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Inner-city real estate investment, gentrification, and economic recession in New York City

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Abstract. Considerable debate about the significance of the early 1990s recession (and subsequent property boom) on gentrification is still largely unresolved because the scale of analysis used to research this question has continued to focus on the neighborhood. This study examines the influence of recession on gentrification in New York City through citywide housing-market data. By using a wider lens to examine gentrification, the larger progression of uneven development and its recent acceleration become clearer. It also becomes evident that the process (of gentrification) is changing, qualitatively and quantitatively, in ways that are difficult to discern in localized studies.

1 Introduction

By the time that the New York Stock Exchange crashed in October 1987, the real estate industry was so intertwined with financial markets throughout the world (Ball, 1994; Coakley, 1994; Logan, 1993; Pugh, 1991a; 1991b) that the property sector soon plummeted in most of the world's major cities. The flood of inner-city real estate investment during the 1980s was reduced to a trickle by the early 1990s. Unlike earlier recessions in which it displayed a mild pattern of countercyclicity (Ley, 1992), gentrification (one type of inner-city real estate investment) began to show signs of slowing as well. For some, such as Bourne (1993a; 1993b), the early 1990s property glut mirrored nothing less than the curtailment of the conditions which produce gentrification. The recession in property markets coincided, he argued, with a saturation in the supply of easily gentrifiable housing units and a reduction in the number of its potential consumers—young baby boomers, who would hereafter choose to retire in the suburbs. "[G]entrification", Bourne concluded, "will be of decreasing importance as we move beyond the recession of the early 1990s" (1993b, page 183). Other commentators (Bagli, 1991; Lueck, 1991) joined Bourne in casting gentrification aside as just another example of 1980s excess; the 'postgentrification era' was afoot. Quipped Lueck (1991) in one oft-quoted article, "gentrification may be remembered, along with junk bonds, stretch limousines and television evangelism, as just another grand excess of the 1980s".

Despite the conviction, and in the case of Bourne thoroughness, of their analyses, however, the postgentrification school was not without its critics. Ley (1996), for example, argued that the early 1990s slowdown was actually a precursor to *accelerated* gentrification—baby boomers, he argued, will choose the inner city as a place of retirement. Also skeptical of the postgentrification thesis, Badcock (1993; 1995) found that certain forms of inner-city investment had actually *resurged* in Australian cities during the recession because local government had effectively smoothed the switch of glutted commercial real estate capital into residential markets in 1991. More recently, Smith and Defilippis (1999) took issue with the

postgentrification idea by arguing that the recession was only a temporary interlude to an accelerated postrecession reinvestment[1] of real estate capital in New York.

Yet despite the apparent consensus that gentrification has returned, there is still wide disagreement about the particular significance of the early 1990s recession for gentrification, or the more general relationship that such local processes (as gentrification) have with wider economic downturns. One reason for this disagreement is that gentrification research often attempts to make an ambitious jump between local and global (Lees and Bondi, 1995). In this particular debate, almost all of the participants attempt to make generalizations based on highly contingent (spatially and temporally) case studies. Although several of the studies in this debate make important contributions in their own right, none—with the notable exception of Badcock (1995)—systematically evaluates the effect of recession on the intermediate flow of investment to the urban core. Intermediate flows are important to the extent that they fuel local processes such as gentrification, but few researchers have paid adequate attention to these scales (intermediate) in addressing this question. Lees and Bondi (1995), for example, despite making a similar argument, research this question by examining gentrification in only two New York City neighborhoods—the Lower East Side and Park Slope. Smith (1996) and Smith and Defilippis (1999) do concern themselves with the broader progression of investment capital to the inner core of New York, but they focus on only one neighborhood (the Lower East Side) to argue their thesis. Though examining the relationship between gentrification and economic recession was not the primary purpose of her very thorough review, Lees (2000) later empirically substantiates the resurgence of postrecession gentrification using only sales-price data in Park Slope since 1993. Bourne (1993a) and Ley (1996) are concerned with citywide patterns but tend to rely on demographic data, which, though very useful in their own right can only be surrogate data for investment patterns. Only limited attempts are made by these researchers to measure the process of urban investment at a supraneighborhood level. Showing that gentrification slowed in certain cities during the recession is no proof that the process was in reversal, nor is showing that already gentrified neighborhoods are continuing to valorize since the recession proof that gentrification was unaltered. Neither approach brings us any closer to the more important question of how the larger return of capital to the central city was affected.

If we really want to determine how gentrification was affected by the last recession, or whether it has continued, we must first be able to evaluate the recession's impact on the intermediate process of central-city reinvestment. Only then can we address the follow-up question of how significant the early 1990s were. Was the early 1990s property glut emblematic of a larger economic restructuring or was it a temporary bout of disequilibrium between supply and demand in inner-city housing markets? Why furthermore, did this particular recession, spawned by a crisis in financial capital, trigger a crisis in inner-city real estate markets when earlier recessions (see Ley, 1992) and, more interestingly, subsequent shocks (such as the late 1998 stock market tumult) did not trigger a wider crisis in real estate markets? These questions are most adequately addressed at a supraneighborhood level of analysis.

I argue that, although it is impossible to determine the influence of the early 1990s recession and subsequent boom on every manifestation of gentrification, it is nevertheless possible and highly useful to evaluate the influence of these events on the

[1] 'Reinvestment' is defined in this study as the return of investment to a building or neighborhood whose productive potential has been removed or undermined by disinvestment. 'Disinvestment' is the secular process wherein a building or entire neighborhood's capacity to generate its highest potential rent is slowly removed by a decline or cessation of maintenance and/or other forms of investment designed to counteract the physical deterioration of the structure or structures.

broader flows of investment and disinvestment which collide and cooperate to fuel local processes such as gentrification. Only after doing so can we usefully interrogate the relationship between the neighborhood-level process of gentrification and much wider processes such as economic recession.

I investigate this relationship in one city, New York, as a means of addressing this issue. The organization of the paper is fairly straightforward. The first section reviews the prerecession history of inner-core reinvestment in New York City in order to contextualize the second portion of the paper which explores whether the early 1990s recession was a meaningful interruption in the broader, apparently secular, pattern of investment capital returning to inner-core housing markets. In the third section I map and explain changes in the core of reinvestment since the recession.

