSC neighborhoods is 41 percent, with Hispanic and Asian shares at 21 percent and 6 percent, respectively. These figures are roughly the same as those for neighborhoods where LISC invests overall; i.e. whether they are in BSC neighborhoods or not.

BSC neighborhoods display many of the characteristics that would be expected given LISC's traditional emphasis on low-income neighborhoods.   Moreover, these attributes are related to one another in predictable ways, well established in the previous literature.

For example, neighborhood owner-occupancy rates are positively associated with higher median incomes. Investor activity is more typical of lower-income neighborhoods. High foreclosure rates are associated with high percentages of subprime loans.   And the higher the neighborhood poverty rate, the lower the labor force participation rate.

In this analysis and in sections to follow, we concentrate on five attributes of neighborhood in three categories: (1) housing market performance, (2) neighborhood incomes, and (3) neighborhood employment.   These indicators include:

Housing: *Change in median home purchase loan amount*

This indicator is an index of median first-lien loan amounts for home purchases. The baseline (Index = 100) is the average median for 1999 and 2000; the terminal value is the average median for 2011/2012. Two year averages are used to smooth out erratic trend lines due to small numbers of mortgages originated in some low-income and sometimes largely rental neighborhoods. Source: Office of the Controller of the Currency, Home Mortgage Disclosure Act, various years

Relative 20011/2012 mortgage index value as a percent of peak value over the decade

In most cities and neighborhoods, housing values peaked at some time in 2007 and 2008 before a sometimes precipitous decline. Those neighborhoods that retained value despite the shock of overall housing price declines may be thought to have resilient housing markets. We measured resilience by calculating the ratio of the end-period mortgage index value to the peak index value during the full 1990 – 2010 period for each BSC neighborhood. Source: Office of the Controller of the Currency, Home Mortgage Disclosure Act, various years

Income: *Change in total income reported to the IRS*

Aggregate neighborhood purchasing power is a sign of community strength, regardless of how incomes are distributed within a neighborhood. Increases in aggregate income can come from increases in population, in-migration of higher-income persons, or increased incomes among residents throughout the period, or from any combination of these.   We calculated the total reported income index using 2004/5 as a baseline (100) and using 2011/2012 as an endpoint. Source: US Internal Revenue Service, Form 990 data, various years.

Change in median income

Median income is one measure of how incomes are distributed within a neighborhood, in contrast to the preceding indicator, which measured total income. Increasing median incomes can be produced by rising incomes overall,

in-migration of higher-income residents, out-migration of lower-income residents, or combinations of these. Source: Baseline figure from the 2000 US Census; endpoint from the 2012 American Community Survey, which records the average value for the series of surveys conducted between 2008 and 2012.

Employment   *Change in resident employment*

Change in total employment is another indicator of neighborhood vitality, whether this change is due to in-migration of employed workers to a neighborhood or increased employment levels among those already residing there. This indicator is constructed using an index, where the baseline value (100) is the average number employed for the years 2004/2005 and the terminal value is the average for 2010/2011. Source: US Department of Labor, Longitudinal Employment Data, various years.

These characteristics are somewhat related to changes over time in their respective housing or labor markets or profiles of income change.   Different neighborhoods display different "trajectories" of change, and insofar as changing neighborhood conditions is one of the primary desired outcomes of BSC work, the pattern and extent of change from one type of neighborhood to another is of obvious relevance.

This is most easily seen in changes in the housing market, which has experienced a boom-and-bust pattern nationally that is also evident to varying degrees in BSC neighborhoods.   We assigned BSC neighborhoods to four categories of change in an index of median mortgage values between 1999/2000 and 20011/2012, including neighborhoods where values generally increased over the period, generally decreased, or experienced either moderate or severe boom-bust patterns.

Exhibit 10 shows how each of these patterns is associated with attributes of neighborhood housing markets.   Equally instructive is the overall profile of all BSC neighborhoods, recorded in the right-most column.

Exhibit 10

Housing Market Characteristics of BSC Neighborhoods by Type of Housing Market Trajectory

Housing Market Characteristics	Type of Market Trajectory				
	Boom-Bust Severe	*Boom-Bust Moderate*	*Flat or Declining*	*Increasing*	*Total*
N of Neighborhoods	*34*	*19*	*19*	*23*	*95*
Loan Amount Index 2012 (2000 = 100)	125	159	98	181	142
Loan Amount Index at Maximum	203	204	126	202	189
Ratio of 2012 to Maximum	61%	78%	77%	89%	75%
Percent Owner-Occupied 2010	31%	31%	42%	40%	35%
Percent Change in Owner Units 2000-2010	-3%	6%	-3%	-7%	-3%
Percent of High Cost Loans at Maximum	52%	42%	44%	36%	45%
Population Change 2000-2010	-6%	-7%	-9%	-8%	-7%
Housing Unit Change 2000-2010	-2%	2%	0%	0%	1%
Percent Foreclosed, March 2007	3%	4%	6%	5%	4%
Percent Foreclosed, December 2011	10%	10%	8%	8%	9%
Percent Foreclosed, March 2014	6%	7%	6%	5%	6%
Foreclosure Percent Change 2007-2014	118%	178%	28%	37%	96%
Vacant Address Rate, March 2014	7%	8%	12%	10%	8%
Percent Change Vacancies 3-08 to 3-14	60%	39%	21%	17%	36%

Source: LISC Neighborhood Monitoring Database, compiled from Home Mortgage Disclosure Act, American Community Survey, Applied Analytics, and US Postal Service

Overall, mortgage values in BSC neighborhoods increased by 42 percent over the decade (an index value of 142), but they are 25 percent off of their peak increase of 89 percent. The owner occupancy rate of 35 percent is far below the national average, population declined an average 7 percent from 2000 to 2010, and foreclosure rates rose from 4 percent of owner-occupied and single-family rental properties in early 2007 to 9 percent by the end of 2011, then declining to 6 percent in March 2014 as the foreclosure wave passed and the inventory cleared.

