

The Right to Counsel at Scale

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Abstract

Our paper assesses the impact of the Right to Counsel on housing stability. The Right to Counsel is a policy which ensures that low-income tenants facing eviction have access to free legal representation. Exploiting the recent zip code level adoption of this policy across the state of Connecticut, we provide empirical estimates regarding whether legal representation improves legal & housing outcomes for those currently housed and whether the policy adversely effects those who are currently unhoused. Regression analysis for the intention-to-treat and IV estimates are performed using linear models, fine-tuned large language models and cluster regularized neural networks. Additionally, we provide insight about the type of tenants most likely to respond to the policy as well as how lawyers can alter their aims to improve the downstream outcomes of their clients.

Keywords: Evictions

1 Introduction

Motivation

It's not yet 8:30, and the four men milling around an oversized moving truck are anxious to get started. A few cars back out of their places, and a dog is let out across the street. No one seems to mind the tenants in the central unit, their front lawn disappearing underneath a heap of furniture and clothes as they make repeated trips to the basement. Several minutes pass before the State Marshall walks through the doorway to ask for the keys. There's no squabble. No one asks for more time. It's eerily similar to a "Pens Down" command at the end of an exam period, except instead of turning over a paper, they're turning over their half emptied apartment. As the tenants turn their attention towards clearing the front lawn, the four men from the moving company set to work inside: taping up boxes and hauling the remaining items out to the truck. The back of a t-shirt reads, *If You Don't Pay . . . You Can't Stay.*

Each year, there are roughly one million evictions in the United States.¹ And, in contrast a criminal case, a defendant in an eviction case isn't provided with representation by the state. As a result, a significant gap exists in favor of the landlord.

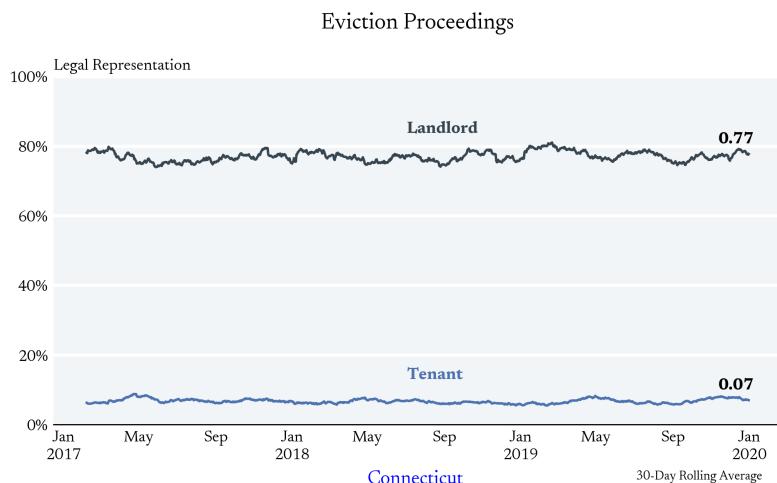


Figure 1: Representation Rate in Eviction Cases in Connecticut Prior to Covid-19

Given the well documented costs associated with eviction ([Collinson et al. \[2022\]](#)), the multitude of factors which contribute to its occurrence ([Desmond \[2016\]](#)), and the typical manner in which an eviction case evolves ([Nelson \[2022\]](#)), many believe that tenants should receive representation. And indeed, over the past couple of years, more than 15 cities and 3 states have acted on this belief by introducing a **Right to Counsel** with the hope that

¹Princeton Eviction Lab

by providing access to free legal representation, the adverse effects of eviction might be mitigated.

In this paper we contribute to the growing literature on the Right to Counsel by exploiting the zip code level implementation of the policy across the state of Connecticut. In contrasts to prior works which have largely focused on whether this policy improves legal outcomes, we make the following contributions.

Contributions

We exploit the underlying text that makes up an eviction case. First by using OpenAI’s LLM API, we collect a rich set of details about each case: monthly rental price, type of lease, length of lease, landlords reason(s) for filing, and tenant’s stated defense. These textual features (a) provide us with a better understanding of the rental market that is most affected by evictions (b) strengthens our identification strategy by providing us with a richer set of controls and (c) allows to understand what types of tenants are most responsive to the policy. In addition to extracting numerical representations from the case, we also estimate intention-to-treat and IV parameters by fine-tuning large language completion models directly on the text which provides us with a novel robustness check.²

We assess the impact of legal representation on housing stability. As previous literature has pointed out, legal outcomes are a noisy predictor of whether tenants remained housed in their current unit. Following an unsatisfactory legal ruling, landlords might remove tenants from their units informally.³ With consumer reference data (Phillips [2020]) which tracks individuals’ addresses overtime, we explore whether having a lawyer decreases the likelihood of a move. Using personally identifiable data from the Homeless Management Information System, we also examine whether tenants are less likely to enter an emergency shelter following an eviction filing.

We consider the potential negative impact of the Right to Counsel on those currently without housing. Specifically, we explore whether the housing search process becomes more difficult for low-income households following the implementation of this policy.⁴ Explaining how landlords may transfer the costs of this policy onto the unhoused, Abramson [2021] writes, “Low income households, who are priced out of the rental market, are intuitively the main losers.” Using data from HMIS on families and individuals who are currently homeless but don’t face significant barriers to rehousing,⁵ we estimate whether the **search length** and the **total voucher cost** (which we proxy for a price of housing)

²As we’ll explain in more detail later, the instrument in our setting is an indicator variable for whether the tenant lives in a zip code where the Right to Counsel has been implemented

³An informal eviction is any type of coerced moved by the landlord

⁴As Gunn [1995] writes, “By increasing landlords’ costs of doing business, legal services attorneys may enrich their clients at the expense of all other similarly situated poor tenants.”

⁵We use HMIS data on Rapid Rehousing Programs. Importantly for our work, these programs (1) are restricted to households who don’t face significant barriers to housing, (2) provide limited short-term financial assistance and (3) require that the rental agreements that households sign have “the same rights and responsibilities as a typical lease holder.” -Reference

increases in response to the Right to Counsel. For each household, we observe a rich set of characteristics including race, gender, disability, previous living situation, income, and household size.

We explore how the Right to Counsel could be improved by altering Lawyers' strategies. Prior literature has found conflicting results about the effectiveness of a lawyer in an eviction case. One potential reason for this is that the lawyers in different contexts have adopted different strategies. As Greiner et al. [2012] explains, some housing court lawyers are much more likely to threaten a trial than others. Exploiting this systematic variation across lawyers in their tendency to achieve certain case outcomes, we adopt an instrumental variable strategy to assess whether a Stipulation Agreement is more likely to keep a tenant housed in their current unit than a Dismissal.⁶ We posit apriori that that a Stipulation Agreement is more effective as tenants likely have more bargaining power in the presence of their attorney.

Preview of Results

In this paper, we provide further insight into the effectiveness of the Right to Counsel by exploiting the ongoing implementation across the state of Connecticut. Given the short time period between when the policy was signed into law (June 2021) and when it went into effect (January 2022), Connecticut initially targeted zip codes where the supply of legal aid matched the expected demand for lawyers under this policy, as opposed to assigning treatment to zip codes solely based on their need. As figure 2 illustrates, this introduced substantial overlap in the overall number of evictions in the treated and control zip codes which we exploit to estimate the effects of the policy.



Figure 2: Highlighting the overlap between treated and control zip codes, each dot corresponds to a zip code where either the Right to Counsel went into effect on January 31, 2022 (Treated) or it did not (Control). The x-axis shows the average number of eviction filings over the years 2017, 2018, and 2019

For many of our results, we report estimates using Ordinary Least Squares, Fine-Tuned Large Language Model, and Zip Code Regularized Neural Networks⁷. Across these models, we find the following:

1. The Right to Counsel increases legal representation by legal aid lawyers between 9-15

⁶As we explain later, a Stipulation Agreement lays out a set of conditions that if the tenant adheres to, such as catching up on rent, will allow them to remain in the unit

⁷Controls for the zip code level adoption of the policy

percentage points.

2. A lawyer reduces the likelihood of a Judgement of Possession, Dismissal, and Final Stay, while increasing the likelihood of a Withdraw and Stipulation agreement.
3. A lawyer decreases the probability that we observe the tenant moving to a new address by 7 percentage points, but has no effect on the probability of entering a homeless shelter.
4. Unhoused individuals without significant barriers to housing don't have higher monthly rental costs or longer housing searches in response to the policy.
5. Lawyers who push for a stipulation agreement rather than a dismissal can decrease the likelihood the we observe the tenant moving to a new address by roughly 20 percentage points.

