

Are Police Leaders Held Accountable for Performance?

Jessica Persano*

Daniel M. Thompson†

October 30, 2025

Abstract

In a democracy, police are granted considerable authority, but elections are supposed to offer a check on poor performance or abuse of power. Reelection-motivated local government leaders may be compelled to appoint or fire police leaders based on performance. However, high switching costs and information asymmetries may make this a weak accountability mechanism in practice. Are police leaders held accountable for high crime and police misconduct? In this paper, we draw on an original panel dataset of police leadership in more than 1,500 jurisdictions from 2000 to 2022. We link our data with data on crimes reported to these police departments and federal civil rights investigations. We find that police chiefs are not substantially more likely to leave office following a major increase in crime rates. Focusing on the most high-profile cases of systemic police misconduct, we find that turnover is only markedly higher when a federal investigation imposes penalties. We take this as suggestive evidence that the power to hire and fire police chiefs is not the main mechanism for holding police leaders accountable.

*Predoctoral Scholar, Graduate School of Business, Stanford University, Stanford, CA United States. jpersano@stanford.edu.

†Assistant Professor, Department of Political Science, UCLA. danmckinleythompson@gmail.com, <http://www.danmthompson.com>. Corresponding author.

1 Introduction

Policing is a central function of local governments, and how local governments manage policing has high stakes. The decisions that police make can dramatically alter the lives of residents by affecting the likelihood that they will be the victim of a crime, subject to an abuse of police power, or have an encounter with an officer (Ba et al. 2021; Becker 1968; Burch 2013; Lerman and Weaver 2014; Levitt 2002; Mummolo 2018). In most cities, police leaders are appointed by elected officials and can be removed when they perform poorly. There are good arguments for setting up a system like this: in principle, this allows local leaders to use real-time information on police performance and make changes quickly when necessary. Local elected officials also likely expect that they are at risk of losing their job if they fail to address citizen concerns about policing (Arnold and Carnes 2012; de Benedictis-Kessner and Warshaw 2020). Still, there are important reasons to worry that this chain of accountability from citizens to elected officials to police leadership could have considerable slack: there are substantial frictions involved in finding a new chief who will perform better (Wilson et al. 2010), the preferences of elected officials may diverge from those of their constituents (Gailmard and Jenkins 2009), and mayors may not have sufficient information about core issues like crime and misconduct to distinguish between poor performance, low effort, and bad luck (Holmstrom and Milgrom 1991). Further, the people who bear the costs of police misconduct or high crime may be such a small minority as to not be electorally pivotal. Are police leaders held accountable for poor performance?

In this paper, we study whether police leadership changes follow periods of low performance. To study police turnover, we collect an original dataset on the tenures of more than 5,800 police chiefs serving in over 1,500 municipalities from 2000 to 2022. We pair our data with data on local crime rates. We also supplement our main quantitative data with an extensive review of all federal patterns-or-practices investigations of municipal police departments. After accounting for long-standing differences in crime and turnover rates across places and nationwide changes in crime and turnover over time, we find that police

offices are not substantially more likely to change hands after a period of high crime. We validate this finding using a case study of the large spike in crime rates in some cities during the COVID pandemic, finding that municipalities with larger spikes were not noticeably more likely to fire their police chief.

To understand why police chiefs are not fired for high crime rates, we look at the turnover rates of chiefs in police departments that are subject to federal patterns or practices investigations. We find that, while investigation itself is a strong negative signal about a department's performance, turnover rates are only higher than baseline when the investigation results in a penalty for the office. Still, even in these cases of high-profile failure, more than 30% of chiefs stay in office. We take this as evidence that part of what keeps police chiefs in office amid high crime is the weakness of the signal and perhaps the availability of better outside options.

2 New Data on Police Chief Tenure and Performance

In this section, we describe our new data on the tenures of police chiefs. We also discuss our measures of police performance.

