Housing Speculation, Affordable Investments, and Tenant Outcomes in New York City

David M. Greenberg
Julia Duranti-Martínez
Francisca Winston
Spenser Anderson
Local Initiatives Support Corporation

Jacob Udell
Caroline Kirk
University Neighborhood Housing Program

Richard D. Hendra
New School University

Abstract

Housing speculation has been generally understood to be a major driver of displacement and hardship for Black, Indigenous, and People of Color (BIPOC) communities. To explore the impact of speculation, this research assesses tenant outcomes in buildings with the fastest-rising property values in New York City. In so doing, it builds on administrative data on mortgage transactions, sales prices, housing maintenance violations, and marshal's evictions to analyze the association between apartment building finances and tenant well-being. Combining these data with building-level information on affordable housing investments, the article also explores how acquisition of distressed housing by nonprofits, tenant cooperatives, and other responsible owners of affordable housing may disrupt speculative cycles and contribute to positive tenant outcomes. It finds that 1) sales price and mortgage debt increased the most steeply in neighborhoods with higher poverty, higher Black and Latinx populations, a growing percentage of adults with college degrees, and a growing population (in other words, neighborhoods showing signs of gentrification); 2) controlling for community characteristics, buildings with the highest increase in debt had about 0.78 more maintenance violations per unit per year than those that did not; 3) building owners who took on the most additional debt or bought at steepest price increases successfully evicted their tenants at 1.5 times the rates of others who owned properties in similar neighborhoods; and 4) buildings receiving affordable housing investments are less likely to be subject to speculation and are significantly better maintained than comparable properties in similar neighborhoods. Taken together, these findings suggest that speculation, and especially speculative finance, disproportionately impacts BIPOC communities and tenant quality of life, and that affordable housing investments can both protect buildings from speculative practices and improve tenant well-being.

Introduction

Housing speculation is not a new phenomenon. In many ways, speculation has driven the settlement and development of the United States, influencing everything from the economic motivations of settler colonialism and the American Revolution to the explosive growth of major cities like Chicago and Los Angeles (Glaeser, 2013). In recent years, however, institutional investors and private equity have accelerated speculative dynamics in the housing market, in some cases contributing to housing bubbles, such as the one that sparked the Great Recession (Gao, Sockin, and Xiong, 2020). After the Great Recession, institutional investors and private equity also capitalized on homeowner distress, particularly among homeowners of color, who suffered much higher rates of foreclosure than White homeowners and lost $400 billion in collective wealth (Bocian, Li, and Ernst, 2010). In Las Vegas, where corporate landlords' holding in single-family rentals increased by 34 times between 2009 and 2019, some of these larger investors were up to 6 times more likely to evict than a small or medium-sized landlord (Seymour and Akers, 2021). In the multifamily market, the subject of this article, advocates have drawn considerable attention to predatory actors fueling speculation, including private equity, where, supported in part by investments from pension funds, hedge funds, and wealthy individuals, large investors bought hundreds of thousands of units from local landlords (Hornbach et al., 2020). Although not every large investor engages in speculation, these kinds of activities have also been shown to harm tenants: Atlanta neighborhoods with more corporate owners of rental housing are one-third more likely to experience an eviction spike and are also more likely to gentrify (Raymond et al., 2021). The research conducted by Raymond et al. is particularly important for this project because it controls for neighborhood characteristics that might otherwise impact outcomes of interest. This approach is similar in that it examines the net effect of speculation on tenants, controlling for factors such as neighborhood characteristics and building type and size.

Housing speculation is defined in different ways, but it is often applied to the acquisition of properties at some risk to the investor, which also offers an opportunity for greater returns than can be expected from safer investments. Other than the case studies of corporate ownership cited previously, less research has been conducted on speculative practices as a whole on tenant outcomes. To assess the impact of speculation empirically and to explore what tools can promote positive outcomes for tenants, this article examines the purchase and financing of New York City apartment buildings and their association with tenant outcomes, asking three major questions:

1. Which neighborhoods have seen the most speculative activity in the multifamily market? What neighborhood characteristics are associated with higher levels of speculation?

2. What are the consequences of speculation for tenants, for the quality of their homes, and for their likelihood of being evicted?

3. What is the role of affordable housing investments in promoting tenant outcomes or in interacting with speculation?

Several features of this study build on publicly accessible data to contribute to the field's understanding of the interplay between speculation and tenant outcomes. First, since 2003, the

University Neighborhood Housing Program (UNHP) in the Bronx has used City of New York records to create the groundbreaking Building Indicator Project (BIP). The BIP tracks physical and financial distress indicators on more than 70,000 multifamily properties—those with five or more residential units—throughout New York City. More recently, UNHP has added a database of sales and mortgages since 2003 to BIP for that same universe of multifamily properties, relying on raw property-record data from the Automated City Register Information System (ACRIS). BIP data were combined with Census records that matched apartments to their community characteristics, and to these were added building-level records of executed evictions carried out by New York City marshals, drawn from a database taken from public court records maintained by the Housing Data Coalition.[1] These combined data permit an understanding of where speculation occurs and its potential impact on evictions and maintenance quality. Finally, to address the article's third question, the authors combined these data with information from the Subsidized Housing Information Project (SHIP) of the Furman Center of New York University.[2] Because SHIP also records publicly accessible investments in affordable housing at the building level, these additional data can show how community investments may interrupt negative outcomes for tenants and promote positive ones.

Operationalizing Speculative Dynamics in New York With Public Data

Although the research seeks to distinguish properties subject to speculation from other properties in New York's super-heated market, speculation is difficult to operationalize at the building level because there are factors that are not always observable in public data that may contribute to higher sale prices, such as an undervalued property that is well-located or has other unobservable amenities. In this article, changes in asset values of the *same* property over time are central to its operationalization of this definition of speculation. This approach is justified by the practices of speculators themselves. In many cases, net income (rental income after building expenses) drives profit for speculators, and tenants have long drawn attention to ways that speculators realize profits by increasing rents and cutting expenses. However, for speculators who treat apartment buildings as an asset class, landlords and investors see the rising value of their buildings both as a reflection of potential profit and as the main mechanism through which they actually profit (Hornbach et al., 2020).

In rental housing, two types of speculative strategies are predicated on a rapid increase in asset values. One involves purchasing a property and expecting that its value will rise quickly, simply because it is a desirable asset in the current housing market. In this case, the business strategy relies primarily on the assumption that, as property values rise, another investor will be willing to pay a premium for the building in a few years. Between 2000 and 2018, multifamily property values in Queens, Brooklyn, Manhattan, and the Bronx increased between 400 and 600 percent. In the Bronx, the average sale price per unit rose from about $17,325 in 1996 to approximately $175,000 in inflation-adjusted, 2020 terms, during a period when the median household income in the borough actually dropped from about $44,000 to $42,000 (Hornbach et al., 2020). In this

[1] See Housing Data Coalition. n.d. *Housing Data Coalition*. https://www.housingdatanyc.org/.

[2] See NYU Furman Center. n.d. *CoreData.nyc User Guide*. https://furmancenter.org/coredata/userguide/data-downloads.

study, these properties are identified through a focus on buildings that are resold in ways that capitalize on their increased value, because this indicates that they were previously purchased with the goal of realizing windfalls—a hypothesis that is borne out by the fact that these properties often *continue* to be sold for higher amounts, as shown in the following section. This article focuses on the top quartile of repeated sales, which during the study period rose in value at a rate of about 30 percent per unit per year.

The second type of speculative strategy involves debt. When buyers acquire buildings at ever-higher prices, they often do so with loans from a bank or nonbank financial institution. In this situation, the financial institution is incentivized to agree that the market value of a property has risen because it profits from the higher loan amount if it is repaid. Over time, the same owner may come back to the institution to claim that the value of the property has risen again, which justifies adding to the mortgage to reflect its new assumed value. Many owners refinance their mortgages as often as every few years and profit by taking out those new debt proceeds as payouts or to cheaply fund other profitable investments—often while neglecting the properties themselves (Miranova et al., 2022). This financing mechanism, referred to in the real estate industry as "cashing out" or "pulling equity out," is the most common instance of converting an increased asset value into profit and, as such, figures prominently in the analysis. Focusing on the top quartile of refinancing events identified buildings where debt increased by 50 percent per unit per year, a striking figure which in itself suggests the role debt plays in speculation.

