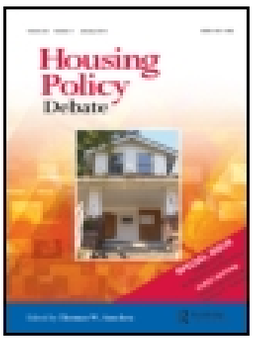

Housing Policy Debate

ISSN: 1051-1482 (Print) 2152-050X (Online) Journal homepage: https://www.tandfonline.com/loi/rhpd20

The Cost of Code Violations: How Building Codes Shape Residential Sales Prices and Rents

Robin Bartram

To cite this article: Robin Bartram (2019): The Cost of Code Violations: How Building Codes Shape Residential Sales Prices and Rents, Housing Policy Debate, DOI: 10.1080/10511482.2019.1627567

To link to this article: https://doi.org/10.1080/10511482.2019.1627567

HOUSING POLICY DEBATE
https://doi.org/10.1080/10511482.2019.1627567

Routledge
Taylor & Francis Group

The Cost of Code Violations: How Building Codes Shape Residential Sales Prices and Rents

Robin Bartram

Sociology, Tulane University, New Orleans, LA, USA

ABSTRACT

Existing literature suggests a positive correlation between building codes and housing prices. Yet studies rarely differentiate between resolved and unresolved code violations, or between residential sales prices and rent prices. As such, there are gaps in our knowledge about the landscape of housing regulations, which have particular relevance for understanding barriers to housing affordability and equity. To begin to fill these gaps, I present statistical analyses of building code violations data and housing market data in Chicago. Whereas resolving building violations does increase rents, I find no significant effect on residential sales price. And, although unresolved code violations decrease residential sales price, there is no significant effect on rent prices. Considering these results, I suggest that code violations reinforce the divide between wealthy and poor homeowners and exacerbate the existing lack of affordable housing options for renters. Overall, the article draws attention to the variation in effects of housing regulations in practice. I contend that it is crucial to understand the varied relationships between regulations and the housing market to make a dent in housing inequality.

ARTICLE HISTORY
Received 6 December 2018
Accepted 1 June 2019

KEYWORDS
Affordability; rental housing; housing; policy; real estate; regulation

Introduction

Scholars and policy professionals have studied the relationship between building codes, housing costs, and housing affordability since at least the 1960s (for overviews, see Listokin & Hattis, 2005; May, 2005). Yet key questions remain. The extant literature on building regulations suggests a uniform effect: housing codes and regulations increase prices. Yet studies rarely differentiate between rent prices and residential sales prices, or between resolved and unresolved code violations (Listokin & Hattis, 2005; May, 2005). As such, we have an incomplete account of how building codes shape residential landscapes in the metropolis, which limits our understanding of the barriers to housing affordability and equity for at least two reasons. First, building code violations are not always resolved, often because property owners lack funds for maintenance (Bartram, 2019; Desmond, 2016). I operationalize a resolved violation as a building code violation that, according to city records, was (a) noted by a municipal inspector, and then (b) listed as addressed. A violation is unresolved if an inspector has recorded the issue, but it remains unaddressed according to city records. Second, housing units that are affordable or available to low-income Americans are most often rental properties (see McCabe, 2016; Shlay, 2006). If we are invested in unpacking barriers to affordable housing, it is thus crucial that research does not gloss over differences between degrees of resolution and tenure types when considering how building codes affect housing costs.

Rather than treating building codes as abstract regulations with monolithic effects and purview, this article considers how building codes carry different implications when they are resolved versus

CONTACT Robin Bartram rbartram@tulane.edu

when they are not. I use ordinary least squares regression analyses of building violation data and housing market data to test how code violations affect rents and residential sales prices. Specifically, I test the following hypotheses: (a) that rental prices are positively correlated with resolved building code violations and negatively correlated with unresolved building code violations; and (b) that residential sales prices are positively correlated with resolved building code violations and negatively correlated with unresolved building code violations. My models produce somewhat surprising results. Whereas I find evidence that resolving building violations increases rents, there is no significant effect on residential sales prices. And, although I find evidence that unresolved code violations decrease the price of residential properties for sale, there is no significant effect on rent prices. Considering these results, I suggest that building codes reinforce patterns of housing inequality. Although regulations are necessary to ensure safe and decent building standards, current patterns in building code resolution threaten to reinforce the divide between wealthy and poor homeowners, and to exacerbate the existing lack of affordable housing options for renters. These effects are likely to have the most deleterious impact on residents who are already at the bottom of the uneven housing market. The poorest homeowners and renters—who are more likely to be minorities—end up with increasingly precarious claims to their property and choices about their housing. By drawing attention to the variation in effects of housing regulations in practice, this article fills gaps in urbanists' understandings of how building regulations shape housing landscapes in the city. I contend that it is crucial to reveal the varied relationships between regulations and the housing market to make a dent in housing inequality.

Literature Review: Housing Codes and Costs

Urbanists have tools for predicting how building codes might affect housing prices. Policymakers and scholars from an array of disciplines contend that building codes matter for the affordability of housing and have been investigating the relationship between building codes and housing affordability since at least the 1960s (e.g., Advisory Commission on Intergovernmental Relations, 1966; Advisory Commission on Regulatory Barriers to Affordable Housing, 1991; Millennial Housing Commission, 2002; National Commission on Urban Problems, 1968; for overviews, see Listokin & Hattis, 2005; May, 2005). The bulk of the extant literature focuses on new construction and rehabilitation rather than regulations of existing housing stock. And most studies find that regulations—in the form of building codes—increase housing costs (see Euchner & Frieze, 2003; Manvel, 1968; Noam, 1982; Salama, Schill, & Stark, 1999), although the magnitude of this increase varies (see Listokin & Hattis, 2005).

Scholars also investigate the reasons for code-related cost increases. Research suggests that building codes increase costs of new construction and rehabilitation because of specifications and restrictions on materials, technologies, and suppliers (Field & Ventre, 1971; Listokin & Hattis, 2005; Muth Richard & Wetzler, 1976). Building codes may also increase housing prices in additional ways. Increased regulations can lead to drawn out decision-making processes and permitting procedures as well as inconsistences in regulatory requirements, all of which add to costs of construction over time (see May, 2005). These supplementary costs—in materials, time, etc.—are absorbed into residential sales prices when homes are placed on the market. Higher home prices reflect higher construction or rehabilitation costs, which are often tied to housing quality (see Kain & Quigley, 1970; Miller, Vivek, & Sklarz, 2018). Furthermore, more costly new construction increases prices of existing housing because of the positive cross-elasticity of demand between new and existing housing (Noam, 1982), thus diminishing affordable housing. The correlation between costs and building codes also may prove a self-fulfilling prophecy because of the consensus among various housing market entities that building codes are a burden (see Ben-Joseph, 2003; Field & Rivkin, 1975; May, 2005; Seidel, 1978). As such, building codes may discourage construction or rehabilitation work outright (May, 2005), thereby curtailing new developments and hiking prices of existing housing stock. Again, this is most threatening to the stock of affordable housing (May, 2005).