But severe boom-bust neighborhoods are only at a 25 percent increase over their 2000/2001 value, which is only 61 percent of their peak value. By contrast, neighborhoods with steadily

increasing mortgage values over the period had registered an 81 percent increase over the period, off only 11 percent from their peak.

As a group, severe boom-bust neighborhoods display a pattern familiar to observers of the housing crisis: high cost loans at their maximum percentage exceeded 45 percent, foreclosure rates increased from 3 percent in March 2007, shortly after the housing crisis began to 10 percent in December of 2011, and back to 6 percent by March 2014. The percentage change in long-term vacant addresses from early 2008 to early 2014 was 36 percent.

Interestingly, both types of boom-bust neighborhoods – severe and moderate - showed lower rates of population decline and lower percentages of owner-occupied units than did neighborhoods with increasing values, or those that were flat or declining, which suggests that as neighborhoods emerge from the market trough, they may be positioned to make positive gains over the coming years.

We similarly distinguished among BSC neighborhoods in their rates of change in total employment. Based on their employment index, we classified neighborhoods as declining, slow-growth, modest-growth, and high-growth employment areas. (See Exhibit 11.)

Exhibit 11					
Characteristics of BSC Employment Markets by Type of Market Trajectory 2004/05 to 2008/09					
		Type of Market Trajectory			
Labor Market Characteristics	_Decline_	_Slow Growth_	_Modest Growth_	_High Growth_	_Total_
N of Neighborhoods	_25_	_28_	_19_	_21_	_93_
Resident Employment Index 2010-11 (2004/5 = 100)	81	90	93	112	93
Employment Index at Maximum	101	102	107	118	106
Ratio 2010-11 to Maximum	80%	88%	87%	94%	87%
Population Change 2000-2010	-14%	-9%	-7%	2%	-7%
Labor Force Participation Rate 2000	58%	58%	56%	55%	57%
Labor Force Participation Rate 2008-12	59%	60%	61%	63%	60%
Business Vacancy Rate, March 2014	16%	15%	12%	11%	14%
Percent Change in Vacancy 3-08 to 3-14	32%	32%	27%	36%	34%
Index of Local Area Employment 2010-11	93	103	110	114	105
Area Employment Index at Maximum	104	108	111	114	109
Ratio 2010-11 to Maximum	89%	95%	99%	100%	97%
Source: LISC Neighborhood Monitoring Database, compiled from US Census 2000, American Community Survey, US Postal Service, and US Department of Labor Longitudinal Employment Dynamics database					

Overall, BSC neighborhood employment was flat between 2004/05 and 2010/11, off about 7 percent from a peak value of 106, on average, at some point in the period. Labor force participation is a relatively anemic 60 percent. Long term business vacancy rates in BSC neighborhoods stood at 14 percent in March 2014, a 14 percent increase over March 2008. That said, the number of jobs within a mile of the neighborhood's spatial center increased 5 percent on average over the period.

Across the different types of neighborhoods based on employment change, employment decline neighborhoods showed higher rates of population decline, increased levels of business vacancy, declining numbers of local area jobs, and less resilient local job markets than other neighborhood types.

Exhibit 12					
Characteristics of BSC Income Change by Type of Trajectory of Income Growth					
		Type of Market Trajectory			
		Slow	*Modest*	*High*	
Housing Market Characteristics	*Decline*	*Growth*	*Growth*	*Growth*	*Total*
N of Neighborhoods	*15*	*22*	*32*	*27*	*96*
Total Income Index 2012 (2001 = 100)	99	116	132	176	135
Maximum Index Value	108	118	135	177	138
Index 2012 as Percent of Maximum	91%	98%	98%	99%	97%
Percent of Tax Returns Under $25K	61%	56%	50%	51%	54%
Percent Tax Returns $24-50K	24%	27%	28%	26%	27%
Percent Tax Returns $50K and Over	15%	17%	22%	23%	20%
Change in Returns Under $25K, 2001_2008	-15%	-7%	-5%	5%	-4%
Change in Returns $25K-49K, 200 1_2008	-15%	3%	7%	26%	8%
Change in Returns $50K and Over, 2001_2008	3%	30%	50%	115%	55%
Poverty Rate 2000	26%	31%	27%	33%	30%
Poverty Rate 2008/12	37%	39%	32%	34%	35%
Median Income 2008/12	$ 28,187	$ 26,805	$ 32,769	$ 35,158	$ 30,943
Percent Change Median Income	0%	10%	22%	35%	19%
Source: LISC Neighborhood Monitoring Database, compiled from US Census 2000, American Community Survey, and US Internal Revenue Service					

The same general pattern holds for income change in BSC neighborhoods, as shown in Exhibit 12. The average BSC neighborhood had a poverty rate of 35 percent over 2008/12, up 5 percentage points from 2000. This percentage is at the low-end of the range conventionally

defined as "high-poverty;" a rate of 30 percent poverty or higher. (Medium poverty neighborhoods are conventionally held to be between 20 percent and 30 percent poverty.) Total incomes rose by 35 percent (as shown by the 135 index value for 20011/12.); median incomes rose 19 percent.