2.1 New Data on Police Chief Tenure

We collect a large-scale panel dataset of sitting police chiefs from 2000 to 2022. Our data comes from the “National Directory of Law Enforcement Administrators” which produces an annual directory of law enforcement agencies and their leaders, including police departments, sheriff offices, prosecutor offices, state police, highway patrol, and law enforcement arms of federal agencies (*National Directory of Law Enforcement Administrators* 1990–2022). We scan the police department sections of all available even-year editions of the directory from 1990 to 2022. We then use a large language model to extract the semi-structured text from each page of each directory and use another instance of a large language model to pro-

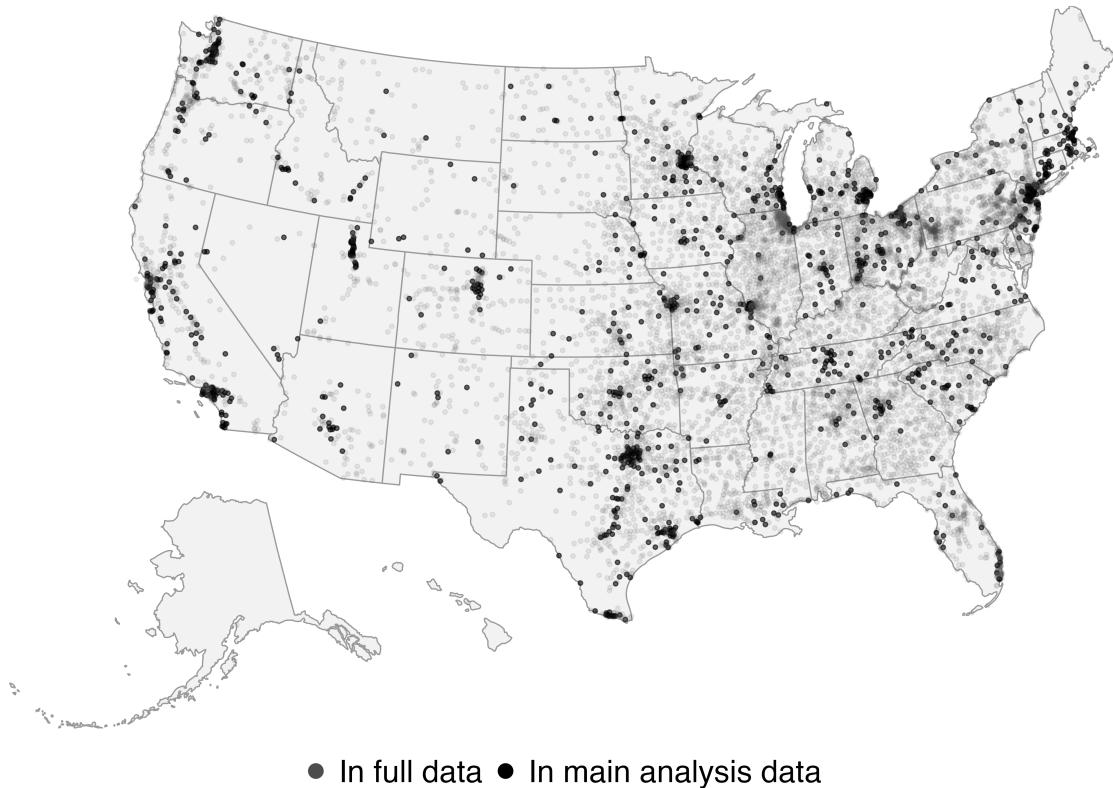
duce fully structured datasets including the state, county, and city of each law enforcement agency and the name and title of its leader at the time of data collection.

Once we have the directories digitized and organized in a single dataset, we clean and standardize the county, city, and leader names using prompts to a large language model that clean up variations in spelling and formatting. We match county names reported in the directory to a list of counties in existence in the year of publication according to the US Census. For county names that appear in the directory but not in the Census data, we use a large language model to identify the most similar county name if a similar name exists. We use the same procedure to match municipality names to the list of police departments reporting data to the FBI in each year. We clean leader names by asking a large language model to reduce the full list of leader name spellings within a municipality down to a list of semantically distinct names, for example, "Robert M. Smith" and "Bob Smith" are both replaced with "Robert M. Smith". We validate each of these steps from digitization to standardization using extensive manual checking and audits of the work of the large language model.