Existing research on housing codes, costs, and prices is limited in several ways (for overviews, see Listokin & Hattis, 2005; Martín, 2005; May, 2005). Studies of codes and housing costs most often comprise surveys of firms, building associations, developers, or regulators (May, 2005), meaning researchers are only getting one part of the story. Even more significantly, however, studies tend to focus on on-the-books regulations rather than implementation of regulations or compliance (Listokin & Hattis, 2005; Martín, 2005; May, 2005). Failing to study regulations in practice is particularly problematic considering documented variation in the vigilance with which regulatory agencies enforce regulations (Bartram, 2019; Burby & May, 1998; Burby, May, Malizia, & Levine, 2000; Kagan, 1994; Novak, 1996 Valverde, 2012). Dilapidated housing conditions—which presumably ensue from certain code violations being unresolved, if not all—are associated with lower home prices (Kain & Quigley, 1970; Miller et al., 2018). Moreover, if code violations are not resolved, and property owners do not fix issues, violations remain on record for the building. Records of violations are available to view online on some real estate company websites. Additionally, some states—including Illinois—require sellers to disclose to prospective buyers, in writing, whether their property has municipal building code violations.[1] Thus, unenforced codes and unresolved code violations may significantly decrease residential sales prices and rent prices as a result; variation in "enforcement probably plays just as significant role in determining the costs of code as the content" (Martín, 2005, p. 257). Yet extant research does little to test how variation in enforcement or resolution affects housing costs and prices. This article takes up this task by comparing the effects of resolved and unresolved housing code violations on housing prices.

The article fills a second gap in the existing literature by investigating another untested assumption concerning regulations and the housing market: that housing codes have similar effects on residential sales prices and rents. Whereas existing research draws attention to the crucial issue of housing codes as barriers to affordable housing, studies rarely explicitly focus on rental housing. This is surprising considering rentals comprise most units that are affordable or available to low-income urban residents (Shlay, 2006), and because municipalities like Chicago, Illinois, require landlords to tell prospective tenants about code violations.[2] We might assume that housing price increases resulting from regulations are subsumed into rent prices; landlords make up for increased costs in new construction in the same way residential sales prices incorporate additional costs. Recent qualitative research suggests that landlords hike rents to cover the costs of housing improvements (DeLuca, Garboden, & Rosenblatt, 2013; Desmond, 2016; Tucker, 2009) and tenant complaints about certain code violations (Greif, 2018). But scholars have yet to investigate the systematic effects of housing codes on rent prices.

I test for the effects of resolved and unresolved building code violations on residential sales prices and rent prices. The existing literature would suggest a positive correlation between (a) code resolution and residential sales prices, and (b) code resolution and rents. I thus hypothesize that rental prices are positively correlated with resolved building code violations and negatively correlated with unresolved building code violations. I also hypothesize that residential sales prices are positively correlated with resolved building code violations and negatively correlated with unresolved building code violations. My overall objective is to better understand how on-the-ground implementation and resolution of building regulations shape a variety of housing landscapes in the city.

Building Code in Chicago

All U.S. municipalities have a legal framework in place to enforce the building code. The Department of Buildings is the arm of Chicago's city government charged with "enhanc[ing] safety and quality of life for residents and visitors of the City of Chicago through permitting, inspections, trade licensing, and enforcement of the Chicago Building Code" (City of Chicago, 2018). The buildings department is responsible for inspecting all kinds of buildings, from single-family homes to airports. Although the department employs almost 200 inspectors in 12 bureaus—ranging from elevator and refrigeration specialists to demolition and new construction permit

inspectors—I focus on violations administered by inspectors in the Conservation Bureau. There were between 25 and 30 conservation inspectors at the time of my research (inspectors move between bureaus). Conservation inspections are the most common type of inspections and have the broadest scope in terms of violations, ranging from peeling paint to caved-in roofs. These inspections follow up on complaints about existing housing stock, which originate as 311 service requests made by phone or online.[3]

Conservation inspectors begin their work day with a pile of 311 complaints that list addresses and information provided by the complainant. Inspections are not scheduled ahead of time, and inspectors often do not meet property owners, landlords, or tenants (see Bartram, 2019). It is an inspector's job to decide whether a property violates the municipal building code. The most frequent code violations in the city are insufficient heat, lack of smoke and carbon monoxide detectors, failure to keep interior walls and ceilings free from cracks and holes, insects, and issues with porch systems, windows, roofs, gutters and downspouts, and exterior walls.[4] Rarer violations pertain to skylights, garbage storage, and drains. The building code affords discretion (Bartram, 2019). When assessing walls, for example, inspectors can record these violations: "Failed to use materials with appropriate fire resistance to finish interior wall, ceiling and interior trim" and "Failed to maintain interior walls and ceilings free from holes or cracks."[5] Both require discretion, varying from decisions about what counts as appropriate fire resistance to whether any crack or hole in a wall should count as a violation.

In 2016, Chicago's fleet of municipal building inspectors recorded 121,477 violations of the city's Municipal Building Code. The mean number of violations per inspection was four, although some inspections resulted in more than 30 violations. Between 2006 and 2015, only nine of the city's almost 2,200 block groups received no violations.[6] A breakdown of complaints, inspections, and outcomes for 1 year in one Chicago neighborhood provides further insight into the landscape of code violations.[7] In 2014, the neighborhood received 710 complaints about 450 buildings, which resulted in 5,564 violations. Tenants made 67% of these complaints, although 25% of complaints were anonymous and may also have come from tenants. The remaining complaints came from neighbors, the police or the fire department, or concerned relatives.

There are four possible outcomes of conservation building inspections: no action, a violation, an administrative hearing, or a housing court hearing. Inspectors take no action in the rare case that they do not find code violations. In the aforementioned sample neighborhood, only 2% of inspections resulted in no action. Inspectors mail written notices to property owners if violations are relatively minor. These warnings list code violations and notify owners to arrange another inspection or make necessary repairs, but inspectors do not routinely follow up on violations. Almost half (47%) of inspections in the example neighborhood resulted in at least one violation (but no further action). Inspectors can opt to send the owner to an administrative hearing, at which property owners must pay fines for violations (these fines are set by the hearings judge and can range from $200 to$500 per violation, per day of noncompliance). Just over one quarter (27%) of complaint-prompted inspections in my example neighborhood resulted in a hearing. Although the fear of further fines may encourage owners to resolve violations, administrative hearings do not focus on resolution: owners are fined irrespective of any repairs they have done post inspection.[8] At housing court—where 13% of inspections in my sample neighborhood ended up—the focus is on resolution.[9] Inspectors are supposed to recommend owners to housing court if they deem a property has serious safety issues. Cases last for months, and judges regularly do not fine property owners if they are making progress toward resolution.

Thus, building code violations are not always resolved; citing a building for a code violation does not necessarily lead to a resolved violation. To be sure, some violations are more serious than others and the city is more likely to insist on repairs if, for example, a building has a dangerous porch or an illegal basement conversion. In other cases, such as overgrown weeds or broken windows, the city does little to make sure violations are resolved (Bartram, 2019). Violations can therefore be recorded—and made visible to the public online—but not addressed. Only 20% of

violations recorded in Chicago in 2016 had been resolved at the time of this writing (2 years later). The city's online database lists violations as either resolved or unresolved. This data set thus offers variables to operationalize building code resolution and lack thereof.