Summary: As we will emphasize throughout the paper, there are several limitations to our analysis: sensitivity to hyperparameters, missing control variables, black box consumer reference data, and the short term nature of our outlook. With that in mind, our results suggest that the Right to Counsel has a positive effect on legal outcomes which translates into improved housing stability with limited observable negative effects on those who are currently unhoused.

Related Literature

There is a growing literature on the causes and policies concerning Evictions. Most pertinent to our work, though, are those that focus on the Right to Counsel. Early work on the topic, Seron et al. [2001] and Greiner et al. [2012], make use of small scale randomized control trials consisting of tenants who are thought to likely benefit from legal representation. More recent empirical work, such as Cassidy and Currie [2022] has extended this analysis by exploiting the roll-out of the policy across New York City to understand it's affects when made accessible to a broader population. Focusing on legal outcomes, these works find that lawyers decreases the likelihood of a judgement of possession and extend the length of the case. Macroeconomic work, such as Abramson [2021], develops a model which incorporates these results together with details on the causes of eviction to illustrate that the Right to Counsel can have net adverse effects by pushing more tenants into homelessness.⁸ Our paper complements these prior works by empirically examining the effects of this policy on legal and housing outcomes for those currently housed and the housing search process for those who are unhoused.

⁸Abramson [2021] highlights that landlords' cost increase in response to the policy because the length of the case increase and tenants pay back a smaller fraction of back rent. Landlords then respond to this increased cost by being more selective in terms of who they rent to.

2 Background

Rental Market

The vast majority of eviction filings, figure 3a, correspond to month-to-month leases. These include both leases that start as a month-to-month, as well as those which begin with a one year contract and then continue on a month-to-month bases.⁹ For example, it's typical to see descriptions of the lease such as "On or about [DATE], Plaintiff, Defendant [NAME1], and Defendant [NAME2] entered into a written one-year lease for the Premises ("Lease"). After expiration, the Lease renewed automatically for successive terms of one month."

These agreements, figure 3b, can last from as little as one month to several years. We measure the end of the lease agreements as the date when the landlord files for an eviction against the tenant. About 25% of leases last less than 6 months, 50% less than 13, and 75% less than 27. It's worth pointing out that about 7% last less than the initial month of the lease.

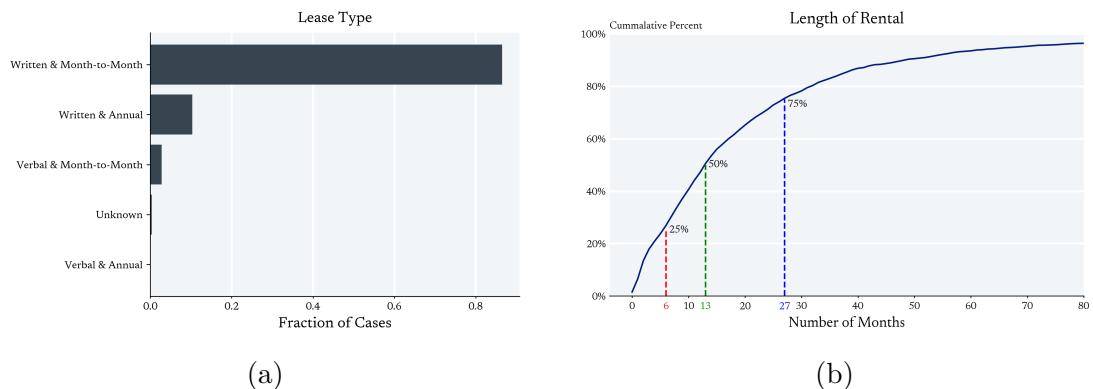


Figure 3: (a) Bar graph of the Types of Leases. (b) Cumulative Distribution Function of the Length of the Lease.

As figure 4a highlights, across the subset of the rental market that is caught up in the eviction process, there is a relatively large dispersion in the monthly rental price of a unit. The interquartile range is \$500 with the 25th percentile starting at \$800 and the 75th ending at \$1300. We use this measure later on in the paper to understand what types of tenants are most likely to seek legal representation when it becomes freely available.

Figure 4b indicates that eviction filings are most frequent in higher poverty locations. We plot the empirical CDF of the poverty rates using the 5-year ACS first with respect to a uniform distribution over census tracts and then by the distribution generated by the addresses associated with each eviction filing.

⁹ A Landlord's guide to Summary Process (Eviction) states, "Be sure to indicate in the Complaint whether you and the defendant had an oral or written week-to-week, month-to-month, or year-to-year lease."

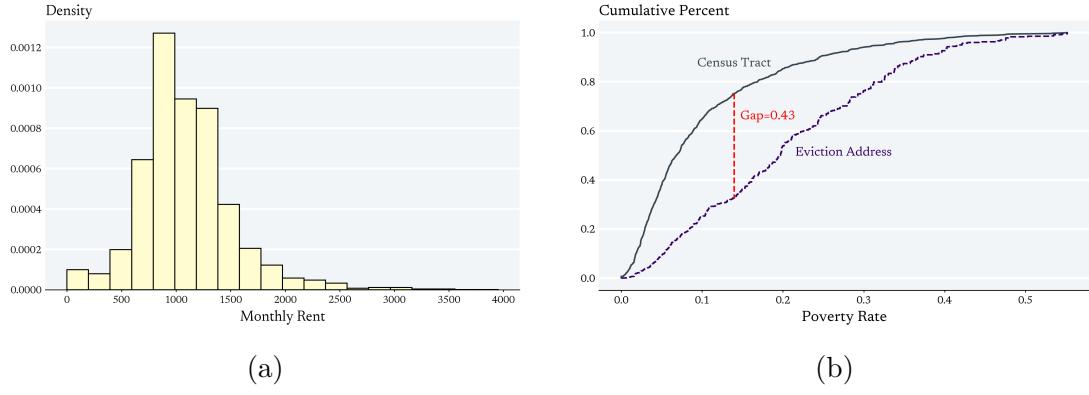


Figure 4: (a) Histogram of Monthly Rental Price(b) Cumulative Distribution Function of Poverty Rate.

Eviction Process

The Eviction process begins with the **Notice to Quit**. Usually served by a State Marshall, the Notice to Quit explains to the tenants that they are in violation of their lease and must move out within three days.¹⁰ The most common reason given, figure 5a, is that the tenants have failed to pay their rent. It's worth pointing out, though, that Landlords are not obliged to file an Eviction case immediately upon a failure to pay rent. Indeed, as mentioned in [Desmond \[2016\]](#), there is money to be made in working with tenants who fall behind for various reasons. And empirically, figure 5b, illustrates that landlords tend to provide tenants with some time before filing an eviction.

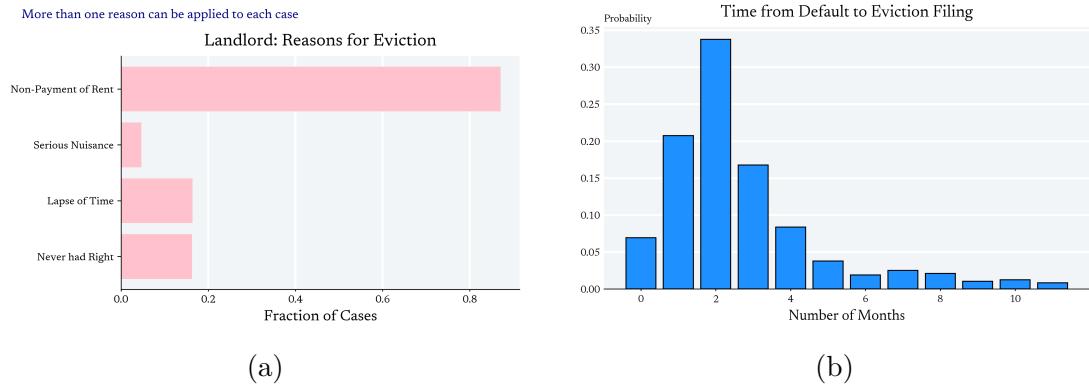


Figure 5: (a) Bar graph of Landlords' reasons for filing an eviction case. (b) Bar graph of the elapsed time between when the tenant fell behind on rent and when the landlord filed the case

If the tenants fail to move out in response to the Notice, a landlord can then file a **Summons** and **Complaint**. The summons informs the tenant that they are “being sued for possession of the premises.”¹¹ The Complaint expands upon the Notice to Quit by including details regarding the lease agreement – the date the tenants first occupied the

¹⁰ [A Landlord’s Guide to Summary Process \(Eviction\)](#)

¹¹ [A Landlord’s Guide to Summary Process \(Eviction\)](#)

unit, the nature of the lease, the date the tenants fell behind on their rent – as well as details concerning the reasons for the eviction filing which can range from the rather mundane, such as a complaint about the tenants’ pet, to the extremely severe, such as a physical altercation which resulted in a fatality.