2 The prerecession valorization of New York's urban core

Though some neighborhoods in New York's inner city (such as the Upper East Side of Manhattan) (figure 1) never experienced a notable bout of disinvestment, much of it did during the middle part of the 20th century. The famously deep bouts of disinvestment in northern Manhattan, central Brooklyn, and the south Bronx were paralleled by lesser but significant bouts in southern Manhattan's sundry neighborhoods. The islands of wealth in the inner city were isolated anomalies within its seas of low-rent residential areas (see Hoyt, 1966). Wealth had been almost completely exiled to the suburbs, while the inner city was left to disinvest. Now equally famous (to the mid-century disinvestment), the subsequent *return* of real estate investment to Manhattan below 96th Street [and even above it (see Schaffer and Smith, 1986)], has transformed the borough into one of the most exclusive districts in the world. Early gentrification during the 1950s in Greenwich Village was followed by loft conversions in SoHo

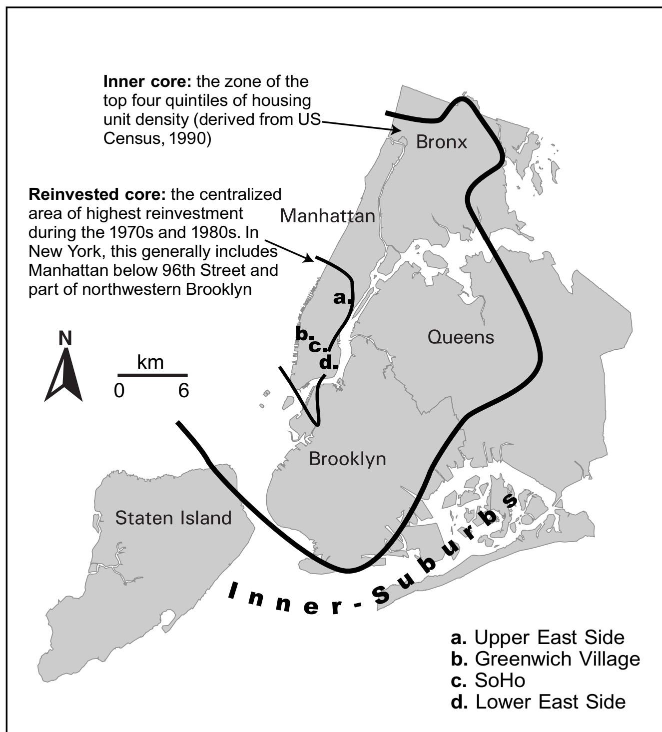


Figure 1. New York City.

(Zukin, 1982) and the more recent gentrification of the Lower East Side (Abu-Lughod, 1994; Smith, 1996) to name but several examples. The collective effect is now an old story: a major reinvestment of the city centre leading to the creation of a reinvested core (RC) for New York—namely, Manhattan below 96th Street and northwestern Brooklyn. Fainstein and Fainstein (1989) describe the qualitative result of these changes in southern Manhattan, the heart of the RC,

> "By the 1980s, the social and functional heterogeneity of southern Manhattan was noticeably reduced ... . An uncounted number of factories had disappeared or had been converted to other uses, and large expanses of proletarian tenements had been replaced by expensive apartment towers. Chic restaurants occupied abandoned factory showrooms. The fabric of the central business district had changed: many strands of its previous industrial woof had been exchanged for the golden threads of late capitalism" (page 59).

The acceleration and spatial focus of reinvestment during the 1980s can be measured through various means. Residential building alterations, for example, during the 1980s were highly clustered in the reinvested core, while demolitions during the decade were clustered in the extant zones of deep disinvestment—the south Bronx, northern Manhattan, and northeastern Brooklyn (figure 2). New construction activity was relegated mostly to the suburban fringe of the city—Staten Island and eastern Queens predominantly. The pattern of real estate investment (through building alteration in the inner city and new construction on the fringe of the city) corresponded closely to the areas of the city experiencing higher-than-average rent and income upgrades during the decade (figure 3). The highest absolute gains in rent and income were clustered in the RC, with the notable exceptions of the Lower East Side, Chelsea, and Hell's Kitchen in Manhattan, and the suburban fringe. The most intense clusters of lower-than-average rent and income change during the decade were isolated in the aforementioned zones of disinvestment in the city.

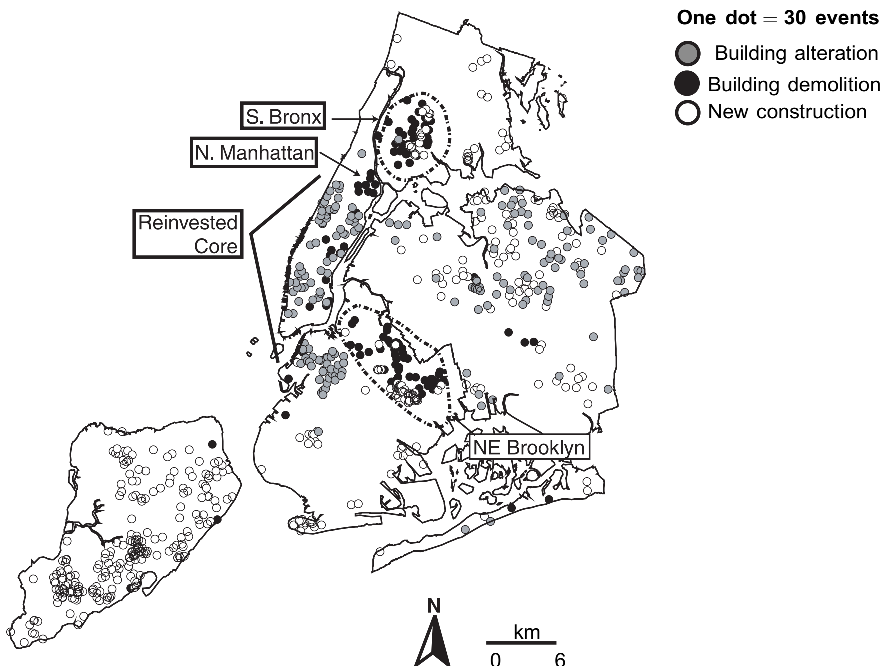


Figure 2. Building alterations, new construction, and demolitions in New York City, 1983–89 (source: New York City Department of Buildings).

