

Housing Policy Debate



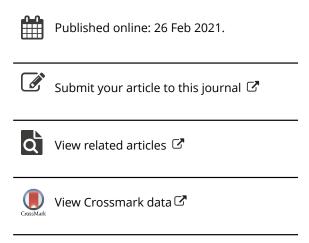
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Eviction Case Filings and Neighborhood Characteristics in Urban and Rural Places: A Michigan Statewide Analysis

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ABSTRACT

A growing body of evidence documents the negative impacts of eviction case filings on U.S. tenants, including forced moves, additional costs, and obstacles tenants face in finding future housing. Existing research relating evictions or eviction cases to neighborhood characteristics is geographically limited, often to metropolitan regions. In this article, we analyze nearly all eviction case filings in Michigan from 2014 to 2018 at the census tract level, allowing us to analyze how eviction filings differ in urban and rural places. Statewide, a negative binomial regression model confirms eviction case filings are related to previously hypothesized variables, including the presence of children and mortgage foreclosures. The use of interaction terms for urban tracts shows eviction filings in these tracts are more strongly related to the percentage of the population with an associate's degree or higher, vacancy rate, and mortgage foreclosures than in rural tracts. In rural areas, variables related to eviction case filings include job accessibility and the presence of mobile homes.

ARTICLE HISTORY

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KEYWORDS

evictions; neighborhood determinants; housing

In recent years, researchers, policymakers, and housing advocates have been increasingly interested in evictions. Propelled by worsening housing affordability in most parts of the country as well as the pioneering research by sociologist Matthew Desmond, eviction has moved from what Hartman and Robinson (2003) called in the pages of this journal a "hidden housing problem" to a topic of intense scrutiny in dozens of U.S. cities. This shift has been accompanied by an accumulation of empirical evidence that eviction is not merely a symptom of poverty, but also a cause of it: experiencing a forced move increases an employee's likelihood of losing his or her job (Desmond & Gershenson, 2017), increases rates of depression (Burgard, Seefeldt, & Zelner, 2012; Vasquez-Vera et al., 2017), and may affect physical health outcomes (Desmond & Kimbro, 2015). Although evidence of racial and ethnic discrimination is limited, Desmond and collaborators have found, based on data collected in Milwaukee, Wisconsin, that black women (Desmond, 2012), families with children (Desmond, An, Winkler, & Ferriss, 2013), and Hispanic households in mostly white neighborhoods (Greenberg, Gershenson, & Desmond, 2016) experience a disproportionately higher number of evictions compared with other groups. As elaborated below, recent empirical social science on eviction

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has focused on several issues: the relationship between neighborhood characteristics and evictions or eviction filing rates, eviction rates within specific landlord categories or housing market segments, and the prevalence of serial evictions, wherein multiple cases are filed against the same tenant.

Drawing on administrative court records from nearly the entire state of Michigan, this article reports an exploratory analysis of the relationship between eviction filings and a variety of neighborhood characteristics at the census tract level, contributing to research that seeks greater understanding of the local characteristics related to eviction filing and allowing us to explore differences between urban and rural areas. Our research aims to further disentangle multiple factors, to inform the development of policies by identifying the characteristics of places most affected by eviction, and to suggest policy responses. We fit a negative binomial multivariate regression model to explain eviction case filings, exploring differences between urban and rural areas through the inclusion of interaction terms on the hypothesis that these areas' housing markets are distinct. The main contributions of this article are the confirmation and expansion of the number of neighborhood variables related to eviction filings, as well as the use of a broad geographic extent to identify differences between urban and rural eviction case filing patterns.

Our analysis confirms that statistical relationships exist between eviction filings and variables documented in previous studies of smaller geographic areas, including educational attainment, single-mother households, and percentage of residents under 18. We also confirm the importance of variables that are emerging in the eviction literature, such as mortgage foreclosures and job accessibility. We find a strong relationship between the presence of mobile homes and eviction filings in both urban and rural areas—the first quantitative study to do so. Finally, we find eviction filings in rural areas are strongly related to single-mother households, job accessibility, and home ownership rate but not to several variables important in explaining urban evictions, such as percentage of the population with an associate's degree or higher, or vacancy rate.

Michigan Eviction Cases in Context

Overview of Michigan's Legal Eviction Process

In Michigan, eviction cases include a broad range of actions by property owners to regain possession of premises. These include actions by landlords to remove residential and commercial tenants, land contract forfeitures, actions by mobile home parks to remove both mobile home renters and owners, and actions filed by lenders, counties, and condominium associations to regain possession of properties after mortgage, property tax, and condominium fee foreclosures, respectively. For simplicity, we will refer to all property owners bringing eviction cases as landlords.

After providing notice to the tenant, landlords file their eviction cases in the local district or municipal court where the property is located.² There are over 100 district courts and four municipal courts in Michigan.³ In most cases, landlords can obtain an eviction relatively quickly and cheaply in Michigan. In 2019, the filing fee in a case where the landlord sought only possession of the property was \$45.⁴ By comparison, eviction filing fees in surrounding states range from \$89 to \$157.⁵ State law allows landlords to recoup this fee, as well as the cost of service of the complaint, from the tenant. It also allows courts to award landlords an additional \$75–150 per case in "taxable costs." In nonpayment cases, the landlord can regain possession in as little as 27 days. During the period covered by our analysis, neither the state nor any local governments required just cause for eviction or guaranteed any level of right to counsel in eviction cases.

At the same time, tenants do have some significant rights under Michigan law. If a landlord is a corporation or other business entity, it must be represented in court by an attorney (Kremski, 1999). In all but seven district courts, the courts automatically schedule a hearing.⁷ Tenants have a right to request a jury trial,⁸ a landlord's failure to maintain the property is a defense to eviction,⁹ and tenants can raise counterclaims against their landlord,¹⁰ which can be used to offset alleged



unpaid rent. Finally, in nonpayment cases, if the landlord obtains a judgment for possession, the tenant has 10 days to pay the full amount of back rent plus any costs and fees awarded, a situation informally known as pay and stay.¹¹

Legal Evictions Versus Involuntary Moves

This study's dependent variable, eviction case filings, may exclude some tenants who are forced to move and include tenants who remain. This section describes these nuances and provides our rationale for focusing on this dependent variable. Eviction cases that are filed in district courts are a subset of a broader universe of involuntary moves—that is, all situations where a tenant moves because of a landlord-generated change or threat of change in a condition of occupancy of a premises (Desmond, Gershenson, & Kiviat, 2015; Desmond & Shollenberger, 2015). For example, a tenant might move out after receiving a notice of rent increase or lease nonrenewal but before an eviction case is filed, or because of other forms of landlord pressure. These situations would be involuntary moves but would not show up in data on eviction filings. At the same time, not all eviction case filings result in an involuntary move. Landlords often voluntarily dismiss eviction cases, tenants sometimes win their cases, and tenants often pay what they owe during the "pay and stay" period provided under state law, avoiding an eviction.