At this point, the tenants must file an **Appearance** and either an **Answer**. In the Answer, the tenant indicates whether they agree with the landlord’s Complaint and provides additional “facts” for why they should not be evicted. Only about 15% of Answers include these additional facts and as figure 10 highlights, the majority invoke some type of procedural dispute, but can also include details regarding financial hardship, health and safety concerns. We use this categorization of tenant defense to explore treatment effect heterogeneity.

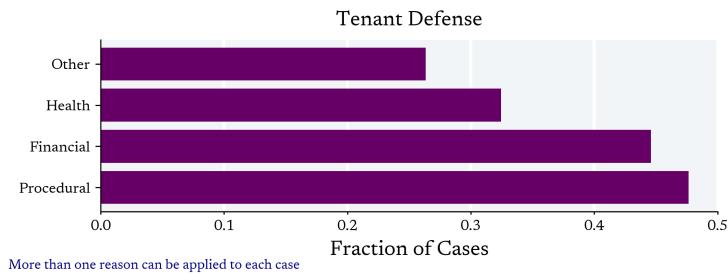


Figure 6: Self-Reported Special Defense

Cases can ultimately be settled in several different ways. For a more detailed description, we recommend the work by Kyle Nelson. For our purposes, though we classify cases outcomes into five categories: Judgement of Possession in favor of the landlord, a Dismissal of the case, a Withdraw of the case, a Final Stay by Stipulation and a Stipulation Agreement. A Final Stay by Stipulation corresponds to a case where a landlord receives possession of the unit, but give the tenant additional time to move out. A Stipulation Agreement corresponds to a case where the tenant and landlord have agreed to a plan that if adhered to (such as catching up on back rent) will allow the tenant to remain in the unit.

Implementation

Signed into law in June of 2021, the Right to Counsel went into effect on January 31, 2022, as rental relief services in response to Covid-19 were coming to an end, well after the expiration of the CDC’s eviction moratorium for nonpayment of rent (August 26, 2021).

Because the expected demand for legal services under the Right to Counsel exceed the level of legal support, state representatives rolled the policy out in phases. In the first phase, the policy was implemented across a subset of the zip codes which accounted for 30% of evictions and 20% percent of the renter population pre-pandemic. Individuals and families within these zip codes who made 80% or less than the area median income were eligible. Importantly for our purposes, there was substantial overlap in the average

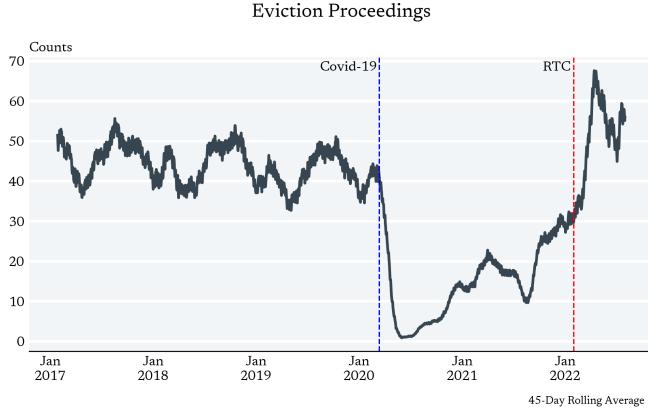


Figure 7: Eviction Filings Within Connecticut

number of evictions across the “treated” and “control” zip codes. Table 1 reports results from a per-implementation balance test with only month and housing court controls. In our empirical specifications, we also include for monthly rent, landlord’s reason for an eviction, and tenant’s reason for an eviction as additional controls.

Model	Est	S.E.	%Δ	RMSE	N	Params
Appearance	0.012	0.002	1	0.363	41391	28
Representation	0.007	0.001	49	0.115	41391	28
Possession	-0.011	0.002	-4	0.437	41391	28
Stipulation	0.030	0.003	6	0.490	41391	28
Case Length	-3.606	0.264	-7	80.146	42059	28
Homeless	0.002	0.001	14	0.106	42063	28

Table 1: Cross-Section Robustness Check

Beginning on October 1, 2021, landlords were to notify individuals of the existence of this policy when serving tenants with a Notice to Quit. From conversations with State Marshals, we learned that even if a landlord forgot to attach the document the State Marshall office would do so any. In addition, courts were expected to inform tenants of the policy when and if tenants appeared in court.¹²

For our analysis, we restrict our focus to the subset of eviction cases in Connecticut between January and August of 2022 that are filed in a housing court which saw cases from both treated and control zip codes. With this sample, we can include court house controls in our regression models and follow the tenant’s outcomes for at least 12 months.

¹²Reference

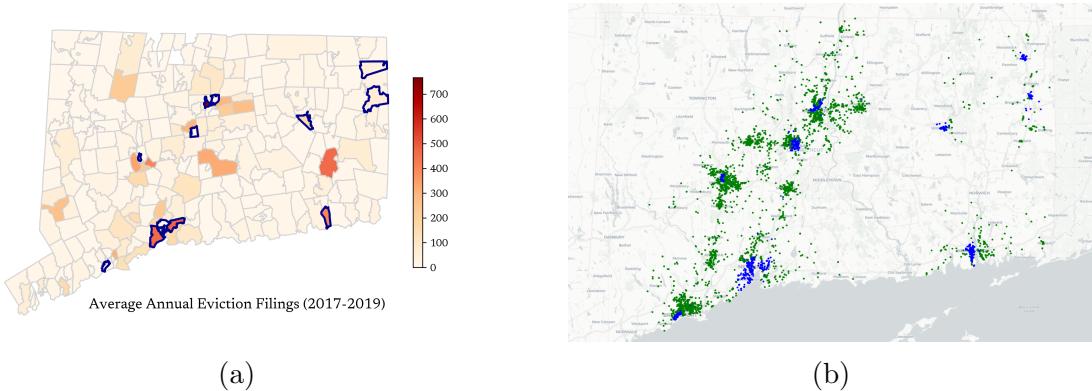


Figure 8: (a) Average eviction filing counts by zip code (2017-2019). A blue outline indicates that the Right to Counsel was implemented in that zip code. (b) The address of all eviction filings from February - September 2022 across the housing courts of interest. Blue indicates that the address is in a zip code where the Right to Counsel is in effect.

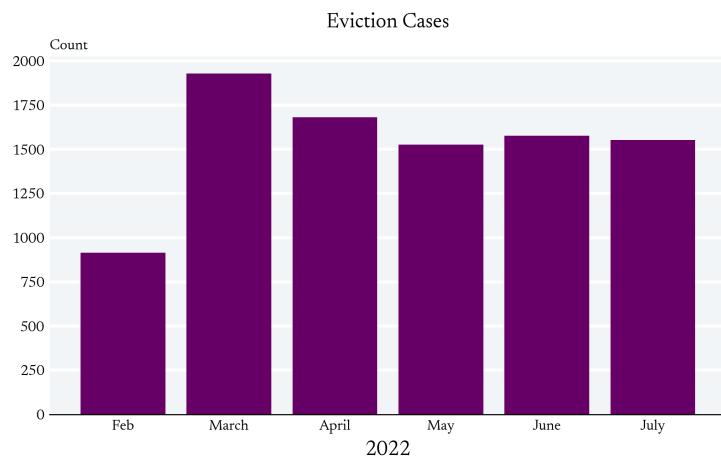


Figure 9: Subset of Eviction Cases of Interest

3 Data

Judicial Data

The data for this section consists of (1) tabular data provided to us by the Connecticut Judicial Branch and (2) publicly available pdf files related to eviction cases that we acquired from the Connecticut Judicial Branch website. As figure 10 illustrates, we extract additional information about a case by processing the associated pdf files with a computer vision model that extracts handwritten text and a large language model ([gpt-3.5-turbo](#)) which can perform a number of **prompt based tasks**.¹³ For example, to extract the monthly rent of the unit for a case, we simply prompt the language model with the case text and a question about monthly rent. The model then returns the monthly rent as its answer/completion to the prompt. We note that while this approach allows us to collect a rich set of variables for our analysis, it also introduces measurement error ([Liu et al. \[2023\]](#)). We are currently in the process of assessing the frequency of these errors. All code will be made available via our [GitHub Repository](#).

