

Housing Instability and Crime In California:

A Comparative Analysis of How Housing Instability Might Contribute to Violent Crime.

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Key Argument

In this project I argue that:

- Violent crime counts in a county tend to rise as housing instability rises, and fall as housing instability declines.*

*I do not argue that housing instability directly causes violent crime variation, alone, rather that it is one factor that leads to violent crime in a community.

The Datasets: How They Are Produced

Crimes and Clearances:

- Law Enforcement Agencies (LEA) report crimes →
- Department of Justice's (DOJ) Statistics Center (CJSC) aggregates the number of crimes →
- DOJ publishes the data on the Open Justice Web Portal

Evictions:

- Eviction Lab collected court records for eviction cases →
- Cleaned, aggregated (into many subsets), and published to [EvictionLab.org](https://evictionlab.org)

The Datasets: Key Words

- **Violent Crimes:** Total crimes committed against a person (homicide, rape, robbery, and aggravated assault)
- **Violent Crime Rate** =
$$\frac{\textit{Violent Crimes}}{\textit{Population}}$$
- **Evictions:** Total number of people actually evicted.
- **Eviction Filings:** Total evictions filed
- **Eviction Filing Rate** =
$$\frac{\textit{Eviction Filings}}{\textit{Population}}$$

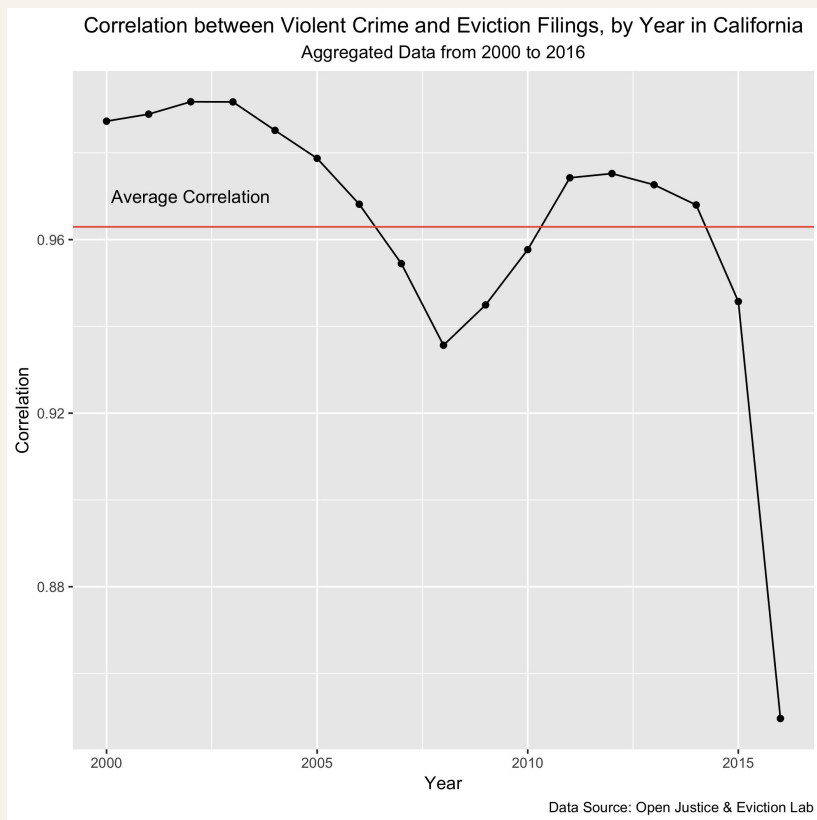
The Datasets: Structure

- **For each County in California, in each year from 2000 - 2016:**
 - **Total Violent Crime**
 - And totals for all of the individual crimes (like homicide, etc)
 - **Evictions and Evictions Filings**
 - **Census Data**
 - **Racial and Ethnic Data**
 - **Population**
- **Crimes and Clearances:** Hierarchy rule and *Reported v.s. Unreported crime*
- **Eviction Data:** *Formal* evictions v.s. *Informal* evictions

- *Descriptive* analysis v.s. Caution about *causal* analysis.

95%

Correlation between violent crimes and eviction filings, from 2000 - 2016.