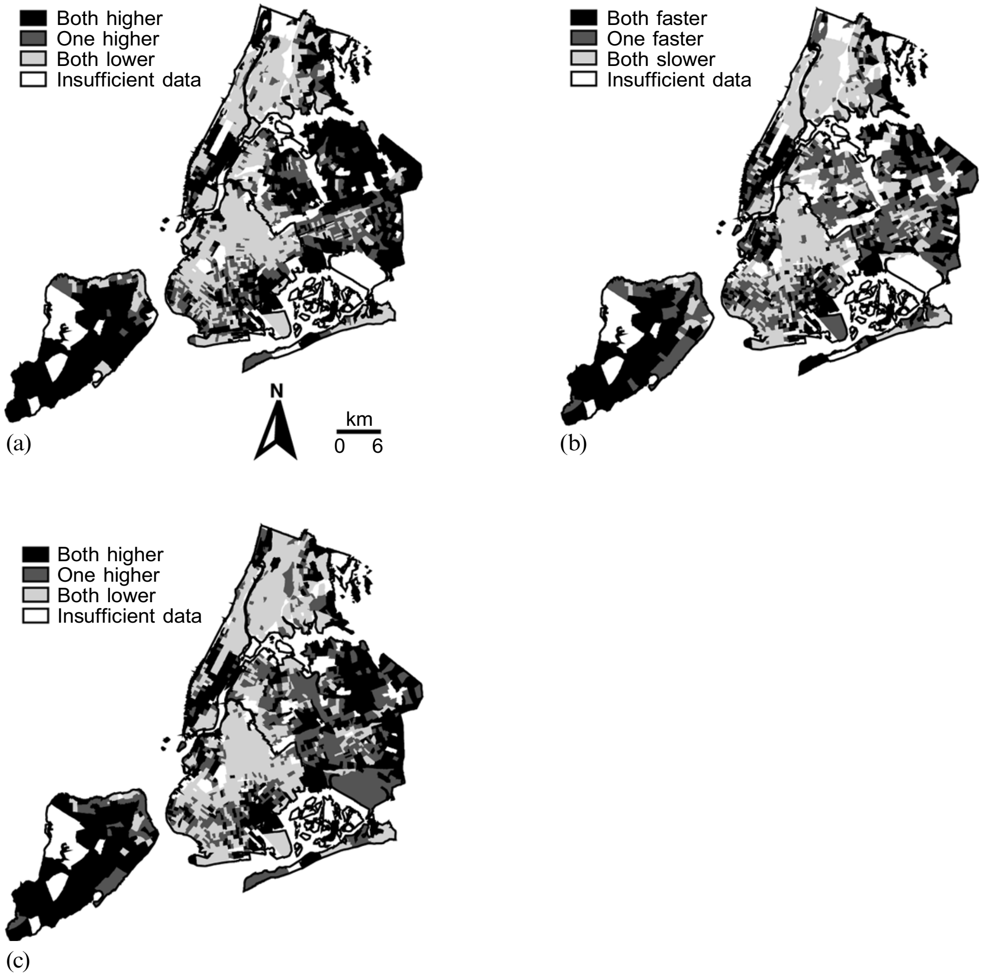


Figure 3. Rent and income change in New York City census tracts during the 1980s: (a) rent and income, 1980; (b) rent and income change during the 1980s; (c) rent and income, 1990; all compared with citywide averages (source: US Census).

These maps, however superficial, reveal a reinvestment of inner-core housing markets in New York that had congealed by the 1980s to create an identifiable reinvested core. What these maps do not show, of course, are the neighborhood-level processes such as gentrification, incumbent upgrading, and commercial redevelopment not to mention the attendant social problems such as the displacement of the working class from the increasingly affluent central city. Such local processes are an important but different concern that is taken up elsewhere (Smith and Defilippis, 1999; Wyly and Hammel, 1999). The intent of this paper is to identify a coherent scale of inner-city reinvestment and evaluate its reaction to the recession and its subsequent boom.

3 Housing-market investment in recession and boom

After nearly a decade of growth during the 1980s, the US economy (and most others closely linked to it) went into a sharp recession in 1990. Though relatively short in duration, the national recession of 1990–91 swiftly translated into increased unemployment. Much of the multisector job growth of the 1980s was dissolved in the span of one year.

Recession losses in the United States were paralleled by decline in other industrialized portions of the world, particularly Japan. The decline of property markets only served to exacerbate the downturn further. Yet while the impact of the early 1990s recession was fairly widespread for at least one year, it is also true that certain regions within the United States (and elsewhere) were more severely hit and affected for longer than national figures would suggest. The New York Metropolitan Region and the larger northeastern United States was one such area. The recession there was both longer and more severe than in other areas of the country. As Yaro and Hiss (1996) explain in the most recent New York Regional Plan,

> "From 1989 to 1992, the [New York Metropolitan] region lost 770,000 jobs—*the largest job loss of any U.S. metropolitan region since World War II*—eliminating virtually all of the region's growth during the 1980s. While national employment grew by 5% from the end of the 1990 to 1991 recession through 1994, jobs in the region grew by only 1% since the bottom of the recession in 1992" (page 7, emphasis in original).

Much of the job loss was experienced in the tertiary and quaternary sectors of the economy, which had become the area of growth since crisis in the secondary sector forced a broader restructuring in the early 1970s. Yet although we know that the early 1990s recession was severe in the region and that it hit certain labor markets particularly hard, there is much less certainty about its long-term impact on the reinvested core. Addressing this relationship involves an analysis of both reinvestment and active disinvestment, as they are but different sides of the same larger process.

3.1 Disinvestment citywide

At the urban scale, the recession appears to have had little impact on overt forms of disinvestment. Measures of vacancy and demolition are broad indicators of disinvestment insofar as they indicate a removal of productivity from the built environment (see Beauregard, 1993). Tax-arrears data, on the other hand, are used in housing studies (for example, Lake, 1979; Smith et al, 1989) to measure a less obvious form of disinvestment: tax delinquency. Through basic mapping techniques with these data, it is possible to document the impact of economic recession on different parts of the city. The intent in this section is to examine the impact of recession on disinvestment citywide.

Vacancy data provide a starting point for this analysis. The number of vacant residential buildings had been on the ebb since 1981, after several years of increase in the late 1970s (figure 4). Though there was a slight increase in the number of vacant buildings in 1988, the gradual decline of the 1980s continued, virtually unchecked, through the 1989–92 recession; the number of vacant buildings dropped by 751 between 1989 and 1992. The decline of vacancy continued after the recession, with a

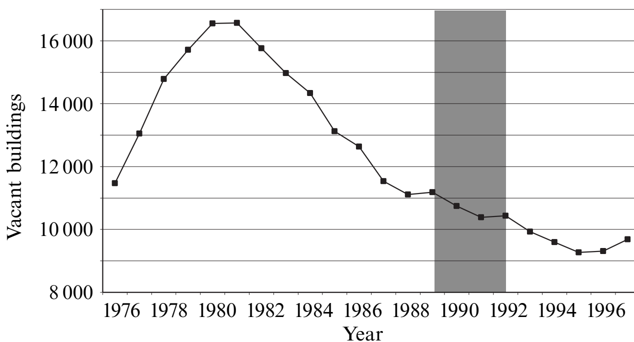
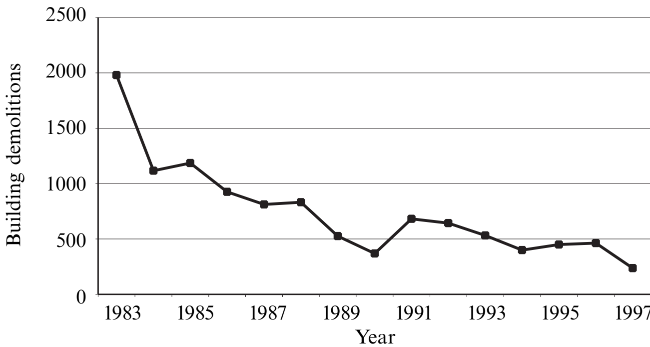


Figure 4. Vacant residential buildings in New York City, 1976–97, with the recession marked in gray (source: Sanborn Map Company).

slight reversal after 1995. Overall, though, it appears that the tendency of declining vacancies was unaffected by either the recession or the subsequent economic boom.