This approach to identify speculative investments was adopted because the business strategies and extent of financial risk assumed by an owner can be defined in multiple ways and may inhere in characteristics of a property or strategies for its management that are not easily observable in public data—for example, in rising, realistic projections about net operating income. When assessing speculative risk, neighborhood and building context also matters. Multifamily buildings in prime locations, with higher-income tenants arriving who may pay higher rents, or of particularly high maintenance quality, may be seen as safer investments. To factor in these characteristics of neighborhood and building context, this article's measure of speculation builds from the insight that asset value increases are a measure of profit in housing, examining how much the *same* property increases its sales price from one sale to the next, adjusting for the length of time between the sales. Employing the additional insight that mortgage refinancings are the most common way for landlords to realize asset price increases, the research employs the same strategy for debt, measuring how much additional debt a property takes on, adjusted for the time between debt events.

For example, a 12-unit building that doubled in sales price after a year (2005 to 2006) would be treated the same as a 12-unit building with a sales price that quadrupled in 2 years between 2014 and 2016. The strategy is similar to other paired-sales indexes (such as the Case-Shiller index), which are used to understand asset inflation in relative terms. Although imperfect, the approach holds constant the property itself and its location, and across all multifamily buildings, it is reasonable to assume that higher leaps in sales price or in debt are likely to be signals of greater speculative risk or signs that equity is being extracted based on relatively inflated assumptions of value. (Although it is possible that increased debt is being reinvested into the property, public data do not indicate the use of funds, and the article's analysis of the association between maintenance

quality and speculative finance suggests that overall, this kind of reinvestment is not occurring, as described in the section, "Speculative Debt and Housing Quality."

This article focuses on properties in the top quartile of increased sales price and increased debt to provide a clean "cut point" that can be used to describe cohorts of properties over time. This cut-off, while arbitrary, provides a way to identify properties that have been assigned the greatest additional amount of value over time, even in the overheated New York City housing market. This identification strategy also illustrates clear differences between this set of properties and others, but it is important to note that findings hold when examining more linear relationships, that is, when increased sales or debt values are expressed as more continuous measures. In other words, logistic regression results were similar to linear regression results, with the former method employed in this article examining whether a building is in the top quartile of sales-price or debt increases, with the latter employing more continuous measures of time-adjusted, per-unit increases in price or debt.

Understanding Where Speculation Occurs

Using this article's measure of relative per-unit, time-adjusted sales-price increases, Manhattan and Brooklyn have the greatest share of repeated sales events, and they also have the highest proportion of repeated sales events in the highest quartile of asset inflation. Combined, they account for about two-thirds of properties and units in this top quartile of higher resale value (exhibit 1). The location of these properties in New York City's most expensive borough (Manhattan) conforms to the popular image of where already-high housing markets have become increasingly more expensive during the past two decades. The high number of these properties in Brooklyn reflects that, during this period, areas of Brooklyn accelerated their gentrification, and it also corresponds to the fact that Brooklyn is the most populous borough.

Exhibit 1

Proportion of Units by Borough in Time-Adjusted Sales Price Change Among Units Experiencing Repeated Sales

Borough	Lowest Quartile – Change in Sales Price (%)	2nd Quartile – Change in Sales Price (%)	3rd Quartile – Change in Sales Price (%)	Highest Quartile – Change in Sales Price (%)	All Repeated Sales (%)
Manhattan	40	31	34	32	34
Bronx	28	27	20	15	22
Brooklyn	21	28	38	41	32
Queens	11	14	7	12	11
All Boroughs	100	100	100	100	100

Data: Repeated sales, weighted by units in building, 2003–20.
Source: Building Indicator Project, UNHP, drawing on data from New York City

Considerable diversity of income, race, and ethnicity exists *within* boroughs. This broad story of Manhattan- and Brooklyn-driven increases obscures a more granular picture of where values are rising most. Accordingly, regressions linking properties to the characteristics of the census tracts in which they were located, using 2019 estimates from the American Community Survey, permit analysis of which community factors were associated with buildings that proportionally rose the most

in price—in other words, which aspects of a neighborhood were associated with speculation. Over the entire study period (2003–20), multifamily buildings were most likely to be resold for the greatest increase in price in areas that have higher poverty, higher Black-identified populations, higher Latinx-identified populations, a higher percentage of adults with college degrees, and a growing population (exhibit 2).[3] This constellation of indicators (with college degrees often being an operational definition of gentrification) suggests unsurprisingly that gentrification is one driver of speculation. This finding cuts against the stereotype of the city's White and affluent neighborhoods becoming astronomically more expensive. In relative terms, gains in value occurred most in Black and brown neighborhoods. At the same time, it is very much in line with what lower-income Black, Indigenous, and People of Color (BIPOC) neighborhood residents and their advocates have been describing, especially in gentrifying areas: apartment buildings in their communities have been subject to rising prices, which, in many cases, have put extraordinary pressure on tenants, as described in later sections.[4]

Exhibit 2

Community-Level Correlates of Being in the Top Quartile of Increased Sales Values (1 of 2)

Logit Regression on Speculative Sale	All Covariates, On Repeat Sales (1)	Subset Covariates, On Repeat Sales (2)	Subset Covariates with Rent Change, On Repeat Sales (3)	Subset Covariates with Rent Change, On All Sales (4)
Percent Poverty (ACS 2019)	1.3169***	1.0019***	1.0373***	1.3120***
	(3.92)	(3.57)	(3.64)	(5.35)
Percent Poverty Change ACS 2014–ACS 2019	-0.0625			
	(-1.05)			
Percent Black/African-American (ACS 2019)	0.7381***	0.7635***	0.7697***	1.2255***
	(4.39)	(5.84)	(5.84)	(11.19)
Percent Hispanic/Latino (ACS 2019)	0.5244**	0.5769***	0.5240**	1.1372***
	(2.62)	(3.53)	(3.16)	(8.07)
Percent Asian (ACS 2019)	-0.1451			
	(-0.59)			
Percent Adults w/ College Degree (ACS 2019)	1.3144***	1.4845***	1.2318***	1.1058***
	(4.89)	(7.17)	(5.56)	(5.89)
Percent College Degree Change ACS 2014–ACS 2019	-0.0638			
	(-1.35)			
Median Household Income (ACS 2019)	0.0000			
	(1.04)			
Population (ACS 2019)	-0.0000***	-0.0000***	-0.0000**	-0.0000
	(-3.74)	(-3.98)	(-2.94)	(-1.05)
Population Change ACS 2014–ACS 2019	0.5379***	0.4713***	0.3900**	0.2816**
	(4.38)	(4.08)	(2.65)	(3.08)
Percent Rent Change ACS 2014–ACS 2019			0.5547***	0.5638***
			(4.17)	(5.01)
Bronx	-0.5015***	-0.4756***	-0.4455***	-0.4615***
	(-4.21)	(-4.07)	(-3.45)	(-4.10)

[3] For consistency within the model, these community characteristics were defined through American Community Survey data during the end of the study period (2014–19), so it is accurate to say that these are characteristics of the neighborhoods as they now exist. Preliminary analyses appeared to show the proportion of Asian-identified populations as not substantially influencing the model, so this variable was eliminated from pared-down regressions models.

[4] Linear models show similar results, in that a higher increase in debt occurs in neighborhoods with higher poverty, a higher Black population, a higher Latinx population, and a higher percentage of adults with college degrees.

Exhibit 2

Community-Level Correlates of Being in the Top Quartile of Increased Sales Values (2 of 2)