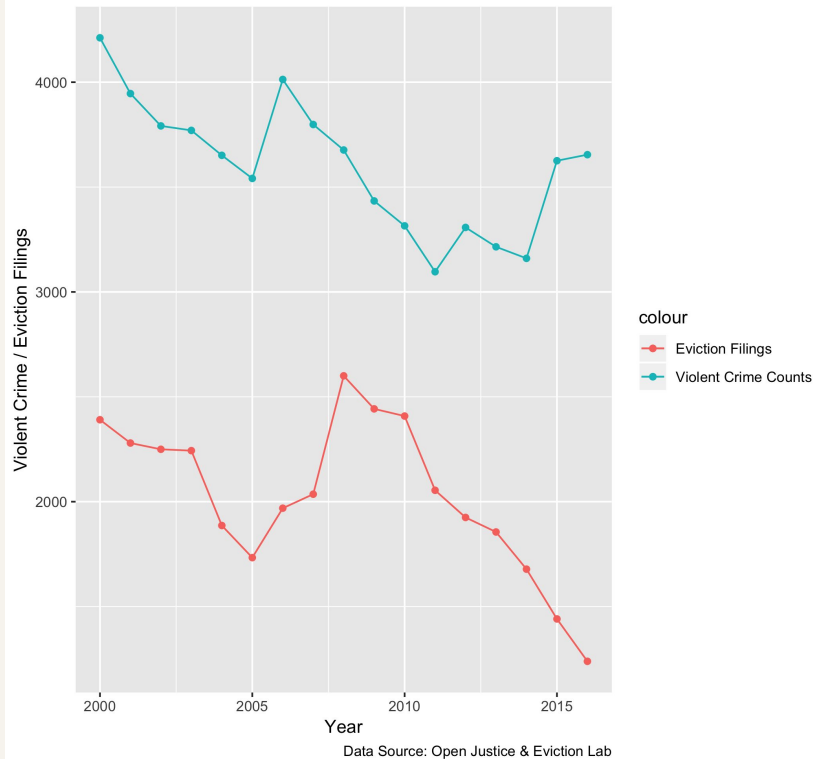


- Correlation remains high despite general decline.
- Greater than 80%

Significantly high correlation between eviction filings and violent crimes, each year.

Time Trend of Eviction Filings and Violent Crime, California

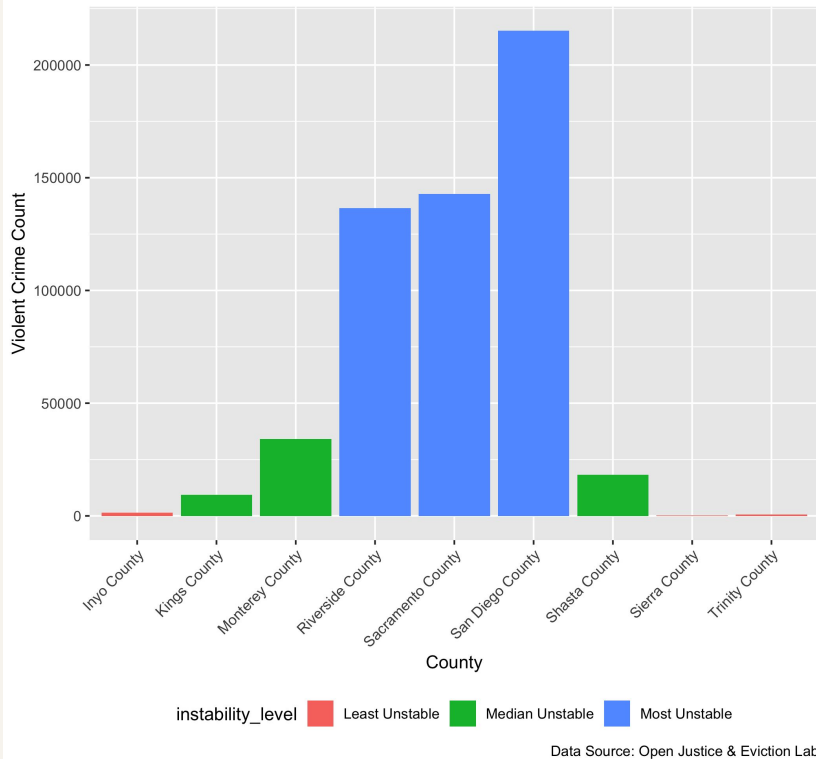
Aggregated Data from 2000 to 2016



- General time trend is consistent
- Spikes in Eviction Filings associated with spikes in Violent Crime
- Not all spikes covary

Consistent time co-trend in eviction filings and violent crimes.

Violent Crime Counts by Eviction Filing Level in CA
2000 to 2016



- Counties with most instability → Most violent crime
- Jump in violent crime when moving from median instability to most.

Breaking down violent crime by level of eviction filings.

