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MetroSight

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Behind the High Cost of Rent

How local rules and regulations are increasing expenses for multifamily operators.

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Executive summary

Housing affordability challenges in the United States have spread beyond high-cost regions to communities across the country in recent years, affecting households at nearly every income level.

This expansion has coincided with a rise in local laws that have the potential to erode multifamily revenue, suppress new construction, and increase costs, likely resulting in higher rents.

With little rigorous research or compelling data available to quantify these effects, the debate over laws governing housing providers has become polarized, with tenant advocates emphasizing the need to protect renters and property owners warning of increased costs and reduced operational viability.

This study examines the fiscal impact of several regulations on multifamily rental properties between 2004 and 2019. Leveraging proprietary data from the National Apartment Association, we used econometric methods to examine how four categories of state and municipal laws have affected multifamily expenses and revenue.

Key findings

- **Source-of-income laws:** These laws, which are aimed at ensuring fair access to housing, restrict housing providers from differentiating applicants based on their income source, such as housing vouchers. Properties operating under these laws reported greater revenue losses and higher operational costs.
- **Eviction regulations:** Just-cause eviction laws and right-to-counsel statutes are designed to protect renters from arbitrary removal and ensure fairness in legal proceedings. However, they increased legal fees, extended eviction timelines, and led to higher marketing, utility, and salary expenses for multifamily owners and operators.
- **Resident screening laws:** These laws are designed to prevent housing providers from considering old arrest, conviction, or juvenile records when considering rental applicants. Properties operating under these laws experienced greater revenue losses and greater operational expenses in utilities and repair and maintenance.
- **State preemption laws:** These statutes standardize regulations at the state level, reducing the administrative complexity of localized ordinances. Properties in states with preemption laws reported higher revenues, reduced operational losses, and increased capital expenditures. These findings suggest that regulatory stability supports multifamily viability and encourages reinvestment.

Implications

While renter protections can contribute to promoting housing equity and security, their associated costs can discourage new construction and reduce the long-term supply of affordable housing. Conversely, preemption laws stabilize regulatory environments, reducing uncertainty and fostering investment.

Policymakers face the challenge of balancing resident safeguards against the operational realities of multifamily housing providers to ensure a stable, adequate, and affordable supply of rental housing.

Introduction

Policymakers at every level of government must recognize that housing regulation can reduce multifamily revenue, drive up costs, and ultimately hinder new construction. With limited rigorous research or compelling data to measure these effects, however, the debate over rental laws has split along two key lines: the importance of protecting renters, particularly those with lower incomes, and the need to control costs and protect operational viability.

This debate has taken on renewed urgency as the nation's housing affordability challenges have spread beyond high-cost urban centers, pushing more houses and apartments beyond the reach of the typical U.S. household.

The pace of [rent increases](#) has exceeded the pace of overall inflation since 1983. Nearly 1 in 4 of the country's 45.1 million renter households live at or below the poverty line.^{1,2}

The high cost of homeownership, meanwhile, has more Americans committing to their rental units for the foreseeable future. In 2022, the median sales price of a single-family home was 5.6 times the median household income, the highest ratio in [data](#) going back to the early 1970s.³

Despite these economic pressures, residential building permits have lagged historical averages since the early 2000s, even as the U.S. population grows. Between 2012 and 2022, the United States added 15.6 million new households, but only [13.3 million](#) new houses, condominiums, and apartments.⁴

While many factors have contributed to this scarcity, including supply-chain woes and labor shortages, regulatory constraints imposed by states and localities have proven to have a particularly significant and enduring impact. Zoning, permitting, and other lengthy processes have raised barriers to development and discouraged multifamily construction.

In addition to the challenges of developing multifamily housing, rental regulations further constrain the margins within which new units can be operated viably, raising the everyday cost of doing business. Over time, such costs discourage new construction and increase rents.

Regulations that come at a cost to multifamily rentals include rules that prevent owners and operators from assessing or differentiating between potential residents based on their source of income, ordinances that increase the cost and complexity of evictions, and laws that make it difficult for rental housing providers to gather complete information on prospective residents.

¹ U.S. Bureau of Labor Statistics, Consumer Price Index for All Urban Consumers: Rent of Primary Residence in U.S. City Average. Retrieved from [FRED](https://fred.stlouisfed.org/series/CUSR0000SEHA), Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/CUSR0000SEHA>, December 15, 2024.

² The National Low Income Housing Coalition. "[The Gap: A Shortage of Affordable Homes](#)." March 2024. https://nlihc.org/sites/default/files/gap/2024/Gap-Report_2024.pdf.

³ Hermann, Alexander, and Peyton Whitney. "[Home Price-to-Income Ratio Reaches a Record High](#)." Joint Center for Housing Studies of Harvard University, January 22, 2024. [https://www.jchs.harvard.edu/blog/home-price-income-ratio-reaches-record-high-0#:~:text=In%202022%2C%20the%20median%20sale,over%20time%20\(Figure%201\)](https://www.jchs.harvard.edu/blog/home-price-income-ratio-reaches-record-high-0#:~:text=In%202022%2C%20the%20median%20sale,over%20time%20(Figure%201)).

⁴ Ratiu, George, Hannah Jones, Danielle Hale. "[U.S. Housing Supply Continues to Lag Household Formations](#)." National Association of Realtors, September 9, 2021. <https://www.realtor.com/research/us-housing-supply-continues-to-lag-household-formations/>

These laws are well-intentioned, but as they have grown more commonplace, their impact on rental market dynamics and the housing supply warrants examination

Economic theory suggests that when housing providers face higher operating costs, they pass some of those costs to residents in the form of higher rents. The extent to which these costs are passed through to renters, however, depends heavily on the elasticities of supply and demand in the rental housing market. When the demand for rental housing is relatively inelastic—which means renters have few alternatives and are less likely to move elsewhere in response to price changes, as might be the case in low-income neighborhoods—rental housing providers have greater pricing power and can pass a larger share of costs onto residents. Conversely, when supply is more elastic, meaning providers face significant competition, their ability to raise rents in response to cost increases is more limited.

Several studies have quantified the extent to which property owner costs are passed through to residents. A study of taxes on multi-family buildings in New York found that owners passed increased costs to residents in the form of higher rents.⁵ Other researchers have reached similar conclusions using cross-city variation.⁶ Similarly, studies have found instances in which the cost of interest rate increases were passed through to rents.⁷

While this study does not directly observe rents, the economics literature suggests that higher costs for rental housing providers frequently translate into higher costs for renters.

This study attempts to fill a gap in evidence-based research on the effects of rental regulations on costs and rents. Using proprietary data from an annual National Apartment Association (NAA) survey of multifamily operators, it uses established econometric methods to measure the fiscal impact of certain laws on operator costs and revenues. The NAA survey collects data on more than 2,100 properties in 50 U.S. markets each year. This research is based on survey data from 2004 through 2019, with a combined response total representing between 600,000 and 850,000 units per year.

We compiled and analyzed four categories of laws:

- Source-of-income rules
- Eviction regulation
- Resident screening laws
- State preemption statutes

For each category, we overlaid identifiers for its presence onto aggregated industry financial data collected by the NAA survey.