In addition, data on the specific outcomes in eviction cases cannot show for certain whether a tenant has actually moved out. When an officer of the court executes and returns an order of eviction, the case has resulted in an involuntary move. However, when a case ends with a judgment for possession for the landlord with no application for order of eviction, for example, the tenant may have moved out before the landlord needed to apply for the order, or the tenant may have paid the judgment amount and stayed.

Many researchers focus on eviction filings as the outcome variable of interest, for several reasons. Focusing on all eviction filings may widen the scope of analysis to include a number of cases that result in a forced move, even when the case may not legally end in a judgment against the tenant or in an order of eviction. Eviction filings carry negative consequences in their own right: tenants are sometimes required to pay court fees even for eviction cases that are dismissed, and those cases may be included in tenant screening databases, making it harder for tenants who have been filed against to obtain housing in the future. Separate from substantive considerations, data about overall case filings can be readily obtained in many jurisdictions where detailed data about case outcomes are not available.

Factors Influencing the Filing and Resolution of Eviction Cases

The filing and resolution of eviction cases are a function of several interrelated factors, as shown in Figure 1, which presents the conceptual framework for our research. Eviction cases begin with the decision of a landlord to file a case, which is influenced by their business practices (Garboden & Rosen, 2019; Immergluck, Ernsthausen, Earl, & Powell, 2019; Raymond, Duckworth, Miller, Lucas, & Pokharel, 2018), the nature of the housing unit, and prevailing conditions in the neighborhood where the tenant lives (Desmond & Gershenson, 2017). Landlord behaviors—in particular, management and leasing decisions—in turn influence neighborhood characteristics (Rosen, 2014). Neighborhood characteristics in turn influence the types of tenants who desire to live in an area, and the socioeconomic attributes of the pool of current and potential tenants. Different tenants in turn may be treated differently by landlords because of discrimination (Greenberg et al., 2016). Factors influencing the conduct of the legal process of eviction include court rules and practices, decisions by judges and court officials, and tenants' effectiveness in self-advocating or securing legal assistance.

Our analysis focuses on neighborhood characteristics to explain eviction filings, some of which serve as proxies for different types of landlords or tenants. We explore two variables related to court

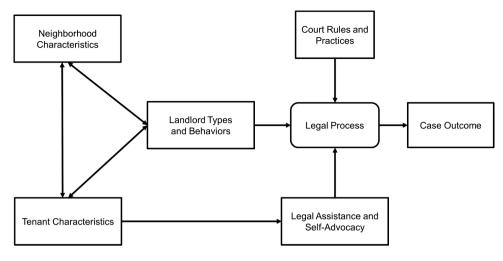


Figure 1. Conceptual model of the eviction process.

rules, but we are unable to observe court practices throughout the state. Nor are we able to account for individual differences in landlords, tenants, and tenant legal assistance and advocacy. However, these unmeasured factors may have a stronger influence on the substantive outcomes of cases than on the initial decision by a landlord to file an eviction case, which is captured in the dependent variable in this study.

Previous Research and Study Focus

This analysis builds on previous investigations of the relationship between evictions or eviction filings and neighborhood characteristics, to answer the question: What are the characteristics of rural and urban neighborhoods that are related to the number of eviction case filings? Better understanding these relationships can help policymakers, social service providers, and tenant advocates better understand where to target eviction-reduction efforts. Characteristics with a negative relationship to eviction case filings may also suggest how communities could act to reduce eviction cases.

We summarize previous studies of this topic in Table 1. These analyses largely focused on demographic variables, including characteristics such as black and Hispanic population, educational attainment, single-mother households, and percentage of residents under 18 to test whether relationships found through in-court surveys generalize to broader populations of eviction cases. Some studies additionally include neighborhood economic variables, such as the local poverty rate, household income, and job accessibility. Fewer also explore various housing-related variables, such as housing cost burden, mortgage and tax foreclosures, and subsidized housing units. Largely because most of these studies have been set within one city or county, they have not tested the potential of variations in courts to explain differing eviction filing rates. Although some scholars have begun to study the impacts of various court procedures on landlords' decision-making via serial filing rates (e.g., Immergluck et al., 2019), no comparable research has shown how procedures such as short answer periods affect tenants' interactions with the legal system and case outcomes.

Our study builds on this body of research in several ways. First, we seek to encompass nearly all the demographic variables that have been found to be significant in previous studies: percentage African American, percentage of households with a single mother, and percentage of population under 18. We hypothesize that all three will have a positive relationship with eviction case filings. In addition, we include educational attainment (measured as percentage of the population with an associate's degree or higher), which we hypothesize will have a negative relationship with case

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Immergluck et al., 2019 (Metro Atlanta, GA)	`	>	> >	` `	`					>						`
Seymour and Ackers, 2019 (Detroit)	>	>	>					>		>	>					`
Clark, Zager and Lane, 2018 (Charlotte, NC)	`	>>	``			`		>	>	>	> >	•				>
Raymond et al., 2018 (Fulton Co., GA)	>	`	`	`	`			>	`		`					>
Johns- Wolfe, 2018 (Cincinnati)	>	`	>>	•	>			`		>						
Desmond & Gershenson, 2017 ^a (Milwaukee)	>	`	· > >	· >	`	`	>									`
Greenberg et al., 2016 ^a (Milwaukee)	`	`	· > >	. `>		`		>								`
Desmond et al., 2013 ^a (Milwaukee)	`	`	``	>	>	`		>	>							>
Desmond, 2012 (Milwaukee)	>	`	· > >	•												`
	City or county Metro region Statewide	Eviction filings Evictions	Black population	Educational	attainment Single-mother	Percentage of	residents under 18 Crime rate	Poverty rate Household income	Job accessibility Vacancy rate	Housing cost burden Multifamily units	Foreclosures	units	Mobile homes and parks	Distance to legal aid	office Local court rules	Other factors/controls
	Geographic scope	Outcome of interest	Demographics					Economic	Housing	1				Legal system		

^aIndividual-level study.

filings. Notably, we excluded Hispanic population because of their low prevalence in most parts of the state, and crime rate, because of the lack of consistent statewide data.