Data and Methods

I compiled unique data sets using three sources of data: the City of Chicago Data Portal's database of building violations, CoreLogic's database of property transactions, and the Multiple Listing Service (MLS)'s database of rental listings (I provide details of the rental listings and property transaction data below). The buildings violations database, which is publicly accessible and updated daily, contains information on every recorded building code violation since 2006 and consists of the following basic information: record ID, date of violation, address of violation, inspector ID, and whether and when the violation has been resolved. There is also a column that indicates which section of the municipal code the building is violating (e.g., "Failed to maintain exterior stairways in safe condition and in sound repair" (13-196-570, 13-196-641)). Another column in the database contains information about which Department of Buildings bureau the violation concerns (e.g., conservation, plumbing, new construction, special task force, special inspection program). From this database, I extracted records of conservation violations, which are the most common type of violation and have the broadest scope, ranging from peeling paint to caved-in roofs. There was no missing information in 98% of the records.

To test for the effects of building code enforcement on rents, I matched (by street address) building violation data to the MLS database of rental listings in Chicago, 2010–2015.[10] To test for the effects of code violation resolution on residential sales price, I matched building violation data by address to the CoreLogic database of property transactions in Chicago, 2010–2015.[11] To ensure I compared the same unit across time, I only included condo transactions for which the data specified the unit number. I then ran two series of ordinary least squares regressions to test two hypotheses. First, stemming from extant research on building codes and housing costs, I hypothesized that rent prices are positively correlated with resolved building code violations and negatively correlated with unresolved building code violations. Thus, the more violations that are resolved, the higher the increase in rent. Second, I hypothesized that residential sales prices are positively correlated with resolved building code violations and negatively correlated with unresolved building code violations. The more violations that remain unresolved on a building's record, the more the building will depreciate in contrast to properties with no resolved violations. I operationalize a resolved violation as an addressed building code violation (i.e., a violation that was recorded by an inspector and then repaired according to city records)—for example, if a property owner fixes an unsound porch after an inspector cites her property for a building violation.[12] Conversely, the code violation would be unresolved if the owner did not repair the porch after receiving the citation. The following sections detail how I test my hypotheses to investigate the effects of building codes on rent prices and residential sales prices.

The Relationship Between Building Code Violations and Rents

From the MLS rental listings database, I extracted data on units that were rented (to different tenants) twice between 2010 and 2015. My dependent variable is percentage change in rent from the base year logged, calculated as ln((rent2/rent1)*100). Using data on properties at two points over time, with building code violations between the two points, allows my models to capture the effects of code violations. This provides much stronger evidence of a causal effect than would be possible with cross-sectional data (see Allison 2009; England, Farkas, Kilbourne, & Dou, 1988), which would limit my analysis to observing general correlations between property values, rents, and violations. Using repeat sales is equivalent to using models with fixed effects for housing units, as it affords a high degree of internal validity by being able to hold property-level characteristics—that would significantly shape prices—constant, such as a building's

age, size, or surrounding amenities.[13] To this end, I only included the rental listings for which the data specified the unit number (to ensure I compared the same unit across time). I also only include properties with fewer than 30 violations, in an attempt to exclude buildings that are specifically targeted by Strategic Task Force inspections. The goal of these inspections—which occur in buildings with alleged criminal activity—is to evict tenants or change ownership, and thus the effects of violations are arguably qualitatively different than those from conservation inspections. My sample size was thus 13,290 rental units (within 6664 distinct building street addresses).

To control for neighborhood differences in rent, I used ACS data on the average percentage change in rent for each calendar year (2010–2015) for each of Chicago's census tracts, calculated as ln((rent2/rent1)*100). I assigned the appropriate percentage change to each year gap for the properties in my data set and used robust standard errors clustered at the tract level to account for correlation of observations within tracts. To account for renovations that might also affect rent prices, I controlled for differences in the number of rooms between the first and second rent.[14] My models also included controls for the difference in years between comparable rents.

To pinpoint the relationship between code violation resolution and rent price change, I ran three ordinary least squares regression models with different main independent variables: all violations, unresolved violations, and resolved violations. In the first model, the main independent variable is the total number of violations on a building's record (since 2006). In the second model, the main independent variable is the number of these violations that still remain unresolved at the time of the second rent. This variable thus captures unresolved building code violations. In the third model, the main independent variable is the number of violations that were resolved between the first and second rent; that is, they were resolved by the time of the second rent. This variable captures the number of resolved building code violations. I also included a variable for the number of unresolved violations at the first rent, as this may have affected the initial price. Table 1 shows descriptive statistics for variables in my models (note that the variable % *change in rent between rents* is unlogged in this table).

Results

If my hypothesis is correct, my models will convey a positive correlation between rental prices and resolved violations and a negative correlation between rental prices and unresolved violations. My results (see Table 2) partially support my hypotheses. Resolved violations are positively correlated with rent. A rental unit with resolved violations can be expected to increase in rent relative to a unit without resolved violations (either because there are unresolved violations or because there were no violations recorded), controlling for the average price change in the area, renovations, the number of violations at the first rent, and the difference in the number of years between two paired rent values (i.e., there are 2 years between a unit rented in 2011 and then again in 2013). A 10% increase in resolved violations is associated with a 5.52% increase in rent, holding other variables constant.[15] As an example, a landlord of a six-flat building was recently cited for 29 building violations. If these violations—which range from sparking electrical outlets to a dangerous porch—are resolved, the landlord could be expected to raise the rent from the current amount of $750 to $898 by next year if she relisted the property. If the landlord fixes none, the rent will increase to $774, based on the average increase for that tract. Thus, on average, resolving violations has a significant effect on rents, and increases the prices the next tenants pay.[16]

Table 1. Descriptive statistics for rent models.

Variables	Count	Mean	*SD*	Min	Max
% rent change between rents	13,290	127.51	91.78	0.32	2100
All violations on building's record	13,290	2.39	5.25	0	30
Unresolved violations by second rent	13,290	1.80	4.36	0	30
Resolved violations by second rent	13,290	0.62	2.19	0	30

SD = standard deviation.

Table 2. Results from ordinary least squares regressions of rent change (log ratio) on violations.

	(1) All violations	(2) Open violations	(3) Addressed violations
Violations at first rent	− 0.000618	− 0.000361	− 0.000472
	(− 0.66)	(− 0.38)	(− 0.53)
All violations on building's record	0.00196*		
	(2.34)		
Difference in rooms between rents	0.155**	0.155**	0.155**
	(46.50)	(46.52)	(46.35)
Difference in years between rents	0.0142**	0.0144**	0.0142**
	(2.62)	(2.65)	(2.61)
Average rent change in tract (ln)	0.00512	0.00647	0.00759
	(0.09)	(0.11)	(0.13)
Unresolved violations at time of second rent		0.00143	
		(1.40)	
Resolved violations between rents			0.00512*
			(2.42)
Constant	4.606**	4.600**	4.595**
	(17.11)	(17.16)	(17.27)
No. observations	13,290	13,290	13,290

Note. Robust standard errors are clustered at the tract level.
*$p < .05$. **$p < .01$.