Building demolitions were slightly more sensitive to the larger recession, but overall, the broader pattern toward reduced disinvestment was uninterrupted [figure 5(a)]. After seven years of decline in building demolitions per annum, the number bottomed out in 1990, only to increase the following year by 313. Apparently, the recession encouraged a brief increase in this form of disinvestment. After 1991, however, the secular trend toward a decline in building demolitions continued. Between 1991 and 1997 the number of demolitions per year dropped by 445. The recession facilitated a short-term acceleration in demolitions, but the subsequent economic boom appears to have encouraged a resumption of the decline that began during the 1980s. Though much of the city (including the reinvested core) experienced little or no change in the number of demolitions per annum during the recession, northeastern Brooklyn, northern Manhattan, and portions of southern Bronx, did experience notable increases in this type of disinvestment [figure 5(b)]. By contrast, much of central Queens experienced a decrease in the number of demolitions during the recession, suggesting that disinvestment there was slowing. Massive immigration throughout the 1990s has kept



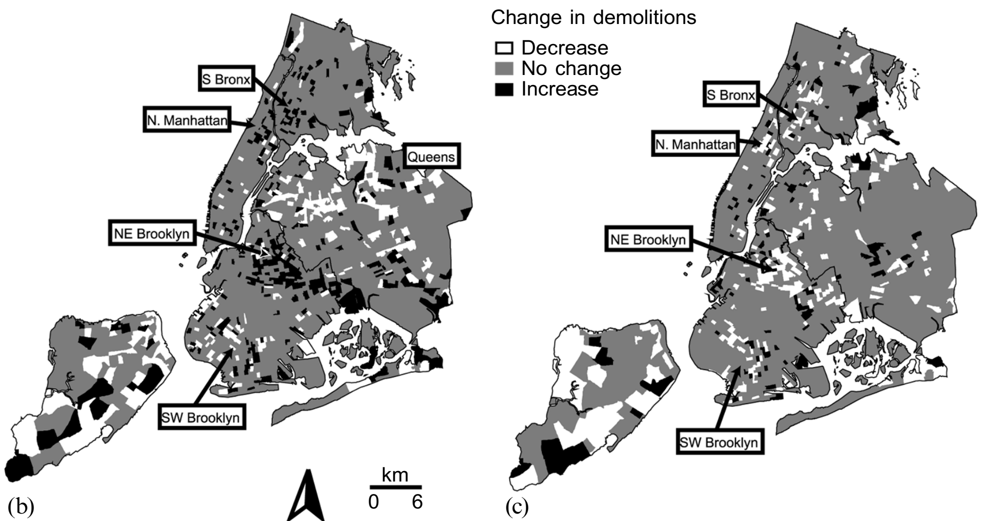
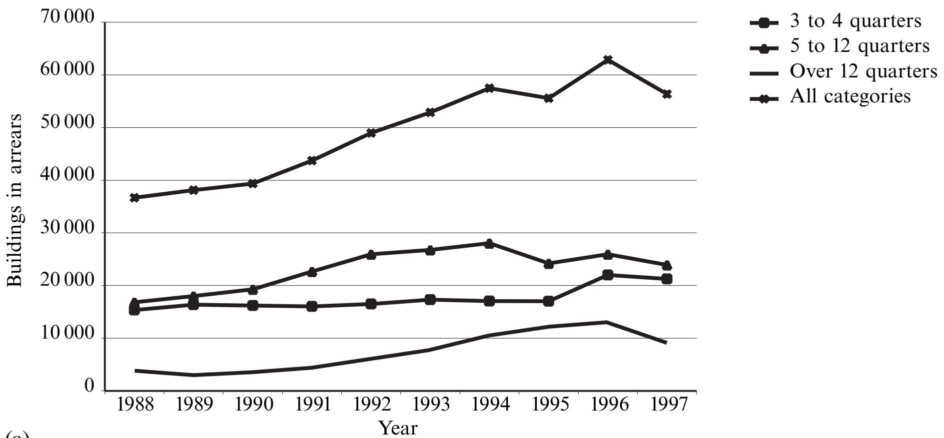


Figure 5. Building demolitions in New York City, 1983 – 97: (a) number of demolitions per annum, 1983 – 97; (b) change in number of demolitions per tract between 1989 and 1992; (c) change in number of demolitions per tract between 1993 and 1997 (source: New York City Department of Buildings, and the Sanborn Map Company).

demand for housing there strong. Southwestern Brooklyn and the entire borough of Staten Island experienced a mixture of increasing and decreasing disinvestment during the recession, implying (again) a destabilized housing market. After the recession, northeastern Brooklyn, northern Manhattan, and southern Bronx experienced a partial reversal of the previous increase in demolitions, unlike most of the city which maintained a stable level of demolitions after the recession [figure 5(c)]. Staten Island and southwestern Brooklyn again display features of housing-market flux with a mixture of divergent tracts. The most conspicuous forms of disinvestment (vacancies and demolitions) appear, in sum, to have been only mildly affected by the 1989 – 92 recession.

Subtle forms of disinvestment such as tax delinquency, on the other hand, were more directly affected by the larger economic downturn. Figure 6(a) reveals that the number of buildings in arrears with the city increased by 10 863 during the recession and continued to climb rapidly until 1996, before falling thereafter. Most of the increase



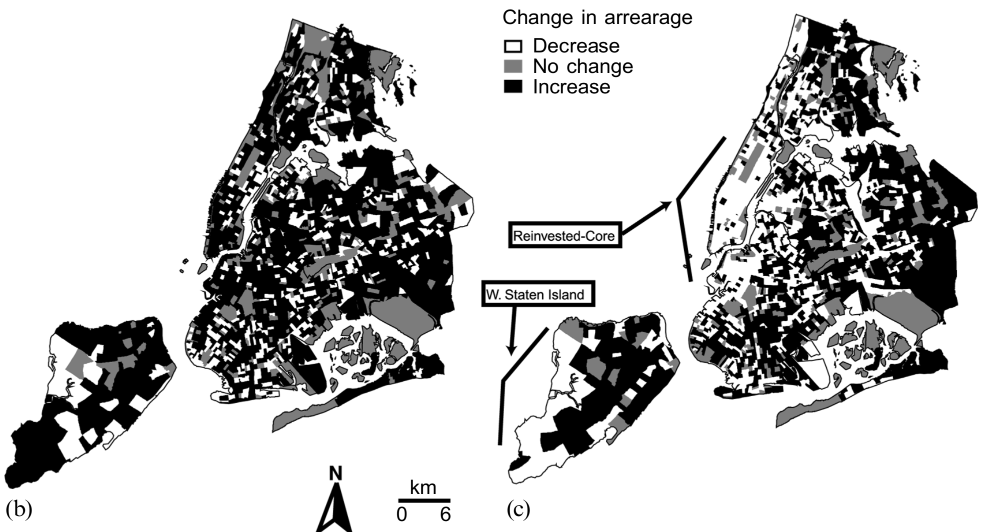


Figure 6. Tax-delinquent buildings per annum in New York City, 1989 – 97: (a) buildings in arrears by level of severity, 1989 – 97; (b) change in number of tax-delinquent buildings per tract between 1989 and 1992; (c) change in number of tax-delinquent buildings per tract between 1993 and 1997 (source: New York City Department of Finance).

during the recession was contained within the mild (three to four quarters in arrears) and moderate (five to twelve quarters in arrears) categories, but the aggregate increase is remarkable because it translated into 7.5% of all tax lots in arrears citywide by 1996. Though all categories of arrearage continued to increase after the recession, moderate arrearage was the first to drop (in 1994). By contrast, severe arrearage (over twelve quarters) began to rise in 1989 and did not fall until 1996.