We then estimated the reported deviation, relative to a counterfactual benchmark, in revenue and expenses of multifamily rental properties operating under each category of laws. This analysis was based on financial outcomes prior to the law's passage inside the targeted metros and trends in control areas.

⁵ Luke Watson (Federal Deposit Insurance Corporation) and Oren Ziv (Department of Economics, Michigan State University), Trade Policy and Firm Productivity Premiums: Evidence from China (Working Paper, 2025), accessed January 28, 2025, https://clukewatson.github.io/research/tfpp/tfpp_watsonziv.pdf.

⁶ Tsoodle, Leah J., and Tracy M. Turner. "Property taxes and residential rents." *Real Estate Economics* 36.1 (2008): 63-80.

⁷ Jaeyeon Lee, Migration Networks and Housing Market Spillovers: Evidence from Microdata (Job Market Paper, Haas School of Business, University of California, Berkeley, 2025), accessed January 28, 2025, https://jaeyeon-lee12.github.io/jaeyeonlee_jmp.pdf.

To ease interpretation, we report the estimated effects of each category as deviations in cost and revenue components from full-sample averages across all metros and years.⁸

We found that source-of-income rules, eviction regulation, and resident screening laws all have meaningful and detrimental effects on multifamily performance, highlighting the trade-offs inherent in these and other regulations. While protections for renters often are well-intentioned, they increase operating costs, reduce the funds needed to cover costs, and impose other expensive burdens on multifamily property owners and operators, potentially threatening the viability of some properties.

Using identical methodology, we found that preemption laws had the opposite effect. By setting regulatory floors or ceilings, preemption laws reduced the administrative complexity of localized ordinances, leading to improved revenue, reduced operational losses, and increased capital expenditures for multifamily units.

Added costs of doing business have the potential to suppress the long-term supply of housing further. Operational costs imposed by regulation, when combined with the rising cost of land, building materials, and labor, can make multifamily rental development harder to pencil out, leading to fewer units being built, particularly affordable units.

By shedding light on these trade-offs, this study aims to inform policy discussions and contribute to a more balanced debate over tenant safeguards and the availability of rental housing.

⁸ For readers familiar with econometrics, our estimates are drawn from a difference-in-differences research design with time and metro-area fixed effects, and various cost and revenue elements as dependent variables. In that setup, the estimates reflect the average treatment effect of the different law categories on the treated, whose pre-treatment averages may differ from the entire sample's. Despite this—for simplicity and ease of interpretation for non-technical audiences—we report sample average costs and revenues for the entire sample alongside the estimated average treatment effects for the treated.

Findings

We found that rental regulation resulted in lower revenues and higher costs for rental providers. Some of those costs are likely to translate to increase rents for residents.

The rental housing industry typically measures revenue and expenses against gross potential rent (GPR), a metric based on contract rents for current residents and market rents for vacant units. Gross potential rent estimates the maximum income a property would generate if fully occupied and with no revenue losses or surpluses. Revenue and expenses are expressed as a share of gross potential rent.

In our sample of nearly 2,500 properties in 50 metropolitan areas, rental and fee income accounted for 96.3 percent of gross potential rent when averaged across cities.⁹ Expenses, as measured by operating costs, averaged 41.5 percent of GPR.

Industry net operating income (NOI), the difference between revenue and operating expenses, averaged 54.8 percent of GPR. Net operating income represents the income a property generates after operating expenses but before accounting for taxes, financing costs, and non-operating items such as capital expenditures. As a result, NOI typically is higher than profitability—much higher—yet it remains an informative measure of a property’s operational performance and its potential to generate profit.

Properties operating under resident screening laws and strict eviction regulations reported lower revenue and greater operating costs as a share of gross potential rents. In jurisdictions that prohibit operators from assessing an applicant based on their source of income, vacancies were more costly and collection expenses increased.

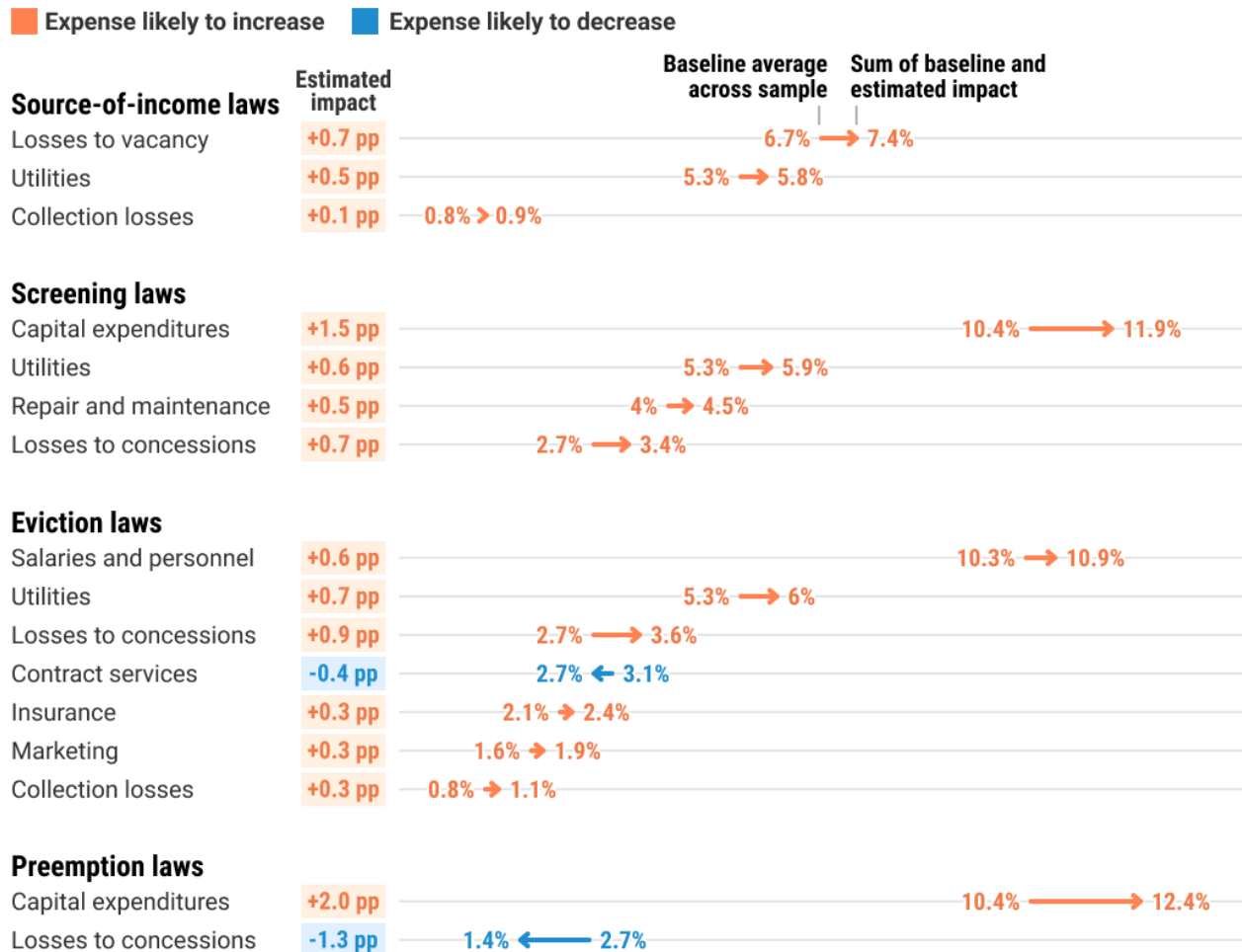
One type of law included in our study benefitted multifamily operators. State preemption statutes, which level the local regulatory landscape, led to greater total revenues and, in a boost for the industry and the communities it serves, increased spending on capital improvements.