Resolved building code violations are correlated with higher rental prices and thus diminishing affordable housing options for renters.[17]

Contrary to my hypothesis, however, unresolved violations do not lower rent prices. The effects of unresolved violations are not statistically significant, denoting that the (modest) effect of all violations is caused by the effect of resolved violations.[18] In sum, unresolved building code violations do not lower rental prices, suggesting dilapidated rental units are not cheaper—on average—than units in better condition. This is surprising considering (a) the effects of resolved code violations that my models document; and (b) extant literature that suggests housing codes are of broad consequence to housing—in particular, the stock of affordable housing. We would expect dilapidated housing to be cheaper. This finding is consistent, however, with other research that uncovers the relatively small difference in rents charged for high-end and low-end units,[19] and the exploitative practices of slumlords that have existed since housing codes were first enacted (see Day, 1999; Lubove, 1962; Riis, 1901). Some landlords consistently overcharge tenants for substandard housing. Although this behavior warranted, in part, the development of housing codes, my findings suggest these codes are not effective in curtailing these practices: units with unresolved code violations have no statistically significant effect on rental prices.

The Relationship Between Building Code Violations and Residential Sales Prices

To test for the effects of code violations on residential sales prices, I follow the same procedure as in the rent models. From the CoreLogic database of property transactions, I extracted data on properties that sold twice between 2010 and 2015 to calculate the difference in sale price for the same property.[20] My dependent variable in these models is percentage change in property value from the base year logged, calculated as ln((price2/price1)*100). As in the rental models, I only included properties with fewer than 30 violations.[21] My sample size is thus 7,157 housing units. I used robust standard errors clustered at the tract level to account for correlation of observations within tracts, and control for differences in the number of rooms between the first and second sale, the difference in years between sales, and the number of unresolved violations at the first rent. I ran three ordinary least squares models with different main independent variables: all violations, unresolved violations, and resolved violations. The numbers of unresolved and resolved violations also capture violations that inspectors recorded before the first sale. Table 3 shows descriptive statistics for variables in my models (note that the variable % *change in price between sales* is unlogged in this table).

Table 3. Descriptive statistics for residential sales models.

Variables	Count	Mean	*SD*	Min	Max
% change in price between sales	7157	4.49	1.07	0.049	9.29
All violations on building's record	7157	1.04	3.72	1	30
Unresolved violations by second sale	7157	0.73	2.48	0	30
Resolved violations by second sale	7157	0.32	1.63	0	30

SD = standard deviation.

Results

If my hypothesis was correct, my models would convey a positive correlation between residential sales prices and resolved violations and a negative correlation between rental prices and unresolved violations. The results, shown in Table 4, show partial support for my hypothesis: a property with unresolved building violations is associated with a significant decrease in value relative to a property without unresolved violations (either because they have been resolved or because they were no violations recorded to begin with), controlling for the average price change in the area, the difference in rooms, the number of violations at the first sale, and the difference in the number of years between sales.[22] This suggests that building violations only affect residential sales prices if they are not resolved. Specifically, a 10% increase in resolved violations corresponds to a 3.4% drop in price increase, on average.[23] In more palpable terms, consider a three-unit building. The building is for sale and it has 26 unresolved violations, ranging from broken windows to a dangerous porch and collapsing siding. The results from my property price models suggest that if the owner sells the building within a year, she can be expected to get $625,014 instead of the $683,490 she could have received if her building had no unresolved violations. Those 26 unresolved violations correspond to approximately a 9% drop in price.

Furthermore, the effects of unresolved violations on residential sales prices are stronger and more statistically significant if I only include properties that have at least one violation between the first and second sale (see Table 5). In this case, the effect of unresolved violations is larger and more statistically significant, corresponding to a 16% lower price per 10% more unresolved violations. Thus, residential sales prices are more susceptible to the effects of more recent violations.[24] I also ran models that only include properties sold for less than $200,000 at their first sale (see Table 6). The effects are consistent with the other property price models. Thus, although my models suggest that unresolved violations lower the value of all homes, they have a greater effect on less expensive properties, which are likely owned by the lowest income homeowners.[25]

Table 4. Results from ordinary least squares regressions of residential sales price change (log ratio) on violations.

	(1) All violations	(2) Open violations	(3) Addressed violations
Violations at first sale	− 0.00684** (− 2.73)	− 0.00644** (− 2.61)	− 0.00783** (− 3.26)
All violations on building's record	− 0.00143 (−0.85)		
Difference in rooms between sales	0.323** (6.95)	0.326** (7.02)	0.323** (6.90)
Difference in years between sales	− 0.597** (− 78.65)	− 0.596** (− 78.28)	− 0.598** (− 78.76)
Average residential sales price change in tract (ln)	0.166* (2.51)	0.166* (2.51)	0.166* (2.51)
Unresolved violations at time of second sale		− 0.00344^{+} (− 1.66)	
Resolved violations between sales			0.00398 (0.99)
Constant	4.961** (16.28)	4.963** (16.29)	4.964** (16.32)
No. observations	7157	7157	7157

Note. Robust standard errors are clustered at the tract level.
$^{+}p < .10$. *$p < .05$. **$p < .01$.

Table 5. Results from ordinary least squares regressions of residential sales price change (log ratio) on recent violations (recorded between sales).

	(1) All violations	(2) Open violations	(3) Addressed violations
Violations at first sale	− 0.0148**	− 0.0148**	− 0.0179**
	(− 3.40)	(− 3.45)	(− 4.25)
All violations	− 0.0110**		
	(− 3.16)		
Difference in rooms between sales	0.261**	0.272**	0.270**
	(3.82)	(4.07)	(3.93)
Difference in years between sales	− 0.578**	− 0.579**	− 0.589**
	(− 37.56)	(− 36.38)	(− 35.88)
Average residential sales price change in tract (ln)	0.483**	0.475**	0.483**
	(2.80)	(2.78)	(2.78)
Unresolved violations at time of second sale		− 0.0151**	
		(− 4.10)	
Resolved violations between sales			− 0.00161
			(− 0.33)
Constant	3.610**	3.645**	3.590**
	(4.49)	(4.57)	(4.43)
No. observations	1323	1323	1323

Note. Robust standard errors are clustered at the tract level.
*$p < .05$. **$p < .01$.

Table 6. Results from ordinary least squares regressions of residential sales price change (log ration) on violations, for properties under $200,000 at first sale.