Second, our access to statewide eviction filing data allows us to identify differences between urban and rural eviction case filing patterns. We hypothesize that the relationships between the variables and eviction filing rates will differ in rural and urban areas because of the different socioeconomic and housing conditions of rural and urban communities. Michigan's rural areas have more seniors, fewer children, and lower income and educational attainment rates, and they are less racially diverse (Mack, 2019). Nationally, rural areas have lower percentages of rental-occupied housing compared with urban areas (Housing Assistance Council, 2012). Rural renters are much more likely than urban renters to live in single-family homes, small multifamily buildings, and mobile homes (Aman & Yarnal, 2010; Housing Assistance Council, 2012). Finally, rental housing in rural areas tends to be older and more likely to have physical condition issues than does housing in urban areas (Housing Assistance Council, 2012).

To characterize local economic factors, we include poverty rate and job accessibility, but not income, because we feel housing cost burden provides a more nuanced measure of households' economic fragility. We hypothesize that poverty rate and housing cost burden will have positive relationships, and that job accessibility will have a negative relationship, with eviction case filings. Our set of housing-related factors includes previously studied variables, including tax foreclosures and the presence of federally subsidized housing units. We hypothesize that tax foreclosures will have a positive relationship with eviction case filings, because state law requires that if a new owner wants to take possession of a property, a person who had a prior right to the property must be evicted if he or she does not choose to leave voluntarily (Seymour & Akers, 2019).

For subsidized housing units in tracts, we do not have a hypothesized relationship. On one hand, we expected there to be a negative relationship because the rents for most of these units are limited to around 30% of the tenant's income, significantly limiting the tenants' cost burden. On the other hand, because these units target very low-income tenants, these tenants may have very small cushions and be especially sensitive to income or expense shocks, despite their affordable rents. Moreover, nearly every type of federally subsidized housing requires landlords to have good cause to evict, except for tenant-based Housing Choice Vouchers (better known as Section 8 vouchers) at lease expiration.¹² This means that if a subsidized landlord wants the tenant to leave, in most cases the landlord will have to file an eviction case. Unlike private landlords in Michigan, subsidized landlords do not have the option of simply not renewing a tenant's lease or sending a notice terminating a month-to-month tenancy.

We also included two variables measuring the presence of mobile homes and mobile home parks, which we hypothesize will have positive relationships with eviction case filings. We included these factors because during the community engagement process of the broader research project, legal aid attorneys identified the presence of mobile home parks as a factor that may explain higher eviction filing rates in certain census tracts (see Goodspeed et al., 2020). One variable measures the percentage of total housing units located in mobile homes, and the second measures the number of sites contained within mobile home parks.

We also included two legal system variables—one aimed at measuring access to legal services and the other the effect of specific court practices. For the first, we used a filing's approximate distance to a legal aid office—a proxy for access to legal services—which we hypothesized may have a negative relationship with filing rates. Late in the project we discovered representation specific to the cases filed is contained in Judicial Data Warehouse (JDW) data, and we may investigate it in future research but it is not examined here.¹³ For the second, we included a dummy variable for the seven district courts in the state that have adopted the practice of requiring tenants to file a written answer within five days of receiving an eviction complaint to obtain a hearing.¹⁴ We hypothesize that areas served by courts with this rule will have higher eviction case filings.

Methods

To answer our research question, we conduct a cross-sectional analysis of Michigan eviction case filings at the census tract level. We choose census tracts because they capture differences between neighborhoods, but have smaller margins of error than are present for American Community Survey data at the block group level. To conduct our analysis, we obtained a data set of all eviction cases filed between 2014 and 2018 contained in the Michigan Judicial Data Warehouse (JDW), maintained by the Michigan State Court Administrative Office (SCAO). The case codes included in our request encompass both landlord-tenant cases and eviction cases arising under land contracts, a mechanism of purchasing property in which the seller retains legal title to the property until the entire purchase price is paid (and may file eviction for nonpayment before that time). Because commercial leases are grouped with landlord-tenant cases, we requested only cases marked as filed against individuals and not businesses.

The JDW contains case information imported from electronic case management systems managed by district courts in the state. Many counties are served by a single district court; however, many counties with larger populations are served by multiple district courts, each serving a different portion of the county. In these counties, district court boundaries often correspond with municipal boundaries. The database does not include cases for six of the 107 district and municipal courts and for a portion of one court.¹⁵ JDW maintains procedures to avoid case duplications, and we did not notice any duplicates when we made exploratory gueries.¹⁶

We received records for 909,989 total cases, of which 907,593 had complete defendant street addresses in Michigan. For cases with multiple defendants, we used the address provided for the first defendant only. We successfully geocoded 98.4% of these addresses using a geocoding service developed using ESRI Business Analyst street data. We assume the defendant addresses are the location of the eviction. ¹⁷ We then used a spatial join to count the number of cases filed in each tract over the 5-year period (see Figure 2).

The names, sources, and years of the 15 explanatory variables are shown in Table 2. To develop these variables, we drew on previous research and our model of the factors influencing eviction filings as well as a community engagement process. Specifically, we held two focus groups of Michigan legal aid attorneys¹⁸ where we presented a map of eviction filing rates by census tract for the state and a list of proposed variables based on our literature review. We asked the attorneys to tell us what factors they believed might be contributing to the variation of the eviction filing rates in their communities and the state, and to identify any variables they felt were missing or not applicable in Michigan.