⁹ Rents directly accounted for 89.8 percent of GPR. Fees such as laundry and parking accounted for an additional 6.6 percent.

FIGURE 1

The rising cost of rental housing

A proliferation of rental housing laws has led to higher costs for multifamily rental operators, which likely have translated to increased rents for residents. States that have sought to limit the reach of these local ordinances have reduced operating costs and boosted capital investment.



Note: Baseline percentages reflect averages across all periods and areas in the sample. Impacts are estimated for the set of affected jurisdictions. The figure reports the impact of individual expense categories in the data, but not summary categories (such as total revenue, rent revenue collected, total expenses) or taxes. For a full list of impacts, see appendix tables.

Source-of-income laws

IMPACT

Greater collection and revenue losses due to vacancies; higher utility expenses.

Source-of-income laws restrict housing providers from differentiating potential residents based on their source of income, as long as that income source is lawful.¹⁰ Under these laws, property owners and operators cannot refuse to rent to applicants simply because they depend on non-traditional income streams such as federal or state housing vouchers, child support, disability benefits, or Social Security payments.

The number of comprehensive source-of-income rules has been growing for at least three decades. As of September 2022, they were on the books in 17 U.S. states and 106 municipalities.^{11,12}

While few people can take issue with the well-intentioned merits of these laws—to ensure fair access to housing for lower-income renters—their practical effects have sparked debate.

This effort has led to increased costs and delayed lease signings as multifamily operators navigate the costly hurdles associated with participation in housing assistance programs such as Section 8 housing choice vouchers.

Funded by the U.S. Department of Housing and Urban Development and administered by local public housing agencies, the housing voucher system is beset with underfunding, bureaucratic hurdles, and other inefficiencies. These can delay lease signings and rental payments, introduce uncertainty, and raise costs for operators. Nearly 57 percent reported an average move-in time of one to three months for voucher holders. A 2023 NAA survey found that nearly 86 percent of rental housing providers that left HUD's housing choice voucher program cited administrative costs.¹³ In short, voucher programs require rental providers to participate in a troubled system without necessarily expanding the supply of low-income housing.

More local governments are adopting ordinances to supplement state source-of-income laws, further increasing compliance requirements. Fair housing advocates continue to lobby for stronger enforcement measures, including mandatory training and fines for non-compliance, which increase costs for property operators.

¹⁰ According to the NAA, the vast majority of source-of-income laws are intended to require housing providers to participate in the Section 8 Housing Choice Voucher program, despite significant programmatic challenges that create a barrier to entry for housing providers, who must navigate the unique requirements of each of the 2,100 public housing agencies that administer the program across the country. See the difference between a standard leasing process and a housing voucher leasing process at https://www.naahq.org/sites/default/files/2022-05/NAA%20Process%20Chart%204.21_revised.pdf.

¹¹ Brian Knudsen. “[Expanded protections for families with Housing Choice Vouchers](https://www.prrac.org/pdf/soi-voucher-data-brief.pdf).” Poverty and Race Research Action Council. <https://www.prrac.org/pdf/soi-voucher-data-brief.pdf>

¹² Scott, Molly M., et al. “[Expanding Choice: Practical Strategies for Building a Successful Housing Mobility Program](https://www.prrac.org/pdf/AppendixB.pdf).” Appendix B, The Urban Institute and the Poverty & Race Research Action Council, May 2013. Appendix B updated September 2024 at <https://www.prrac.org/pdf/AppendixB.pdf>.

¹³ Chou, David, and Leah Cuffy. “[Unveiling the Reality: Rental Housing Providers’ Insights on the Housing Choice Voucher Program](https://www.prrac.org/pdf/AppendixB.pdf).” National Apartment Association, Oct. 23, 2023.

IMPACT: Source-of-income laws had a significant impact on multifamily costs. In jurisdictions where they were in effect, these regulations led to greater revenue losses from collections and vacancies, and higher utility expenses.

Losses to vacancy reported by multifamily properties averaged **6.7 percent of GPR** across the sample, which we refer to as the baseline. Source-of-income laws raised losses to vacancy by **0.7 percentage points** for affected properties, a **10.4 percent** increase relative to the baseline.

Source-of-income laws could raise losses to vacancy for at least two reasons. First, they could extend existing vacancies, for example if procedures required by Section 8 housing choice vouchers extend the onboarding process for new residents. In addition, by increasing the share of residents with less-reliable income, source-of-income laws could lead to higher turnover and more frequent vacancy periods. Uncertainty around the availability or timeliness of Section 8 funding could contribute to this factor.

Utility expenses reported by multifamily properties averaged **5.3 percent of GPR** across the sample, (baseline). Source-of-income laws raised utility expenses by **0.5 percentage points** for affected properties, an increase of about **9.4 percent** relative to the baseline.

Source-of-income laws could raise utility expenses through increased vacancies, during which operators must cover utility expenses. Delayed, unreliable, or uncertain sources of income also could lead residents to skip utility payments, further raising operator costs.

Collection losses reported by multifamily properties averaged **0.8 percent of GPR** across the sample, (baseline). Source-of-income laws raised collection losses by **0.1 percentage points** for affected properties, an increase of about **12.5 percent** relative to the baseline.

Similarly, source-of-income laws could raise collection losses, which correspond to a resident's inability or refusal to pay rent, because they result in a greater likelihood of residents relying on income sources that are prone to delay, are unreliable, or are subject to uncertainty. The loss of rental income is striking given that HUD vouchers are guaranteed payments from the government.

Eviction laws

IMPACT

Significantly lower revenue; higher operating costs.

Just-cause eviction laws, also known as “good cause” laws, mandate that housing providers supply a legally valid reason for terminating a lease. As the cost of housing has risen, the adoption of these laws has gained traction in recent years as a way to protect renters against arbitrary or retaliatory removal from their homes. Typically, these laws allow a housing provider to evict a resident only for reasons explicitly stated under law. But they also have led to increased costs and reduced revenue for property owners and operators.

Reasons for eviction allowed under current just-cause laws include:

- Nonpayment of rent
- Lease violations that remain uncorrected after notice is given by the owner
- Engagement in criminal activity on the property
- Nuisance behavior or substantial damage to the property
- Interference with the safety or enjoyment of the owner or other residents
- An owner’s plan to demolish or substantially rehabilitate the unit, or remove it from the rental market.

Notably, these reasons typically do not include a lease term’s expiration as a just cause. This exclusion preserves a renter’s right to non-renewal while effectively eliminating that right for the owner.