	(1) All violations	(2) Open violations	(3) Addressed violations
Violations at first sale	− 0.00604^{+}	− 0.00576^{+}	− 0.00852**
	(− 1.96)	(− 1.93)	(− 2.88)
All violations on building's record	− 0.00602*		
	(− 2.26)		
Difference in rooms between sales	0.122*	0.124*	0.119*
	(2.29)	(2.35)	(2.23)
Difference in years between sales	− 0.643**	− 0.643**	− 0.647**
	(− 69.45)	(− 69.35)	(− 71.31)
Average residential sales price change in tract (ln)	0.127**	0.126**	0.128**
	(2.67)	(2.66)	(2.69)
Unresolved violations at time of second sale		− 0.00927**	
		(− 3.12)	
Resolved violations between sales			− 0.000271
			(− 0.05)
Constant	5.480**	5.485**	5.479**
	(24.78)	(24.86)	(24.80)
No. observations	2806	2806	2806

Note. Robust standard errors are clustered at the tract level.
$^{+}p < .10$. *$p < .05$. **$p < .01$.

Most noteworthy, perhaps, is that across models, fixing violations does not increase home prices. In contrast to the existing literature, which suggests that regulations prompt price increases, resolved violations have no statistically significant effect on price. I find no evidence that resolved housing code violations increase residential sales prices, meaning that fixing issues does not financially reward property owners when they sell their homes and that buyers cannot expect code compliance to increase the price they pay. To be sure, building violations data may not map precisely onto repairs that homeowners make, and they may not capture all violations that homeowners address. It is possible that homeowners make repairs that are visible to buyers and reflected in sales prices, but do not undergo a reinspection that would mark issues as resolved in the data set. As such, available data may underestimate the number of code violations that are addressed.

Limitations aside, my data suggest that, in contrast to extant understandings of the relationship between housing codes and housing markets, building code resolution has disparate effects on rental prices and residential sales prices. Indeed, the effects on residential sales prices are opposite to those for rental units. Whereas resolved code violations affect rent, unresolved code violations affect residential sales prices. Rental markets and property markets operate in distinct, and hitherto unrecognized, ways. These results have additional implications and uneven ramifications, however, which I address in the following section.

Discussion and Implications

Whereas the results from my analysis apply citywide, there are likely nuances and particularities in Chicago's housing landscape that influence the relationships between housing codes and prices that this article uncovers. For example, Chicago maintains a relatively affordable housing and rental stock (vs. other large metro areas). Thus, whereas a tight rental market with low vacancy rates (vs. properties for sale) may explain why unresolved violations do not impact rents, Chicago's rental market is not as tight as that of other large metropolitan areas and its vacancy rate is not as low (Mallach, 2018).[26] Therefore, other factors likely explain the effects of unresolved building code violations. The lack of rent control in the city may worsen the effects of housing code resolution, for example, by allowing landlords to hike rents at their discretion. Whereas racial disparities in housing conditions and foreclosure rates are not limited to Chicago, might extreme economic, racial segregation in the city—versus different racial geographies elsewhere—exacerbate the racialized effects of code resolution? These are only a few examples of how the context of Chicago might produce somewhat context-specific relationships between building code violations and housing prices. Moreover, whereas my results hold throughout Chicago regardless of neighborhood or demographics, there are also likely patterns in who bears the brunt of the effects.

Uneven Implications for Rentals

Renters who have the fewest options and who are in the most precarious position in terms of stable housing are the most likely to bear the brunt of rent hikes associated with code violations. This population—which includes low-income residents, citizens with criminal records, and tenants who have experienced eviction in the past—are most likely in the first place to move into a building with substandard conditions that receive violations (Desmond, Gershenson, & Kiviat, 2015),[27] even if landlords follow the rules by communicating information about code violations before tenants sign a lease (see City of Chicago, 2019). Although scholars have recently pointed to the increasing precarity of affordable housing for middle-class residents, their limited choices also further constrain those of their lower income counterparts (see Woldoff, Morrison, & Glass, 2016). There are also racialized patterns in who is likely to suffer because of rent increases. In Chicago, akin to many other U.S. metro areas, racial and ethnic minorities are more likely than Whites to (a) be renters, (b) live in substandard conditions, and (c) be cost-burdened by their rental units (Institute for Research on Race and Public Policy, 2016). As such, the repercussions of increased rents are more likely to affect Black and Latino renters as they, on average, have the least financial resources and are in the most precarious positions.[28] In sum, the effect of code resolution on rents is likely to disproportionately impact renters along lines of race, ethnicity, and socioeconomic status.

There may also be disparities across the kind of rental building hit hardest by code resolution. Whereas buildings managed by limited liability companies are more likely to incur code violations (Travis, 2019), small-time landlords also face challenges maintaining properties (Garboden & Newman, 2012). Small-time landlords, however, may have fewer resources to be able to fix their substandard buildings. For some, rent increases may well be the only way to recoup costs of repairs. For other landlords, repairs may be a handy excuse to disproportionately raise rents. Not

fixing violations may not mean that landlords will keep rents affordable.[29] However, if cities were more lax in their enforcement of violations, tenants might have no choice but to live in properties that are dangerous or not up to code. Additionally, my analyses do not consider or measure what renters might gain from addressed violations, such as safer or more pleasant living conditions. Future qualitative work could investigate what tenants think about code resolution, and whether it is worth the potential cost in higher rent. Future research might also unpack differences in kinds of building codes (Listokin & Hattis, 2005) and the discretionary actions, biases, and motivations of code officials such as building inspectors and housing court judges.

Although we need housing regulations and building codes to ensure safe and decent building standards, without rent control in place, landlords are unchecked in their ability to raise rents and pass the burden of ensuring safe housing—in the form of building codes—on to their tenants. Currently instituted rent control policies in places like New York City have their critics (see Davidson, 2013; Keating, 1987), partly because rent stabilization is tied to apartment units rather than to people. But a different manifestation of rent regulation could remove the opportunity for landlords to hike rents to cover repairs. Further research is needed into how such regulations might avoid impoverishing small-time landlords. Overall, we need to turn our attention to assessing how municipalities regulate housing conditions, and investigating alternatives to the current system.

Uneven Implications for Property Owners

Unresolved building code violations not only lower property value, they also jeopardize homeowners' ability to afford to fix them. For example, the U.S. Department of Housing and Urban Development will not provide Federal Housing Administration loans on properties with serious code violations (U.S. Department of Housing and Urban Development, 2018).[30] Not addressing violations thus risks furthering poor people's need for—yet unlikeliness to receive—loans and refinancing, preventing them from benefitting from homeownership (see McCabe, 2016; Schlay, 1986). Overall, not resolving building code violations threatens to entrench poor people's entanglements with debt and property from which they are unlikely to benefit.

There are also racial patterns in who is most likely to live in these building types. Legacies of discrimination have rendered minority homeowners more likely to be cost burdened by their homes and to live in homes with lower values (see Hirsch, 2009; Institute for Research on Race & Public Policy, 2016; Massey & Denton, 1993; McCabe, 2016; Satter, 2009). The recent housing crisis exacerbated these disparities (Rugh, Albright, & Massey, 2015; Thomas, Moye, Henderson, & Horton, 2017). Racial and ethnic minorities are also more likely to live in substandard housing (Conley, 2010; Sampson & Winter, 2016) and thus to be cited for code violations. Similarly, recent studies suggest that minority homeowners consistently spend less on home improvements than Whites do, largely because of their lower average income and wealth (Joint Center for Housing Studies of Harvard University, 2017). Again, this puts minorities in a more precarious position vis-à-vis both receiving code violations and being able to fix them. As such, minority homeowners likely get hit the hardest—relative to their White counterparts—by the effects of unresolved code violations.