In neighborhoods where total incomes were declining, poverty rates rose – from a modest-poverty rate of 26 percent to a high-poverty rate of 37 percent, a full 11 percentage points. Median incomes remained flat, and the number of tax returns filed by high earners rose only 3 percent.   Contrast this with high-income-growth neighborhoods, where poverty rates remained stable, median incomes rose 35 percent, and these neighborhoods saw a 115 percent increase in incomes reported by higher-income filers.

Relationships Among Housing, Employment and Income Indicators

Neighborhood change is not simply a function of overall change in the cities to which neighborhoods belong, which means that performance relative to cities varies across neighborhoods. Neighborhoods can and do display different rates and patterns of change compared to their respective cities. (See Exhibit 13.)

The strongest associations are between neighborhood and city-level changes in employment and in the resilience of mortgage values (2011/12 value as a percentage of peak value.)   As Exhibit 13 shows, the percentage of the neighborhood variance explained by the same city level factor ranges from a low of 16 percent for change in median income (an R2 of .164) to a high of 61 percent (an R2 of .610) for change in the index of total employment.

Exhibit 13		
Correlation Between Neighborhood Indicator Value and City Low-Mod Value		
	Correlation with City	
		R-
Neighborhood Indicator	Simple r	Square
Loan Amount Index 2011/12	0.697	0.486
Resilience (2011/12 Percent of Peak Value)	0.687	0.472
Employment Index 2010/11	0.781	0.610
Income Index 2012	0.565	0.319
Median Income Change 2000 - 2008/12	0.405	0.164

Neither do indicators of neighborhood housing, income and employment change in lockstep with one another, which implies that different interventions are required.

Exhibit 14 shows the correlation matrix among the five neighborhood change indicators to be used in the performance analysis. Note that there are several pairs of modestly strong correlations, between mortgage value change and mortgage value resilience, and among the income and employment indicators. That said, these relationships are not particularly strong: even the strongest correlation in the table, between mortgage value change and resilience, is only .544, or about 25 percent of the variation.

Of special note is the lack of a strong relationship between changes in the housing market variables and changes in the income and employment variables. We might have expected to see that neighborhoods with strong income and employment growth would also see stronger changes in mortgage values. But the relationships are weak. This suggests that these markets do not move in tandem, at least over a period when the housing market is undergoing some considerable stress.

Exhibit 14
Correlation among Selected Neighborhood Indicators

Neighborhood Indicator	Loan Amount	Resilience	Employment	Income	Median Income
Loan Amount Index 2011/12	1.000				
Resilience (2011/12 Percent of Peak Value)	0.544**	1.000			
Employment Index 2010/11	0.236*	0.023	1.000		
Income Index 2012	0.194*	-0.022	0.523**	1.000	
Median Income Change 2000 - 2008/12	0.135	-0.009	.460*	0.510**	1.000

Note: ** = significant at .01 level; *= significant at 05 level

LISC Investment and BSC Neighborhood Performance

LISC strives to achieve population level changes in the neighborhoods selected for comprehensive community investment. To determine whether BSC neighborhoods are changing for the better, LISC researchers identified a small number of neighborhood indicators that reflect important attributes of neighborhood quality. These indicators, among many others, are routinely tracked to monitor neighborhood performance.

Identification of Comparison Neighborhoods

Because the trend of housing values, income, and employment in any neighborhood is influenced by the corresponding trend in its corresponding city (and the city trends are, in turn, influenced by metropolitan area trends) neighborhood "performance" must be viewed in relation to the performance of other low-and moderate-income areas within cities.   But to arrive at a more exact comparison, for each BSC neighborhood, we identified one or more comparison neighborhoods (census tracts) that bore a statistical resemblance.

Cluster analysis, a commonly used statistical method to group elements based on multiple shared characteristics, was used to define comparison neighborhoods in each city. The following variables will be used in the cluster analyses to reflect housing values, tenure, stock quality, and racial composition and overall population change:

- Housing value change was proxied by percent change in HMDA median home purchase loan amount for single-family properties from 2000 – 2006.

- Stock quality in terms of physical condition was proxied using vacancy rates. Change in Census vacancy rates from 1990 to 2000 are the only source of vacancy rate data for the time period of interest.

- Overall population change between 1990 and 2000 has been shown (in conjunction with change in poverty population) to produce useful groupings across all Sustainable Communities neighborhoods. The cluster analysis uses percent change in population 1990 – 2000.