Logit Regression on Speculative Sale	All Covariates, On Repeat Sales (1)	Subset Covariates, On Repeat Sales (2)	Subset Covariates with Rent Change, On Repeat Sales (3)	Subset Covariates with Rent Change, On All Sales (4)
Brooklyn	0.0979	0.0741	0.0859	0.1984*
	(1.08)	(0.85)	(0.82)	(2.16)
Queens	0.0094	-0.0231	0.0251	0.1096
	(0.08)	(-0.21)	(0.20)	(1.02)
Upper Manhattan	-0.2546*	-0.2647**	-0.2521*	-0.1455
	(-2.58)	(-2.75)	(-2.32)	(-1.53)
Year 2003	4.8139***	4.8096***	4.8530***	-1.1858***
	(6.44)	(6.44)	(6.47)	(-4.94)
Year 2004	2.6882***	2.6888***	2.7410***	0.3910*
	(14.09)	(14.10)	(13.63)	(2.30)
Year 2005	2.4354***	2.4341***	2.4802***	1.0474***
	(14.59)	(14.59)	(13.92)	(6.44)
Year 2006	1.9136***	1.9110***	1.9334***	1.0367***
	(11.59)	(11.59)	(10.95)	(6.31)
Year 2007	1.1512***	1.1579***	1.1642***	0.7672***
	(6.97)	(7.02)	(6.56)	(4.57)
Year 2008	0.6929***	0.6996***	0.7482***	0.5545**
	(3.96)	(4.00)	(4.00)	(3.12)
Year 2010	0.1849	0.2061	0.2339	0.3327
	(0.97)	(1.08)	(1.14)	(1.70)
Year 2011	-0.1161	-0.1218	-0.0093	0.1383
	(-0.61)	(-0.64)	(-0.05)	(0.71)
Year 2012	0.2371	0.2371	0.2568	0.4700**
	(1.39)	(1.39)	(1.40)	(2.66)
Year 2013	0.5228**	0.5303**	0.5508**	0.8332***
	(3.22)	(3.27)	(3.16)	(4.99)
Year 2014	0.7657***	0.7704***	0.7887***	0.9455***
	(4.74)	(4.77)	(4.54)	(5.70)
Year 2015	1.1680***	1.1675***	1.2498***	1.3691***
	(7.35)	(7.35)	(7.33)	(8.41)
Year 2016	0.8588***	0.8568***	0.9156***	1.0995***
	(5.25)	(5.24)	(5.23)	(6.58)
Year 2017	0.5907***	0.6099***	0.6495***	0.8313***
	(3.45)	(3.57)	(3.55)	(4.75)
Year 2018	0.2772	0.2823	0.3567	0.6979***
	(1.58)	(1.61)	(1.90)	(3.88)
Year 2019	0.1048	0.1198	0.2056	0.6059**
	(0.55)	(0.63)	(1.01)	(3.09)
Year 2020	-0.1066	-0.1216	0.0399	0.4090
	(-0.47)	(-0.54)	(0.17)	(1.79)
Constant	-2.9738***	-2.9040***	-3.0485***	-4.6876***
	(-9.68)	(-11.21)	(-11.07)	(-18.96)
Observations	15193	15233	14229	41734
Pseudo R-squared	0.1024	0.1012	0.1020	0.0389

t statistics in parentheses
** p<0.05. ** p<0.01. *** p<0.001.*
ACS = American Community Survey.
Notes: 1 is full model; 2 is with a trimmed set of covariates; 3 adds a rent-change variable; and 4 identifies predictors of speculative sales, taking all buildings (not just those with repeat sales) into account.
Sources: Building Indicator Project, UNHP, drawing on data from New York City; US Census

This analysis also shows the role of housing market dynamics in driving speculation. The model explores the role of the market in two main ways. First, it adds variables to account for the year in which a property was resold to see whether hot-market periods helped predict speculative sales. This appears to be true: speculative sales were more likely to occur between 2003 and 2008 and between 2013 and 2017, which were hot-market periods broken by the Great Recession. For example, the odds of a speculative sale occurring in 2014 are 2.16 times that of another year in the study (2003–20). Similarly, the odds of a speculative sale occurring in 2015 are 3.21 times higher (exhibit 2, column 2). Second, it adds a variable that accounted for rising rents in the census tract in which the sale took place to explore whether higher sales prices may be driven by purchasers' expectations of higher rental income, based on market dynamics in the surrounding area.

Rising local rents also contribute to the likelihood that a building will be resold for higher amounts (exhibit 2, column 3). However, even when taking both market-cyclical factors and local rent changes into account, race, poverty, and gentrification indicators still predicted speculative sales, although their predictive value decreased modestly. This finding suggests that trends within the housing market at a given point in time do not tell the entire story of sales-price increases. In other words, indicators of a "hot" market are associated with greater increases in a property's value, but signals of race, community distress, and gentrification remain important predictors, even when these market signals are factored in.

A similar pattern emerges when examining characteristics of neighborhoods where the greatest amount of additional debt is taken out on the same property over time. As described previously, taking out more debt on a property is another dynamic of speculation because an owner leverages the asset with the expectation of its increasing value for relatively inexpensive capital, especially when interest rates are low. Debt can obviously be used to improve the property, as an individual homeowner does when taking out a line of credit secured by their home to invest in repairs or amenities. However, landlords overall do not effectively reinvest resources in this way if improved housing maintenance is an indicator of this reinvestment.

At the borough level, as in the case of rising sales prices, Manhattan and Brooklyn are where the highest amount of increased debt occurs, accounting for about two-thirds of the highest per-unit, time-adjusted transactions (exhibit 3). However, when factoring in the role of neighborhood characteristics, a pattern emerges that is observed in speculative sales. More debt is taken out on properties in areas with higher poverty and higher Black and Latinx populations (exhibit 4). For example, an increase in census tract poverty rate from 20 to 30 percent is associated with a 14-percent increase in the odds of a speculative debt event, whereas other factors held constant. Because the relationship is not strictly linear, an increase in poverty rate from 20 to 40 percent is associated with a 30-percent increase in the odds of a speculative debt event. Community-level signals of gentrification—declining poverty, higher proportions of people with college degrees, and increasing populations—are also associated with higher increases in debt.

Exhibit 3

Proportion of Units by Borough in Time-Adjusted Sales Debt Change Among Units Experiencing Repeated Sales

Borough	Lowest Quartile – Change in Debt (%)	2nd Quartile – Change in Debt (%)	3rd Quartile – Change in Debt (%)	Highest Quartile – Change in Debt (%)	All BBLs with Change in Debt (%)
Manhattan	45	34	33	38	38
Bronx	15	21	21	18	18
Brooklyn	26	25	30	30	28
Queens	14	19	16	14	16
All Boroughs	100	100	100	100	100

Data: BBLs (properties identified by borough-block-lot) with change in debt, weighted by units in building, 2003–20.
Source: Building Indicator Project, UNHP, drawing on data from New York City

Exhibit 4

Community-Level Correlates of Being in the Top Quartile of Increased Debt Values (1 of 2)

Logit Regression on Speculative Debt	All Covariates, On Change in Debt (1)	Subset Covariates, On Change in Debt (2)	Subset Covariates with Rent Change, On Change in Debt (3)	Subset Covariates with Rent Change, On All Debt (4)
Percent Poverty (ACS 2019)	1.4479*** (8.04)	1.3080*** (8.24)	1.2951*** (7.97)	0.7968*** (5.43)
Percent Poverty Change ACS 2014–ACS 2019	-0.0929*** (-3.42)			
Percent Black/African-American (ACS 2019)	0.7077*** (8.12)	0.6901*** (9.71)	0.6982*** (9.71)	0.5743*** (8.79)
Percent Hispanic/Latino (ACS 2019)	0.9020*** (8.58)	0.8834*** (9.83)	0.8840*** (9.64)	0.7165*** (8.68)
Percent Asian (ACS 2019)	0.1316 (1.03)			
Percent Adults w/ College Degree (ACS 2019)	0.9520*** (6.67)	0.8122*** (7.27)	0.7800*** (6.51)	0.6156*** (5.71)
Percent College Degree Change ACS 2014–ACS 2019	0.0271 (0.94)			
Median Household Income (ACS 2019)	-0.0000 (-0.68)			
Population (ACS 2019)	-0.0000** (-3.19)	-0.0000** (-3.18)	-0.0000** (-2.94)	0.0000 (1.15)
Population Change ACS 2014–ACS 2019	0.2012** (2.76)	0.2004** (2.79)	0.0344 (0.36)	-0.0059 (-0.07)
Percent Rent Change ACS 2014–ACS 2019			0.2977*** (4.02)	0.1710* (2.54)
Bronx	-0.5164*** (-8.44)	-0.5271*** (-8.81)	-0.5461*** (-8.44)	-0.2825*** (-4.84)
Brooklyn	0.1479*** (3.47)	0.1483*** (3.64)	0.1086* (2.26)	-0.0003 (-0.01)
Queens	-0.1729** (-3.10)	-0.1633** (-2.94)	-0.2086*** (-3.47)	-0.2620*** (-4.74)
Upper Manhattan	-0.2034*** (-4.14)	-0.2007*** (-4.13)	-0.2349*** (-4.51)	-0.0876 (-1.85)

Exhibit 4

Community-Level Correlates of Being in the Top Quartile of Increased Debt Values (2 of 2)