Most variables are derived from the U.S. Census Bureau American Community Survey 5-Year Estimates, 2013-2017. In addition, we include a measure of job accessibility derived from the Environmental Protection Agency's (EPA) Smart Location Database (Ramsey & Bell, 2014), 19 the total number of subsidized housing units in each tract from the Michigan State Housing Development Agency (MSHDA), the number of mobile home sites obtained from the Michigan Department of Licensing and Regulatory Affairs, the number of mortgage and tax foreclosures from CoreLogic, and a dummy variable for the 5-day answer rule. Tracts in counties where CoreLogic lacked Sheriff's Deed and Foreclosure Deed records (which signify the end of a mortgage foreclosure in most Michigan counties) during the 2013–2017 window were marked with a dummy variable indicating missing foreclosure data. To create district-court-level random effects, we assigned to each census tract a value representing the district (or municipal) court within which 50% or more of the tract's area lies. 20 Distance to legal aid office was calculated by geocoding the office locations of the Michigan Legal Aid Desk Reference from 2016 (the most recent year it was updated), including only organizations with a physical location that provide civil legal services to low-income individuals. We then computed the Euclidean distance between these 53 organizations and the centroids of the study census tracts.

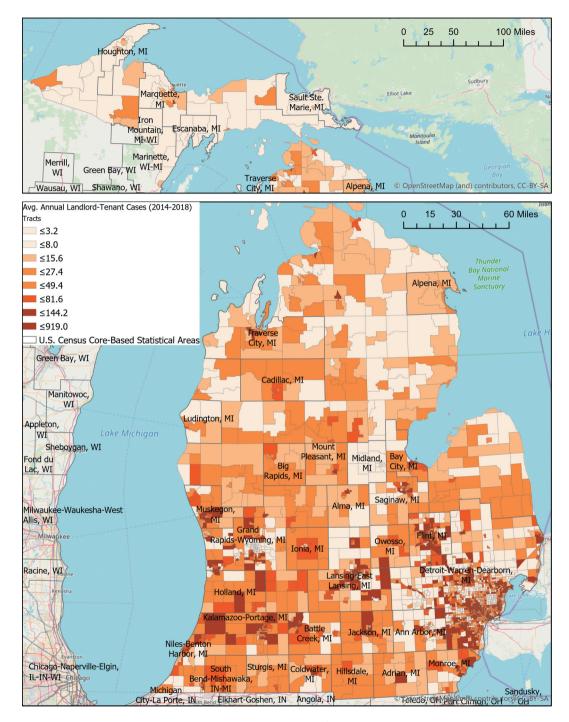


Figure 2. Average annual landlord-tenant cases, 2014–2018 (numbers of census tracts).

Descriptive statistics for each variable are provided in Table 3. The correlation matrix (see the Appendix) identified several related variables. In particular, percentage black and percentage of single mothers were strongly related (r = 0.80). Several pairs have correlations between 0.5 and 0.6; most of these include either percentage black population or number of tax foreclosures. We account

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Variable	Source and year	Description
Demographic % Black (BLACK)	ACS 2013–2017	Population identified as Black or African American alone or in combination with one or more other races, as a percentage of the total bopulation
Education (% pop. w/associate's degree or higher) (ASSOC)	ACS 2013–2017	Population with an associate's degree or higher, as a percentage of the total population
% Households with single mother (SNGM)	ACS 2013–2017	Family households with female householder, no husband present, as a percentage of total households
% Pop. under 18 (PCT_KIDS)	ACS 2013-2017	Population under 18 years of age, as a percentage of the total population
Economic Poverty rate (POV)	ACS 2013–2017	Percentage of the population for whom poverty status is determined falling below the poverty level in the past 12 months
Job accessibility (JOBACCESS)	Last update Q3 2011; drawn from 2010 LEHD data; source is EPA Smart Location	Last update Q3 2011; drawn from 2010 LEHD Variable D5ar (jobs within 45-min travel time, time-decay weighted) at the BG level; the tract-level data; source is EPA Smart Location to the total is an average of the Fract-level values, weighted by each BG's contribution to the total database.
% Renter cost-burdened households (RENT30)	ACS 2013–2017	Percentage of renter households paying 30% or more of their household income in rent
Housing Vacancy rate (VACANT)	ACS 2013–2017	Vacant housing units as a percentage of the total housing units
% HHs in multifamily structures (PCTMULII) # Subsidized housing units (SUBSID_UNITS)	ACS 2013–201/ 2019, MSHDA	Households in structures with four or more units as a percentage of the total households Total subsidized housing units in the census tract
% HHs in mobile homes (PCTMOB)	ACS 2013-2017	Households in mobile homes as a percentage of the total households
# Mobile home park sites (MOBSITE)	2019, LARA	Number of mobile home park sites by census tract
# Mortgage foreclosures (MFCL) # Tax foreclosures (TFCL)	2013–2017, CoreLogic 2013–2017, CoreLogic	Number of mortgage foreclosures initiated by census tract Number of tax foreclosures initiated by census tract
Legal 5-day answer rule (L_SDAY)	Legal aid organizations, 2018	Dummy variable corresponding to courts with 5-day answer rule
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Note. ACS: American Community Survey; LEHD: Longitudinal Economic and Housing Dynamics; MSHDA: Michigan State Housing Development Agency; LARA: Michigan Department of Licensing and Regulatory Affairs.



Table 3. Descriptive statistics of study variables.