- In multiple earlier analyses, racial and ethnic composition of neighborhood and percent changes in specific racial and ethnic groups has been shown to be a driver of housing market clustering. Percent change from 1990 to 2000 for White NonHispanic, African-American NonHispanic, and Hispanic will be used in most areas, reflecting the three dominant racial / ethnic groups in most neighborhoods. Where appropriate, percent Asian-American was substituted for one of the groups noted above. Data are from US Census.

- Three static variables – percent poverty, percent African-American percent renter-occupied from Census 2000 – was used in the cluster analysis, As with the racial / ethnic change variable, above, the percent African-American was replaced when some other racial / ethnic group was dominant in the target neighborhood.

The Ward method of cluster analysis (analysis of variables minimizing the sum of squares of any possible cluster) was used to assign census tracts to comparison groups. Cluster analysis was carried out only on low-income census tracts, defined in terms of household incomes that are at

80 percent of median or below. (Approaches that include all city tracts wind up devoting several of the resulting clusters to neighborhoods that have income and other characteristics that are obviously inappropriate for consideration as comparison areas. Our approach to cluster analysis aims to discriminate in useful ways among low-income neighborhoods only.)

Cluster analysis was run separately in each city. The number of clusters used varied by city depending on the best fit of the resulting clusters, although six or seven clusters was typical. Cluster analysis results allowed each target neighborhood to be assigned to a cluster. We removed from the cluster any neighborhood that received more than $2 million in LISC total investment between 2009 and 2013.

Relationships Among Performance Measures

Based on the five key indicators we identified, we constructed five performance measures:

1. The ratio of the BSC neighborhood mortgage value index for 2011/12 to the mortgage index value for the neighborhood's corresponding comparison neighborhoods;

2. The ratio of the BSC mortgage value resilience percentage for 2011/12 to the neighborhood's corresponding comparison neighborhoods;

3. The ratio of BSC neighborhood total income index values to the index value of the corresponding city's high-poverty areas. (High poverty is used instead of low-and moderate incomes because data are available only at the zip code level.)

4. The ratio of BSC neighborhood median income value change between 2000 and 2008/12 to the neighborhood's corresponding comparison neighborhoods; and

5. The ratio of BSC employment change index for 2010/11 to the neighborhood's corresponding comparison neighborhoods.

The distribution of BSC neighborhood values on these five performance indicators is shown in Exhibit 15. The most obvious conclusion to be drawn from the table is the extreme variation across BSC neighborhoods, as shown by the large differences between the minimum, maximum, average, and median values on each indicator.

Exhibit 15
Summary of Neighborhood Performance Indicators

Performance Indicators	Distribution			
	Minimum	*Maximum*	*Median*	*Mean*
Relative Mortgage Value Index 20011/12	0.53	2.25	0.95	0.97
Relative Mortgage Index 2011/12 as Percent of Peak	0.57	1.16	0.96	0.97
Relative Index of Total Income 2012	0.70	1.38	0.99	0.98
Relative Median Income Change 2000 - 2008/12	-34.4	14.5	0.95	1.04
Relative Employed Resident Index 2010/11	0.84	1.28	1.00	1.01

Note: Indicator Values are relative to low-mod areas within each BSC city.

For example, the value of the home mortgage amount index relative to other low- and moderate-income areas in the same city ranges from a low of .53 to a high of 2.25: that is, the worst-performing neighborhood's mortgage value index in 2011/12 stood at 53 percent of the comparison neighborhoods' index value; the highest-performing neighborhood had a mortgage value that had increased to more than double the comparisons neighborhood's value over the same period (an index ratio of 2.25). The other performance indicators take on values that are less extreme than these, but the overall pattern of variation holds.

The inter-correlations among these performance indicators are even weaker than those among the measures used to construct them. The income and employment indicators are somewhat related to one another, but in no case does the variation in one explain more than 25 percent of the variation in another; i.e., the simple correlations are all .50 and below. This means that knowing that a neighborhood out-performs its low-mod peer neighborhoods on one indicator conveys little help in guessing whether it will out-perform on some other indicator. For this reason, we are justified in treating these indicators independently.

Neighborhood performance appears not to be closely associated with baseline conditions, which means that neither poor neighborhoods nor better off neighborhoods have any head start relative to all other low-mod neighborhoods.

Level of LISC Investments and Comparative Neighborhood Performance

One of the central questions for LISC is whether our efforts to promote comprehensive change in neighborhoods have made a difference. The preceding analysis has shown that LISC has responded to BSC neighborhood designation by ramping up its investments. Our analysis has

identified neighborhood performance indicators that show whether BSC neighborhoods have gotten better or worse relative to low-income neighborhoods in their respective cities. Is there a relationship between the two?

This analysis begins to answer this question. Of course, there is much more to the BSC initiative than LISC investment flows: other actors are important sources of investment, as well as creation of policies favorable to comprehensive change. Our approach to community partnership formation is aimed in part toward inducing these flows. But short of extensive (and very expensive) data collection, there is no way to ascertain, across 106 neighborhoods, whether these flows have occurred. Even local sources of data are typically not available to answer this question. As noted below, going forward we will attempt to measure at least some of these using readily available sources of data and results from LISC data collection.

To investigate the relationship between LISC investment and neighborhood performance, we used the performance indicators described in the preceding section as dependent variables and constructed a simple regression model to examine whether LISC investments were statistically associated with relative neighborhood performance across BSC communities.