Logit Regression on Speculative Debt	All Covariates, On Change in Debt (1)	Subset Covariates, On Change in Debt (2)	Subset Covariates with Rent Change, On Change in Debt (3)	Subset Covariates with Rent Change, On All Debt (4)
Year 2003	2.2307**	2.2262**	1.8812*	-3.9386***
	(3.13)	(3.12)	(2.45)	(-7.80)
Year 2004	1.4488***	1.4381***	1.4279***	-1.4394***
	(10.44)	(10.41)	(9.58)	(-12.35)
Year 2005	2.1445***	2.1450***	2.2400***	0.3615***
	(20.87)	(20.91)	(20.26)	(4.26)
Year 2006	1.9280***	1.9235***	1.9870***	0.8226***
	(21.12)	(21.13)	(20.16)	(10.05)
Year 2007	1.4254***	1.4274***	1.4475***	0.9712***
	(17.19)	(17.26)	(16.20)	(12.14)
Year 2008	0.7354***	0.7373***	0.7707***	0.6459***
	(8.82)	(8.87)	(8.56)	(7.78)
Year 2010	-0.0655	-0.0721	0.0037	0.1914*
	(-0.74)	(-0.82)	(0.04)	(2.14)
Year 2011	-0.4565***	-0.4648***	-0.4721***	-0.0664
	(-5.43)	(-5.54)	(-5.18)	(-0.76)
Year 2012	-0.1520	-0.1548*	-0.1397	0.2863***
	(-1.94)	(-1.98)	(-1.65)	(3.57)
Year 2013	0.1930*	0.1873*	0.2189**	0.6720***
	(2.56)	(2.49)	(2.68)	(8.71)
Year 2014	0.6140***	0.6116***	0.6291***	1.0518***
	(8.13)	(8.13)	(7.68)	(13.68)
Year 2015	0.7489***	0.7433***	0.8066***	1.2679***
	(10.07)	(10.02)	(10.00)	(16.74)
Year 2016	0.6987***	0.6940***	0.7371***	1.1365***
	(9.24)	(9.20)	(8.99)	(14.78)
Year 2017	0.2397**	0.2356**	0.2795***	0.7462***
	(3.08)	(3.03)	(3.32)	(9.39)
Year 2018	-0.0895	-0.0910	-0.0634	0.4996***
	(-1.14)	(-1.16)	(-0.74)	(6.19)
Year 2019	-0.2718***	-0.2744***	-0.2552**	0.3394***
	(-3.40)	(-3.44)	(-2.94)	(4.12)
Year 2020	-0.6605***	-0.6667***	-0.6226***	0.0412
	(-7.62)	(-7.71)	(-6.66)	(0.46)
Constant	-2.3881***	-2.2908***	-2.3366***	-3.0715***
	(-15.43)	(-17.32)	(-16.57)	(-23.84)
Observations	51496	51686	45031	77697
Pseudo R-squared	0.0719	0.0716	0.0750	0.0545

t statistics in parentheses

** p<0.05. ** p<0.01. *** p<0.001.*

ACS = American Community Survey.

Notes: 1 is full model; 2 is with a trimmed set of covariates; 3 adds a rent-change variable; and 4 identifies predictors of speculative debt, taking all buildings (not just those with repeat debt) into account.

Sources: Building Indicator Project, UNHP, drawing on data from New York City; US Census

In many cases, increased debt is supported by a higher valuation of the property by a lender. The more a property is worth, the easier it is to take out a loan corresponding to its higher value. One clear indicator of a property's value is the rent a landlord can collect. When adding changes in

neighborhood rents to the model, these changes do have a statistically significant association with a property taking on the highest levels of increased debt. Rising rents, however, did not play as significant a role in predicting increased debt as they did in predicting increased sales prices. The rent-change variable also did not seem to impact the role of other variables, such as poverty and race, meaning that even when taking rising rent levels into account, the net effect of a building's location in lower-income BIPOC communities remained similar.

What are the Consequences of Speculation for Maintenance Quality?

It is important to understand how market forces have impacted BIPOC and lower-income communities—to show that the greatest wealth increases for owners are more likely to have been generated in communities of color and from buildings that likely house some of the city's poorest tenants. It is also important to show the *consequences* of property owners' speculative wealth building on tenants and communities. To do so, this article draws on the fact that, since its inception, the BIP has collected information on housing maintenance violations the city has recorded on rental properties. In New York, maintenance code violations are reported by tenants and verified by inspectors from the city's Department of Housing Preservation and Development (HPD), which issues citations to the landlord for these problems. HPD violations include a wide range of issues, such as fire safety; heat and hot water problems; defective faucets, drains, and pipes; lead-based paint; vermin, such as cockroaches, mice, and rats; broken plaster; or trash accumulation in common areas.[5] Although violations are an imperfect measure of housing quality because they are reactive to tenant complaints, they are the best available data source for maintenance quality across all New York apartment buildings. This analysis of the relationship between speculation and housing maintenance violations starts in 2014, the point at which city databases provided easier-to-access, higher-quality records. This fact limits the time range of the study, but it still provides a recent view of maintenance quality and its association with speculative activity.

Speculative Sales and Housing Quality

One might think that buildings with few maintenance problems would be sold for the highest change in prices, reflecting the value of the property. Looking across New York, this expectation holds somewhat true. During the study period, the highest-reselling quartile of properties has about 17 to 20 percent of all HPD violations when weighted by the number of units in the building. These properties' share of violations is slightly less than their overall share of units but more than one might expect because these properties escalated the most in value (exhibit 5). One of the reasons buildings that sold for higher values do not have higher maintenance quality is that in some communities, particularly Lower Manhattan and Queens, there are years when the top 25 percent of units have *more* than their share of maintenance violations. For example, in 2015, 2016, and 2019, the highest-rising quartile of sales prices carried 31 percent, 27 percent, and 29 percent of HPD violations among resold units, respectively. In other words, in those areas, the highest-rising sales prices appear to be for buildings with relatively *worse* quality.

[5] For descriptions of violations, see New York's Housing Maintenance Code, https://www.nyc.gov/assets/buildings/pdf/HousingMaintenanceCode.pdf.

Exhibit 5

Proportion of HPD Violations Recorded for the Top Quartile of Time-Adjusted Increased Sales Prices, Weighted by Unit

Year	All Boroughs (%)	The Bronx (%)	Brooklyn (%)	Lower Manhattan (%)	Upper Manhattan (%)	Queens (%)
2014	19	25	14	5	18	28
2015	20	17	21	31	16	27
2016	19	18	19	27	16	31
2017	17	17	14	15	25	14
2018	17	23	13	16	21	11
2019	17	19	14	29	21	13
2020	19	18	22	17	20	7

Data: All BBLs (properties identified by borough-block-lot) with a repeated sale in 2016–17 cohort.
Source: Building Indicator Project, UNHP, drawing on data from New York City

Multiple factors may contribute to housing maintenance problems. Rental income streams are a major driver. The higher the rent rolls, the more that can be directed toward repair. Other factors are the properties' age and construction features. To account for these factors, regressions explored the relationship between speculation (in the form of increased prices) and maintenance quality while holding constant factors such as neighborhood poverty and race (exhibit 6). The model also includes borough-level variables to account for geographic patterns of development that might capture a property's age and construction methods. As previously described, an apartment's location in a lower-income BIPOC neighborhood made it more likely to be sold for the highest additional amount. Because these places are also neighborhoods with higher housing maintenance problems, it might be possible that the association between higher sales prices and maintenance problems is driven by community characteristics and not by the speculative event itself. By controlling for poverty, race, and income characteristics, it is therefore possible to examine the impact of speculation on housing maintenance problems over and above these factors.[6]

[6] As described in exhibit 9, the research also examined at temporal relationships—whether housing violations tend to follow or precede a speculative sale. There is evidence that in New York, the same set of distressed apartment buildings are being resold for higher and higher values and have increased debt taken on them. More violations help predict being sold for the highest additional amount, although being sold is more predictive of subsequent violations, reinforcing the potentially causal relationship between speculation and maintenance quality.