One subset of just-cause laws guarantees legal representation for residents facing eviction. These right-to-counsel regulations have grown in number as lawmakers attempt to address housing insecurity and ensure fairness in eviction cases. New York City led the way with a universal right to legal counsel in 2017. San Francisco and Washington, D.C., were among cities that followed suit.

Proponents of these laws say they level the playing field for residents during eviction proceedings, during which rental housing providers typically are represented by attorneys. They also, however, can raise costs by extending eviction timelines, increasing legal fees and the amount of back rent owed, and elevating losses due to vacancies.

IMPACT: In jurisdictions where evictions were heavily regulated, multifamily operators reported significantly lower-than-average revenue and higher-than-average operating costs.

Salaries and personnel costs reported by multifamily properties averaged **10.3 percent of GPR** across the sample (baseline). Eviction laws raised salaries and personnel costs by **0.6 percentage points** for affected properties, an increase of about **5.8 percent** relative to the baseline.

Eviction laws could raise salaries and other personnel costs by increasing administrative and operational complexity. Longer eviction processes and rigid, mandated compliance measures can demand more staff time or the hiring of additional personnel. Property owners also might incur higher costs associated with compliance training.

Utility expenses reported by multifamily properties averaged **5.3 percent of GPR** across the sample (baseline). Eviction laws raised utility expenses by **0.7 percentage points** for affected properties, an increase of about **13.2 percent** relative to the baseline.

Eviction laws could raise utility expenses. For example, in cases where utility fees are paid to the property manager through a flat fee or ratio utility billing system, residents who remain after their lease is terminated might choose to pay rent but not utilities, knowing that properties have little recourse to address the issue absent the option to evict.

Losses to concessions reported by multifamily properties averaged **2.7 percent of GPR** across the sample (baseline). Eviction laws raised losses to concessions by **0.9 percentage points** for affected properties, an increase of about **33.3 percent** relative to the baseline.

Stricter eviction regulations could lead rental providers to offer greater concessions as they aim to attract a broader pool of applicants and prioritize applicants with minimal eviction risk. This behavior might help explain the observed rise in losses to concessions. At the same time, some eviction laws could encourage operators to take a more collaborative or accommodating approach with existing residents, particularly when eviction is not a viable option. This behavior, too, could contribute to higher concession-related costs.

Contract services reported by multifamily properties averaged **2.7 percent of GPR** across the sample (baseline). Eviction laws reduced contract services expenses by **0.4 percentage points** for affected properties, a decline of about **14.8 percent** relative to the baseline.

Eviction laws could reduce contract services expenses by reducing resident turnover, which might eliminate or reduce the need for routine property upgrades that typically are performed between tenancies. With fewer transitions, property operators might delay or forgo renovations, cosmetic improvements, or other upgrades that normally would require contracted services. Additionally, operators might shift more responsibilities to in-house staff to offset the increased costs associated with compliance, further reducing reliance on outsourced services.

Insurance costs reported by multifamily properties averaged **2.1 percent of GPR** across the sample (baseline). Eviction laws raised insurance costs by **0.3 percentage points** for affected properties, a rise of about **14.3 percent** relative to the baseline.

Residents who remain in a property after their lease expires might pose additional risks for property damage, liability claims, or disputes that result in costly legal proceedings. As such, insurers might perceive just-cause laws as an elevated risk that increases the likelihood of claims, leading to higher premiums.

Marketing expenses reported by multifamily properties averaged **1.6 percent of GPR** across the sample (baseline). Eviction laws raised marketing expenses by **0.3 percentage points** for affected properties, an increase of about **18.8 percent** relative to the baseline.

Just-cause eviction laws could increase marketing expenses by prompting property operators to invest more to attract residents who are deemed more reliable. By increasing the perceived risk of turnover, prolonged vacancies, or residents who fail to meet lease obligations, operators might be encouraged to allocate more resources to advertising, applicant screening, or rental incentives to secure the most

desirable applicants. Operators also might look for ways to differentiate their properties in a competitive rental market shaped by regulatory constraints.

Collection losses reported by multifamily properties averaged **0.8 percent of GPR** across the sample (baseline). Eviction laws raised collection losses by **0.3 percentage points** for affected properties, an increase of about **37.5 percent** relative to the baseline.

Just-cause laws could enable renters to exploit complex or prolonged eviction processes. Residents might delay payments for as long as possible while remaining within the bounds of “paying” status, make partial payments that fall just short of the threshold for eviction, or avoid paying altogether during a protracted eviction process. These practices hamper a property owner’s ability to collect full rent and thus increase losses.

Resident screening laws

IMPACT

Higher operating, repair and maintenance costs; greater capital expenditures.

Resident screening laws limit the criteria housing providers can use to evaluate prospective residents, prohibiting reporting of, access to, or the use of information such as an applicant's criminal history, credit score, or eviction records. These laws are intended to reduce barriers to housing and promote equitable access to ensure that individuals facing systemic challenges have a fair opportunity to find housing.

From the perspective of property owners, these restrictions can increase risks associated with selecting a rental applicant. Limited access to background information might increase the likelihood of nonpayment, lease violations, or property damage, leading to greater uncertainty for property owners and potentially endangering residents.¹⁴

IMPACT: In jurisdictions with resident screening laws, multifamily operators reported increased losses to concessions, higher repair and maintenance expenses, and elevated capital expenditures. Marketing expenses saw modest reductions.

Capital expenditures reported by multifamily properties averaged **9.9 percent of GPR** across the sample (baseline). Resident screening laws raised capital expenditures by **1.7 percentage points** for affected properties, an increase of about **17.2 percent** relative to the baseline.

Resident screening laws could increase capital expenditures by incentivizing multifamily owners to invest in property upgrades as a strategic measure to justify rent increases. Upgraded units can command higher rents and thus mitigate higher compliance costs associated with resident screening laws. These upgrades, however, could further reduce the stock of affordable housing in affected jurisdictions.

Utility expenses reported by multifamily properties averaged **5.1 percent of GPR** across the sample (baseline). Resident screening laws raised utility expenses by **0.5 percentage points** for affected properties, an increase of about **9.8 percent** relative to the baseline.

Under resident screening laws, residents who ultimately fail to pay utilities might be harder to screen out during the application process, leaving property owners to absorb unpaid utility costs. Additionally, these laws might result in a pool of residents more prone to turnover due to financial difficulties, leading to more frequent vacancy periods, during which housing providers are responsible for utility costs.

Repair and maintenance expenses reported by multifamily properties averaged **3.9 percent of GPR** across the sample (baseline). Resident screening laws raised repair and maintenance expenses by **0.5 percentage points** for affected properties, an increase of about **12.8 percent** relative to the baseline.

¹⁴ While most resident screening laws prevent property operators from accessing information on arrests that did not lead to a conviction, or arrests or convictions that occurred well before a rental application is submitted, the law in Indiana is more limited. It prevents operators from relying on information about certain minor convictions, or on records that have been expunged. We include the Indiana law in our analysis, though it has no meaningful impact on the results.

Resident screening laws could increase repair and maintenance expenses if limited screening criteria raise the likelihood of rental providers leasing to residents who contribute to greater property wear or upkeep. Limited screening might also result in higher resident turnover, potentially driving up costs associated with unit transitions.