One way to construct this model is to identify pre- and post-BSC periods and calculate the amounts of LISC equity, loans and grants going into each neighborhood in each year of the pre- and post-BSC time period. The model would identify whether the series of pre- and –post-BSC investments exerted any independent effect on neighborhood performance in each time period.

For several reasons, this model proves unworkable. LISC investments are episodic and not a continuing flow. A year of large investment might be followed by a year or two of very little funding activity; i.e. the investment flow is "lumpy." Moreover, although we know the year in which the investment was recorded in our systems – generally at the time of loan commitment – we do not know the year in which the project was placed into service. Further, and as noted in a preceding section, LISC's activity tends to be spread across the entire pre-BSC and post-BSC period, meaning that there a few neighborhoods where there is a sharp distinction between pre- and post investment levels. The increases in LISC support noted above tend to be gradual. And as also noted in an earlier section, there are relatively few BSC neighborhoods where the post-BSC period extends for more than just a few years, too short a time for us to expect detectable neighborhood performance effects. Finally, some of our neighborhood performance indicators are over relatively short time periods; e.g., our employment performance indicator uses an index that captures a change in employment only since 2004/05 – too short to support the type of analysis just described.

Therefore, we constructed a simple model that includes, as predictors, only the amount of LISC investment, the year in which the neighborhood was designated as a BSC neighborhood, and the poverty rate of the neighborhood in 2000, to capture any effect contributed by baseline conditions.

To operationalize LISC investment, we had to account for the fact that investment effects are likely to be related to the scale of investment, understood in terms of the amount of equity, loans, and grants flowing to a neighborhood in relation to neighborhood need. Some neighborhoods are quite large – the median neighborhood contains 16,000 residents, as a preceding exhibit showed – but may have relatively few poor people compared to another similarly-sized (or even smaller-sized) neighborhood.   Therefore, we normed our investment totals by dividing the investment total by the number of poor persons living in the neighborhood in 2000. Exhibit 16 shows the result.

Exhibit 16				
Distribution of LISC Investments per Poverty Resident				
	Distribution			
Investment Type	*25th Percentile*	*Median*	*75th Percentile*	*Mean*
Total LISC $ per Poverty Resident	$ 195	$ 772	$ 2,456	$ 2,029
Pre-BSC	20	303	854	1,150
Post-BSC	47	173	1,019	856
Total Loan and Grant $ per Poverty Resident	$ 147	$ 417	$ 1,036	$ 1,028
Source: Compiled by LISC Research and Assesment from Program Action System				

The exhibit shows the total amount invested over the period per poverty resident, which on average comes to $2,029 per resident over the 1999-2011 period. Note that investment levels vary widely: the top quartile of investment equals or exceeds $2,456 per resident; the bottom quartile is equal to or less than only $195.   The corresponding values per poverty resident both before and after BSC neighborhood designation are also shown.   Because equity investments constitute a substantial portion of the total, and only 40 percent of BSC neighborhoods receive such investments, we also experimented with a model that uses only the loan and grant totals, also normed to the number of poverty-level residents.

Other analysis shows that the value of the total per poverty measure is driven by the amount invested pre-BSC, which makes sense given the relative recency of most BSC neighborhoods.   It is interesting to note that the per-poverty investment number is not driven by the population size of the neighborhood. (Simple correlation coefficients are statistically insignificant.) This means that large neighborhoods do not mean lower levels of investment per poverty resident; small neighborhoods don't guarantee "scale" (by this definition).

We constructed five regression models corresponding to each of the five neighborhood performance indicators. To do this, we excluded from our analysis those neighborhoods that had received only trace elements of LISC investment, which we defined as less than $2 million over the 11-year period. This left 63 neighborhoods for further analysis.

We experimented with different model inputs to achieve the most predictive models; for example, by tailoring variables to capture baseline conditions to the dependent variable for a particular model. We also tested whether using investment figures for specific time periods, such as the pre- and –post-BSC periods noted in Exhibit 17, would improve model performance. We discovered that a simple model using poverty rate in 2000, the date of BSC neighborhood designation, and total LISC investment per poverty resident, produced the best results across all models.

Three of the five models explained more than 20 percent of the variance of the dependent variable: the ratio of neighborhood employment change to city low-mod employment change. This model results and corresponding scatterplot are shown in Exhibit 17. They show that higher indexes of total employment, total income, and change in median income *relative to each neighborhood's comparison neighborhoods* are positively associated with higher rates of poverty at baseline and higher levels of LISC investment. We found very little association, at least as yet, between investment variables and mortgage value resilience and mortgage value change.