			All tracts		
	N	Min	Max	Mean	SD
CASES_TOT	2,538	0.0	4,595.0	345.7	504.5
CASES_PER_YEAR	2,538	0.0	919.0	69.1	100.9
POP	2,538	88.0	14,936.0	3,603.2	1,619.5
HH	2,538	45.0	4,462.0	1,417.9	610.2
BLACK	2,538	0.0%	100.0%	19.4%	30.2
ASSOC	2,538	1.5%	94.2%	35.6%	17.9
SNGM	2,538	0.0%	63.2%	13.4%	9.5
PCT_KIDS	2,538	0.0%	47.6%	21.8%	5.8
POV	2,538	0.0%	83.5%	17.5%	14.4
JOBACCESS RENT30	2,538	57.6 0.0%	244,469.7 100.0%	83,681.4 43.3%	73,385.9 16.9
VACANT	2,538 2,538	0.0%	81.2%	15.0%	14.9
OWNRATE	2,538	0.0%	99.6%	70.4%	21.3
PCTMULTI	2,538	0.0%	99.7%	12.4%	17.3
SUBSID_UNITS	2,538	0.0	1,552.0	71.5	150.4
MFCL	2,538	0.0	79.0	10.6	10.2
TFCL	2,538	0.0	321.0	12.1	34.2
PCTMOB	2,538	0.0%	97.8%	4.8%	8.6
MOBSITES	2,538	0.0	1,813.0	52.5	155.8
L_5DAY	2,538	0.0	1.0	0.1	0.2
LA_DIST	2,538	0.0	118.7	13.5	15.0
			Urban tracts		
	N	Min	Max	Mean	SD
CASES_TOT	1,671	0.0	4,595.0	448.4	569.0
CASES_PER_YEAR	1,671	0.0	919.0	89.7	113.8
POP	1,671	88.0	14,936.0	3,487.5	1,605.4
HH	1,671	45.0	4,462.0	1,381.0	621.1
BLACK	1,671	0.0%	100.0%	28.3%	33.9
ASSOC	1,671	1.5%	94.2%	37.3%	20.1
SNGM	1,671	0.0%	63.2%	16.0%	10.5
PCT_KIDS	1,671	0.0%	47.6%	22.2%	6.3
POV	1,671	0.0%	83.5%	20.2%	16.4
JOBACCESS	1,671	1,904.3	244,469.7	117,530.3	67,831.3
RENT30	1,671	0.0% 0.0%	100.0%	46.2% 12.7%	16.8
VACANT OWNRATE	1,671 1,671	0.0%	68.3% 99.5%	63.5%	12.2 22.2
PCTMULTI	1,671	0.0%	99.7%	16.6%	19.4
SUBSID_UNITS	1,671	0.0	1,552.0	90.3	175.2
MFCL	1,671	0.0	151.0	32.6	24.4
TFCL	1,671	0.0	777.0	60.6	126.6
PCTMOB	1,671	0.0%	97.8%	2.5%	7.7
MOBSITES	1,671	0.0	1,813.0	44.9	161.2
L_5DAY	1,671	0.0	1.0	0.0	0.2
LA_DIST	1,671	0.1	118.7	12.3	14.6
			Rural tracts		
	N	Min	Max	Mean	SD
CASES_TOT	867	0.0	2,697.0	147.6	248.3
CASES_PER_YEAR	867	0.0	539.4	29.5	49.7
POP	867	594.0	11,783.0	3,826.0	1,624.0
HH	867	280.0	4,065.0	1,489.1	582.6
BLACK	867	0.0%	57.4%	2.3%	4.5
ASSOC	867	10.3%	87.1%	32.2%	11.9
SNGM	867	0.6%	29.2%	8.3%	3.5
PCT_KIDS	867	6.0%	35.3%	21.1%	4.5
POV	867	0.7%	43.2%	12.2%	6.7
JOBACCESS	867	57.6	138,298.3	18,443.4	20,800.9
RENT30	867 867	0.0%	100.0%	37.6%	15.7
VACANT	867	0.0%	81.2%	19.6%	18.1

(Continued)

Table 3. (Continued).

			All tracts		
	N	Min	Max	Mean	SD
OWNRATE	867	2.5%	99.6%	83.6%	10.7
PCTMULTI	867	0.0%	83.7%	4.3%	7.4
SUBSID_UNITS	867	0.0	715.0	35.2	70.9
MFCL	867	0.0	192.0	27.8	21.4
TFCL	867	0.0	183.0	5.3	13.8
PCTMOB	867	0.0%	59.1%	9.3%	8.6
MOBSITES	867	0.0	1,294.0	67.0	143.8
L_5DAY	867	0.0	1.0	0.1	0.3
LA_DIST	867	0.0	105.7	15.8	15.4

SD = standard deviation.

for these in the specification and discussion of the model below. We exclude the 202 tracts where at least 50% of the area is located within the area of a district court not included in the JDW database, as well as 33 tracts containing less than 20 people or less than 10 households. Our final data set includes 2,538 tracts.

To conduct the analysis, we fit a negative binomial regression, predicting the total number of eviction filings in each tract between 2014 and 2018. The natural log of the number of housing units in each tract was included in the right side of the regression equation with a coefficient fixed at 1, allowing this count model to function similarly to a rate model. Random intercepts were included for district courts, to remove natural court-level variation (based on court policies and procedures not explicitly included in the model) and thus remove bias from our estimate of the effect of the 5-day answer rule. We initially considered fitting a linear regression with a transformed dependent variable (natural log) or eviction filing rate. Exploratory linear multiple regression models using these variables resulted in similar substantive findings to those for the negative binomial regression reported here, which is the most appropriate model for multivariate analyses where the dependent variable is a count and overdispersion is a concern.

To explore differences between urban and rural tracts, we included interaction terms between our variables and a dummy variable for urban tracts. Tracts whose centroids were located in Census Bureau-defined urbanized areas or urban clusters (as of 2010) were coded as urban, whereas those outside these areas we define as rural. Urban tracts in our data set number 1,671, whereas rural tracts number 867. The inclusion of interaction terms enables us to examine whether the relationships between our covariates and the outcome differ between urban areas and the state as a whole.

Results

The results of our statistical analysis are shown in Table 4. Across all tracts, we find statistically significant relationships (at the 90% confidence level) between seven variables and the number of eviction cases filed: percentage of single-mother households, percentage of the population under 18, job accessibility, homeownership rate, mortgage foreclosures, and mobile homes as a percentage of housing units and number of mobile home sites. All variables except homeownership rate had positive relationships to eviction filing. The eight interaction terms with statistically significant coefficients provide an additional level of detail. For three variables, only the interaction term with urban areas is statistically significant, meaning that these variables' effects on eviction filing differ between rural and urban areas, but that we are not highly confident in our estimate of their statewide effects. These variables are percentage with an associate's degree or higher (with a negative interaction term coefficient), percentage poverty rate (also negative), and vacancy rate (positive).

Three variables that have significant positive relationships for the overall model show weaker relationships in urban areas because the interaction terms are all negative, but with small magnitudes: job accessibility, mobile homes as a percentage of all housing units, and number of mobile

Table 4. Results of negative binomial regression with random effects, with interaction terms for urban tracts, to explain the number of landlord–tenant cases filed, 2014–2018, by census tract.