Paying to fix violations may also harm low-income homeowners financially. Without state assistance, low-income homeowners are less able to afford repairs and more likely to be forced into foreclosure, or to lose savings, from making repairs. The City of Chicago provides grants of up to $30,000 for emergency repairs, through a lottery system. Homeowners are eligible if their property is "habitable," owner occupied, and "not at risk of foreclosure," and if they earn 80% or less of the area median income (City of Chicago, 2017). This kind of scheme—common in U.S. cities—thus arguably leaves out those in the most precarious positions: homeowners whose homes are at risk of foreclosure and are not deemed habitable. Future research could investigate the effectiveness of grants for homeowners and sketch out a path to expand systems of municipal or federal subsidies. A focus on policy might also shine a light on ways to address racial disparities in housing inequality, which are likely to be further reproduced without explicit redistributive practices to

compensate for the legacies of state-sanctioned discrimination and uneven accumulation and expropriation of wealth in Black and Latino communities (see Coates, 2014; Satter, 2009). Without a scheme of reparations that takes aim at housing inequality, building code resolution is likely to burden minority homeowners and hurt minority renters, who are most vulnerable in the housing market. Reorganized, progressive state intervention in housing markets—in addition to regulation of housing conditions—is necessary for such an endeavor.

Conclusion

This article fills a gap in the existing literature by using building code violations data and housing market data in Chicago to test assumptions about the relationship between building codes and housing prices. My analyses convey surprising results. Although I find evidence that code resolution increases rents, there is no significant effect on residential sales price. As such, I suggest that building code violations threaten to reinforce the divide between wealthy and poor homeowners. I also suggest that building code violations aggravate the dearth of affordable housing for renters: although I find evidence that unresolved code violations decrease residential sales prices, there is no significant effect on rent prices. These results are particularly pertinent considering housing equity and affordability since low-income households have less money to fix code violations and because rentals comprise the largest portion of affordable housing. We need to pay particular attention to differences in how building code resolution—or lack thereof—shapes prices for renters. Taken together, my results suggest that the rental market may operate differently from the property sales market; building codes affect each market in distinct ways.

In their current implementation, building code violations are likely to burden and punish poor homeowners who cannot afford the required repairs and to hurt poor renters who cannot afford the higher rental prices charged by landlords who pass on the costs. Building codes—necessary to ensure decent housing conditions—may always carry negative consequences unless there are subsidies for repairs, or they are enacted alongside a system of rent control or landlord regulation. We need a renewed focus on housing policies. How do different manifestations of grants for repairs for low-income homeowners or rent control shape housing landscapes in our cities? Can we implement policies that mandate assistance for low-income homeowners, small-time landlords, and renters, that do not also enable exploitation and profit? As Coates (2014) contends, we need to begin to study the potential of redistributive housing policies rather than shelving ideas because they seem unrealistic. Contemporary events should add urgency to our investigations of building codes. Not only are cities still recovering from the housing crash (see Hall, Crowder, & Spring, 2015), but recent tragedies and subsequent finger-pointing—most famously, Grenfell Tower in London, UK, and the Ghost Ship warehouse in Oakland, California—have revealed how little we know about the inner workings of building regulations. Although there is a growing awareness of the role of state regulations such as building codes, urbanists still have work to do to accurately identify the myriad ways they shape our housing landscapes. This article takes one step in this direction. By filling gaps in our understanding of building regulations' effects on housing landscapes, I illuminate how examining housing regulation in practice is necessary to comprehend variation in its effects. It is crucial to understand the precise and varied relationships between housing codes and housing prices to accurately direct our efforts toward ameliorating housing inequality.

Notes

1. Illinois General Assembly. 1994. "Residential Real Property Disclosure Act." http://www.ilga.gov/legislation/ilcs/ilcs5.asp?ActID=2152&ChapterID=62 Accessed August 27, 2018.
2. This applies to landlords of buildings with six or more units (see City of Chicago, 2019).
3. Conservation inspections do not cover new construction or zoning.
4. Chicago Department of Buildings. 2016. "Top Ten Building Code Violations" https://twitter.com/AMesseSupply/status/747451967782289413 Accessed August 27, 2018.

5. Chicago Municipal Code, Sections 15-8-370, 15-8-380 through 15-8-430; Chicago Municipal Code Section 13-19-540(c).
6. I matched building violation data to their corresponding block groups to calculate the purview of violations. Block groups are the smallest geographical units for which the Census Bureau publishes sample data. Block groups are groupings of census blocks based on population characteristics and are relatively homogeneous; there are typically between three and five block groups to a tract.
7. I selected this neighborhood as it receives approximately the mean number of complaints and it is diverse in terms of demographics, tenure, and building types. The ward is home to approximately 56,000 residents, 54% of whom are White, 17% Black, 14% Hispanic, and 14% Asian. Median household incomes range widely in the ward, from $71,101 in one census tract to $12,485 in another. Whereas 32% of the ward's housing stock is owner occupied, tracts range from 100% rentals to 76% owner occupied. One-unit buildings (i.e., single-family homes) make up 11% of housing stock in the ward, 2–9-unit buildings comprise 36%, and 53% of housing stock is over 10 units. Median ages of buildings per tracts range from pre-1939 to 1973. I calculated these figures using census tract data from the American Community Survey's 2012 5-year summary. I matched complaints to violations to outcomes by address for one neighborhood in the city. Doing this for the whole city is beyond the scope of this study.
8. Administrative hearings officers do not ask for proof of resolution. Fines are at the discretion of the hearings officer and are collected up to the date of the hearing or of a follow-up inspection.
9. A further 10% of inspections in the example neighborhood resulted in both an administrative hearings case and, later, a housing court case.
10. I obtained this database from Midwest Real Estate Data, a real estate data aggregator and distributor that provides the Chicagoland MLS to brokers and appraisers across the Midwest. The data are limited to properties listed by realtors. In email correspondence, an MLS staff member suggested that nonlocal landlords are more likely to list their units with the service. As buildings owned or managed by nonlocal landlords are more likely to receive code violations (Travis, 2019), my data may overestimate the number of violations in the city's rental stock. The benefit of this data source, however, is that it lists unit numbers. Other data sources (e.g., webscraping Craigslist listings) rarely include unit numbers (or even addresses) and would not allow me to ensure I was capturing changes in rent for the same unit in a building. This 5-year period afforded me data that was the most removed from (a) the housing crash, and (b) the date of analysis (2017). I matched housing market data to violations data from as early as 2006, however, to allow me to capture the effects of violations before a first sale or rental for properties that may have sold or rented in 2010 through 2015. Doing so affords a 4-year gap, for both a property that first rented or sold in 2006 and 2015.
11. The CoreLogic database is a record of all property transactions across the country. I selected data on sales in Chicago.
12. A lack of data means that I am unable to capture (a) properties that initially comply with building codes before an inspection or a citation; and (b) violations that are addressed but not recorded as such by an inspector.
13. For a discussion of the advantages of fixed effects, see England et al. (1988).
14. Property owners often upgrade their buildings without adding rooms. This is the only variable in the rental listings data set, however, that captures renovations.
15. I used the coefficient for complied violations in Model 3 and the following calculation to obtain this figure: $100*(\exp(0.00512*10) - 1) = 5.25$.
16. To clarify, rents will increase for the next tenant rather than an existing tenant because my data come from rental listings.
17. There may be other plausible explanations for this positive correlation between rents and resolved code violations. The increase in rents may stem from landlords opting to address violations in buildings they view as the most profitable, for example. If that were the case, however, then higher renting apartments might have a stronger correlation with code resolution. Whereas coefficients lose statistical significance when I only include rental units under $1000 or $1500, they barely change when I only include more expensive rental units. Future research could include instrumental variables to eliminate endogeneity.
18. I obtained similar results when I included properties with more than 30 violations. However, the coefficients were slightly smaller in magnitude and less significant.
19. When Desmond (2016) examined the distribution of rent in Milwaukee, Wisconsin, for example, only $260 separated the 90th percentile from the 10th percentile. For example, he notes, a two-bedroom apartment in the poorest neighborhood in Milwaukee—where more than 40% of people live below the poverty rate—is only $50 less a month than the citywide median.
20. To test the representativeness of my transactions data (i.e., whether repeat sales in this period are representative of all sales), I calculated the median sale price for all property transactions between 2010 and 2015 and the median sale price for the first and second sales in my data set of repeat sales. The median values of both the first and second sales fall within one standard deviation of the median of the whole sample. Thus, my data set is reasonably representative of general sales.