Exhibit 6

OLS Regression Results of Speculative Sales 2016–17 on Violations Per Unit, 2018–20

OLS Regressions	Dependent Variable—HPD Violations Per Unit, 2018–20					
	Citywide	Lower Manhattan	Upper Manhattan	Bronx	Brooklyn	Queens
	(1)	(2)	(3)	(4)	(5)	(6)
Total Speculative Sales 2016–17	0.486***	0.418*	1.338***	1.719***	-0.168	-0.038
	(3.74)	(2.48)	(3.60)	(4.72)	(-0.72)	(-0.14)
Percent Poverty (ACS 2019)	0.704***	0.954***	-1.407*	0.546	-0.218	-0.330
	(5.31)	(4.37)	(-2.32)	(1.22)	(-0.77)	(-1.08)
Percent Black/ African-American (ACS 2019)	2.008***	-0.542*	1.101*	1.424***	2.082***	0.896***
	(36.90)	(-2.00)	(2.14)	(3.97)	(24.23)	(5.23)
Percent Hispanic/ Latino (ACS 2019)	1.208***	0.704***	2.203***	0.591	1.400***	0.799***
	(18.65)	(5.13)	(3.54)	(1.40)	(10.95)	(6.98)
Percent Adults w/ College Degree (ACS 2019)	-0.289***	-0.160	-0.815	-2.521***	-0.855***	-0.280
	(-3.89)	(-1.50)	(-1.19)	(-4.04)	(-5.39)	(-1.82)
Population (ACS 2019)	-0.000	0.000	0.000	0.000	0.000	-0.000***
	(-1.17)	(1.44)	(0.70)	(0.47)	(0.00)	(-3.86)
Population Change ACS 2014–ACS 2019	-0.227***	0.062	0.007	-0.106	-0.548***	0.131
	(-3.87)	(0.88)	(0.02)	(-0.74)	(-4.51)	(1.50)
Constant	0.304***	0.266*	0.572	1.186**	0.826***	0.470***
	(4.83)	(2.42)	(0.80)	(2.80)	(6.06)	(3.93)
Observations	75,768	17,617	7,132	9,041	29,899	12,079
R-squared	0.047	0.012	0.021	0.021	0.038	0.011
Adjusted R-squared	0.047	0.012	0.020	0.020	0.038	0.010
RMSE	2.835	1.215	3.024	3.341	3.494	1.960
F	534.215	30.348	21.680	27.149	167.890	18.740

t statistics in parentheses

** p<0.05. ** p<0.01. *** p<0.001.*

ACS = American Community Survey. HPD = Department of Housing Preservation and Development. OLS = ordinary least square. RMSE = root mean square error.

Sources: Building Indicator Project, UNHP, drawing on data from New York City; US Census

Even when taking these geographic and community factors into account, a property's being acquired as part of a speculative purchase in 2016–17 predicts more housing maintenance violations on that building in 2018–20. When examining these dynamics borough by borough, this overall citywide association is driven by speculative purchases in Manhattan and the Bronx, which conforms to claims by tenants and their advocates that these are places that have been hit particularly hard by speculation. When running regressions independently for each borough, in Brooklyn and Queens, no statistically significant association is apparent between speculative purchases and housing maintenance violations after controlling for community characteristics, although the strength of the association in Manhattan and the Bronx resulted in an overall significant effect. Overall, parcels identified by borough, block, and lot (BBLs) with at least one speculative sale in 2016–17 have 1.09 HPD violations per unit in 2018–20, whereas BBLs without a speculative sale have 0.53 violations

per unit in the same period—a difference of about 0.56 violations per unit (exhibit 7). This result aligns with the model, in which the coefficient for total speculative sales in 2016–17 is 0.486—that is, holding all neighborhood characteristics constant, each speculative sale in 2016–17 is associated with a 0.486 increase in HPD violations per unit in 2018–20.

Exhibit 7

Speculative Sales and Violations Per Unit

BBL with Speculative Sale 2016–17	Total HPD Violations 2018–20	Total Units	Total Violations Per Unit 2018–20
Yes	13,025	11,940	1.09
No	1,389,549	2,610,533	0.53
Total	1,402,574	2,622,473	0.53

BBL = property identified by borough-block-lot. HPD = Department of Housing Preservation and Development.
Sources: Building Indicator Project, UNHP, drawing on data from New York City

Speculative Debt and Housing Quality

As previously described, another dynamic of speculation involves taking on increasing debt on apartment buildings—a form of financialization that provides low-cost capital that can be used for higher-return investments. Without controls introduced, the steepest increase in sales price, overall, involved buildings with slightly proportionally fewer maintenance violations than their share of all repeat sales. However, the buildings that took on the greatest increase in debt, without controls, have *more* than their share of housing maintenance problems when adjusting for building size. That is, the top 25 percent of buildings acquiring the largest increases in debt account for about 38 percent of maintenance violations from 2014 to 2020, with some variations by borough (exhibit 8).

Exhibit 8

Proportion of HPD Violations Recorded for the Top Quartile of Increased Debt, Weighted by Units

Year	All Boroughs (%)	The Bronx (%)	Brooklyn (%)	Lower Manhattan (%)	Upper Manhattan (%)	Queens (%)
2014	38	35	48	47	29	21
2015	35	35	41	34	29	25
2016	34	31	35	32	36	32
2017	37	35	41	38	36	33
2018	37	37	39	31	42	27
2019	38	40	37	29	39	28
2020	38	42	40	22	36	30

Data: All BBLs (properties identified by borough-block-lot) with a change in debt in 2016–17 cohort.
HPD = Department of Housing Preservation and Development.
Source: Building Indicator Project, UNHP, drawing on data from New York City

Greater debt can possibly be invested back into properties, especially to repair buildings and provide other forms of property maintenance. For this reason, it might also make sense that more debt is taken out on more distressed properties, and there is some evidence that this also

occurs. Buildings with more maintenance violations in 2016–17 are more likely to take on the highest additional debt in 2018–20, as described in exhibit 9. This finding also affirms advocates' understanding that it is often the same distressed portfolios that take on more debt over time. Furthermore, as previously described, lower-income neighborhoods of color were most likely to have properties that took on the greatest amount of debt, and these are also the places with the most housing maintenance issues.

Exhibit 9

Temporal Relationships Between Sales, Debt, and Violations

OLS Regressions	Dependent Variable					
	Total Speculative Sales 2016–17	Total HPD Violations 2018–20	Total HPD Violations 2014–15	Total Speculative Debt Events 2016–17	Total HPD Violations 2018–20	Total HPD Violations 2014–15
	(1)	(2)	(3)	(4)	(5)	(6)
Total Speculative Sales 2014–15	0.008**					
	(3.04)					
Total Speculative Sales 2016–17		9.195***	7.363***			
		(3.57)	(5.19)			
Total Speculative Debt Events 2014–15				0.045***		
				(14.36)		
Total Speculative Debt Events 2016–17					26.693***	13.648***
					(22.64)	(20.99)
Constant	0.006***	18.221***	9.508***	0.027***	17.510***	9.161***
	(21.15)	(89.21)	(84.49)	(42.79)	(85.09)	(80.75)
Observations	76,739	76,739	76,739	76,739	76,739	76,739
R-squared	0.00012100	0.00016600	0.00035000	0.00268000	0.00663000	0.00571000
RMSE	0.0790	56.4070	31.0810	0.1720	56.2240	30.9970
F	9.25	12.73	26.89	206.13	512.46	440.77

t statistics in parentheses

*** p<0.01. **** p<0.001.*

HPD = Department of Housing Preservation and Development. OLS = ordinary least square. RMSE = root mean square error.

Source: Building Indicator Project, UNHP, drawing on data from New York City

For all these reasons, it is important to understand the net effect of taking on higher levels of debt on housing violations by factoring community context into the model, and in fact, even controlling for factors like neighborhood poverty and race, speculative debt levels still impact violations. That is, over and above the influence of poverty and race, a building that takes on higher levels of increased debt in 2016–17 is more likely to have increased maintenance problems in 2018–20 (exhibit 10). Overall, properties with at least one speculative debt in 2016–17 have 1.37 HPD violations per unit in 2018–20, whereas properties without speculative debt have 0.51 violations per unit in the same period—a difference of about 0.86 violations per unit (exhibit 11). This calculation aligns with the model presented in exhibit 10, in which the coefficient for total speculative sales in 2016–17 is 0.780, suggesting that with controls introduced, each speculative debt event in 2016–17 is associated with a 0.780 increase in HPD violations per unit in 2018–20.

Exhibit 10

OLS Regression Results of Speculative Debt 2016–17 on Adjusted Violations 2018–20