As figure 6(b) shows, the pattern of increased tax delinquency during the recession was nearly ubiquitous across the surface of the city. Closer analysis reveals that inner-core tax delinquency tended to be more severe (five or more quarters), whereas increases along the suburban fringe were typically limited to mild arrearage (three to four quarters). The recession inspired a deeper glut closer to the core relative to the suburbs. Yet after the recession [figure 6(c)], inner-core disinvestment was reversed, and disinvestment in suburban areas of the Bronx, Queens, and Brooklyn actually deepened. Though much of Staten Island also experienced an increase in arrearage after the recession, the wide swath of decreases along its western edge confuses the pattern enough to imply a housing market in flux. Nearly all of Manhattan, northwestern Brooklyn, western Queens, and parts of southern Bronx experienced a decline in tax delinquency after the recession, while aggregate increases were the prevailing pattern for the balance of the city. Above all, disinvestment had largely subsided in the inner core by 1997, but much of the low-density suburban fringe of the city was still in decline.

3.2 Reinvestment

If the impact on aggregate disinvestment was ambiguous, the effects of recession on measures of reinvestment were unmistakably sharp. Examining the effect of recession on reinvestment—expenditures made to improve the productive capacity of real estate—can be done through a variety of means. Here, new construction, housing alteration, and sales data[2] are mapped to examine aggregate reinvestment. Each of these measures has been used before to examine housing-market investment.

This application of these data to New York reveals that the economic downturn retarded positive housing-market investment several years before the rest of the economy sank. New construction data—a basic measure of housing-market investment—provide the first indication of this pattern (figure 7). After rising markedly between 1983 and 1987, the level of new residential construction plummeted thereafter. Between 1987 and 1992, there was a 2203-unit drop in the level of new construction, with most of this occurring

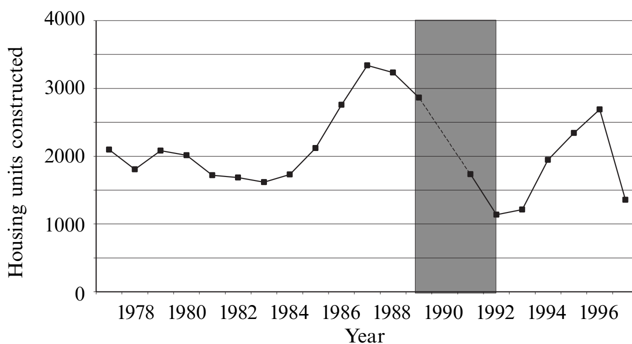


Figure 7. New construction in New York City, 1977–97, with the recession marked in gray (source: New York City Department of Buildings and Sanborn Map Company).

[2] 'Sales exchange' is a measure designed to convey the sense of capital flows into and out of various housing markets. It is derived by multiplying the sales volume (for example, number of sales per community district) by the average sales price (per community district) for a given year.

during the 1989–92 recession. After 1992 new construction began to increase again, but fell sharply after 1996. Though interesting in sectoral terms (overall housing investment) for present purposes, it is likely that the drop was more the result of saturated opportunities for new construction on the suburban fringe (where most of this activity takes place), than of any cooling of the postrecession real estate boom in the inner core.

Data on residential sales activity (sales prices and volumes) provide a more geographically useful tool for examining changes to the reinvested core and city as a whole. By multiplying aggregate sales volume by average sales price, it is possible to chart the history of real estate exchange since 1984 [figure 8(a)]. High levels of exchange generally parallel high levels of housing-market investment citywide. Similar to new construction trends, the level of residential exchange began to sputter (in 1986) after two very strong years of growth. Sales prices in both multifamily and single-family housing sectors continued to rise until 1989, but sales volume for both sectors dropped considerably in 1986, after the Tax Reform Act restricted certain types of speculative investment and the New York Stock Exchange crashed (in 1987), leaving investors uncertain about the future. Other than a short increase in residential property exchange in 1988, the descent in sales activity from 1986 was unambiguously sharp. After peaking at over $11.2 billion

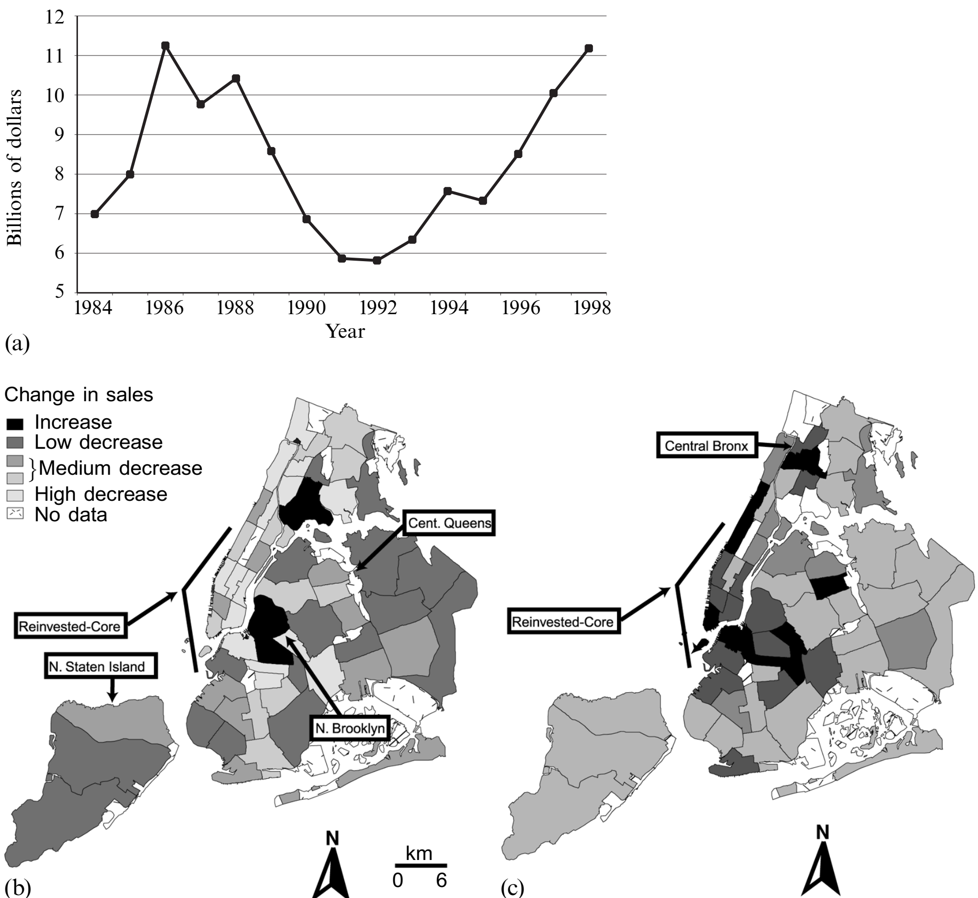


Figure 8. Residential sales in New York City, 1984–98: (a) residential sales per annum, 1984–98; (b) change in residential sales per community district between 1989 and 1992; (c) change in residential sales per community district between 1993 and 1998 (source: New York City Department of Finance).

in residential property transactions in 1986, the level dropped to $5.8 billion in 1992. Much of the initial drop (1986–88) was caused by falling sales volume (price actually increased until 1988), whereas the drop in the latter period (1988–92) was caused by a parallel reduction in volume *and* price. After the recession, sales prices and volumes increased almost immediately. The subsequent rise between 1993 and 1998 was smooth, save for 1994–95, when ambiguous signals in the securities industry alarmed investors in New York and elsewhere (O'Cleireacain, 1997).