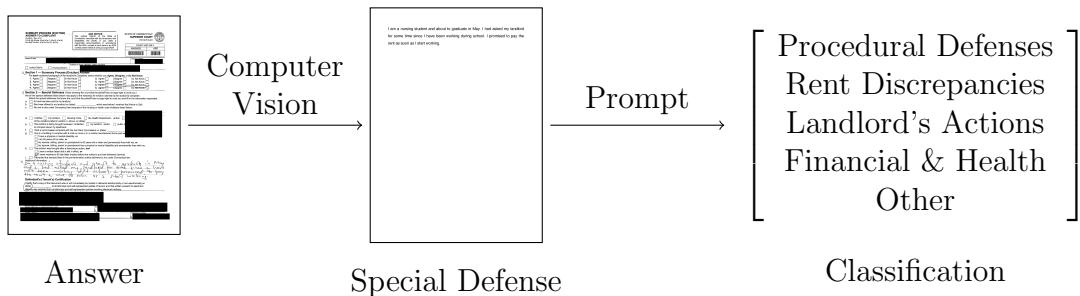


Figure 10: The Answer is only redacted because we are sharing this paper publicly. In our own analysis, we do not redact the Answer. To extract the handwritten defense by the Tenant we use Microsoft’s Computer Vision v3.2 GA Read API.

Consumer Reference Data

HMIS

To explore the potential unintended consequences of the Right to Counsel, we use data on Rapid Rehousing Programs within the State of Connecticut.¹⁴ Rapid Rehousing programs provide time-limited stipends and case management services to individuals experiencing homelessness who do not face significant barriers to housing. The program is meant to act

¹³As [Liu et al.](#) writes, “These models perform downstream tasks primarily via prompting: all relevant task specification and data to process is formatted as a textual context, and the model returns a generated text completion.”

¹⁴We are grateful to Rose Kelly from the Connecticut Coalition to End Homelessness who made this possible. Working with us over the course of two years, Rose was instrumental in helping us identify the key variables of interest and ensuring that the data was high quality.

like a “trampoline”¹⁵ by assisting families to quickly regain housing.

While distinct from an independent housing search, we believe that core outcomes that we observe in a Rapid Rehousing program (Search Length and Voucher Amount) are a reasonable proxy to those that we might observe by tracking very low-income individuals for the following **five** reasons. First, Rapid Rehousing programs “serve people experiencing homelessness with no preconditions such as employment, income, absence of criminal record, or sobriety.”¹⁶ In essence, as [Evans et al. \[2019\]](#) notes, Rapid Rehousing is a Housing First initiative. Second, the program does not target people who might need long-term assistance.¹⁷ Those individuals and families are helped by permanent supportive housing programs.¹⁸²⁰ Third, the lease agreement households sign come with “the same rights and responsibilities as a typical lease holder.”²² Fourth, it’s emphasized that clients treat the housing identification process like a regular housing search.²³. And fifth, we observe a rich set of controls for these individuals: Year & Month, Age, Domestic Violence, White, VI Score, Household Size, Rapid Rehousing Program, Drug Use, Prior Living Situation, Income, English, Physical Disability, Male.

We assign treatment to individuals and families by usinging a weighting function of the frequency that that they make use of a rapid rehousing program within a treated zip code. As we illustrate in figure ??, the majority of individuals entered a rapid rehousing program either always from a treated or a control zip code.

The original motivation for this work was to empirically estimate the potential adverse effects of the Right to Counsel. Until recently, there was no suitable context to estimate these effects because you needed the policy to be rolled out at scale. Landlords had to be incentivized to respond. While Connecticut’s implementation meets this requirement by targeting zip codes which make up 30% of all evictions in Connecticut, an important limitation is that the pre-implementation period directly overlaps with the pandemic. This makes difference-in-difference methods unsuitable. If zip codes/organizations/individuals differed prior to the pandemic, then they may have likely differed in their response, and as such, any difference-in-difference approach would be biased.

¹⁵[CCEH](#)

¹⁶[Reference](#)

¹⁷“Although we can not promise a financial subsidy for the entire time of the lease we can assure that our case managers will be working with the household on financial literacy, budgeting and connecting them to community resources to fill in the gaps within their budget.” –CCEH : A Business Approach to Landlord Engagement

¹⁸Very different from permanent supportive housing which is as Rosanne Haggerty writes in the NyTimes, “is ideal for those with serious health challenges who have been homeless for long periods of time”.¹⁹

²⁰**Cost:** at \$6,678 per family, it is cheaper than transitional housing at \$32,557 per family.²¹

²²[It](#) is imperative that any lease agreement provides the tenant with **the same rights and responsibilities as a typical lease holder** and that the financial terms of the lease are such that the household has a reasonable ability to assume rental costs once financial support ends (keeping in mind that in the majority of cases, even households with no income at move-in retain their housing)”

²³CCEH : A Business Approach to Landlord Engagement

4 Model

We write down a model to clarify the potential adverse effects of the Right to Counsel.

4.1 Tenants

From the tenant's perspective, having access to a lawyer is a form of social insurance. And as such, the issue of moral hazard comes into play. If a tenant knows that a lawyer can help them dismiss their eviction case, they may be more likely to "short" their landlord on the monthly rent.²⁴

To keep things simple, we model this potential issue as a single period optimization problem. Maximizing their expected utility, the tenant spends part of their income on consumption, c , and the rest on housing, $h = I - c$. Housing expenditure together with the rental price, the Right to Counsel status and the state of the world, ω , determine if the tenant is evicted.²⁵

$$\text{Evicted} :: \text{Rent} \rightarrow \text{Right to Counsel} \rightarrow \text{Housing Expenditure} \rightarrow \Omega \rightarrow \{0, 1\}$$

If the tenant is evicted, they receive the value of the outside option. If they aren't, then they receive the monthly rental amount which can be greater than the amount they paid to their landlord.

$$\text{Housing} :: \text{Rent} \rightarrow \text{Outside Option} \rightarrow \text{Evicted} \rightarrow \mathcal{R}$$

$$\text{Housing}(r, \bar{q}, x) = \begin{cases} \bar{q}, & \text{if } x = 1, \\ r, & \text{if } x = 0. \end{cases}$$

By partially evaluating these functions on the exogenous variables (Monthly Rent, Outside Option, and Right to Counsel), we can compose them to express the quality of the tenant's housing as a function of their housing expenditure and state of the world.

$$\text{Quality} :: \text{Housing Expenditure} \rightarrow \Omega \rightarrow [0, \infty)$$

$$\text{Quality} := \text{Housing}_{r, \bar{q}} \circ \text{Evicted}_{r, RTC}$$

²⁴Desmond [2016] notes how tenants may short their landlords in the summer in order to keep steady with the utility bill and then do the reverse in the winter, responding to policy that utility companies won't disconnect families during the winter.