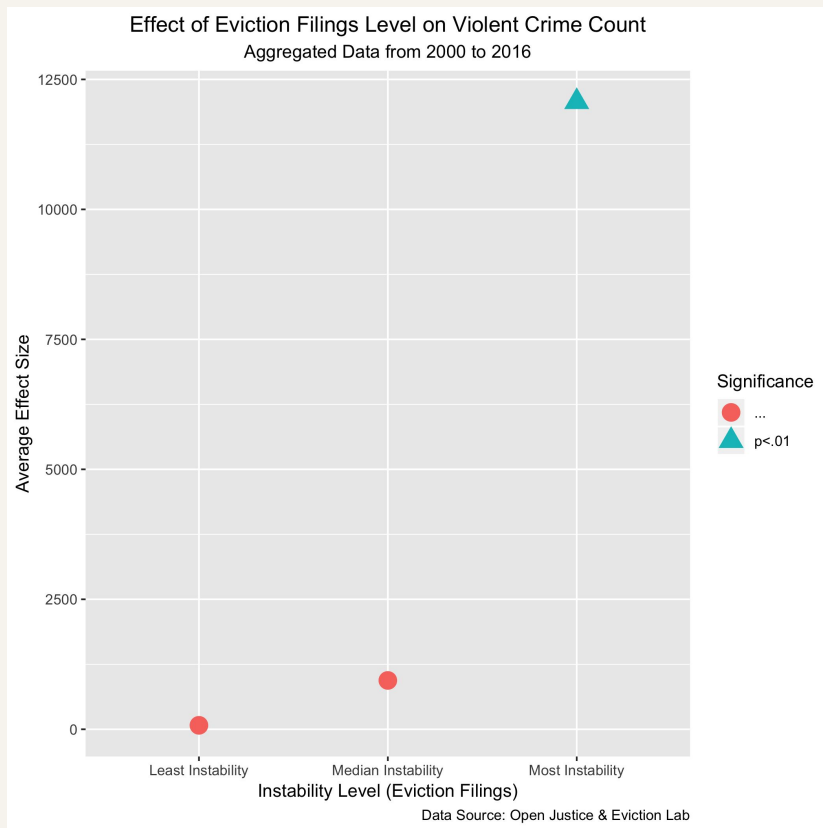


Table 1:

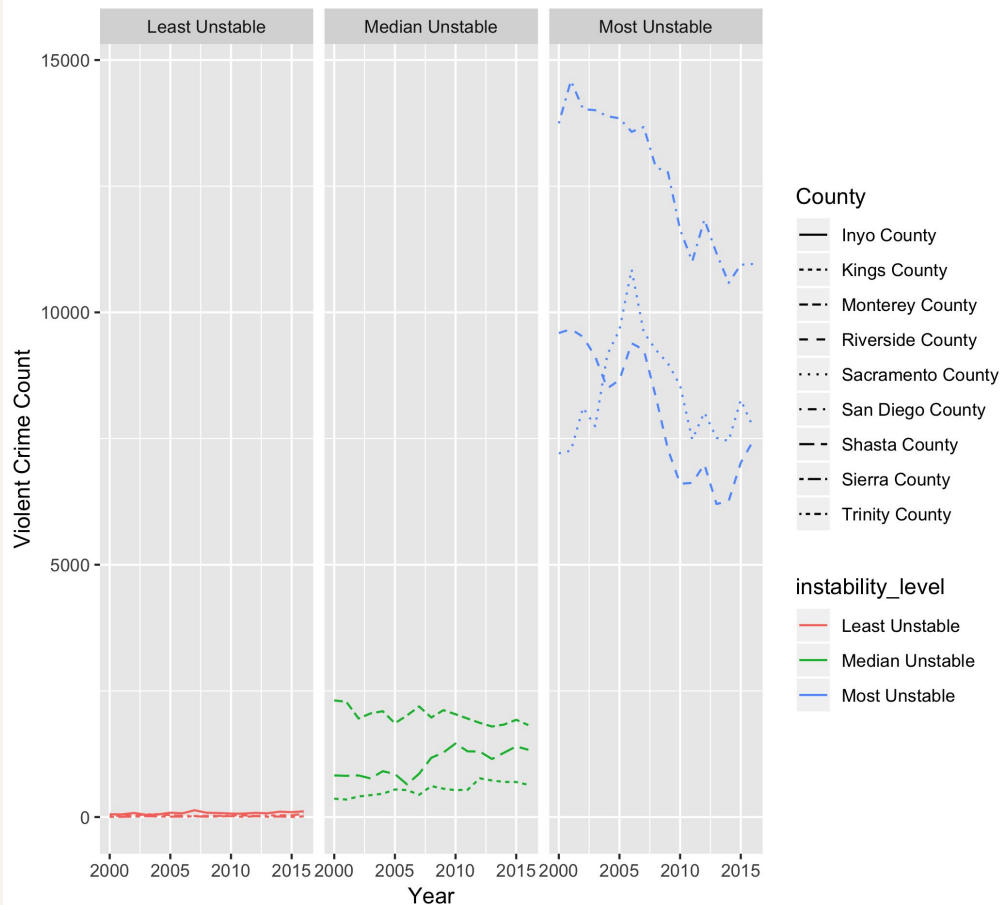
<i>Dependent variable:</i>	
Violent Crime Count	
Median Unstable	939.570 (766.567)
Most Unstable	12,069.650*** (878.722)
Constant	76.214 (620.539)
Observations	748
R ²	0.254
Adjusted R ²	0.252
Residual Std. Error	8,598.437 (df = 745)
F Statistic	126.942*** (df = 2; 745)
<i>Note:</i> * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$	