Our full dataset covers 47,075 police chiefs serving in 11,888 municipalities across all 50 states. For most of our analyses, we focus on a subset of municipalities for which we have data in every year, always report complete crime data to the FBI. These restrictions ensure that any differences we see over time and across place are not due to changing sample composition. In our main analysis data, we also restrict to municipalities with at least 10,000 residents in every year from 2000 to 2022. This removes very small municipalities where estimated crime rates will be very noisy. These restrictions leave us with 5,824 chiefs serving in 1,510 municipalities across 48 states.

Figure 1 maps the municipalities in our data. Light gray points are those that appear in our full list of municipalities. Black points represent municipalities that appear in our main analysis data.

Figure 1: Map of Municipalities in Police Chief Tenure Data.



2.2 Measures of Police Performance

We pair our new data on police chief tenures with data on the performance of police departments. We rely on two primary datasets. The first is data capturing index crimes reported to the police department and ultimately collected by the FBI in the Uniform Crime Report. We use a version of this data concatenated and processed by Jacob Kaplan (Kaplan 2025). We measure the crime rate as the number of index crimes divided by the number of residents in a municipality. Index crimes are murder, non-negligent manslaughter, rape, robbery, aggravated assault, burglary, larceny-theft, motor vehicle theft, and arson. We compute violent and property crime rates by restricting to murder, non-negligent manslaughter, rape, robbery, and aggravated assault as violent crimes and burglary, larceny-theft, motor vehicle

theft, and arson as property crimes. This follows the FBI's categorization.¹ To correspond with our police chief tenure data, we aggregate crime data into two-year chunks. We then use past crime to predict leader turnover. For example, we measure the total number of index crimes per resident from 2002 and 2003 as the crime rate when predicting 2004 chief turnover.

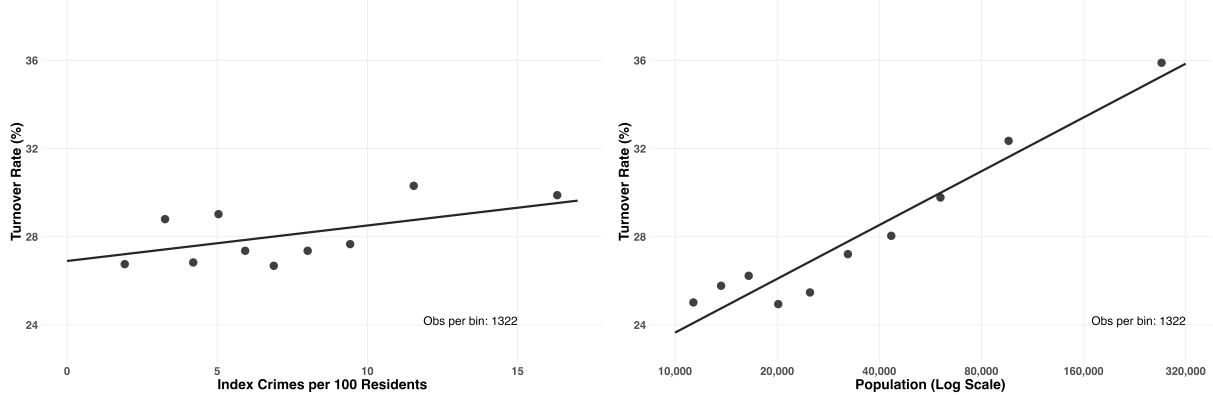
We supplement the FBI crime data with records of patterns or practice investigations of police departments by the federal Department of Justice (DOJ). Patterns-or-practice investigations are pursued when the DOJ suspects a police department is engaged in systemic, repeated violations of civil rights.

3 Police Chiefs Are Not Systematically Removed due to High Crime

In this section, we document three patterns, all of which suggest that police chiefs are not systematically removed due to high crime rates in their jurisdiction. First, we show that, while index crime rates declined dramatically from 2000 to 2022, simple descriptive comparisons of places and times with high vs low crime reveal that crime is at most only very modestly predictive of turnover. Second, we document that even substantial increases in crime relative to national trends do not meaningfully increase the probability of a change in police leadership. Finally, we zoom in on the COVID crime wave and present evidence that jurisdictions that oversaw worse spikes in crime were not substantially more likely to see police leader turnover. Put together, we take this as evidence that police chiefs are not often removed due to high crime rates.