²⁵All random variables in this section are defined with respect to the underlying probability space $(\Omega, \mathcal{F}, \mathbb{P})$

Introducing a utility function which maps income and housing quality into utils, we can define the tenant's objective function by integrating over all states of the world.

$$V_{r,I,\bar{q},\text{RTC}}(h) := \int_{\Omega} u_I \circ \text{Housing}_{r,\bar{q}} \circ \text{Evicted}_{r,\text{RTC},h} d\mathbb{P}$$

$$h^*(r, I, \bar{q}, \text{RTC}) := \underset{h \in [0, I]}{\operatorname{argmax}} V_{r,I,\bar{q},\text{RTC}}(h)$$

Moral Hazard arises if under the Right to Counsel, tenants find it optimal to decrease their housing expenditure. We provide a python notebook which simulates this result.

$$\text{Moral Hazard} \iff h^*(r, I, \bar{q}, \text{True}) < h^*(r, I, \bar{q}, \text{False})$$

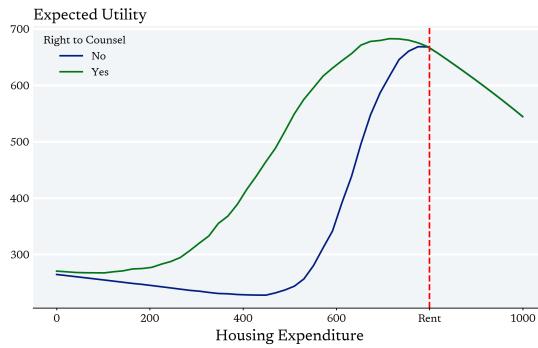


Figure 11: Tenant's Objective Function

4.2 The Landlord

We write down a model of the landlord's behavior to illustrate the potential adverse effects of the Right to Counsel. We start by defining the probabilistic relationship between the credit type of a tenant and the likelihood of default.

$$\text{Default} :: \text{Credit Type} \rightarrow \Omega \rightarrow \{0, 1\}$$

We then define the landlord's payment function which takes into account the monthly rent, the status of the Right to Counsel and the tenant's default status.

$$\text{Payment} :: \text{Rent} \rightarrow \text{RTC} \rightarrow \{0, 1\} \rightarrow \mathcal{R}$$

We can then define revenue as a function of the rent, the Right to Counsel, the tenant's credit type, and the state of the world.

$$\begin{aligned} \text{Revenue} &:: \text{Rent} \rightarrow \text{RTC} \rightarrow \text{Credit Type} \rightarrow \Omega \rightarrow \mathcal{R} \\ \text{Revenue}_{\text{rent}, \text{rtc}} &:= \text{Payment}_{\text{rent}, \text{RTC}} \circ \text{Default} \end{aligned}$$

If we want to allow for heterogeneity across landlord types to capture that some landlords are more risk averse than others, we would need to only compose the payment function with a utility function. Since we can get the same point across without doing so, we omit this detail. Finally, we wrap up the model by writing down the landlord's objective function which is simply the integral of the Revenue function partially evaluated on the exogenous variables over the product of the states of the world and the tenants credit types that are above the minimum acceptable level (the landlord's choice variable).

$$V_{\text{rent}, \text{RTC}}(\text{min_ctype}) = \int_{\Omega} \int_{\text{min_ctype}} \text{Revenue}_{\text{rent}, \text{rtc}} d\lambda_{\text{min_ctype}} d\mathbb{P}$$

By placing specifying specific functional relationships, which we do in this [Colab notebook](#), we can generate the following figures which importantly demonstrate how in response to the Right to Counsel, the minimum acceptable Credit Type can increase, thereby echoing [Abramson \[2021\]](#) about how the costs of the policy may be pushed onto those who are unable to secure housing.

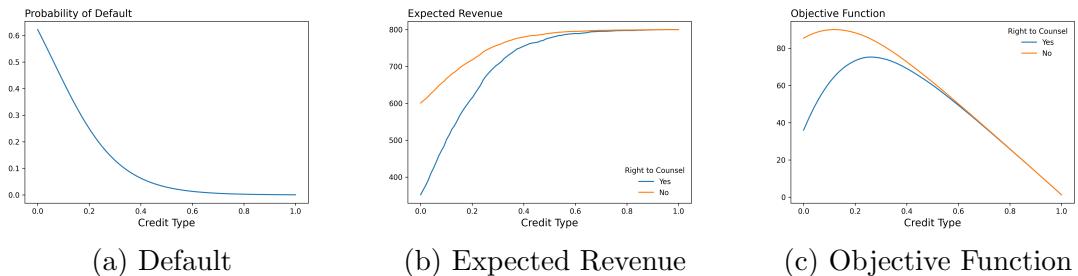


Figure 12: Model of Landlord Behavior

5 Empirical Strategy

Fine-Tuned Large Language Models

There are many applied microeconomics contexts (think health care, education and housing), where the underlying data is text. Data analysis in these areas have traditionally proceeded by hand selecting numerical representations of the data and performing regression analysis on these representations. Recent developments in natural language processing, though, have

opened up a more flexible,²⁶ but also potentially erroneous²⁷ avenue of empirical research whereby the regression analysis is performed “directly” on the underlying text.

In our paper, we are primarily interested in estimating the effect of the Right to Counsel on legal aid representation and the effect of legal aid representation on downstream effects. We first illustrate how we construct the textual version of the OLS estimate before explaining how to construct the equivalent of the IV estimate using a language model.

OLS: To estimate the effect of the Right to Counsel on legal representation we first prepended a textual indicator to the summarized complaint for each case. We then use these augmented summaries as the prompt, and a single token indicator for whether the tenant has legal representation - “Yes” or “No” as the completion. With this setup, taking a treatment status and a summarized complaint as inputs, a fine-tuned completions model will implicitly generate the probability that the tenant in the case has legal aid via the probability that it assigns to the token “Yes”.

Formally, we can express this entire process as the following optimization problem, where we “learn” the parameters of the completions model which maximize the conditional probabilities of the observed legal status. These large completions model are usually only fine-tuned for 2-4 epochs which we capture via a regularization function, $R(\cdot, \cdot)$.

$$\underset{\theta}{\text{maximize}} \prod_i \mathbb{P}_{\theta}(\text{Lawyer}_i | \text{Treatment}_i, \text{Complaint}) - R(\theta_{\text{init}}, \theta)$$

The average effect on legal representation is then computed by integrating the probabilities generated via the fine-tuned completions model over the empirical distributions of complaints.

$$\hat{\beta} = \int \left(\mathbb{P}_{\theta}(\text{Lawyer} | \text{Treated}, \text{Complaint}) - \mathbb{P}_{\theta}(\text{Lawyer} | \text{Control}, \text{Complaint}) \right) d\mathbb{P}_{\text{Complaints}}$$

IV: To estimate the effect of having legal aid on various outcomes, we restrict ourselves to a partially linear model setup. This is computationally attractive because it requires only fine tuning two large language models regardless of the number of outcomes that we consider. Under the partially linear set-up, we can understand all regressions as a single variable regression with the following control variable.

$$\begin{aligned} \text{OLS : } & D_i - \mathbb{E}[D_i | X_i] \\ \text{IV : } & \mathbb{E}[D_i | X_i, Z_i] - \underbrace{\mathbb{E}[\mathbb{E}[D_i | X_i, Z_i] | X_i]}_{\mathbb{E}[D_i | X_i]} \end{aligned}$$

To construct the single control variable of interest we only have to estimate the second term, $\mathbb{E}[D_i | X_i]$ as the first term has already been constructed. To so, we simply fine-tune

²⁶An interesting avenue is [Lin et al. \[2022\]](#) on verbalized probability

²⁷As John Schulman notes in his [presentation](#), fine-tuning an LLM can exacerbate hallucination because the model is encourage to produce output to information that it hasn’t seen before

a completions model directly on the summarized complaints. We note that currently, the model has some systematic prediction errors, and therefore we demean the residualized term before running the second stage regression associated with IV.

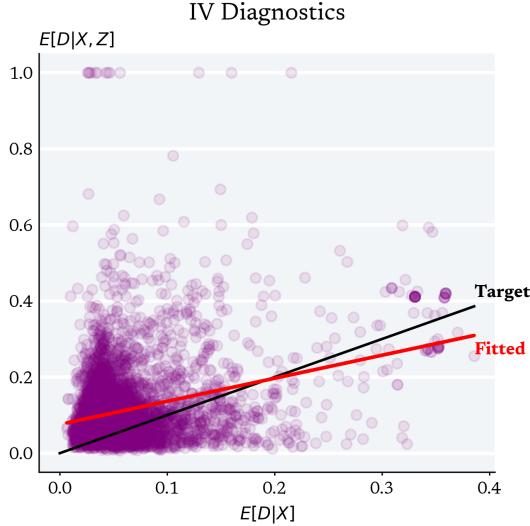


Figure 13: The Frisch-Waugh Lovell Interpretation of Instrumental Variables.

Cluster Regularized Neural Networks

Recall that treatment in our setting is assigned as the zip code level. [Cassidy and Currie \[2022\]](#) illustrates “The [RTC] had a much greater impact in some target zip codes than in others, likely due to heterogeneity in housing court personnel and legal services providers across boroughs.”²⁸ As we explain in our accompanying paper: [Regularizing the Forward Pass](#), this can significantly increase the variance of our conditional average treatment effect estimator. To reduce the variance of our estimator, we therefore train our neural networks via bi-level gradient descent which allows us to partial out the zip code level effects in a nonparametric fashion. For a more complete explanation, we refer the reader to our accompanying paper.