Figure 8(b) reveals the geography of residential real estate sales during the recession in New York. The reinvested core experienced the highest percentage losses in sales during the recession despite having the highest base (sales price) figures in the city. Northern Manhattan, the southern two thirds of Brooklyn, central Queens, northern Staten Island, and much of the Bronx also experienced major percentage decreases in residential sales during the recession, but, because the sales price base level in these areas was relatively lower (in 1989), the change is less significant in absolute terms than decreases in the expensive markets of the reinvested core. Five community districts in southern Bronx and northeastern Brooklyn provide a stark contrast to this pattern because they experienced *increases* in the level of investment during the recession. In southern Bronx the increase was countercyclical (after the recession there were decreases) whereas growth in northeastern Brooklyn was sustained after the recession. The suburban areas of eastern Queens, southern Staten Island, and eastern Bronx experienced a milder reduction of sales activity during the recession than the inner core.

After the recession, this pattern was reversed [figure 8(c)]—the highest percentage gains in sales activity were experienced in the inner core, whereas the suburban fringe experienced a more limited rise. In addition to the reinvested core, portions of central Bronx and the northern half of Brooklyn also experienced a disproportionately high increase in residential sales activity after the recession. A notable spine of growth extends through northeastern Brooklyn. Outer areas of the Bronx, Queens, Brooklyn, and Staten Island, by contrast, experienced only a mild increase in this form of reinvestment, and three districts in the Bronx experienced a reduction.

If the recession and subsequent expansion clearly affected new construction and real estate sales, their impact on building alterations was less obvious. Because they reflect improvements made to existing structures, building alteration data are an index of reinvestment. Figure 9(a) (see over) shows that the level of building alterations increased steadily between 1983 and 1986, and then rapidly until 1988. The fantastic rate of growth during the 1980s boom was surpassed only by the rate of decline thereafter. Between 1988 and 1990, the number of alterations per annum dropped from 2404 to 160. Not unlike real estate sales activity and new construction, then, building alteration activity was adversely affected by the 1989–92 recession and continued to slump during the subsequent property boom. After 1991 the yearly level of alterations grew by less than 300 but never exceeded 500. In fact, there was a notable decline after 1993, despite the clear signals of growth in the larger (regional, national, and global) economy. The recession thus appears to have triggered a larger reaction in the rate of building alterations despite spawning a temporary episode of decline for other forms of reinvestment. The reasons for this are complicated, but undoubtedly include a reduced proclivity to enforce regulations by the city in the 1990s, which likely means that there are many more *illegal* (that is, unrecorded) alterations than before (see Lobbia, 1998). Inflation in subcontracting costs and some saturation in the supply of profitably upgradeable housing units (after a swell of such activity during the 1980s) were also to blame for the fall. Overall, building alterations were slowed considerably during the recession, but other factors appear to be at play in suppressing the level since the recession.

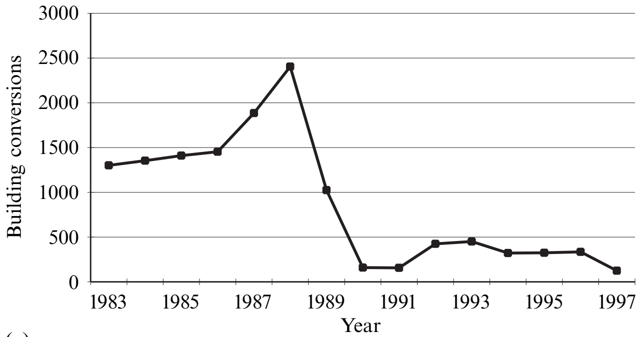


Figure 9. Building alterations in New York City, 1983 – 97: (a) number of alterations per annum, 1983 – 97; (b) change in number of alterations per tract between 1989 and 1992; (c) change in number of alterations per tract between 1993 and 1997 (source: New York City Department of Buildings and the Sanborn Map Company).

As figure 9(b) reveals, the most notable drops in alterations were clustered in the reinvested core during the recession. Building alterations per annum in this portion of the city were disproportionately high in the late 1980s, but were significantly reduced as the recession suppressed expendable income and investor enthusiasm. Staten Island emerges again as a housing market in flux, but most of its census tracts experienced a reduction in the number of alterations. Much of the city experienced an odd mixture of increasing and declining alterations during the recession, but the most common tendency was to remain static. This pattern was likely the result of ambiguous signals in the economy, which made investors more cautious.

After the recession [figure 9(c)], by contrast, the level of rehabilitation remained constant throughout much of the city. Northeast Brooklyn, particularly the neighborhood of Williamsburg, experienced a notable increase in the number of alterations, but as one travels southeast from this point, the predominant pattern actually indicates reduced investment. In northern Manhattan the prevailing pattern since the recession has been that of declining alteration activity, likely as a result of inflated renovation costs. In central Bronx the housing market is more volatile, with a divergent mixture of increasing and declining census tracts.

Overall, the effect of the 1989–92 recession and subsequent boom are spatially varied, but indicate a general tendency toward a more rapid response (to recession and economic recovery) within inner-core housing markets. Though there was a fairly ubiquitous increase in certain forms of disinvestment during the recession, reductions in positive investment were palpably sharper in the inner core than on the suburban fringe of the city. Reduced levels of sales and building alteration activity were more severe in the reinvested core, and increases in demolitions were most notable in the swath of land immediately beyond this portion of the city (northeastern Brooklyn, northern Manhattan, and southern Bronx). The suburbs, by contrast, experienced a comparatively mild recession, except for parts of Staten Island, which appear to have been destabilized by the downturn. After the recession, disinvestment subsided only in the inner core, whereas outer areas either remained the same or experienced a deepening decline. Reinvestment, on the other hand, generally increased, but the sharpest growth (in residential sales and alterations) was within the reinvested core—the same portion of the city that was pummeled by the 1989–92 recession. Although the fringe experienced a milder recession, it was nonetheless slower to recover afterward. By 1997 large areas along the suburban fringe were still experiencing disinvestment while the inner core (especially the RC) had already rebounded several years earlier.