- Eviction filing (EF) level alone only explains 25% of violent crime variation.
- As EF level increases, so does its impact on violent crime count.

Effect of eviction filing level on violent crime count.

Time Trend of Violent Crime Count by Instability Level

Aggregated Data from 2000 to 2016



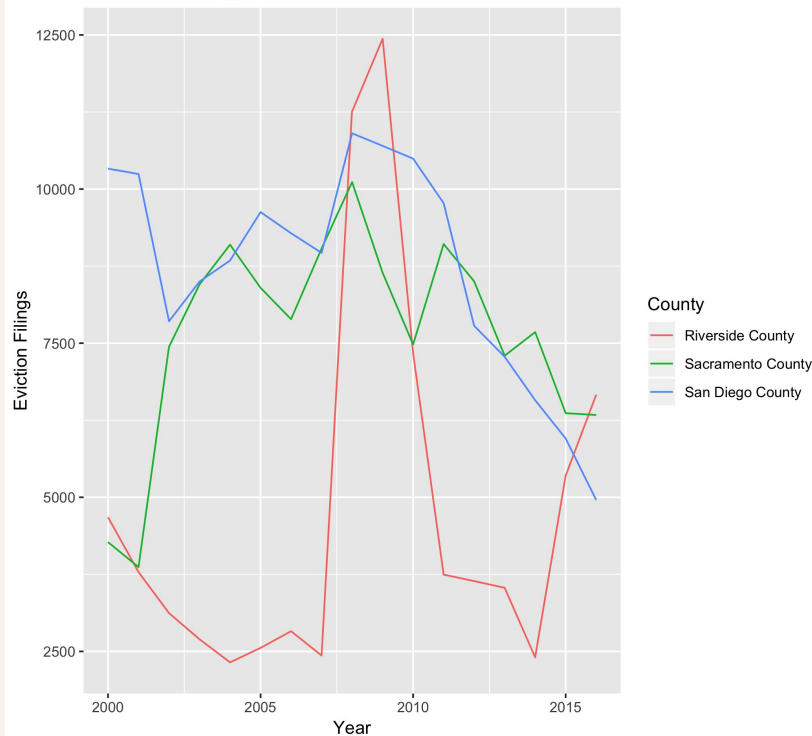
Data Source: Open Justice & Eviction Lab

Volatility in violent crime

- Counties with most instability have the highest volatility in violent crime
- Volatility in violent crime increases as instability increases.

Time Trend of Eviction Filings for Counties with most Eviction Filings

Aggregated Data from 2000 to 2016



Data Source: Open Justice & Eviction Lab

- Counties with most instability have the highest volatility in instability as well.
- Volatility in instability increases as instability level increases.

But ... what about volatility in instability? Does it add up? Yes!

Table 2: Effect of Eviction Filings Rate on Violent Crime Rate

	<i>Dependent variable:</i>
	Violent Crime Rate
Eviction Filings Rate	0.377*** (0.041)
Constant	0.004*** (0.0001)
Observations	748
R ²	0.102
Adjusted R ²	0.100
Residual Std. Error	0.002 (df = 746)
F Statistic	84.324*** (df = 1; 746)

Note: *p<0.1; **p<0.05; ***p<0.01

- For a 1% increase in the proportion of the population that gets an Eviction filed against them, violent crime rate increases by .377.

Total effect of eviction filings on violent crime (proportional to population).

Conclusion

As shown: Violent crime counts in a county tend to rise as housing instability rises, and fall as housing instability declines.

There exists a need to research and explore this relationship further . . .

Further Research and Questions:

- Are there confounding variable omitted that affect both violent crime and eviction filings?
- Can we instrument eviction filings with another variable to better isolate the effect of eviction filings on violent crime?
- How can population factor into eviction and especially crime, beyond just the magnitude of events?