Losses to concessions reported by multifamily properties averaged **2.6 percent of GPR** across the sample (baseline). Resident screening laws raised losses to concessions by **0.7 percentage points** for affected properties, an increase of about **26.9 percent** relative to the baseline.

Resident screening laws could increase losses to concessions if housing providers feel the need to offer rent discounts or other incentives to attract a larger pool of applicants to counter the impact of restricted screening criteria.

Marketing expenses reported by multifamily properties averaged **1.6 percent of GPR** across the sample (baseline). Resident screening laws reduced marketing expenses by **0.3 percentage points** for affected properties, a decline of about **18.8 percent** relative to the baseline.

Preemption laws

IMPACT

Reduced losses, increased capital expenditures.

As municipal regulations proliferate, state legislatures have been stepping in to prevent local governments from adopting ordinances that conflict with state housing priorities.

Preemption laws effectively bar cities and counties from approving rent controls, eviction protections, or other regulations that go beyond—or fall short of—state standards. By standardizing regulation at the state level, preemption reduces costs and operational risk and establishes a more predictable environment for multifamily operators.

Property owners and operators generally view preemption laws favorably, as they limit the proliferation of localized regulations that can create operational challenges and add to compliance costs that are passed to renters, while doing little or nothing to improve long-term housing affordability. For example, NAA research has shown that rent control deters investment and complicates property maintenance.¹⁵

Tenant advocates counter that preemption laws undermine local efforts to address housing affordability and protect vulnerable renters, particularly in areas with acute housing shortages and high costs.

IMPACT: These laws led to lower costs and more investment by property owners and operators.

Capital expenditures reported by multifamily properties averaged **10.4 percent of GPR** across the sample (baseline). Preemption laws increased capital expenditures by **2 percentage points** for affected properties, an increase of about **19.2 percent** relative to the baseline.

By eliminating or reducing the risk of future regulation that could undermine business viability, preemption laws give property owners greater incentive to commit to long-term investment. This regulatory stability can encourage operators to undertake significant capital improvements such as renovations or upgrades. These investments improve property quality and living conditions, which benefit current and future residents. As we noted in the context of resident screening laws, however, such improvements can have a negative effect on affordability.

Losses to concessions reported by multifamily properties averaged **2.7 percent of GPR** across the sample (baseline). Preemption laws cut losses to concessions by **1.3 percentage points** for affected properties, a reduction of about **48.1 percent** relative to the baseline.

Preemption laws could reduce losses to concessions by streamlining and standardizing regulations across jurisdictions, which could lower the perceived risk of acquiring renters. This reduced uncertainty might allow property operators to rely less on rent discounts or other incentives, leading to reduced concession-related costs.

¹⁵ “[Examining the Unintended Consequences of Rent Control Policies Across America](#),” National Apartment Association, March 22, 2023.

Methodology

Our research is based on the National Apartment Association Survey of Operating Income and Expenses in Rental Apartment Communities. From 2004 to 2021, this survey of professionally managed properties with 50 or more units collected annual data on more than 2,100 properties in 50 U.S. markets, representing a combined total of between 600,000 and 850,000 units.¹⁶

This annual survey is one of the industry’s most comprehensive, providing detailed data on the performance of professionally managed multifamily properties. It collects detailed information on income and expenses from operators of garden-style, mid-rise, and high-rise rental buildings.

This report includes information on operating revenues, expenses, and net operating income collected by the survey. It offers insights into key cost drivers such as property taxes, insurance, and maintenance, and examines revenue sources such as rents and amenity fees. Data is segmented by utility configuration, property age, and other factors. (See glossary for detailed descriptions and definitions.)

The survey was conducted annually from 2004 through 2021. To prevent data contamination from the market shock of the Covid-19 pandemic, we limited our sample to the years 2004 through 2019. All told, our sample contains more than 218.3 million unit-years.

FIGURE 2
Metro areas represented in NAA survey results
 Survey of 2,100 managed properties in 50 markets conducted 2004–2019



Source: National Apartment Association. Includes managed properties with 50 or more units.

¹⁶ The historical format of the survey has been discontinued. Starting in 2022, the Income & Expenses Survey has transitioned to the new Income/Expense IQ financial benchmarking tool. This update was developed in partnership with the Institute of Real Estate Management (IREM), the Building Owners and Managers Association (BOMA), and the National Apartment Association (NAA).

To identify statutes and ordinances related to rental properties and residents, we consulted the End Rental Arrears to Stop Evictions (ERASE) database, a project of the National Low Income Housing Coalition. We identified 48 statutes and ordinances in 14 states and Washington, D.C., that affect housing providers, residents, and rental properties. NAA compiled and provided information on resident screening laws.

While the NAA survey collected information on individual properties, the data available for use in this study was aggregated.

Information on averages was available for each city-year, identified by the type of apartment (garden or mid/high-rise) and the type of metering for utilities (individual/master). Therefore, we had at most four averages (property type × metering) for each city-year.

The goal of the statistical analysis was to determine the impact of four categories of laws on different cost and revenue metrics.

State and local laws were grouped into four categories:

Laws that bar differential treatment based on income sources

These laws aim to prevent discrimination against people who use government assistance programs. The ERASE database describes a representative example from Miami in 2009 as follows:

“Prohibits discrimination on the basis of source of income, including individuals who receive a portion of their income from any rental assistance program, homeless assistance program, security deposit program, or housing subsidy program.”

This matches information online about the ordinance.¹⁷ The ERASE database includes 29 of these ordinances, making them relatively common.

Our sample contains 12 of these laws in metro areas represented by 535 properties with a total of 137,454 units in 2019.

Laws that raise the cost of evictions

Eviction laws are more heterogeneous than source-of-income laws. We estimated the impact of regulations that require a housing provider to show a just cause for evicting a resident, increase waiting periods, guarantee residents a right to counsel in eviction cases, provide payments to residents being evicted, and seal or bar the use of eviction records.

Though these laws differ, all have the effect of making evictions more difficult and costly to the property operator.

Our sample contains 14 of these laws. This corresponds to 119 properties in 2019 with 30,588 units impacted by these laws in that year of the data.

¹⁷ For example, see Miami-Dade County.
<https://www.miamidade.gov/govaction/legistarfiles/Matters/Y2009/091825.pdf>

Laws that limit resident screening

Resident screening laws limit the criteria housing providers can use to evaluate applicants by prohibiting reporting of or access to information such as an applicant's criminal history, credit score, or eviction records. Data compiled by NAA includes a 2010 California state statute that prevents consumer credit reporting companies from disclosing:

"Records of arrest, indictment, information, misdemeanor complaint, or conviction of a crime that, from the date of disposition, release, or parole, antedate the report by more than seven years. These items of information shall no longer be reported if at any time it is learned that in the case of a conviction a full pardon has been granted, or in the case of an arrest, indictment, information, or misdemeanor complaint a conviction did not result."

Our sample contains five resident screening laws in eight metros represented by 443 properties with 104,281 units.

Laws that preempt local regulations

Finally, we analyze state statutes that limit how local governments can regulate provider and resident activity. These laws give the state jurisdiction to regulate certain activity, preempting any local ordinances.