	Number of Providers		
	1	2	3
Fraction of Zip Codes	0.77	0.23	0.00

Table 2: Number of Legal Aid Providers per Zip Code

²⁸If this were a randomized control trial, we would have followed the set-up of [Phillips and Sullivan \[2023\]](#) randomize treated at the agency-month level: “The lottery happens at the individual level but is stratified with a probability of treatment that varies by agency-month.”

6 Legal Results

6.1 Legal Representation

Our first empirical results concern whether the Right to Counsel increases the representation rate for tenants. Across our regression models, we control for Month, Courthouse, whether the Plaintiff has a lawyer, Monthly Rent, Poverty Rate at the census tract level (the core), as well as the tenants and landlords stated reasons.²⁹ Fitting a linear model, a fine-tuned large language model, and zip code regularized neural network to the data, we find that the representation rate increases by **11, 9, 15** percentage points respectively.

Model	Est	Std	%Δ	RMSE	N	Params	Core	Tenant	Landlord
(1)	0.112	0.003	470	0.243	9284	21	✓		
(2)	0.112	0.003	470	0.243	9284	24	✓		✓
(3)	0.112	0.003	469	0.243	9284	25	✓	✓	
(4)	0.112	0.003	470	0.243	9284	28	✓	✓	✓

Table 3: Effect on Legal Representation

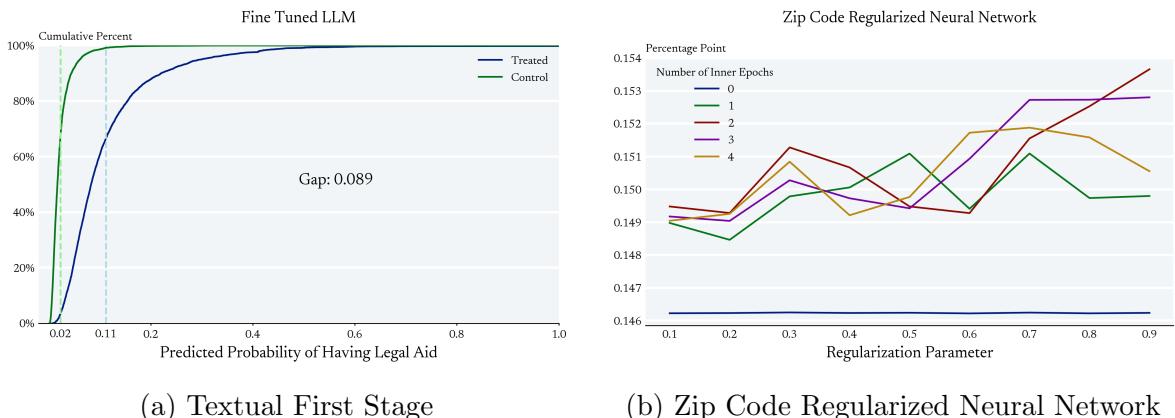


Figure 14: Effect on Legal Representation: Figure (a) plots the cumulative distribution functions of the probability of having legal representation for both treated and control clients. Figure (b) plots the percentage point estimates of a zip code regularized neural network across different combinations of the number of inner epochs and the regularization strength.

We are interested in understanding which factors influence the decision to seek legal representation when it is made available. Retraining the cluster regularized neural network on the sample of cases with an observed monthly rent, we first explore how the effect of the policy on legal representation differs across observable covariates which we do by computing the expected gradient of the Conditional Average Treatment Effect: $\mathbb{E}[\nabla_X \mathbb{E}[D_i(1) - D_i(0)|X]]$.

²⁹For continuous control variables which we do not observe for a case, we impute the mean value and include an additional dummy variable to indicate that the variable is missing.

As figure 15a highlights, we observe a noticeably strong effect for those tenants with a reported health care defence.

We also explore how the effect on the take-up rate of legal representation varies along the rental price of the tenants unit. Integrating the learnt conditional average treatment effect function with respect to empirical distribution over non-monthly rent covariates: $\int \mathbb{E}_\theta[Y(1) - Y(0)|X_{-p}, p]d\mathbb{P}_{X_{-p}}$, we find that renters with a lower monthly rental price are most responsive to the policy. As figure 15b illustrates, the effect is relatively constant for monthly rents between \$500 - \$1100 before falling monotonically at a noticeable rate.

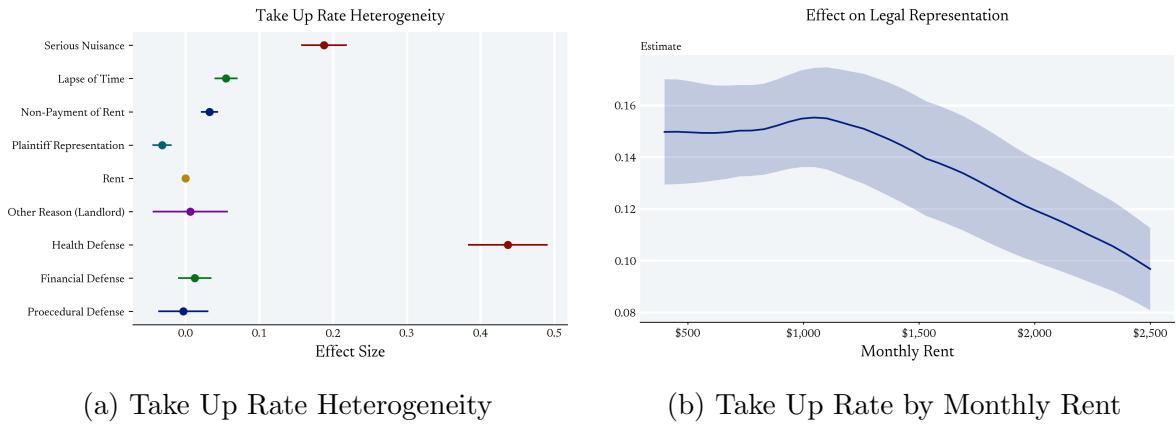


Figure 15: Heterogeneity

6.2 Legal Outcomes

We are interested in the effect of legal representation on case outcomes. We classify cases outcomes into five categories: Possession, Dismissal, Non-Final Stay, Stipulation. Letting Z denote the Right to Counsel (i.e. the instrumental variable), Y the outcome, X the same controls as above, and S as the status of the individual (Complier: $S=C$, Never-taker: $S=N$, Always-Taker: $S=A$), we define our parameter of interest as follows:

$$\theta = \mathbb{P}_{Y|X, Z=1, S=C}(y) - \mathbb{P}_{Y|X, Z=0, S=C}(y)$$

As with the first stage, we report estimates from a linear model, a fine-tuned large language completions model and a zip code regularized neural network. Across these models, the direction of the effects are largely consistent - legal representation decreases the likelihood of a Judgement of Possession, a Dismissal, and a Final Stay, and increases the likelihood of that the case is Withdrawn or the tenant and landlord reach a stipulation agreement. It's worth pointing out the the magnitude of the effects differ across the model, with the regularized neural network exhibiting the largest effects and the fine-tuned model with the smallest.

Model	Possession	Dismissal	Withdrawn	Final Stay	Stipulation	Core	Tenant	Landlord
(1)	-0.182 (0.051)	-0.123 (0.031)	0.187 (0.050)	-0.108 (0.037)	0.227 (0.030)	✓		
(2)	-0.191 (0.051)	-0.123 (0.031)	0.176 (0.049)	-0.085 (0.038)	0.223 (0.029)	✓		✓
(3)	-0.180 (0.052)	-0.125 (0.030)	0.188 (0.049)	-0.109 (0.037)	0.226 (0.030)	✓	✓	
(4)	-0.189 (0.051)	-0.124 (0.030)	0.177 (0.049)	-0.088 (0.038)	0.223 (0.030)	✓	✓	✓