21. In both the rental and residential sales models, I exclude buildings that were listed as vacant as these are qualitatively different cases with separate sections of the building code, their own set of inspectors, and different court processes.
22. I obtain similar results when I include properties with more than 30 violations; however, the coefficients are slightly smaller in magnitude and less significant.
23. I used the coefficient for unresolved violations in Model 2 and the following calculation to obtain this figure: 100*(exp(− 0.00344*10)-1) = − 3.38.
24. I also ran models for rental units that only included units with at least one violation recorded between the two rents. Whereas the effects are similar to those for units with violations at any point in time, the coefficients are smaller in magnitude and less statistically significant (p = .055). This suggests that, unlike the case for residential sales prices, the effects of addressing violations on rent are not shaped by when the initial violations occurred. Property transactions are more sensitive to the recentness of violations.
25. This is not the case for rental properties; coefficients lose statistical significance when I only include rental units under $1000 or $1500, for example.
26. The citywide vacancy rate is relatively low (8.95% in 2006 and 5.22% in 2015), but Chicago's vacant properties tend to concentrate in distinct neighborhoods (Mallach, 2018).
27. Chicago's Department of Buildings runs workshops for landlords and advises screening potential tenants. The effects of this kind of screening are stark. In Milwaukee, for example, Desmond et al. (2015) found that renters whose previous move was involuntary were 25% more likely than similar renters to experience long-term housing problems.
28. Block group-level variables for race are not significant when I include them in my rent models.
29. Landlords who maintain their buildings—without the impetus of a building code violation—may also cover costs by increasing rents. In this way, my findings may illuminate a broader issue in the private housing market rather than pertaining only to building code violations.
30. Other lenders may also be less likely to furnish loans, and appraisers for lending institutions may be unwilling to take on a building with code violations as it is not worth their time. Prospective buyers may also be reluctant to buy a property with a long list of violations. The property transactions data set does not capture homes that are on the market but do not sell, or owners who are put off even trying to sell.

Acknowledgments

For suggestions, comments, and guidance, I thank Lincoln Quillian, Mary Pattillo, Wendy Griswold, Xiaojin Chen, Japonica Brown-Saracino, Melissa Pearson, Jordan Conwell, Catherine Gillis, Vincent Yung, Gary Fine, Laurie Edelman, Laura Beth Nielson, Jeffrey Parker, Melissa Osborne, Anya Degenshein, Kevin Loughran, Stefan Vogler, and participants in Northwestern's Culture Workshop, Ethnography Workshop, Legal Studies Workshop, the University of Chicago's Urban Workshop, and the Paris Law and Society Graduate Student Workshop. For assistance with obtaining data, I am indebted to Anthony DeFusco, Kelsey Rydland, Jessica Ruminski, and Jay Cao. I also thank reviewers at *Housing Policy Debate*.

Disclosure Statement

No potential conflict of interest was reported by the author.

Notes on Contributor

Robin Bartram is an assistant professor of Sociology at Tulane University.

ORCID

Robin Bartram http://orcid.org/0000-0002-2318-1882

References

Advisory Commission on Intergovernmental Relations. (1966). *Building codes: A program for intergovernmental reform*. Report A-26. Washington, DC: U.S. Government Printing Office.

Advisory Commission on Regulatory Barriers to Affordable Housing. (1991). *"Not In My Back Yard": Removing barriers to affordable housing*. Final report. Washington, DC: U.S. Department of Housing and Urban Development.

Allison, P. D. (2009). *Fixed effects regression models* (Vol. 160). Thousand Oaks, CA: Sage Publications.