Preemption laws generally favor property owners and operators. A representative example occurred in Georgia in 2018. It is described in the ERASE database as follows:

"Under this law, no county or municipal body may enact, maintain, or enforce any ordinance or resolution which would regulate in any way the amount of rent to be charged for privately owned, single-family or multiple-unit residential rental property."

Our sample contains five of these statutes represented by 302 properties in 2019 with a total of 89,562 units.

Identifying and tracking relevant laws

Matching state and local laws in the ERASE database to the NAA survey sample required certain assumptions. In particular, some local ordinances apply to only a portion of an area covered by our city-level data. In these circumstances, we coded the law as going into effect when the first large jurisdiction within a metro area instituted the ordinance.

Robustness tests suggest that our results are not sensitive to this assumption.

By laying state and local ordinances over NAA survey data, it's possible to analyze the impact of such laws on multifamily viability. .

This analysis, however, has several pitfalls. The first is that the adoption of these laws is not random. For example, many California municipalities have adopted tenant-protection ordinances; no municipalities in Texas have.

In addition, there are important differences in average cost and revenue measures across states that pre-date implementation of any of these laws. A statistical analysis is required to address this potential confounding factor.

Ordinances also have become more prevalent over time. Some cost and revenue trends are independent of the laws in question and have the potential to confound their measurable impact.

We use a difference-in-differences (or more precisely a two-way fixed effect) approach that uses statistical controls to eliminate these confounding factors. We run regressions at the type × metering × city × year level with indicator variables for the presence of the law, type × metering × city cells, and for each year. We cluster the standard errors by cell to address the possibility of serial correlation.¹⁸

¹⁸ We did not have access to precise boundaries for the surveyed cities. Instead, we rely on city names in the files to designate metro areas. To enable statistical comparisons, deviations in year-to-year metro designations are combined intuitively. For example, “Atlanta, Sandy-Springs, and Marietta GA” appear in one year and “Atlanta, Sandy Springs, Roswell GA” in another. These are similar enough to be considered a single city identified at two points in time. In only one instance, the case of northern New Jersey and New York City, does this approach require us to combine raw data files. In some years, these were aggregated; in others they were disaggregated. To maintain comparability, we aggregated them in the non-aggregated years, weighting by the number of units.

FIGURE 3

Statutes and ordinances analyzed

Type of law	Metro area	Year passed
Source-of-income	Baltimore, Md.	2009
	Chicago, Ill.	2013
	Fort Lauderdale, Fla.	2017
	Indianapolis, Ind.	2015
	Los Angeles, Calif.	2015
	Miami, Fla.	2009
	Minneapolis–St. Paul, Minn.	2017
	Philadelphia–Camden–Wilmington, PA-NJ-DE-MD	2017
	Portland–Salem, Ore.	2014
	San Diego, Calif.	2018
	San Francisco, Calif.	2005
Seattle–Tacoma, Wash.	2006	
Eviction limitations	New York–Northern N.J.	2008
	San Francisco, Calif.	2017
	Washington, D.C.	2017
Resident screening	Indianapolis, Ind.	2014
	Los Angeles, Calif.	2010
	Riverside–San Bernardino, Calif.	2010
	Sacramento, Calif.	2010
	San Diego, Calif.	2010
	San Francisco, Calif.	2010
	Seattle–Tacoma, Wash.	2011
Washington, D.C.	2017	
Preemption	Atlanta, Ga.	2018
	Boston, Mass.	2006
	Denver, Colo.	2018
	Indianapolis, Ind.	2017
	Salt Lake City, Utah	2006
	Savannah, Ga.	2018

Note: The ERASE database contains information on the date of passage. To the extent that there might be a gap between the date of passage and the date of implementation, our results would be biased toward zero impact. We record the presence of a statute or ordinance in a metro area based on the date when the first significant jurisdiction within the area—whether at the state, municipal, or county level—passes or enacts such a measure. This date may not align with that of the primary city within the metro area, and not all jurisdictions in the metro area are necessarily subject to the statute or ordinance at the time indicated in the table.

Results

The primary outcome variable represents a cost or revenue measure scaled as a percentage of potential rent. In other words, we estimate for each measure m , type \times metering \times city i , and year t the following:

$$gpr_{m,i,t} = \alpha_i + \alpha_t + \beta \times law_{i,t} + \varepsilon_{m,i,t} \quad (1)$$

All estimates, regardless of whether one perceives them as favorable or detrimental to housing providers or renters, are derived using the *same* statistical model, strong evidence that our findings are the result of real movements in the data and not artifacts of the statistical approach.

Point estimates that are statistically significant at the 10 percent level or higher are reported in Figure 1. The full set of estimation results for the individual categories of laws is provided in appendix Tables 2 through 5.

Overlapping laws

One challenge with this analysis is that new regulations sometimes will overlap, which can obscure the impact of any given policy. To address this issue, we explore regressions that control for, or estimate, the impact of the statutes and ordinances that exist side-by-side in the same jurisdictions at the same time.

This analysis, the results of which are presented below, yields similar results. The correspondence of the two sets of estimates suggests that the methodology does a good job estimating the impact of the laws despite this issue.

To estimate impacts jointly we estimate:

$$gpr_{m,i,t} = \alpha_i + \alpha_t + \sum_L \beta_L \times law L_{i,t} + \varepsilon_{m,i,t} \quad (2)$$

These effects are highly similar in both direction and magnitude to our analysis that didn't control for jurisdictions that had two or more sets of laws. This finding increases the confidence that the effect on revenue and expenses is the result of the laws analyzed rather than an artifact of the statistical model.

The full set of estimation results for overlapping laws is provided in appendix Table 6.

Conclusion

Housing regulations have inherent trade offs. Resident protections, though essential, impose significant costs on property operators, potentially reducing housing supply and, in turn, can raise the cost of rent.

Source-of-income laws and resident screening laws are meant to promote equity and stability, but can raise operating costs through higher vacancy rates, greater compliance requirements, or an increased need for marketing. Eviction laws designed to protect vulnerable renters significantly reduce net operating income by increasing costs and cutting revenue collection.

In contrast, state preemption statutes that streamline the regulatory framework can improve financial viability for property owners and operators by stabilizing revenue and reducing certain operational losses. These statutes also coincide with increased capital spending as owners and operators invest in their properties, often to the benefit of residents.

These results underscore the dual challenges faced by policymakers and stakeholders. While resident protections are intended to address housing insecurity and promote equitable access to safe housing, the financial burden these regulations place on multifamily owners and operators might unintentionally discourage capital investment and constrain supply, ultimately hurting renters.

A nuanced policy approach that incorporates the viability of multifamily rentals for property owners alongside resident protections could mitigate these unintended consequences and support the long-term health of rental markets.

While not directly examined in this paper, increased costs born of regulation can chill the investment needed to build more housing. Future research could explore policy combinations that maximize resident security without sacrificing the financial feasibility necessary to maintaining and expanding the supply of rental housing.