Variables	Coef.	р	Interaction terms	Coef.	р
Demographic					
% African American	0.008	.200	% African American × Urban	-0.001	.877
% Assoc. degree or higher	-0.001	.670	%Assoc. degree or higher × Urban	- 0.014	<.001
% Single mothers	0.022	.011	% Single mothers × Urban	0.000	.988
% Population under 18	0.012	.084	% Population under 18 × Urban	0.000	.956
Economic					
% Poverty rate	0.004	.505	% Poverty rate \times Urban	- 0.012	.062
Job accessibility	0.004	.020	Job accessibility × Urban	-0.003	.079
Housing market					
% Cost-burdened renter HH	-0.001	.605	% Cost-burdened renter HH $ imes$ Urban	0.003	.147
Vacancy rate (%)	-0.003	.147	Vacancy rate (%) × Urban	0.011	.001
Homeownership rate (%)	-0.029	<.001	Homeownership rate (%) × Urban	0.008	.095
% HH in multifamily structures	0.010	.118	% HH in multifamily structures × Urban	0.008	.267
No. of subsidized housing units	0.001	.252	No. of subsidized housing units × Urban	-0.001	.113
Mortgage foreclosures (2013–2017)	0.003	.078	Mortgage foreclosures (2013–2017) × Urban	0.006	<.001
Tax foreclosures (2013–2017)	0.002	.318	Tax foreclosures (2013–2017) × Urban	-0.003	.168
Foreclosure data unavailable	0.169	.231	Foreclosure data unavailable \times Urban	0.279	.249
Mobile homes as % of HHs	0.050	<.001	Mobile homes as % of HHs × Urban	-0.010	.018
No. of Mobile home sites in tract	0.001	<.001	No. of mobile home sites in tract \times Urban	-0.001	<.001
Legal					
Distance to nearest legal aid office	0.001	.671	Distance to nearest legal aid office × urban	-0.002	.284
5-day answer rule	- 0.144	.490	5-day answer rule × Urban	0.193	.161
Constant	- 1.443	.003	Urban	0.064	.904
Ln alpha	- 0.929	<.001			
Var (_const[Court_ID])	0.360	<.001			
N	2538				
Wald chi ²	372.6				
Pseudo R ²	0.095				

Note. HH = household.

home sites. Substantively, the conclusion is that these variables have a stronger relationship with eviction case filings in rural tracts. Homeownership rate, negative statewide, is slightly less so within urban tracts. Finally, the positive coefficient on the interaction of urban areas and mortgage foreclosures, which is also positive in the statewide model, shows that this variable has an even stronger relationship with eviction filings in urban tracts than in rural tracts.

We did not find statistically significant relationships between the number of eviction filings and percentage African American, percentage of cost-burdened renter households, percentage of of households in multifamily structures, number of subsidized housing units, tax foreclosures, distance to nearest legal aid office, or presence of the 5-day answer rule.

Regression coefficients from a negative binomial regression represent, for a one-unit change in the variable, the magnitude of the difference in logs of the expected counts of eviction cases, holding constant the other variables in the model. Because many of the variables are measured as percentages, the magnitudes of these coefficients can be compared to determine the relative magnitude of the relationship of each variable individually with our outcome variable, assuming a constant level from which change occurs. For example, the percentage of households in a tract headed by single mothers has a stronger relationship with eviction filings than does the percentage of a tract's population that is under age 18.

To aid the interpretation of the coefficients, we report example predictions for several scenarios for urban and rural tracts separately (see Table 5). This approach starts with calculating the predicted number of eviction filings for a hypothetical tract with the median value of all independent variables, including the number of total households, located in the district court with the median estimated random effect. We then illustrate the predicted change in the eviction filing rate accompanying an increase in the variables of interest from the 25th percentile value among all tracts to the 75th percentile value among all tracts. For example, increasing the percentage of households in a median



Table 5. Impact of individual variables on predicted tract eviction filing rate.

Modeled scenarios	Predicted number of eviction filings	Households	Rental households	Annualized evic- tion filing rate (all HHs, %)	Annualized eviction filing rate (RHH, %)
Rural tracts					
Median of all variables	64	1,407	201	4.5	31.7
Mortgage foreclosures at 25th percentile (13%); all others median	62	1,407	201	4.4	30.7
Mortgage foreclosures at 75th percentile (40%); all others median	66	1,407	201	4.7	32.9
Percentage of mobile homes at 25th percentile (2%); all others median	48	1,407	201	3.4	24.1
Percentage of mobile homes at 75th percentile (14%); all others median	87	1,407	201	6.2	43.4
Urban tracts					
Median of all variables	163	1,307	403	12.5	40.4
Mortgage foreclosures at 25th percentile (14%); all others median	146	1,307	403	11.2	36.3
Mortgage foreclosures at 75th percentile (46%); all others median	191	1,307	403	14.6	47.3
Percentage of mobile homes at 25th percentile (0%); all others median	163	1,307	403	12.5	40.4
Percentage of mobile homes at 75th percentile (1%); all others median	170	1,307	403	13.0	42.1

rural tract that are mobile homes from 2% (the 25th percentile value among all tracts) to 14% (the 75th percentile value) increases the predicted annualized eviction filing rate from 3.4% to 6.2%.

The Wald test shows that the model explains variation in filing rates with a very high degree of confidence. Likelihood ratio tests demonstrate that including random effects at the district court level improved the performance of each of our models against a similarly specified negative binomial regression without random effects.

Discussion

To provide context for our findings, Michigan had an annualized eviction filing rate of 17% from 2013 to 2018 (Goodspeed et al., 2020). Many of the state's cities have filing rates higher than the state average, including Southfield (32%), Pontiac (31%), Flint (26%), Lansing (23%), and Detroit (22%) (Goodspeed et al., 2020). These rates far exceeded filing rates found in Chicago, Illinois (3.9%) (Lawyers' Committee for Better Housing, 2019); Philadelphia, Pennsylvania (7-7.8%; Goldstein, Parker, & Acuña, 2017); and Hamilton County, Ohio (8.7%; Johns-Wolfe, 2018).

Statewide Analysis

Overall, our analysis has upheld the importance of many factors correlated with eviction filings, hypothesized based on research in a small number of other cities. Our spatially and temporally expansive analysis has confirmed that, especially for urban areas, important factors related to eviction case filings include the prevalence of single-mother households, the prevalence of children, and mortgage foreclosures. Although the variable percentage African American is only marginally significant (p = .200) in the statewide model, this is most likely because of multicollinearity, because it is highly correlated with the prevalence of single-mother households (r = .80) and was significant in alternative models considered. Therefore, our findings are consistent with previous research showing African American neighborhoods experience higher eviction filing rates. Controlling for all other factors, we find a negative relationship with the local poverty rate for urban tracts, but with a small magnitude. Further research is needed to explore this relationship, which may be due to differences in tenant or landlord behavior in high-poverty neighborhoods.