Bartram, R. (2019). Going easy and going after: Building inspections and the selective allocation of code violations. *City and Community*, *18*(2).
Ben-Joseph, E. (2003). *Subdivision regulations: Practices & attitudes*. Working Paper WP03EB1. Cambridge, MA: Lincoln Institute of Land Policy. Retrieved from http://www.lincolninst.edu/pubs/pub-detail.asp?id=846.
Burby, R. J., & May, P. J. (1998). Intergovernmental environmental planning: Addressing the commitment conundrum. *Journal of Environmental Planning and Management*, *41*, 95–110.
Burby, R. J., May, P. J., Malizia, E. E., & Levine, J. (2000). Code enforcement burdens and central city decline. *Journal of the American Planning Association*, *66*, 143–161.
City of Chicago. (2017). Roof, porch and emergency heating repair programs. Retrieved from https://www.cityofchicago.org/city/en/depts/dcd/provdrs/afford_hous/svcs/receive_emergencyhousingassistance.html
City of Chicago. (2018). Buildings. Retrieved from https://www.cityofchicago.org/city/en/depts/bldgs.html
City of Chicago. (2019, April 20). *Chicago residential landlord and tenant ordinance*. Retrieved from https://www.chicityclerk.com/legislation-records/municipal-code
Coates, T.-N. (2014). The case for reparations. *The Atlantic, 313*(5), 54–71.
Conley, D. (2010). *Being black, living in the red: Race, wealth, and social policy in America*. Berkeley, CA: University of California Press.
Davidson, A. (2013, July 23). The perverse effects of rent regulation. The New York Times Magazine. Retrieved from https://www.nytimes.com/2013/07/28/magazine/the-perverse-effectsof-rent-regulation.html
Day, J. (1999). *Urban castles: Tenement housing and landlord activism in New York City, 1890–1943*. New York: Columbia University Press.
DeLuca, S., Garboden, P. M. E., & Rosenblatt, P. (2013). Segregating shelter: How housing policies shape the residential locations of low-income minority families. *The Annals of the American Academy of Political and Social Science*, *647*(1), 268–299.
Desmond, M. (2016). *Evicted: Poverty and profit in the American City*. New York, NY: Crown.
Desmond, M., Gershenson, C., & Kiviat, B. (2015). Forced relocation and residential instability among urban renters. *Social Service Review*, *89*(2), 227–262.
England, P., Farkas, G., Kilbourne, B. S., & Dou, T. (1988). Explaining occupational sex segregation and wages: Findings from a model with fixed effects. *American Sociological Review*, *53*(4), 544–558.
Euchner, C. C., & Frieze, E. G. (2003). *Getting home: Overcoming barriers to housing in Greater Boston*. Boston, MA: Pioneer Institute for Public Policy Research.
Field, C. G., & Rivkin, S. R. (1975). *The building code burden*. Lexington, MA: Lexington Books.
Field, C. G., & Ventre, F. T. (1971). Local regulation of building: Agencies, codes and politics. In *The municipal yearbook*. Washington, DC: International City Management Association.
Garboden, P. M. E., & Newman, S. (2012). Is preserving small, low-end rental housing feasible? *Housing Policy Debate*, *22*(4), 507–526.
Greif, M. (2018). Regulating landlords: Unintended consequences for poor tenants. *City & Community*, *17*(3), 658–674.
Hall, M., Crowder, K., & Spring, A. (2015). Neighborhood foreclosures, racial/ethnic transitions, and residential segregation. *American Sociological Review*, *80*(3), 526–549.
Hirsch, A. (2009). *Making the second ghetto: Race and housing in Chicago 1940–1960*. Chicago, IL: University of Chicago Press.
Institute for Research on Race & Public Policy. (2016). *A tale of three cities: The state of racial justice in Chicago*. Retrieved from http://stateofracialjusticechicago.com/read-the-report/
Joint Center for Housing Studies of Harvard University (2017). *Improving America's housing - Demographic change and the remodeling outlook*. Retrieved from http://www.jchs.harvard.edu/research/improving-americas-housing
Kagan, R. A. (1994). Regulatory enforcement. In D. Roosenbloom & R. Schwartz (Eds.), *Handbook of regulation and administrative law* (pp. 383–385). New York: Marcel Decker.
Kain, J. F., & Quigley, J. M. (1970). Measuring the value of housing quality. *Journal of the American Statistical Association*, *65*(330), 532–548.
Keating, W. D. (1987). Landlord self-regulation: New York city's rent stabilization system 1969–1985. *Journal of Urban and Contemporary Law*, *31*, 77–134.
Listokin, D., & Hattis, D. B. (2005). Building codes and housing. *Cityscape*, *8*(1), 21–67.
Lubove, R. (1962). *The progressives and the slums: Tenement house reform in New York City, 1890–1917*. Pittsburgh: University of Pittsburgh Press.
Mallach, A. (2018). *The empty house next door: Understanding and reducing vacancy and hypervacancy in the United States*. Cambridge, MA: Lincoln Institute of Land Policy.
Manvel, A. D. (1968). *Local land and building regulation: How many agencies? What practices? How much personnel?*. No. 6. Washington, DC: National Commission on Urban Problems.
Martín, C. (2005). "Response to building codes and housing" by David Listokin and David B. *Cityscape*, *8*(1), 253–259.
Massey, D. S., & Denton, N. A. (1993). *American Apartheid: Segregation and the making of the underclass*. Cambridge, MA: Harvard University Press.
May, P. J. (2005). Regulatory implementation: Examining barriers from regulatory processes. *Cityscape*, *8*(1), 209–232.

McCabe, B. J. (2016). *No place like home: Wealth, community, and the politics of homeownership*. Oxford, UK; New York, NY: Oxford University Press.
Millennial Housing Commission. (2002). *Meeting our Nation's housing challenges*. Report of the Bipartisan Millennial Housing Commission Appointed by the Congress of the United States. Washington, DC: U.S. Government Printing Office.
Miller, N., Vivek, S., & Sklarz, M. (2018). Estimating property condition effect on residential property value: Evidence from U.S. home sales data. *Journal of Real Estate Research*, *40*(2), 179–198.
Muth R., F., & Wetzler, E. (1976). The effect of constraints on housing costs. *Journal of Urban Economics*, *3*, 1.
National Commission on Urban Problems. (1968). *Building the American City*. Washington, DC: U.S. Government Printing Office.
Noam, E. M. (1982). The interaction of building codes and housing prices. *Real Estate Economics*, *10*(4), 394–404.
Novak, W. J. (1996). *The people's welfare: Law and regulation in nineteenth-century America*. Chapel Hill, NC: University of North Carolina Press.
Riis, J. (1901). *The battle with the slum*. New York: Houghton, Mifflin.
Rugh, J. S., Albright, L., & Massey, D. S. (2015). Race, space, and cumulative disadvantage: A case study of the subprime lending collapse. *Social Problems*, *62*(2), 186–218.
Salama, J. J., Schill, M. H., & Stark, M. E. (1999). *Reducing the cost of new housing construction in New York City*. New York, NY: New York University School of Law, Center for Real Estate and Urban Policy.
Sampson, R. J., & Winter, A. (2016). The racial ecology of lead poisoning: Toxic inequality in Chicago neighborhoods, 1995–2013. *Dubois Review: Social Science Research on Race*, *13*, 2.
Satter, B. (2009). *Family properties: Race, real estate, and the exploitation of black Urban America*. New York: Metropolitan Books.
Schlay, A. B. (1986). Taking apart the American dream: The influence of income and family composition on residential evaluation. *Urban Studies*, *23*(4), 253–270.
Seidel, S. R. (1978). *Housing costs and government regulations: Confronting the regulatory maze*. New Brunswick: Center for Urban Policy Research Press.
Shlay, A. B. (2006). Low-income homeownership: American dream or delusion? *Urban Studies*, *43*(3), 511–531.
Thomas, M. E., Moye, R., Henderson, L., & Horton, H. D. (2017). Separate and unequal: The impact of socioeconomic status, segregation, and the great recession on racial disparities in housing values. *Sociology of Race and Ethnicity*, *4*(2), 229–244.
Travis, A. (2019). The organization of neglect: Limited liability companies and housing disinvestment. *American Sociological Review*, *84*(1), 142–170.
Tucker, W. (2009). Building codes, housing prices, and the poor. In: B. Powell and R. Holcombe, (Eds.) *Housing American: Building out of a crisis* (pp. 73–90). New Brunswick, NJ; London, UK: Transaction Publishers.
U.S. Department of Housing and Urban Development. (2018). Minimum property standards for housing, 1994 edition handbook. Retrieved from https://www.hud.gov/programoffices/administration/hudclips/handbooks/hsgh/4910.1
Valverde, M. (2012). *Everyday law on the street: City governance in an age of diversity*. Chicago: University of Chicago Press.
Woldoff, R., Morrison, L., & Glass, M. (2016). *Priced out: Stuyvesant town and the loss of middle-class neighborhoods*. New York, NY: NYU Press.