Table 4: Effect on Legal Outcomes

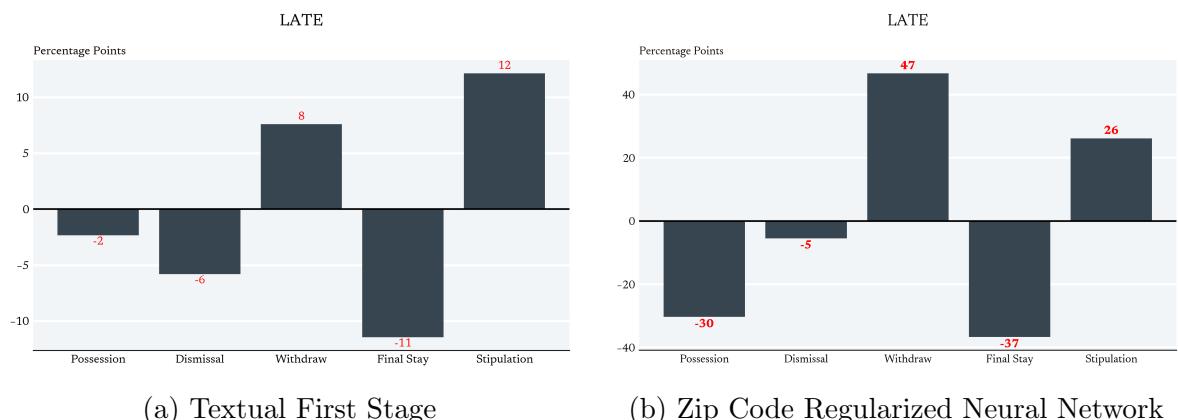


Figure 16: Effect on Legal Outcomes: Figure (a) plots results for a fine-tuned large language completions model. Figure (b) plots results for a zip code regularized neural network

6.3 Length of Eviction Process

In line with the literature,³⁰ table 5 reports that legal aid lawyers increase the length of a case by **85** days. This is concerning because it confirms that the Right to Counsel imposes a significant costs on landlords. Future research should explore whether this is a necessary feature of the Right to Counsel and whether the process may be augmented in some fashion so as to reduce this burden on landlords.

Model	Est	Std	%Δ	N	Params	Core	Tenant	Landlord
(1)	85.436	4.463	117	9284	21	✓		
(2)	85.047	4.362	117	9284	24	✓		✓
(3)	85.641	4.481	118	9284	25	✓	✓	
(4)	85.213	4.383	117	9284	28	✓	✓	✓

Table 5: Local Effect of Legal Representation on Case Length

6.4 Mechanisms

Restricting to those cases which we are able to scrape the rental price from the unit, we examine the effect of having legal aid on a stipulation agreement that is adhered to in practice. We classify such a case as one whose recorded outcome is a Stipulation Agreement which isn't later followed by an "AFFIDAVIT OF NONCOMPLIANCE WITH STIPULATION". In table 6, we note that legal aid increases the likelihood of this outcome by roughly **20** percentage points.

Model	Est	Std	%Δ	N	Params	Core	Tenant	Landlord
(1)	0.214	0.039	414	3696	20	✓		
(2)	0.212	0.039	411	3696	23	✓		✓
(3)	0.216	0.039	418	3696	24	✓	✓	
(4)	0.214	0.039	414	3696	27	✓	✓	✓

Table 6: Local Effect of Legal Representation on Getting Caught Up

7 Housing Stability

We examine whether legal aid increases the likelihood of remaining housed. Following the broader Economic literature (Mast [2019], Diamond et al. [2019], Abramson [2021], Collinson et al. [2022], Phillips and Sullivan [2023]), we do so by matching housing court data to

³⁰"Panel C of Table 4 shows that the number of days from a case filing until a judgment is entered increases by almost three months. Even in a losing case, buying time may be valuable to a tenant, increasing residential stability by smoothing transitions" Cassidy and Currie [2022]

consumer reference data provided by Verisk Marketing Solutions. We classify a tenant as moving if the most recent address as of August 2023 is different from the address at which the eviction was filed against. As figure 17 illustrates, the probability of an observed move is roughly the same across eviction cases which originated from January through August of 2022.

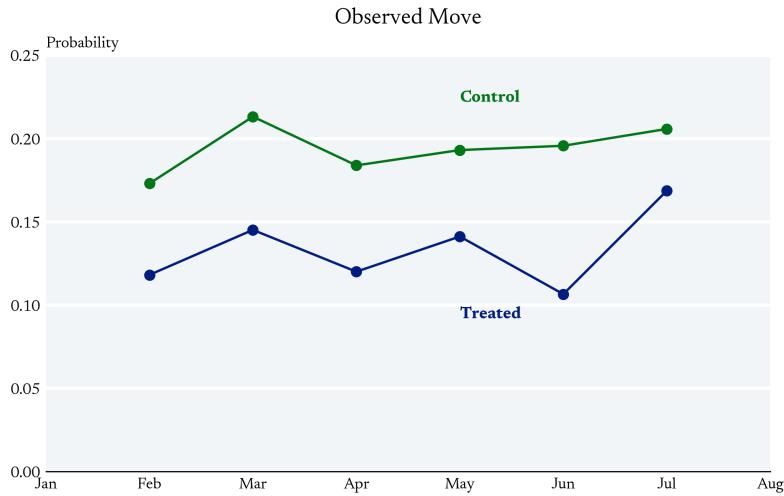


Figure 17: The Probability of an Observed Move

Controlling for the core, tenant and landlord features, table ?? reports that a legal aid lawyer decreases the probability of an observed move by roughly **17** percentage points.

Model	Est	Std	%Δ	N	Params	Core	Tenant	Landlord
(1)	-0.176	0.038	-90	9284	21	✓		
(2)	-0.169	0.038	-86	9284	24	✓		✓
(3)	-0.175	0.039	-89	9284	25	✓	✓	
(4)	-0.168	0.038	-86	9284	28	✓	✓	✓

Table 7: Local Effect of Legal Representation on Moving

We find that a legal aid lawyer has no effect on the poverty rate of census tract that the tenant lives in following an eviction.³¹

Model	Est	Std	%Δ	N	Params	Core	Tenant	Landlord
(1)	0.006	0.005	38	9284	21	✓		
(2)	0.006	0.005	42	9284	24	✓		✓
(3)	0.006	0.005	38	9284	25	✓	✓	
(4)	0.006	0.005	41	9284	28	✓	✓	✓

Table 8: Local Effect of Legal Representation on Change in Poverty Rate

³¹Diamond et al. [2020] finds that marginal homeowners move to worse neighborhoods following a foreclosure

Lastly, we find that a legal aid lawyer has no effect on the probability of entering a homeless shelter.³² There are a couple of possible explanations for why we find a null result. For one, we might not have allowed for sufficient amount of time to pass between when a tenant is evicted and our collection of the Homeless Information Management Data (July 2023). Two, it may be that given that homelessness is a low probability event to begin with, our identification strategy is not suitable. Three, it may be that individuals that are likely to end up homeless are the most challenging cases to intervene in. We leave this as an open question.

Model	Est	Std	%Δ	N	Params	Core	Tenant	Landlord
(1)	0.007	0.009	0	9284	21	✓		
(2)	0.007	0.009	0	9284	24	✓		✓
(3)	0.007	0.010	0	9284	25	✓	✓	
(4)	0.006	0.010	0	9284	28	✓	✓	✓

Table 9: Local Effect of Legal Representation on Becoming Homeless

8 Indirect Effects

When we studied the legal and downstream outcomes of individuals facing eviction, we restricted our analysis to courthouses that saw tenants from both treated and control zip codes and included a number of controls in our regressions to make the selection on observable assumption more plausible. To the extent possible we adopt this same approach to study the indirect effects of the policy by including the following control variables: . **Caveat:** A potential issue with this approach, though is that it might bias estimates towards zero if there is within program spillover effects.

In figure 18a and 18b, we report the ols results from using a thresholding linear model. That is, each value in these graphs correspond to coefficient in a linear model where the outcome values is: $y_i > \text{value}$. Based on the results of these models, we find little evidence that the Right to Counsel adversely affects the lowest income individuals in their search for housing.