Although we believe variations in court rules and tenant access to legal representation influence both filing rates and case outcomes, we did not find relationships with the two variables that characterize some of these differences. Although prior research has established the impact of legal aid representation, proximity to the office was not related to eviction filing rates. This is likely because of the low levels of legal aid representation among tenants; we found in a separate analysis of this same data set that only 4.8% of tenants were represented by attorneys, compared with 83.2% of landlords (Goodspeed et al., 2020). Similarly, the effect of the 5-day answer practice was not significant, although it still may influence the proportion of tenants who lose eviction cases in these jurisdictions.

Urban and Rural Differences

The models also allow us to highlight differences between urban and rural areas. Unlike in urban areas—the focus of prior research—this analysis finds that eviction filings in rural areas are largely explained by a smaller subset of variables: the prevalence of single-mother households, population under 18, job accessibility, mortgage foreclosures, and the prevalence of mobile homes. The percentage of cost-burdened renter households is not significant, which may be the result of few renters in rural areas, or of conditions where renters are cost burdened but are better able to manage housing costs because of fewer rent increases or changes of ownership in rural housing markets. Although not included in this study, other research has documented that the types of landlords found in different settings may also explain eviction filing rates. In Metropolitan Atlanta, Georgia, Immergluck et al. (2019) found that large corporate landlords evicted at higher rates, and related research has examined rates among corporate owners of single-family homes (Raymond et al., 2018).

The positive relationship between eviction filings and the two mobile home variables, especially in rural areas, is notable. One explanation for this positive relationship could be the increasing corporate ownership of mobile home communities, in light of Immergluck et al.'s (2019) evidence of higher filing rates among large, corporate landlords. In a recent report, national advocates for mobile home community residents noted a shift in the past 20 years in communities from "'mom and pop' enterprises to ownership by large, multi-state corporations," and have documented a recent influx of investments in this market by private equity firms and institutional investors (Baker, Voigt, & Jun, 2019, p. 5). Anecdotally, legal aid attorneys confirm a similar trend in Michigan. Finally, legal aid attorneys have suggested that a feature of Michigan law, which allows mobile home communities to very easily obtain title to homes vacated by evicted homeowners, may provide an additional financial incentive for communities to pursue evictions (Travis, 2019).

Policy Implications

This analysis has several policy implications (Goodspeed et al., 2020). The models as a whole provide guidance regarding which types of neighborhoods should be targeted for eviction-reduction policies and programs. For reducing eviction filings in rural areas, further individual-level research is needed to probe the associations we find between eviction case filings and mobile homes and mobile home parks. If these relationships are confirmed, this finding would justify focusing evictionprevention efforts and policy attention on this type of housing, which has been neglected in prior research conducted in mainly urban and metropolitan settings. In Michigan, such policies could include strengthening protections for mobile homeowners facing eviction for nonpayment of lot rent and prohibiting the transfer of title to mobile home community owners without an assignment of title from the former homeowner. In urban areas, although limited by the nature of our variables, our findings about the population characteristics of places with high eviction rates suggest further efforts should be made to investigate and address the discriminatory impact of evictions on single mothers and families with children. In particular, we agree with the argument made by Desmond

et al. (2013) that the impact of eviction on children justifies a more aggressive public policy response to reduce evictions in general.

Although it was not the primary focus of this article, we note that Michigan's overall eviction filing rate is higher than rates documented in similar recent studies. As Immergluck et al. (2019) suggest, state policies that facilitate low-cost, easy filing may contribute to such high filing rates. Implementing policies at the state and local level that increase the cost of eviction could help bring down these rates. Such policies could include lengthening the notice period in nonpayment cases from 7 to 14 days, eliminating landlords' ability to recoup their costs plus an additional \$75–150 from tenants in eviction cases, and providing a right to counsel in eviction cases.

Future Research

This study, and the conceptual framework presented herein (see Figure 1), suggests several avenues of future research. Regarding landlord types and behaviors, accounting for serial evictions would help to contextualize the high number of cases and to understand which cases are being brought as a rent collection mechanism and which are more likely to result in a forced move. Research that examines the eviction practices of a range of landlords is needed to generate insights about appropriate policy responses. Although we were unable to find variables to capture it here, further research should analyze how local court rules and practices, within the scope of their legal discretion, as well as tenant legal assistance and self-advocacy, influence the number and disposition of eviction cases in their jurisdictions.

Finally, a greater systems perspective could shed light on the problem of eviction. Much of the research and policy discussion on evictions results in long lists of policies and reforms, spread among diverse decision-makers. This is because—as our conceptual model has highlighted—evictions are a function of interactions among many factors, spread among diverse policy domains such as social service delivery, legal advocacy, and housing policy. The systemic quality of eviction means that strategic initiatives and changes may have a substantial impact (Fowler, Hovmand, Marcal, & Das, 2019). For example, stakeholders within a particular city or county may be able to substantially reduce evictions if they undertake coordinated, complementary reforms within distinct policy areas. Such strategies could consider coordinating activities such as boosting legal aid capacity, promoting grassroots organizing among tenants, better targeting available homelessness prevention funding, encouraging court practices that better enable tenants to advocate for their legal rights, and conducting outreach to landlords to discourage excessive case filings. Such a strategy could build on earlier place-based comprehensive community change initiatives that have had success in impacting a range of outcomes (Kubisch, 2005).

Conclusion

Evictions are the focus of growing attention by scholars and communities. Within the growing literature on evictions, this study contributes to a thread that considers the relationship between neighborhood characteristics and the number of eviction cases—a perspective needed to generate insights about where to target efforts to reduce the number of evictions and to identify specific policy strategies. The pioneering studies on this topic established some of the most relevant variables, but were based on results from a small number of urban areas—especially Milwaukee, the focus of several of Matthew Desmond's articles. Building on the insights of prior research, this article conducts an analysis at the census tract level for nearly the entire state of Michigan to explore urban and rural relationships, encompassing over 900,000 eviction cases.