OLS Regressions	Dependent Variable—HPD Violations Per Unit 2018–20					
	Citywide	Lower Manhattan	Upper Manhattan	Bronx	Brooklyn	Queens
	(1)	(2)	(3)	(4)	(5)	(6)
Total Speculative Debt Events 2016–2017	0.780***	0.197***	1.454***	1.916***	0.376**	0.177
	(13.09)	(3.50)	(7.91)	(12.14)	(3.20)	(1.26)
Percent Poverty (ACS 2019)	0.672***	0.953***	-1.479*	0.544	-0.229	-0.336
	(5.06)	(4.37)	(-2.45)	(1.22)	(-0.81)	(-1.10)
Percent Black/African-American (ACS 2019)	1.980***	-0.544*	1.049*	1.443***	2.058***	0.890***
	(36.41)	(-2.01)	(2.04)	(4.05)	(23.92)	(5.19)
Percent Hispanic/Latino (ACS 2019)	1.180***	0.705***	2.125***	0.505	1.386***	0.797***
	(18.23)	(5.14)	(3.42)	(1.21)	(10.83)	(6.96)
Percent Adults w/ College Degree (ACS 2019)	-0.317***	-0.159	-0.911	-2.447***	-0.873***	-0.284
	(-4.27)	(-1.48)	(-1.33)	(-3.95)	(-5.50)	(-1.84)
Population (ACS 2019)	0.000	0.000	0.000	0.000	0.000	-0.000***
	(-1.33)	(1.46)	(0.45)	(0.30)	(-0.04)	(-3.86)
Population Change ACS 2014–ACS 2019	-0.223***	0.063	-0.001	-0.119	-0.545***	0.132
	(-3.80)	(0.90)	(-0.00)	(-0.83)	(-4.48)	(1.51)
Constant	0.320***	0.260*	0.662	1.164**	0.836***	0.470***
	(5.08)	(2.37)	(0.93)	(2.77)	(6.13)	(3.94)
Observations	75,768	17,617	7,132	9,041	29,899	12,079
R-squared	0.049	0.012	0.028	0.034	0.038	0.011
Adjusted R-squared	0.049	0.012	0.027	0.033	0.038	0.010
RMSE	2.83	1.22	3.01	3.32	3.49	1.96
F	557.79	31.23	28.89	45.36	169.33	18.97

t statistics in parentheses

** p<0.05. ** p<0.01. *** p<0.001.*

ACS = American Community Survey. HPD = Department of Housing Preservation and Development. OLS = ordinary least square. RMSE = root mean square error.

Sources: Building Indicator Project, UNHP, drawing on data from New York City; US Census

Exhibit 11

Speculative Debt and Maintenance Problems

BBL with Speculative Debt 2016-17	Total HPD Violations 2018–20	Total Units	Total Violations Per Unit 2018–20
Yes	95,773	70,001	1.37
No	1,306,801	2,552,472	0.51
Total	1,402,574	2,622,473	0.53

BBL = property identified by borough-block-lot. HPD = Department of Housing Preservation and Development.

Source: Building Indicator Project, UNHP, drawing on data from New York City

Many reasons might explain this association between debt and poorer housing quality. In some instances, greater debt may directly *cause* maintenance problems. Because landlords use rental

income to make mortgage payments, greater loan amounts mean that a higher proportion of rent rolls may be directed toward debt service over building expenses, resulting directly in deteriorating building conditions. In some cases, a landlord might also increase rent to meet building payments, although rent increases at the building level are not observable in the data. In other instances, taking on high levels of debt may be associated with a kind of extractive behavior on the part of landlords—a strategy of drawing out equity to be used for other investments. Regardless of the mechanism, this finding has important policy implications in that taking on high amounts of additional debt is a leading signal of problems for tenants—more powerful even than a speculative increase in sales price.

Speculation and Displacement

Displacement may occur in many ways. As Marcuse argued in his classic 1985 paper, it can occur directly, as individuals are forced to leave their homes due to landlord harassment, rent increases, or building conditions that threaten family well-being—in other words, through physical or economic means. Displacement can also occur indirectly and through a form of exclusionary displacement because BIPOC individuals with lower wages or income who might otherwise have occupied a unit in a community of color are unable to do so when a higher-income or White household has moved into that dwelling (Marcuse, 1985). Data are not publicly available to measure all these forms of displacement, although they are important dynamics of neighborhood change.

Among *direct* forms of displacement, eviction is one of the most traumatic—not only an event caused by poverty, but one which itself causes poverty by subjecting individuals and families to trauma, work and educational disruptions, and, in many cases, great expense (Desmond, 2016). In New York City, the lawful eviction process starts with a notice from the landlord requiring rent to be paid or some lease violation to be corrected. At that point, rather than undergo a court process, many households will choose to vacate their apartment for another, move in with friends or relatives, or seek to enter a shelter. If they do not, the landlord may file for eviction in housing court. Around 175,000 to 190,000 such cases have been filed per year in the past decade, with the majority in the Bronx, hovering at around 20 filings per 100 private dwelling units each year. Of these filings, about 60 percent result in some kind of judgment, but only 10 percent then proceed to the execution of an eviction through court warrant, partly because not every judgment goes against the tenant and partly because many tenants will leave or otherwise resolve their case before such a warrant is executed (Furman Center, 2019). In New York, even though eviction courts were not operating during the pandemic, there were over 223,000 filings waiting to be adjudicated by 2021 (Brand, 2021).

For these reasons, even though eviction warrants represent a very small proportion of eviction filings and an even smaller subset of displacement activity, they are an important phenomenon to study. Completed evictions are also available at a level that ties the eviction to a specific property. In New York, officers of the court are known as marshals, and various marshal's offices have recorded the dates and addresses where they were ordered by housing court to execute an eviction and give control of the apartment back to the landlord. Building on New York City marshals' records, New York's Housing Data Coalition created a file of executed eviction warrants. By adding marshals' data

on eviction judgments to the analysis file, it is possible to examine whether a speculative event—a building being in the top tier of sales-price or debt increase—increases the likelihood of a landlord filing for eviction. The dependent variable in this case was the number of eviction judgments per unit. Because pandemic-era restrictions changed eviction dynamics (although the restrictions did not stop eviction filings), the analysis ends in 2019.

Findings echo and support advocates' longstanding claims about the impact of speculation on evictions. Overall, properties with at least one speculative event in 2014–16 experienced 0.0273 evictions per unit in 2017–19, compared to 0.0149 evictions per unit in properties without a speculative event—making the eviction rate almost twice as high in properties with a speculative event compared to properties without, as shown in exhibit 12. To show the *net* effect of speculation, over and above neighborhood-level factors, such as race and poverty, regressions introduced community-level controls—an especially important comparison because speculation tends to occur in the same neighborhoods that also see greater levels of poverty and higher levels of eviction. After introducing controls, such as the size of the property, poverty, neighborhood racial demographics, and local rent changes, to account for local market effects (exhibit 13), the coefficient for speculation on evictions is 1.489, suggesting that properties subject to speculative activity evict at 1.5 times the rate of comparable buildings in similar neighborhoods.

Exhibit 12

Speculative Events and Eviction Warrants

Any Speculative Event (Sale or Debt) 2014-16	Total Evictions 2017–19	Total Units	Total Evictions Per Unit 2017–19
Yes	4,355	159,782	0.0273
No	34,661	2,462,691	0.0141
Total	39,016	2,622,473	0.0149

Sources: Building Indicator Project, UNHP, drawing on data from New York City; New York Housing Data Coalition

Exhibit 13

Association Between Speculative Events and Evictions (1 of 2)

	OLS (1) Evictions 2017-20	Poisson (2) Evictions 2017-20	Poisson IRR (3) Evictions 2017-20
Any Speculative Event (Sale or Debt) 2014–16	0.293***	0.404***	1.498***
	(10.19)	(9.61)	(9.61)
Units Per Property	0.00957***	0.000514***	1.001***
	(151.45)	(9.07)	(9.07)
Percent Poverty (ACS 2019)	0.420***	0.804***	2.233***
	(4.62)	(3.72)	(3.72)
Percent Black/African-American (ACS 2019)	1.051***	1.862***	6.440***
	(27.94)	(28.42)	(28.42)
Percent Hispanic/Latino (ACS 2019)	0.923***	1.553***	4.726***
	(20.63)	(16.46)	(16.46)

Exhibit 13

Association Between Speculative Events and Evictions (2 of 2)

	OLS (1) Evictions 2017-20	Poisson (2) Evictions 2017-20	Poisson IRR (3) Evictions 2017-20
Percent Adults w/ College Degree (ACS 2019)	-0.494***	-1.361***	0.256***
	(-9.62)	(-11.46)	(-11.46)
Population (ACS 2019)	0.0000160***	0.0000325*	1.000*
	(5.32)	(2.21)	(2.21)
Population Change ACS 2014–ACS 2019	0.0890*	0.326***	1.386***
	(2.16)	(9.03)	(9.03)
Constant	-0.169***	-1.525***	70174
	(-3.90)	(-17.84)	
Observations	70174	70174	
R-squared	0.283		
RMSE	1.865		
F	3461.9		

t statistics in parentheses

** p<0.05. *** p<0.001.*

ACS = American Community Survey. IRR = incidence rate ratio. OLS = ordinary least squares. RMSE = root mean square error.

Sources: Building Indicator Project, UNHP, drawing on data from New York City; US Census; New York Housing Data Coalition

How do Affordable Housing Investments Break Cycles of Speculation and Distress?