9 Policy Improvement

This component of the paper is arguably the most speculative as we empirically explore how the implementation of the Right to Counsel may be improved. Specifically, we consider whether formal, court approved agreements between the landlord and tenant are more

³²There are additional outcomes that would be worth exploring such as the effects on child welfare and income assistance as considered in [Rolston et al. \[2013\]](#)

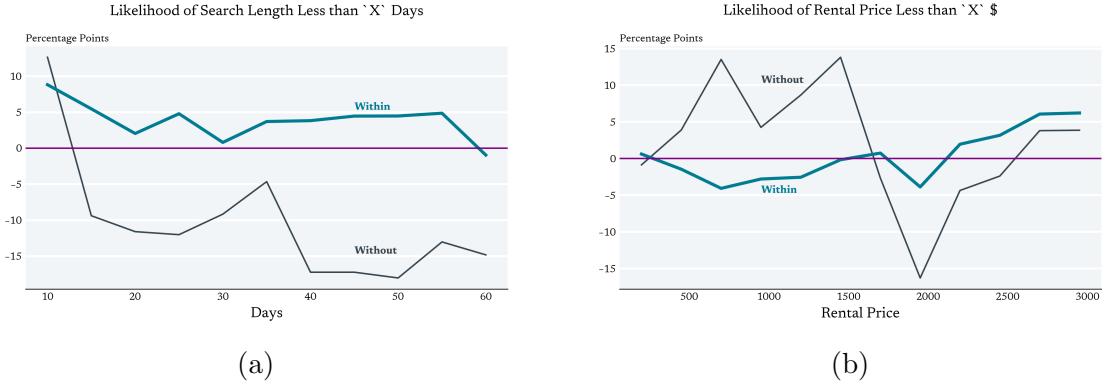


Figure 18: Effects on Search Length and Voucher Amounts

effective than dismissals in keeping the tenant housed in their current unit. To estimate the relative effectiveness, we adopt an instrumental variable strategy based on the variation across lawyers in their tendency to achieve certain outcomes.

In an ideal setup, we would take two cases which are similar in nature and assign different legal aid lawyers to each case, one which tended to reach formal agreements with the landlord and the other less so. We would then attribute any difference between the tenant’s housing outcomes to the different strategies employed by the lawyers. Doing so, we could understand the relative effectiveness of a formal agreement.

We attempt to mimic this ideal setup via an instrumental variables approach where we construct the regressor of interest by taking the predicted difference between a model trained on both the case and the lawyer inputs, and a model trained only on the case.³³ As Figure 19 highlights, there is tremendous variation across lawyers in their tendency to achieve certain outcomes. Figure 19 plots the distribution across case outcomes in counterfactual worlds where there is only one legal aid lawyer. We have 26 legal aid lawyers in the data set which produces these 26 separate graphs.

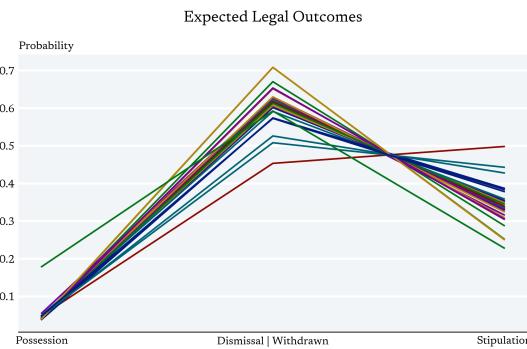


Figure 19: Counterfactual Expected Case Outcomes

We don’t want our identification to come from cases which have low probability of both a Dismissal or an Agreement. In the second equation that we fit as part of our partially

³³We estimate these two conditional expectation functions by training a neural network via bi-level gradient descent where the clustering is done with respect to the lawyer.

linear instrumental variable approach,

$$\begin{aligned}\tilde{S}_i &= \mathbb{E}[\text{Dismissal}|\text{case, lawyer}] - \mathbb{E}[\text{Dismissal}|\text{case}] \\ Y_i &= \beta\tilde{S}_i + \varepsilon_i\end{aligned}$$

we therefore restrict our sample to those cases with a predicted probabilities of both outcomes of at least ‘x’ percent, where ‘x’ corresponds to the y-axis in figure 20. Meaningful for us, we observe that as the quality of the sample improves, that is as the set of cases is further refined to those which might likely result in either a dismissal or a stipulation, we see the effects associated with these strategies widen with a formal agreement being the more successful of the two approaches. **Caveats:** We want to emphasize though that these estimates should be interpreted very cautiously. They are sensitive to the moving data that we match to as well as the hyperparameters we used to train the neural network.

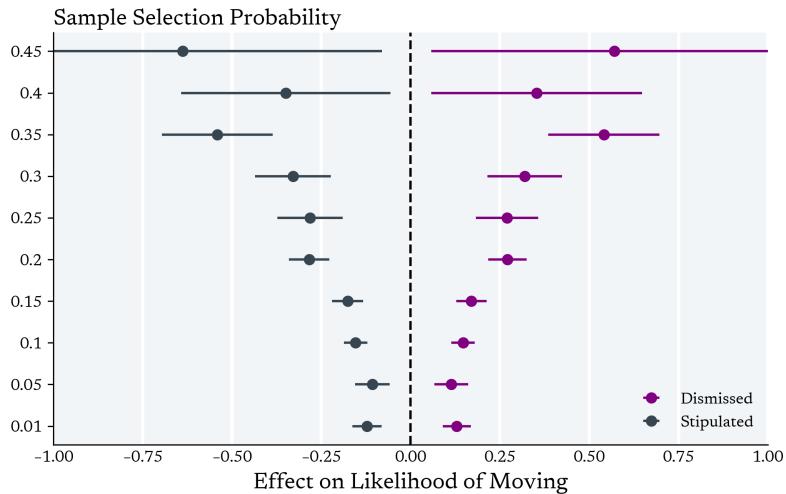


Figure 20: IV Estimates on the Effect of a Dismissal and a Stipulation Agreement on the Likelihood of an Observed Move.

10 Conclusion

There is a silent tension in an eviction that is cut only by the sequence of questions that races through one’s mind. The most pressing being - where will the tenants go this evening, and the most incomprehensible - how did things get to this point. Standing just inside the door, as the four men with the moving company make repeated trips out to the truck, the taped up boxes filled with an assortment of kitchen and living room items, it’s natural to wonder whether such an ordeal might be avoided in the first place.

Exploiting the ongoing implementation of the Right to Counsel across the state of Connecticut, we provide empirical evidence which suggests that having legal representation improves legal outcomes which importantly translates into improved housing stability. We

emphasize though, that as with any empirical work, put perhaps even more so given our specific context, that these are limited results and should be interpreted cautiously.

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11 Appendix

Policy Improvements

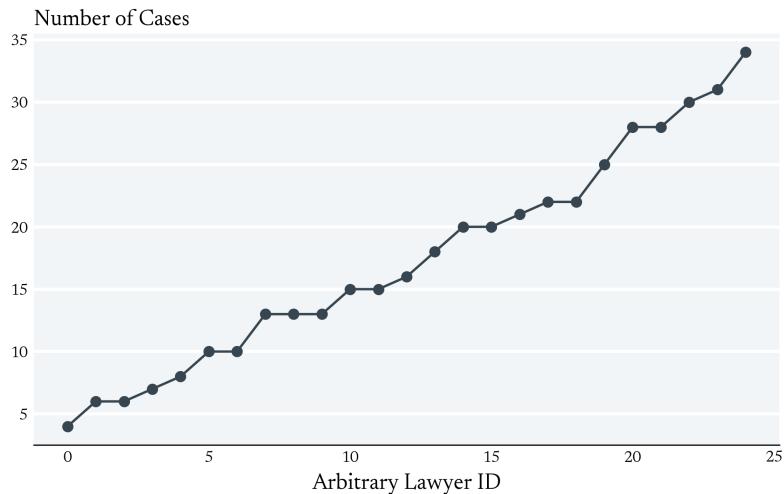


Figure 21: Number of Cases by Legal Aid Lawyer

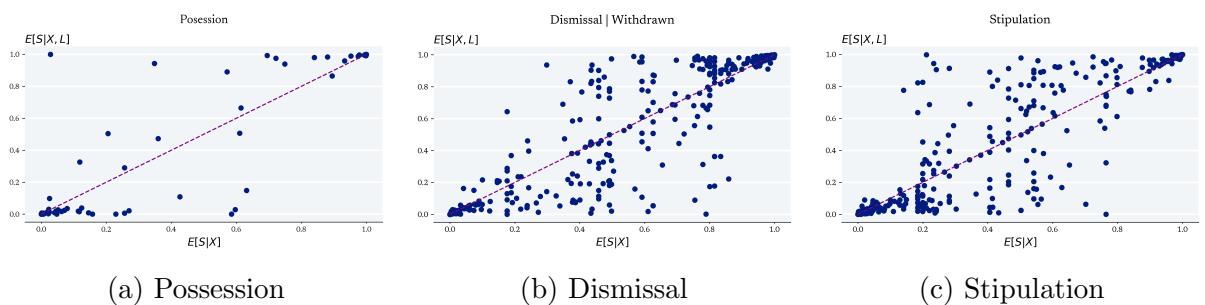


Figure 22: IV Diagnostics for Policy Improvement