Exhibit 17
Relationship Between LISC Investment and Relative Change in
Employed Residents

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.584[a]	.341	.315	.09883

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.827	.050		16.474	.000
	Total LISC Investment Per Poverty Resident	1.503E-5	.000	.381	3.293	.002
	PovertyRate2000	.504	.154	.379	3.275	.002
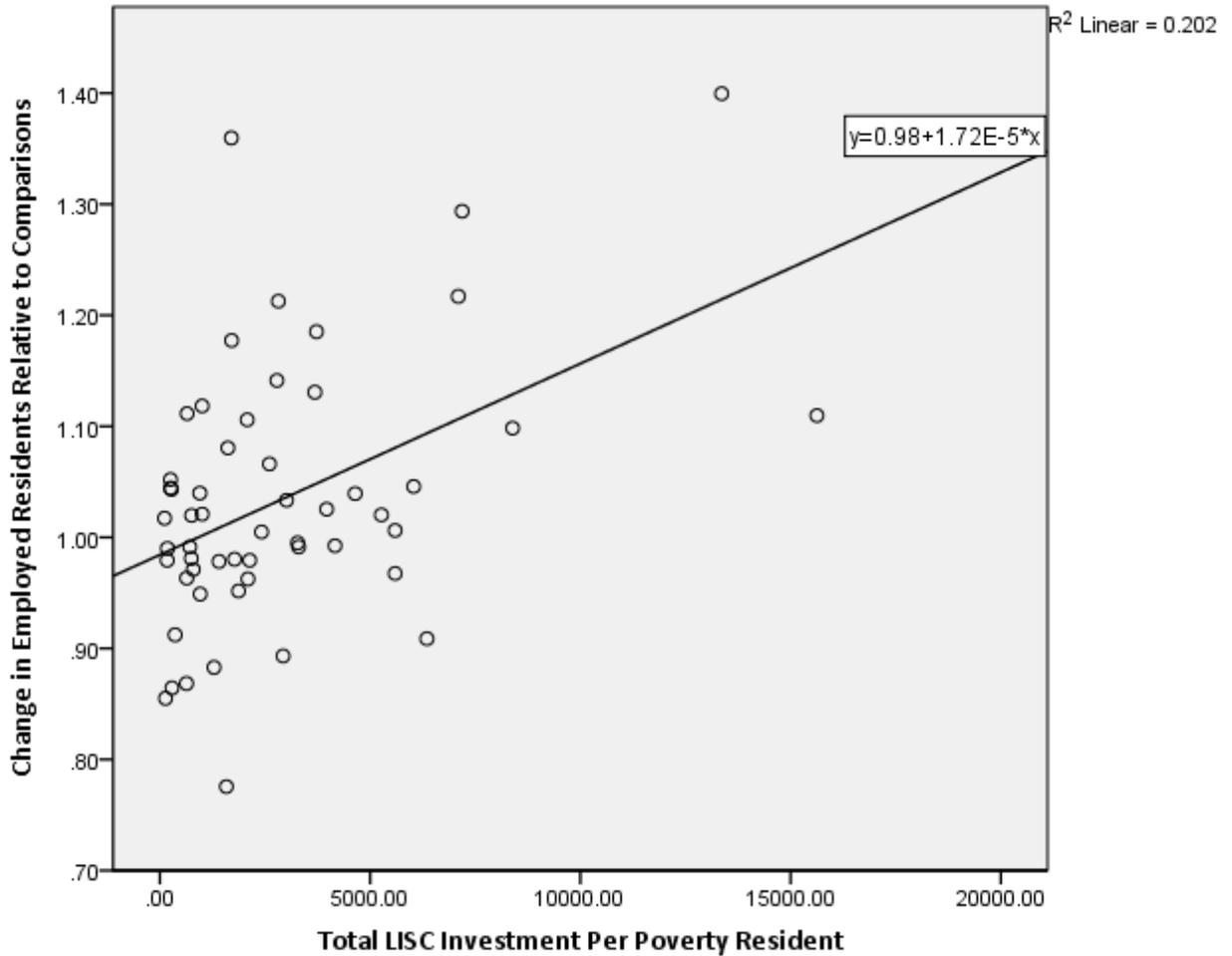
The strongest model explained 30 percent of the variance in the relative value of the employment index. According to the model, and taking all LISC investments over the 1999-2011 period, every $100 increase in the amount of LISC investment per poverty resident was associated with a .001 percent increase in the neighborhood's relative employment index. For example, the average LISC investment per poverty resident in the 104 neighborhoods for which we have data is $2,029. An increase to $3,029 is associated with a 1 percent increase in relative employment. So for the average BSC neighborhood, which has an employment change index for 2009 of .94, a $1,000 increase over the average amount would raise this to .95.

The model also shows that higher employment change is associated with higher poverty rates at the beginning of the period.

The corresponding analysis results for total income and for median income are shown on Exhibits 18 and 19, respectively.

Exhibit 18

Relationship Between LISC Investment and Relative Change in Total Income

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.549[a]	.301	.278	.18652

| | | Unstandardized Coefficients | | Standardized Coefficients | | |
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.720	.088		8.213	.000
	Total LISC Investment Per Poverty Resident	3.347E-5	.000	.461	4.201	.000
	PovertyRate2000	.551	.269	.225	2.053	.044