Appendix

APPENDIX Table 1

Summary: Costs and revenue as a percentage of gross potential rent

Measure	Mean	Median	Standard deviation	Min.	25th%	75th%	Max.	Obs.
Rent revenue collected	.898	.907	.041	.615	.873	.927	.996	2573
Other revenue	.066	.062	.026	.001	.05	.077	.385	2573
Total revenue	.963	.97	.047	.65	.94	.99	1.26	2573
Salaries and personnel	.103	.103	.023	.036	.087	.117	.355	2573
Collection losses	.008	.006	.006	-.007	.004	.01	.07	2573
Losses to vacancy	.067	.062	.024	.004	.053	.077	.346	2573
Utilities	.053	.041	.036	.006	.027	.067	.233	2573
Repair and maintenance	.04	.037	.017	.008	.03	.047	.304	2573
Contract services	.031	.029	.012	0	.023	.037	.129	2573
Management fees	.031	.031	.009	0	.026	.037	.159	2573
Losses to concessions	.027	.022	.022	0	.011	.039	.185	2573
Administrative	.022	.02	.010	.001	.017	.025	.135	2573
Insurance	.021	.02	.009	.003	.016	.025	.089	2573
Marketing	.016	.015	.006	0	.012	.019	.079	2573
Total operating expenses	.415	.407	.071	.217	.366	.453	.797	2573
Net operating income	.548	.558	.090	.114	.502	.612	.775	2573
Taxes	.099	.092	.036	.01	.076	.117	.283	2573
Capital expenditures	.104	.08	.139	0	.059	.111	3.587	2405
Debt servicing	Not reported in the data							

Source: Authors' analysis of data from the National Apartment Association Survey of Operating Income and Expenses in Rental Apartment Communities, 2004-2019.

APPENDIX Table 2

Source-of-income laws, full results

Variables	Source-of-income law		Constant		Observations	R-squared
REVENUE						
Total revenue	-0.003	(0.006)	0.964***	(0.001)	1,431	0.470
Rent revenue collected	-0.007	(0.005)	0.900***	(0.001)	1,431	0.548
Other revenue	0.003	(0.003)	0.064***	(0.000)	1,431	0.516
EXPENSES						
Total operating expenses	0.002	(0.008)	0.412***	(0.001)	1,431	0.751
Collection losses	0.001*	(0.001)	0.007***	(0.000)	1,431	0.560
Contract services	0.001	(0.002)	0.030***	(0.000)	1,431	0.508
Losses to concessions	-0.001	(0.003)	0.027***	(0.000)	1,431	0.501
Losses to vacancy	0.007**	(0.003)	0.066***	(0.000)	1,431	0.463
Administrative	0.001	(0.001)	0.022***	(0.000)	1,431	0.411
Insurance	0.001	(0.001)	0.021***	(0.000)	1,431	0.653
Management fees	-0.001	(0.002)	0.031***	(0.000)	1,431	0.469
Marketing	0.000	(0.001)	0.016***	(0.000)	1,431	0.536
Net operating income	-0.005	(0.011)	0.552***	(0.001)	1,431	0.716
Repair and maintenance	0.003	(0.002)	0.039***	(0.000)	1,431	0.477
Salaries and personnel	0.002	(0.003)	0.101***	(0.000)	1,431	0.686
Taxes	-0.011**	(0.005)	0.102***	(0.001)	1,431	0.810
Utilities	0.005**	(0.002)	0.051***	(0.000)	1,431	0.857
INVESTMENT						
Capital expenditures	0.013	(0.008)	0.099***	(0.001)	1,344	0.435

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

APPENDIX Table 3

Resident screening laws, full results

Variables	Resident screening law		Constant		Observations	R-squared
REVENUE						
Total revenue	-0.010**	(0.005)	0.964***	(0.000)	1,431	0.471
Rent revenue collected	-0.01**	(0.005)	0.900***	(0.000)	1,431	0.549
Other revenue	-0.00	(0.003)	0.065***	(0.000)	1,431	0.515
EXPENSES						
Total operating expenses	0.005	(0.007)	0.412***	(0.001)	1,431	0.751
Collection losses	0.001	(0.001)	0.008***	(0.000)	1,431	0.559
Contract services	-0.002	(0.002)	0.031***	(0.000)	1,431	0.508
Losses to concessions	0.007***	(0.003)	0.026***	(0.000)	1,431	0.504
Losses to vacancy	0.002	(0.003)	0.066***	(0.000)	1,431	0.461
Administrative	0.000	(0.001)	0.022***	(0.000)	1,431	0.411
Insurance	0.001	(0.001)	0.021***	(0.000)	1,431	0.653
Management fees	-0.001	(0.001)	0.031***	(0.000)	1,431	0.468
Marketing	-0.002	(0.001)	0.016***	(0.000)	1,431	0.539
Net operating income	-0.015*	(0.009)	0.553***	(0.001)	1,431	0.717
Repair and maintenance	0.005**	(0.002)	0.039***	(0.000)	1,431	0.479
Salaries and personnel	-0.001	(0.003)	0.102***	(0.000)	1,431	0.686
Taxes	-0.001	(0.003)	0.100***	(0.000)	1,431	0.807
Utilities	0.006***	(0.002)	0.051***	(0.000)	1,431	0.857
INVESTMENT						
Capital expenditures	0.015*	(0.008)	0.099***	(0.001)	1,344	0.435

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

APPENDIX Table 4

Eviction limitation laws, full results

Variables	Just-cause eviction law		Constant		Observations	R-squared
REVENUE						
Total revenue	-0.017**	(0.008)	0.964***	(0.000)	1,431	0.471
Rent revenue collected	-0.013**	(0.006)	0.899***	(0.000)	1,431	0.549
Other revenue	-0.004	(0.004)	0.065***	(0.000)	1,431	0.516
EXPENSES						
Total operating expenses	0.028***	(0.007)	0.412***	(0.000)	1,431	0.753
Collection losses	0.003***	(0.001)	0.008***	(0.000)	1,431	0.561
Contract services	-0.004*	(0.002)	0.031***	(0.000)	1,431	0.509
Losses to concessions	0.009**	(0.004)	0.027***	(0.000)	1,431	0.503
Losses to vacancy	0.002	(0.003)	0.067***	(0.000)	1,431	0.460
Administrative	0.002	(0.001)	0.022***	(0.000)	1,431	0.411
Insurance	0.003***	(0.001)	0.021***	(0.000)	1,431	0.654
Management fees	-0.001	(0.002)	0.031***	(0.000)	1,431	0.468
Marketing	0.003***	(0.001)	0.016***	(0.000)	1,431	0.539
Net operating income	-0.045***	(0.011)	0.552***	(0.000)	1,431	0.719
Repair and maintenance	0.002	(0.004)	0.039***	(0.000)	1,431	0.476
Salaries and personnel	0.006*	(0.003)	0.101***	(0.000)	1,431	0.687
Taxes	0.009	(0.006)	0.100***	(0.000)	1,431	0.807
Utilities	0.007***	(0.002)	0.051***	(0.000)	1,431	0.857
INVESTMENT						
Capital expenditures	0.003	(0.015)	0.101***	(0.000)	1,344	0.435