The findings in exhibit 13 grimly illustrate challenging realities for lower-income communities of color in New York. Not only is more additional wealth generated (for others) from their homes, but the properties that generate this wealth and capital are more poorly maintained than comparable buildings and evict a higher proportion of their tenants. At the same time, although New York City has a long history of affordability challenges, housing speculation, and predatory ownership in different forms, it also has a long history of activist tenant and affordable housing movements, which have generated public support for relatively high levels of housing investment—approximately $19 billion from the city's own capital budget in the years from 1987 to 2018. Combined with federal and state resources, this support has resulted in approximately 17,000 annual affordable housing units produced or preserved, although at different levels of affordability (Schwartz, 2019).

Building on previous analyses, this research examined whether affordable housing investments were associated with better-quality housing and fewer speculative events.[7] To do so, data about financial and building characteristics were combined with data from New York University's Furman Center, which collected information about various kinds of affordable housing subsidies directed toward apartments. Because the article's primary concern was identifying forms of tenant,

[7] Calculating evictions by subsidy in comparison to other buildings is unfair because, by definition, affordable housing programs generally serve the lowest-income tenants, whereas other buildings, even in low-income areas, may have a range of tenant incomes.

community, or nonprofit ownership, it limits our analysis to certain subsidy streams and excluded other forms of affordability subsidies from the analysis, although for-profit affordable housing owners were also included.[8] Finally, it is worth remembering that only privately owned buildings are in the data, whether they are owned by a for-profit or nonprofit entity. Public housing is not included because it operates through a separate regulatory regime in which a lack of funding has resulted in severe housing maintenance issues and because the overall analysis and the BIP data set were focused on the private market.

When looking across all private rental housing units—including luxury apartment buildings and newly constructed apartments—there are about one-half to two-thirds fewer violations in subsidized apartments than in unsubsidized apartments, as shown in exhibit 14. On the one hand, one might assume that the presence of affordable investments should be associated with better housing quality because these investments were provided with public subsidies for the property's repair or for new construction. On the other hand, many of the buildings designated for such efforts had significant maintenance problems to begin with, and they house people with low incomes at affordable rents, meaning that there is no significant ongoing cash flow to devote to their maintenance. This situation speaks to the power of these investments and/or their community stewardship in maintaining not just affordability but also residential quality of life for tenants.

Exhibit 14

Total Violations Per Unit for Subsidized and Nonsubsidized Properties

Year	Total HPD Violations in Nonsubsidized Properties	Total HPD Violations in Subsidized Properties	Total HPD Violations	Total Units in Nonsubsidized Properties	Total Units in Subsidized Properties	Total Units	HPD Violations Per Nonsubsidized Unit (%)	HPD Violations Per Subsidized Unit (%)
2014	283,957	18,320	302,277	2,058,499	407,586	2,466,085	14	4
2015	357,974	23,517	381,491	2,046,335	419,750	2,466,085	17	6
2016	352,024	27,992	380,016	2,027,315	438,770	2,466,085	17	6
2017	380,879	36,724	417,603	2,014,032	452,053	2,466,085	19	8
2018	427,142	45,213	472,355	1,999,855	466,230	2,466,085	21	10
2019	449,411	52,588	501,999	1,986,910	479,175	2,466,085	23	11
2020	298,294	39,991	338,285	1,971,335	494,750	2,466,085	15	8

Data: BBLs (properties identified by borough-block-lot) with a selected subsidy vs. all other BBLs (removed BBLs with other forms of subsidy).
HPD = Department of Housing Preservation and Development.
Sources: Building Indicator Project, UNHP, drawing on data from New York City; NYU Furman Center Subsidized Housing Information Project

Adding regressions that factor in community conditions, such as race and poverty, demonstrates that these subsidies are associated with significantly fewer violations. That is, when compared to unsubsidized buildings in similar communities, units with affordable housing subsidies still are shown to have significantly fewer violations (exhibit 15). For example, BBLs with at least one subsidy in 2014–15 overall have 0.086 HPD violations per unit, whereas BBLs without a

[8] Programs included in the analysis are Section 202/8, Section 221d(3) and Section 221d(4) Mortgage Insurance, Section 223(f), Article 8A/HRP, LAMP – HDC, LIHTC 4%, LIHTC 9%, Multi-Family Program, Mitchell-Lama, Neighborhood Entrepreneur Program, Neighborhood Redevelopment Program, the Participation Loan Program, the Project Rental Assistance Contract, Project-Based Section 8, Section 8/RAD, TPT, and LIHTC Year 15, as well as those marked "Other HPD, HUD, and HUD Project-Based Rental Assistance."

subsidy have 0.326 violations per unit in the same period, a difference of about -0.24 violations per unit (exhibit 16). This calculation aligns with the model, in which the coefficient for subsidy in 2014–15 is -0.653 (larger than the raw difference). In other words, holding all neighborhood characteristics constant, a property with a subsidy in 2014–15 is associated with a 0.653 decrease in HPD violations per unit. When controlling for neighborhood context and reporting violations per unit, the analysis is not able to account for factors such as unit size, although community-level controls may address these issues, and recent analyses (Duranti-Martínez and Greenberg, 2023) show that properties matched on price and maintenance quality that receive acquisition rehabilitation subsidies have three times fewer maintenance violations versus comparable buildings sold to another owner without a subsidy.

Exhibit 15

Subsidy and HPD Violations, 2014–15

OLS Regressions	Dependent Variable—HPD Violations Per Unit 2014–15		
	(1)	(2)	(3)
Subsidy 2014–15	-0.167***	-0.653***	-0.673***
	(-6.39)	(-24.48)	(-23.26)
Bronx		0.181***	0.208***
		(5.48)	(5.43)
Brooklyn		0.095***	0.122***
		(4.25)	(4.26)
Queens		-0.188***	-0.163***
		(-6.76)	(-4.96)
Upper Manhattan		0.072*	0.093**
		(2.46)	(2.78)
Percent Poverty (ACS 2019)		0.309***	0.321***
		(3.52)	(3.38)
Percent Black/African-American (ACS 2019)		1.089***	1.095***
		(30.36)	(28.48)
Percent Hispanic/Latino (ACS 2019)		0.869***	0.865***
		(19.70)	(18.17)
Percent Adults w/ College Degree (ACS 2019)		-0.209***	-0.218***
		(-3.90)	(-3.53)
Population (ACS 2019)		0.000**	0.000**
		(2.85)	(3.08)
Population Change ACS 2014–ACS 2019		-0.117**	-0.154***
		(-3.17)	(-3.36)
Percent Rent Change ACS 2014–ACS 2019			0.034
			(0.75)
Constant	0.557***	0.126*	0.085
	(86.84)	(2.24)	(1.33)
Observations	65,875	65,860	57,241
R-squared	0.0006	0.0668	0.0591
Adjusted R-squared	0.0006	0.0666	0.0589
RMSE	1.596	1.543	1.643
F	40.826	428.201	299.613

t statistics in parentheses

** p<0.05. ** p<0.01. *** p<0.001.*

ACS = American Community Survey. HPD = Department of Housing Preservation and Development. OLS = ordinary least square. RMSE = root mean square error.

Sources: Building Indicator Project, UNHP, drawing on data from New York City; US Census; NYU Furman Center Subsidized Housing Information Project

Exhibit 16

Affordable Subsidy and HPD Violations

Subsidized BBLs 2014–15	Total HPD Violations 2014–15	Total Units	Total Violations Per Unit 2014–15
Yes	43,519	504,008	0.086
No	640,249	1,962,077	0.326
Total	683,768	2,466,085	0.277

BBLs = properties identified by borough-block-lot. HPD = Department of Housing Preservation and Development.

Note: Subsidized BBLs include properties that had an active subsidy in either year.

Sources: Building Indicator Project, UNHP, drawing on data from New York City; NYU Furman Center Subsidized Housing Information Project

Removing Buildings from Cycles of Speculation

Subsidized properties not only have better maintenance quality but are also less likely to experience a debt increase or spike in sales value when compared to all other properties. Overall, about 1.12 percent of units with a subsidy in 2016–17 had a speculative event in the same period. About 3.14 percent of units without a subsidy in 2016–17 had a speculative event in the same period, as shown in exhibit 17. These results show that buildings with affordable housing investments—at least while the subsidy is in place—are, as a whole, removed from the cycles of disinvestment and speculation that so negatively impact tenants and communities. This circumstance appears to be driven by a reduction in speculative sales because owners of affordable housing are less likely to resell for higher amounts, although some may take on additional debt that is channeled directly into property improvements.