a. Dependent Variable: AdjustedGrossIncomeIndex2012_LMRatio

$y = 0.89 + 3.64E\text{-}5 * x$

R^2 Linear = 0.252

Exhibit 19
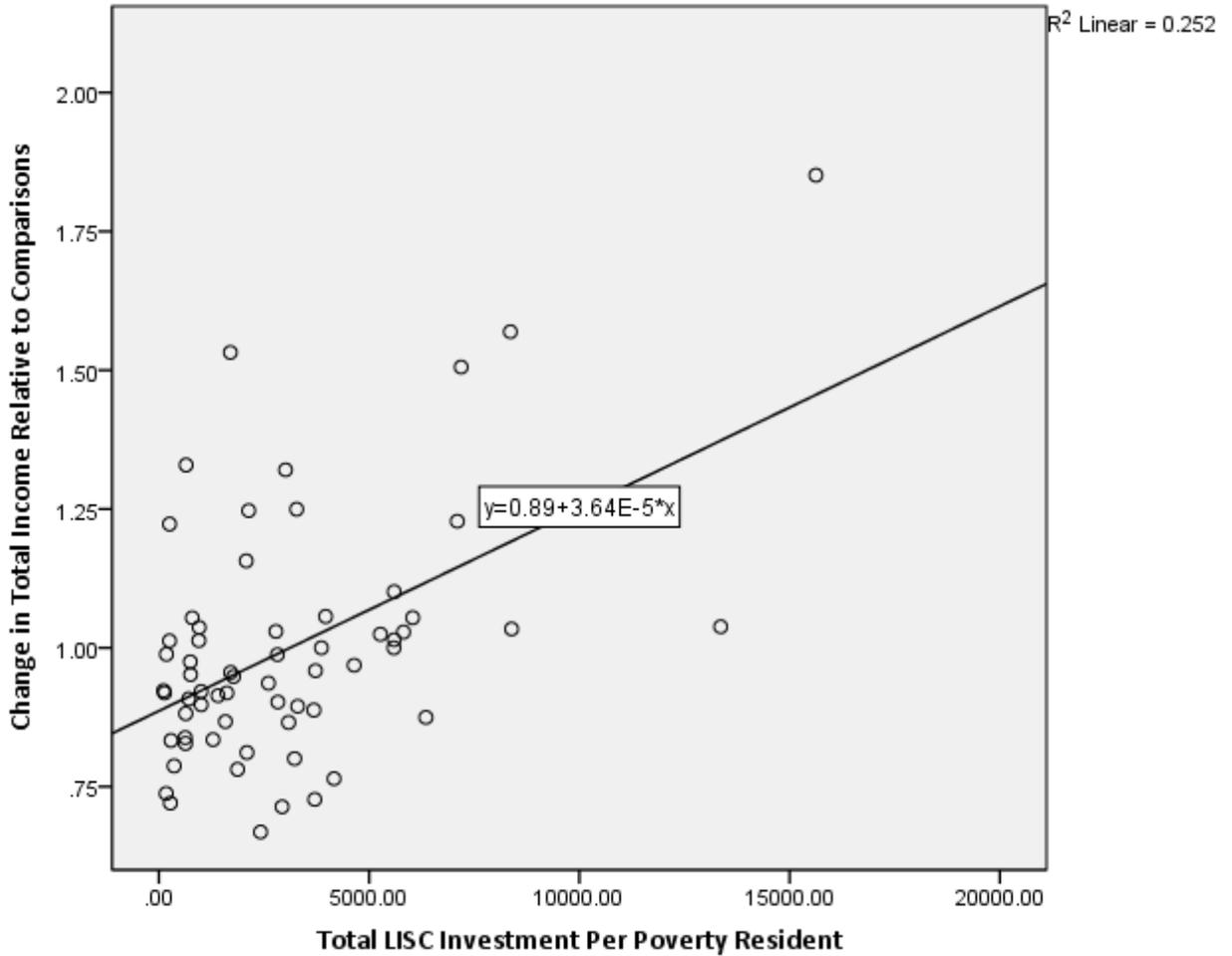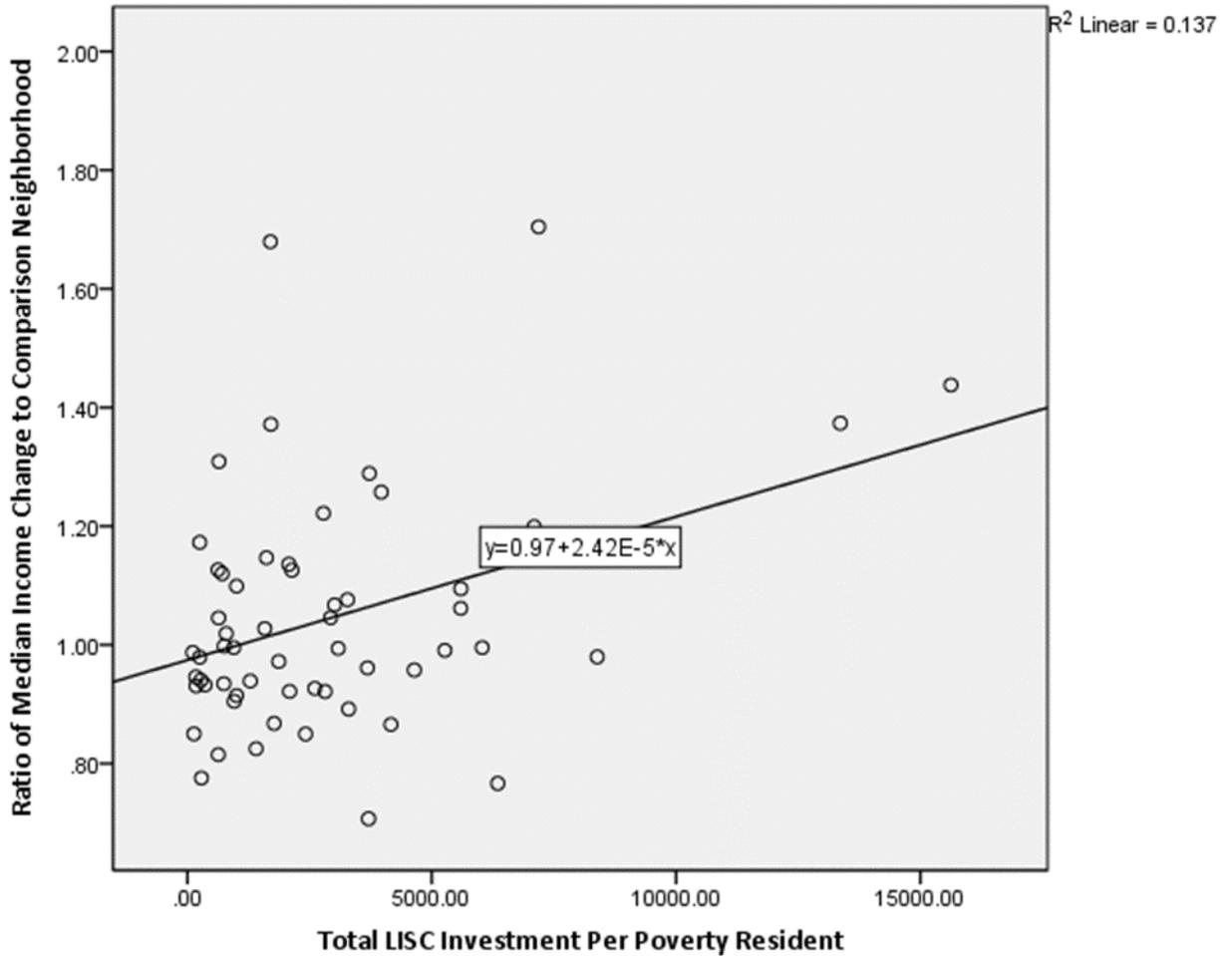**Relationship Between LISC Investment and Relative Median**
Income Change