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

APPENDIX Table 5

Preemption laws, full results

Variables	Preemption Law		Constant		Observations	R-squared
REVENUE						
Total revenue	0.015*	(0.008)	0.963***	(0.000)	1,431	0.471
Rent revenue collected	0.017**	(0.007)	0.898***	(0.000)	1,431	0.549
Other revenue	-0.002	(0.003)	0.065***	(0.000)	1,431	0.515
EXPENSES						
Total operating expenses	0.007	(0.010)	0.412***	(0.000)	1,431	0.751
Collection losses	-0.000	(0.001)	0.008***	(0.000)	1,431	0.558
Contract services	0.001	(0.002)	0.030***	(0.000)	1,431	0.507
Losses to concessions	-0.013**	(0.006)	0.028***	(0.000)	1,431	0.504
Losses to vacancy	-0.004	(0.003)	0.067***	(0.000)	1,431	0.461
Administrative	-0.000	(0.001)	0.022***	(0.000)	1,431	0.411
Insurance	0.001	(0.001)	0.021***	(0.000)	1,431	0.652
Management fees	0.001	(0.001)	0.031***	(0.000)	1,431	0.468
Marketing	-0.000	(0.001)	0.016***	(0.000)	1,431	0.536
Net operating income	0.008	(0.012)	0.551***	(0.001)	1,431	0.716
Repair and maintenance	0.003	(0.003)	0.039***	(0.000)	1,431	0.477
Salaries and personnel	0.001	(0.003)	0.102***	(0.000)	1,431	0.686
Taxes	-0.002	(0.005)	0.100***	(0.000)	1,431	0.807
Utilities	0.003	(0.002)	0.051***	(0.000)	1,431	0.857
INVESTMENT						
Capital expenditures	0.020**	(0.008)	0.100***	(0.000)	1,344	0.435

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

APPENDIX Table 6

Impact of laws when jointly estimated, full results

Variables	Source-of-Income laws		Resident screening laws		Just-cause eviction laws		Preemption laws		Constant	
REVENUE										
Total revenue	-0.003	(0.006)	-0.008	(0.005)	-0.013	(0.009)	0.014*	(0.008)	0.964***	(0.001)
Rent revenue collected	-0.006	(0.005)	-0.008*	(0.005)	-0.010	(0.007)	0.016**	(0.007)	0.900***	(0.001)
Other revenue	0.003	(0.003)	0.000	(0.003)	-0.003	(0.004)	-0.002	(0.003)	0.064***	(0.000)
EXPENSES										
Total operating expenses	0.003	(0.008)	0.000	(0.007)	0.029***	(0.007)	0.008	(0.010)	0.411***	(0.001)
Collection losses	0.002*	(0.001)	-0.000	(0.001)	0.003***	(0.001)	0.000	(0.001)	0.007***	(0.000)
Contract services	0.001	(0.002)	-0.002	(0.002)	-0.003	(0.002)	0.001	(0.002)	0.030***	(0.000)
Losses to concessions	-0.002	(0.003)	0.007**	(0.003)	0.005	(0.005)	-0.013**	(0.006)	0.027***	(0.001)
Losses to vacancy	0.007**	(0.003)	0.001	(0.003)	0.002	(0.003)	-0.003	(0.004)	0.066***	(0.001)
Administrative	0.002	(0.001)	-0.000	(0.001)	0.003*	(0.002)	0.000	(0.001)	0.022***	(0.000)
Insurance	0.002	(0.001)	-0.000	(0.001)	0.004***	(0.001)	0.001	(0.001)	0.020***	(0.000)
Management fees	-0.001	(0.002)	-0.000	(0.002)	-0.001	(0.002)	0.001	(0.001)	0.031***	(0.000)
Marketing	0.001	(0.001)	-0.003**	(0.001)	0.004***	(0.001)	-0.000	(0.001)	0.016***	(0.000)
Net operating income	-0.006	(0.011)	-0.008	(0.009)	-0.042***	(0.012)	0.005	(0.012)	0.553***	(0.002)
Repair and maintenance	0.002	(0.002)	0.005**	(0.002)	0.000	(0.004)	0.003	(0.003)	0.039***	(0.000)
Salaries and personnel	0.002	(0.003)	-0.002	(0.003)	0.007*	(0.004)	0.001	(0.003)	0.101***	(0.000)
Taxes	-0.011**	(0.005)	-0.001	(0.003)	0.008	(0.006)	-0.002	(0.005)	0.102***	(0.001)
Utilities	0.005**	(0.002)	0.004**	(0.002)	0.006**	(0.003)	0.003	(0.002)	0.050***	(0.000)
INVESTMENT										
Capital expenditures	0.012	(0.008)	0.014*	(0.008)	-0.000	(0.016)	0.021**	(0.008)	0.097***	(0.002)

Note: Robust standard errors in parentheses. The capital expenditures regression includes 1,344 observations. All other regressions include 1,431 observations. *** p<0.01, ** p<0.05, * p<0.1

Glossary

The data contain information on the following variables, as defined by the National Apartment Association.

Administrative expenses

Total spent on general and administrative items such as answering service, donations, mileage reimbursement, bank charges, legal and eviction charges, postage, telephone, fax, internet, office supplies, uniforms, credit reports, permits, membership dues, subscriptions, and data processing. Does not include payroll-related expenses.

Capital expenditures

Capital expenditures include spending on renovations and replacement.

Contract services

Expenses for services provided under contract, such as landscaping, snow removal, pest control, or security. Does not include trash removal.

Gross potential rent (GPR)

The total rental income a property could generate if fully occupied at market rates.

Insurance

Costs for property hazard, liability, and real property insurance. Does not include health or payroll insurance.

Management fees

Fees paid by property owners to property management companies or agents.

Marketing

Expenses for advertising and promotional activities, including resident relations, signage, and model expenses. Does not include rent concessions.

Net operating income (NOI)

Total revenue minus operating expenses minus debt service and taxes.

Other revenue

Income from non-rent sources such as amenity fees, pet fees, late fees, parking, vending machines, and laundry facilities. Interest income and utility reimbursements are not included.

Rent revenue collected

Total rent received after accounting for concessions, discounts, vacancies, administrative costs, and bad debt.

Repair and maintenance

Cost of general upkeep and repair, including supplies, uniforms, minor painting and carpeting repairs, plumbing supplies and repairs, security gate repairs, keys and locks, minor roof and window repairs, HVAC repairs, and cleaning supplies. Excludes payroll-related expenses, non-recurring capital expenses, or contract services.

Revenue losses to collection

Rents not received due to collection losses.

Revenue losses to concessions

Gross potential rents lost to incentives, such as discounts or free months.

Revenue losses to vacancies

Rental income is not collected because of vacancies or other use of units, such as models and offices.

Salaries and personnel

Gross salaries and wages paid to employees, including payroll taxes, group health and life insurance, bonuses, leasing commissions, employee apartment allowances, workers' compensation, 401(k) and retirement contributions, overtime, and other cash benefits.

Taxes

Total real estate and personal property taxes only. Does not include payroll or fees related to property taxes or income taxes.

Total operating expenses

Sum of all operating costs. Does not include debt service or any one-time extraordinary costs.

Total revenue

Sum of all income, including rent and fees.

Utilities

Costs for standard services such as electricity, water, gas, and trash removal, net of reimbursements for or from residents.

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