Exhibit 17

Speculative Events and Subsidy

Total Units		Any Speculative Event 2016–17			
		Yes	No	Total	%
Subsidized 2016–17	Yes	2,908	256,190	259,098	1.12
	No	70,936	2,186,280	2,257,216	3.14
	Total	73,844	2,442,470	2,516,314	

Sources: Building Indicator Project, UNHP, drawing on data from New York City; NYU Furman Center Subsidized Housing Information Project

Discussion

These analyses describe the costs of speculation to tenants and BIPOC communities and the power of affordable housing investments to promote tenant quality of life. In essence, the article finds that the greatest increases in landlord wealth are derived from buildings in the communities of color where tenants receive the lowest incomes and that buildings generating the greatest added wealth also hold the most harm for their tenants. It also finds that affordable housing investments provide far superior living standards and remove buildings from cycles of speculation and disinvestment.

Several implications can be derived from these findings. First, the finding that steeper increases in sales price and higher increases in debt were associated with more evictions speaks to the general

need to provide tenant assistance and rental protections, both to aid tenants directly and to reduce the incentive to speculate, making it more difficult to displace longer-term tenants. Policies that can achieve these goals include extensions of effective rental relief funds, good-cause eviction protections, right-to-counsel initiatives, harassment protections, and similar measures.

Second, this research shows how community development investments created better-maintained properties and removed them from cycles of speculation. Broadly, investments at the federal level in affordable housing—which have declined significantly over time—can be used to acquire and rehabilitate rental housing, and advocates have called for their increase (LISC, 2023), including affordable housing programs targeted to provide flexible acquisition resources to mission-based housing organizations, such as the Housing Investment Fund. Tenant, nonprofit, and community ownership, including community land trusts, mutual housing associations, and limited-equity cooperatives, can be particularly beneficial to residents. Tenant Opportunity to Purchase Act (TOPA) and Community Opportunity to Purchase Act (COPA) policies may also be effective vehicles for this goal when paired with significant acquisition funding and support for ongoing organizing, capacity-building for nonprofit developers and technical and legal assistance to help tenants and community partners navigate the purchase and rehabilitation process. TOPA has a 40-year track record of preventing displacement and preserving affordable housing in Washington, D.C. San Francisco passed COPA in 2019, and Massachusetts and New York are considering statewide TOPA legislation, whereas Berkeley, Los Angeles, Oakland, New York City, and Minneapolis are exploring local opportunity-to-purchase policies (Duranti-Martínez and Greenberg, 2023).

Third, both speculative purchases and speculative finance were associated with poor housing maintenance. Advocates have called for increased code enforcement focused on poorly maintained portfolios and owners with histories of neglecting properties, both to improve tenant quality of life and potentially disincentivize speculators from deferring maintenance as a profit-making strategy. Code enforcement can create escalating civil penalties for deferred maintenance and tenant harassment, and it may involve receivership programs to assign property management of highly distressed buildings to a third-party administrator. Such enforcement programs could focus on investor owners and large property owners with the worst impact on communities. In these cases, tenant organizing is a valuable tool that can leverage code enforcement policies and promote tenant self-determination, and they may also require public and private support.

Fourth, the fact that increasing debt was a leading signal of maintenance quality problems and evictions suggests not only that financing is not generally being directed toward property improvements, but also that it may in fact be harming tenants because greater mortgage payments take up revenue streams that might otherwise be used for repairs and maintenance. A policy implication of this finding is to examine mechanisms to ensure that greater debt taken out on rental housing results in improvements for tenants and that lenders should be held accountable, as other investors are, for the quality of the properties on which loans are placed. For example, through the Community Reinvestment Act (CRA), there are incentives for responsible lending to rental housing and regulation of investments in housing that receive CRA credit. Currently, as long as a rental housing mortgage is provided in a low- to moderate-income census tract and to a building

with lower-income tenants, that mortgage is often assumed to be a community reinvestment. The findings in this article imply that these investments do not always benefit tenants—suggesting that CRA commitments should incentivize mortgage lending in a manner that does not incentivize displacement or harm for tenants. Mortgage lending should include transparent benchmarking of expense minimums that are consistent with safe housing in all loan underwriting and clear processes for holding landlord borrowers accountable when they fail to responsibly steward the rental housing against which the mortgage was originated. Another mechanism to ensure that multifamily mortgage lending promotes safe, stable, and affordable housing is through Federal Housing Finance Agency (FHFA) regulation of the government-sponsored enterprises (GSEs), such as Freddie Mac and Fannie Mae. Over the past decade, these two GSEs have become major lenders in the rental market, and they have recently come under scrutiny for financing provided to large private equity landlords (Vogell, 2022); on this subject, the Biden Administration recently released a call to understand how FHFA might promote tenant protections on future loans backed by Fannie Mae and Freddie Mac, an exploration that this research would support.

Acknowledgments

The authors would like to thank anonymous *Cityscape* reviewers, internal reviewers within LISC Policy, Housing, and New York State divisions, and external reviewers at the Community Service Society, Banana Kelly Community Improvement Association, New Economy Project, Center for Popular Democracy, TakeRoot Justice, Southside HDFC, and Cooper Square Committee. Jim Buckley, executive director at UNHP, provided essential guidance in the project.

Authors

David M. Greenberg is vice president of community research and impact at the Local Initiatives Support Corporation (LISC), where Julia Duranti-Martínez is a senior program officer for community research and impact and Francisca Winston is a director of data and analytics. Spenser Anderson worked at LISC at the time of research. Jacob Udell is director of research and data at the University Neighborhood Housing Program (UNHP), where Caroline Kirk worked at the time of research. Richard D. Hendra is a part-time assistant professor at the New School. For more information, please contact David Greenberg at dgreenberg@lisc.org.

References

Bocian, Debbie Gruenstein, Wei Li, and Keith S. Ernst. 2010. "Foreclosures by Race and Ethnicity," *Center for Responsible Lending*.

Brand, David. 2021. "Every NYC Tenant Has Access to Housing Court Lawyer, as Eviction Protections Near End," *City Limits*, November 18. https://citylimits.org/2021/11/18/every-nyc-tenant-has-right-to-housing-court-lawyer-as-eviction-protections-near-end/.

Desmond, Matthew. 2016. *Evicted: Poverty and Profit in the American City*. New York, NY: Crown.

Duranti-Martínez, Julia, and David M. Greenberg. 2023. *Stable Homes and Resident Empowerment: Implementing Effective Tenant and Community Opportunities to Purchase Programs*. Local Initiatives Support Corporation. https://www.lisc.org/our-resources/resource/stable-homes-and-resident-empowerment/.

Gao, Zhenyu, Michael Sockin, and Wei Xiong. 2020. "Economic Consequences of Housing Speculation," *The Review of Financial Studies* 33 (11): 5248–5287.

Glaeser, Edward L. 2013. "A Nation of Gamblers: Real Estate Speculation and American History," *American Economic Review* 103 (3): 1–42.

Hornbach, Celeste, Oksana Mironova, Samuel Stein, and Jacob Udell. 2020. "Corporate Windfalls or Social Housing Conversion? The Looming Mortgage Crisis and the Choices Facing New York." Press release. New York, NY: Community Service Society. https://www.cssny.org/news/entry/new-css-report-corporate-windfalls-or-social-housing-conversions.

Local Initiatives Support Corporation (LISC). 2023. *LISC's Policy Priorities 2023–2024*. Local Initiatives Support Corporation. https://www.lisc.org/policy/policy-priorities/.

Marcuse, Peter. 1985. "Gentrification, Abandonment, and Displacement: Connections, Causes, and Policy Responses in New York City," *Washington University Journal of Urban and Contemporary Law* 28 (1): 195–240.

Mironova, Oksana, Samuel Stein, Celeste Hornbach, and Jacob Udell. 2022. *Pathways to Social Housing in New York: 20 Policies to Shift from Private Profit to Public Good*. New York, NY: Community Service Society.

New York University, Furman Center. 2019. *Trends in New York City Housing Court Eviction Filings*. New York, NY: NYU Furman Center. https://furmancenter.org/research/publication/trends-in-new-york-city-housing-court-eviction-filings.

Raymond, Elora Lee, Ben Miller, Michaela McKinney, and Jonathan Braun. 2021. "Gentrifying Atlanta: Investor Purchases of Rental Housing, Evictions, and the Displacement of Black Residents," *Housing Policy Debate* 31 (3–5): 818–834.

Schwartz, Alex. 2019. "New York City's Affordable Housing Plans and the Limits of Local Initiative," *Cityscape* 21 (3): 355–388.

Seymour, Eric, and Joshua Akers. 2021. "'Our Customer is America': Housing Insecurity and Eviction in Las Vegas, Nevada's Postcrisis Rental Markets," *Housing Policy Debate* 31 (3–5): 516–539.

Vogell, Heather. 2022. "When Private Equity Becomes Your Landlord," *ProPublica*, February 7. https://www.propublica.org/article/when-private-equity-becomes-your-landlord.