4 Postrecession expansion

Since the end of the recession, reinvested core property markets have recovered and become even more exclusive than before. It has, as a consequence, become virtually impossible to find affordable housing in lower Manhattan and northeastern Brooklyn. But the resurgence of property markets in the extant reinvested core is only half of the story. *New* growth in property markets in northwestern and central Brooklyn indicates that the reinvested core is expanding outward. This expansion of new investment has delivered gentrification to places as remote (in social and geographical terms) as Bedford–Stuyvesant—a neighborhood that was once deemed ungentrifiable, but which is nonetheless now considered one of the 'hottest' by the local real estate press (Hall, 2000). The expansion of reinvestment is most clearly illustrated when changes in the *relative* focus of real estate investment are mapped.

To measure relative change, an index was devised to determine the degree of investment change between the 1980s boom and 1990s boom (that is, prerecession and postrecession) for each census tract. Demolition data (a measure of disinvestment) and alteration data (a measure of reinvestment) are used in the index because of their efficacy at conveying broad patterns of investment change in previous studies (see especially, Beauregard, 1993). The index is created by dividing the level of activity (either alterations or demolitions) per census tract during the 1990s property boom (postrecession), by the level of activity citywide during the same period. That figure is then subtracted by an identical computation of activity per tract for the 1980s boom (prerecession). When mapped, the computation reveals changes in the share of total reinvestment [equation (1)] and disinvestment [equation (2)] between the two time periods:

Measure of reinvestment:

$$\Delta A_{\mathrm{CT}} = \frac{A_{\mathrm{CT}}^{1990}}{A_{\mathrm{NYC}}^{1990}} - \frac{A_{\mathrm{CT}}^{1980}}{A_{\mathrm{NYC}}^{1980}}\,, \qquad (1)$$

where

A_{CT} is total alterations per census tract,

A_{NYC} is total alterations in New York City,

1980, 1990 refer to the 1980s boom and 1990s boom.

Measure of disinvestment:

$$\Delta D_{\mathrm{CT}} = \frac{D_{\mathrm{CT}}^{1990}}{D_{\mathrm{NYC}}^{1990}} - \frac{D_{\mathrm{CT}}^{1980}}{D_{\mathrm{NYC}}^{1980}}, \tag{2}$$

where

D_{CT} is total demolitions per census tract,

D_{NYC} is total demolitions in New York City.

Figures derived from these equations are applied to each census tract and mapped. The actual figures are then grouped according to the degree of quantitative change measured. 'High decreases' and 'high increases' refer to census tracts which received a figure that was greater than one standard deviation from the mean for all census tracts. 'Little or no change' refers to census tracts which received figures of zero (the mean), or figures closer than one standard deviation from the mean.

Figure 10 maps the results of this computation for total demolitions [equation (2)]— a measure of disinvestment. Several patterns become immediately obvious. First, the reinvested core experienced a general decrease in disinvestment vis-à-vis the 1980s. In addition to mild reductions, the RC contained several clusters of high relative decreases in disinvestment. This shows that, although *new* investment was slowing in this portion of the city (which will become clearer later), disinvestment there was also on the ebb (sharply in places). Central Bronx and northeastern Brooklyn were also experiencing relatively high decreases in disinvestment, but for a different reason. The cluster of high decreases likely signaled a turning point toward reinvestment, as the pockets of disinvestment were being shoved further from the central city. One further suggestion that the zone of deepest disinvestment in the city was diffusing outward is displayed on Staten Island and southwestern Brooklyn, which both experienced high relative increases in demolitions. Secular disinvestment is a relatively new event for both of these inner-suburban locations. Central and western Queens also experienced

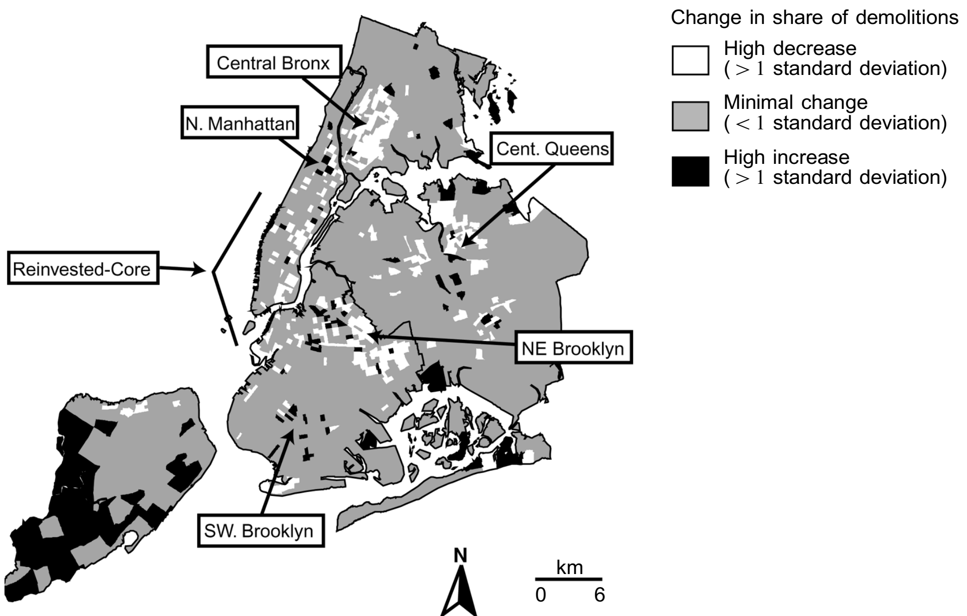


Figure 10. Change in the share of building demolitions per tract, 1983 – 88 versus 1993 – 97, with locations referenced in text (source: New York City Department of Buildings and Sanborn Map Company).

the negative results of this movement as indicated by the scattered pattern of rising *and* falling disinvestment—a sign of housing-market volatility.

Patterns of new investment also indicate a postrecession RC expansion. Figure 11 maps changes in the relative share of alteration activity between the two booms. The reinvested core appears to have experienced a relative reduction in its share of building alterations after the recession, because so much of that type of investment (building rehabilitation) took place there during the 1980s. The new foci of this activity were mostly beyond the reinvested core: northeastern Brooklyn, northern Manhattan, central Bronx, and northern Staten Island in particular. The key difference between these areas and the housing markets on the suburban fringe is that the former were also zones of reduced disinvestment (see figure 10) whereas the latter (suburban fringe) only experienced the *introduction* and acceleration of disinvestment during the 1990s. This pattern should not come as much of a surprise in light of urban theoretical and empirical work in the last twenty-five years that shows a demonstrative (if apparently paradoxical) tendency toward continued sprawl (that is, geographical decentralization of investment) *and* inner-city reinvestment (that is, geographical recentralization of investment). Inner suburbs such as central Queens and central Staten Island are the increasing foci of disinvestment (for a more elaborate discussion of this, see Harvey, 1996, page 405; Smith et al, 2001) as the reinvested core expands outward, pushing urban decay into the inner suburbs (figure 12, over). Though it is too early to tell whether the RC expansion will congeal into a level of affluence similar to that in the extant reinvested core, we can be certain that a disproportionate amount of the city's housing-market investment is currently occurring there and, as such, the ongoing reinvestment of the central city has not only continued but actually expanded.