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.497[a]	.247	.219	.17596

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.743	.087		8.535	.000
	Total LISC Investment Per Poverty Resident	2.033E-5	.000	.309	2.571	.013
	PovertyRate2000	.750	.267	.338	2.813	.007

To help understand this relationship between LISC investment and employment and income changes in neighborhoods, we examined case study material from 12 BSC neighborhoods that exemplified a range of generally, but not necessarily, positive outcomes on these measures.

These analyses will be published under separate cover, but the overall results can be summarized here.

The relationship between LISC investments and employment change can be explained in several ways. Recall that there is a modest relationship between population change and employment change, which means that employment usually, but not always, increases with population. In these circumstances, and our case study analyses, LISC real estate investments, especially those in housing, appear to both respond to population in-migration and induce more of it by creating affordable housing options for the lower half of the income distribution. In these neighborhoods, LISC investments touch upwards of 30 percent of all housing units, and even higher shares of units occupied by low-income households.

Much of our housing investment is supported by the Low-Income Housing Tax Credit program, which is targeted to working families – those earning between 50 and 60 percent of median income. (Poverty households typically have incomes below 30 percent of median income.) Almost by definition, therefore, these households are employed, and to the extent that they add to the numbers of employed residents in target neighborhoods, they contribute to better relative performance on this measure. Further, we expect that the improvements to neighborhood physical conditions induce further in-migration of these households.

This is not to say that employment gains are limited to in-migrating households. Rather, we expect that increases in the numbers of working adults will induce increases in job-holding among incumbent residents. This can happen if the density of employed residents increases the likelihood that any unemployed resident, or one not in the labor force at all, comes in contact with job-holding residents who are sources of information about job openings and potential referrals.

It is worth stressing that in our case studies, as in the neighborhood indicators presented earlier, we do not observe an influx of households earning higher incomes. Median incomes rose modestly, but certainly not to levels that would suggest that gentrification was underway. Rather, we observe a gradual increase in income diversity due primarily to an increase of those in the second quartile of the income distribution.

Concluding Comments

The foregoing analysis has presented highly suggestive evidence that LISC investments have produced results in neighborhoods where we concentrate funding. This result is consistent with other analyses – of investments in affordable housing, supermarkets, community development corporation projects, and targeted neighborhood programs – that show improvement in various measures of neighborhood quality of life. We believe that the work

described here has added income and employment change to the property value, and sometimes community safety, measures commonly employed in the past.

That said, much work remains to be done.   As LISC management systems and our access to locally-generated community indicators improve, we will accumulate the information needed to take on more advanced analyses. For example, does the mix of investments matter in terms of the magnitude of effects or the type of effect produced? What investment levels would be required to meet a range of community goals or targets for different types of outcome?   Can we begin to trace out some of the linkages between changes in income and employment, and in particular, changes in the distributions of income as neighborhoods improve?   Answering these questions will require more sophisticated analysis than done here, following the path of others who have employed econometric methods to quantify community development's neighborhood efforts.   That said, we hope that our use of basic performance information – data we use to track neighborhood change year-in and year-out – to assess the effects of our investments will encourage others in the community development field to follow suit.