Through our analysis, we broadly confirm many of the hypothesized relationships, as well as others just emerging in the literature. In addition, by including interaction terms for urban tracts, we show how factors related to the number of eviction cases filed differ between urban and rural areas.

These results suggest that communities need to implement tailored efforts to reduce the impact of eviction based on their particular geographic, economic, and demographic contexts. Although based on a cross-sectional analysis, the findings support a systems perspective on evictions as resulting from a complex set of factors. In addition to targeted approaches, such as new tenant protections or establishing a right to housing, a comprehensive community-wide strategy could also be effective in reducing evictions.

Because of its documented importance to economic livelihood and social well-being, many societies consider housing to be a fundamental human right. Although not enshrined as a right within the U.S. context, the investment made by our society in affordable housing is motivated by the policy goal of providing secure housing. Our data reveal that hundreds of thousands of Michigan residents face legal evictions, and that untold thousands are forcibly removed by agents of the state's courts. Although the phenomenon of eviction arises from a constellation of factors, it likely perpetuates the disparities in health, employment, educational outcomes, and social well-being that are well documented in the state. Our analysis adds empirical detail to this general picture, highlighting the characteristics of urban and rural places most affected by eviction, and provides impetus for further action.

Notes

- 1. MCL 600.5701(b). In Michigan, "'premises' includes lands, tenements, condominium property, cooperative apartments, air rights and all manner of real property. It [also] includes structures fixed or mobile, temporary or permanent, vessels, mobile trailer homes and vehicles which are used or intended for use primarily as a dwelling or as a place for commercial or industrial operations or storage."
- 2. MCL 600.5704; (Goodspeed et al., 2020) provides a more detailed overview of Michigan's legal eviction process.
- 3. Michigan Courts, "Trial Courts," https://courts.michigan.gov/courts/trialcourts/pages/default.aspx
- 4. MCL 600.5756; SCAO, District Court Filing Fee and Assessment Table, January 2019, https://courts.michigan.gov/ Administration/SCAO/Resources/Documents/other/dfee.pdf. If the landlord is also filing a claim for money damages, it must pay an additional \$25-150 per case based on the amount of money damages sought.
- 5. Indiana Judiciary. (2020). Filing Fees by Case Type by the Clerk [Ebook] (p. 4). Retrieved from https://www.in.gov/ sboa/files/Hofherr_2019%20-%20Filing%20Fees%20by%20Case%20Type.pdf (Indiana, \$87-157); Clark County Circuit Courts. (2020). The Official Website of Clark County, IL—Fees. Retrieved June 23, 2020, from https://www. clarkcountyil.org/fees (Illinois, \$89); Wisconsin Circuit Courts. (2020). Wisconsin Circuit Court Fee, Forfeiture, Fine and Surcharge Tables [Ebook] (p. 7). Retrieved from https://www.wicourts.gov/courts/circuit/docs/fees.pdf (Wisconsin, \$94.50); § Ashland Municipal Court. (2020). Ashland Ohio Municipal Court Filing Fees and Costs. Retrieved June 23, 2020, from http://www.ashlandmunicourt.com/court_civil_costs.php (Ohio, \$110).
- 6. MCL 600.5759. It is technically the court's decision whether to award these costs. In a sample of eviction cases filed in Washtenaw County, Michigan, in 2014 and 2018, however, the court awarded these fees in 99% of cases where the court awarded the landlord a judgment of possession (Goodspeed et al., 2020, p. 24).
- 7. MCL 600.5735(2); MCR 4.201(C).
- 8. MCL 600.5738.
- 9. MCL 600.5741; MCL 600.5720(1)(f).
- 10. MCR 4.201(G)(1).
- 11. MCL 600.5741; MCL 600.5744.
- 12. See, e.g., 42 USC § 1437d; 24 CFR § 966 (public housing); 24 CFR § 247.2 (HUD-subsidized properties); 12 USC § 1715z-1b (project-based Section 8); 42 USC §§ 1437 f(d)(1)(B)(ii), (iii), (v); 1437 f(o)(7)(C); 26 USC § 42(h)(6)(E)(ii) (Low-Income Housing Tax Credit program).
- 13. The JDW data set shows that 4.8% of tenants are represented by an attorney, vs. 83.2% of landlords. These are similar to estimates from other sources. A random sample of cases we studied from Washtenaw County showed that only 2% of tenants facing eviction are represented by attorneys, and our sample from Lenawee County showed that only 4% of tenants were represented by attorneys (Goodspeed et al., 2020).
- 14. If the tenant does not file a written answer within this tight time frame, the tenant will not get a court hearing, and the court will automatically issue a default judgment for the landlord. As a result, in many cases a landlord is able to obtain an eviction order without having to appear in court. To get the default set aside, the burden shifts to the tenant to prove that they had a good reason for not filing an answer and meritorious defenses to the eviction. In every other court in the state, the court automatically schedules a hearing, which the landlord is required to attend and where the tenant can answer the landlord's complaint orally.



- 15. Data are missing for Grand Rapids (D61), Berrien County (D05), Dearborn Heights (D20), Center Line/ Warren (D37), Northern Macomb County (D42), Grandville/Walker (D59), and the portion of D43 covering Madison Heights (D43-3).
- 16. The JDW seeks to avoid duplication by constructing a unique ID containing county, court, court location, case number, filing year, and case type. Therefore, it may be possible to create duplicate records if the court modifies one of the six data fields above, such as by adopting new case numbers because of a new case management system.
- 17. It is possible that defendant addresses may be updated for defendants who have future contacts with the court system, potentially overwriting the original record. SCAO informed us that they believe most courts maintain the address that was used at filing (Laura Hutzel, SCAO Statistical Research Director, personal communication, June 15, 2020).
- 18. The first focus group was composed of legal aid attorneys from only the Michigan Advocacy Program. The second included attorneys from across the state.
- 19. This job accessibility index, calculated at the block group level, represents a time-decay-weighted total number of jobs within a 45-minute drive of the block group in guestion; job totals are derived from 2010 Longitudinal Employer-Household Dynamics data. To aggregate these block-group-level index values to the census tract level, we computed an average of block group values in a tract, weighted by the number of workers in each block group as a proportion of all workers in a tract.
- 20. Only 1.6% of tracts included in this study are meaningfully split between district courts. This means that two or more district courts contain at least 10% of the tract's area.

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