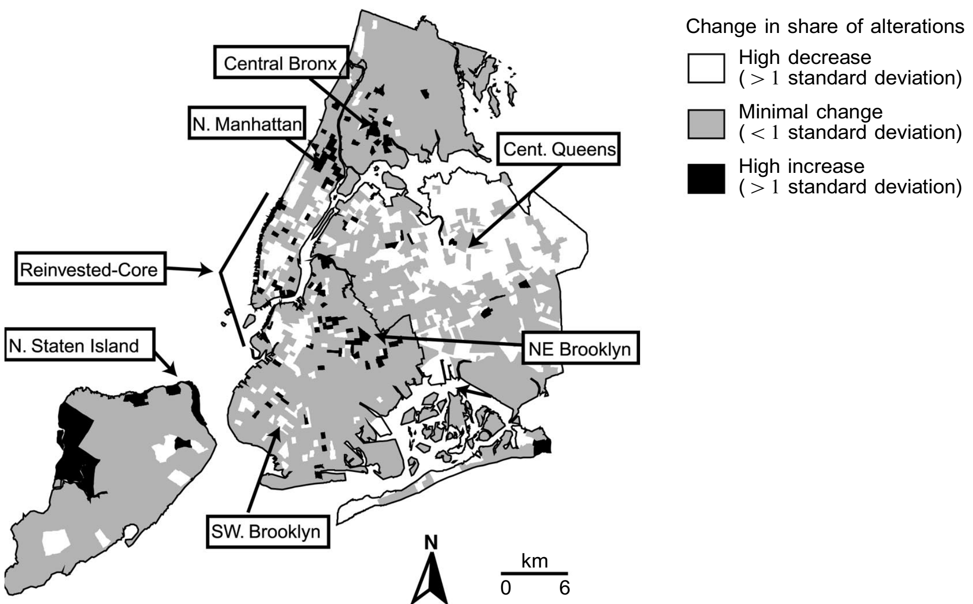


Figure 11. Change in the share of building alterations per tract, 1983 – 88 versus 1993 – 97, with locations referenced in text (source: New York City Department of Buildings and Sanborn Map Company).

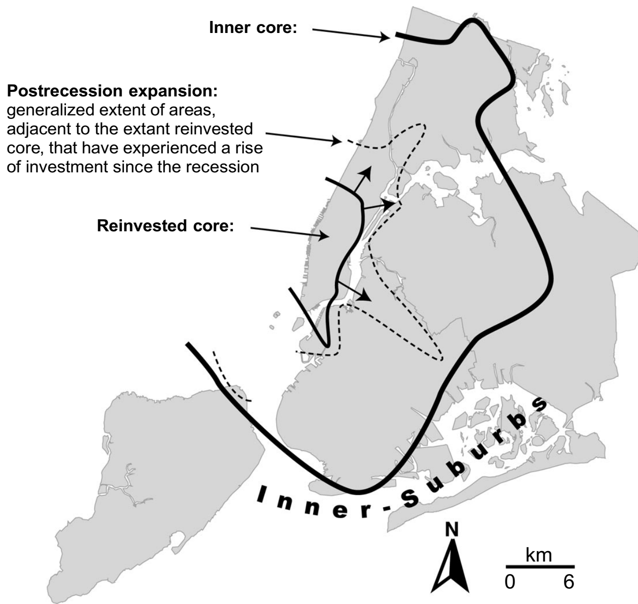


Figure 12. Schematic summary of postrecession reinvested core expansion.

5 Conclusion

The gentrification literature began the 1990s with a debate on whether the process was going to continue reshaping the urban landscape. Several argued that the process was on the ebb, whereas several others argued that it was going to continue, even expand, as the 1990s unfolded. At the close of the decade, and with a subsequent property boom (as of this writing still afoot), there is wide agreement that gentrification has expanded, but we are no closer to an understanding of how such local processes are affected by broader downturns because gentrification research still tends to focus on highly contingent examples rather than on broader studies of housing-market investment.

This study has attempted to fill this gap by evaluating the impact of recession on housing-market investment and mapping changes to the reinvested core in New York since the recession. Several important findings have been unearthed in the process of this study. Above all, housing markets within the RC (particularly gentrified ones) experienced the sharpest relative downturn during the recession. Reinvestment there all but ceased during the recession, and disinvestment was reintroduced, albeit in a very limited way. By contrast, the suburban fringe of the city experienced a comparatively mild recession, but investment there remained suppressed until at least 1997. Beyond the basic empirical importance of this finding is the fact that the reinvested core seems to be responding differently than single-family suburban areas to economic crisis.

Since the recession, there has also been a notable expansion of the reinvested core into previously disinvested parts of northeastern and central Brooklyn. Though gentrification theory has already predicted that such locations are ripe for the process, its postrecession occurrence in neighborhoods such as Bedford – Stuyvesant has surprised even the most experienced analysts of New York real estate patterns. The nature of gentrification here could reflect the wider integration of property and finance capital (see Coakley, 1994). It is being initiated not by risk-taking owner-occupiers who want to

rehabilitate the neighborhood's brownstones for personal use (the predominant mode of gentrification during the 1970s and 1980s) but by more globally linked corporate brokerage firms such as the Corcoran Group (Hall, 2000). Despite the presence of such corporations, however, the financial risks to such geographically remote gentrification schemes are still formidable, perhaps more so than in the 1980s when more investment took place in or near 'tamed' neighborhoods. In response to developer concerns, urban policy has become more assertive at removing such obstacles during the 1990s (Wyly and Hammel, 1999; 2000). This is particularly interesting in New York where local resistance was strong enough during the 1980s to slow progentrification governmental forces (Hackworth and Smith, 2001), but where more recently local resistance has been all but silenced from the urban political scene (see Wilson and Grammenos, 2000). Hotbeds of 1980s resistance such as the Lower East Side are now less likely to resist (see Jacobs, 1998), and newly gentrifying ones like Bedford – Stuyvesant do not appear to be spawning a contemporary replication of earlier militancy.

The connection between these changes to the local process of gentrification and global economic restructuring are complicated to be sure. Relatively large-scale events like the early 1990s recession offer the opportunity to understand this complicated relationship better, but unless the analysis takes place at a supraneighborhood level, it is impossible fully to exploit the opportunity that such occurrences (the recession and recent boom) provide. The slowdown in gentrification during the early 1990s is interesting because, in many past cases, larger economic crisis tended to spawn a switch of capital into real estate, particularly inner-city real estate. Quite to the contrary, in New York, inner-city real estate markets were hit harder than suburban ones. Perhaps the integration with finance capital has been manifest in property markets that will hereafter respond quickly and in parallel to, rather than in countercycle to, business cycle downturns, as they had during earlier recessions. More work will be necessary to evaluate these events on other cities, but the identification of such patterns in New York—which has experienced as much gentrification as any city in the world—has foreshadowed events that will follow in other cities before, so it is important to take these findings seriously in their own right. At a minimum it is clear from this and other recent research, that gentrification and inner-city reinvestment are changing both quantitatively and qualitatively. It is perhaps time to revive the once-strong interest in gentrification, and to update our understanding of the process.

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