¹<https://ucr.fbi.gov/crime-in-the-u-s/2019/crime-in-the-u-s--2019/topic-pages/violent-crime>

Figure 2: Relationship between Police Chief Turnover, Crime, and Population.

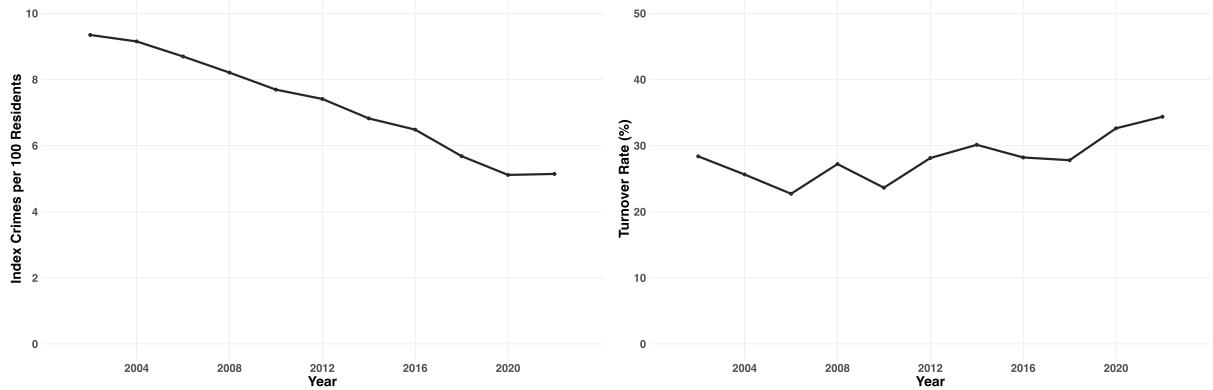


3.1 Relationship between Crime and Turnover Modest at Most

Are police chiefs more likely to leave office or be fired when they oversee a period of high crime? We begin our answer to this question by describing broad patterns in the data. In the left panel of Figure 2, we report the turnover rate across places and times where the crime rate is higher and lower. Our binned scatter plot documents that, where crime rates are below the 10th percentile (fewer than 2.7 crimes per 100 residents), the police office changes hands roughly 28% of the time. This increases to only 31% where crime rates are above the 90th percentile (more than 12.9 crimes per 100 residents). The right panel of Figure 2 captures the relationship between turnover and city population. There we see a much stronger relationship, where turnover is approximately 10 percentage points higher in the top decile of population than in the bottom decile. Since high-population cities also tend to have higher crime rates over this period, this may also account for some of the already modest cross-sectional relationship between crime and turnover. Put together, Figure 2 reveals that police chiefs are not substantially more likely to leave office during periods of high crime.

Crime rates have been on a nearly unbroken downward trajectory throughout most of the 21st century (Sharkey 2018). The left panel of Figure 3 documents this decline in our data. The number of index crimes per 100 residents dropped from more than 9 to fewer than 5 in 2022. Much of this decline comes from a steep decline in property crime, but, as

Figure 3: Crime and Police Chief Turnover Over Time.



we document in Figure A.1 in the appendix, violent crime also declined by more than 20% in the average jurisdiction.

Over the same two decades from 2002 to 2022, police chief turnover increased approximately 20%, though this change is relatively small compared to the typical changes in turnover from one year to the next.

Following the late-20th-century crime wave, crime rates have been on a nearly unbroken downward trajectory (Sharkey 2018). The left panel of Figure 3 documents this decline in our data. The number of index crimes per 100 residents dropped from more than 9 to fewer than 5 in 2022. Much of this decline comes from a steep decline in property crime, but, as we document in Figure A.1 in the appendix, violent crime also declined by more than 20% in the average jurisdiction.

Over the same two decades from 2002 to 2022, police chief turnover increased by approximately 5 percentage, though this change is not much larger than the typical changes in turnover from one year to the next. This aligns with the cross-sectional pattern in our data—despite large changes in crime rates, turnover does not seem to change much. Of course, it is important to note that this pattern is also consistent with elected officials becoming more demanding of police chiefs over time, thereby incentivizing better performance that lowers crime. We rule out this potential explanation in the next section.

3.2 High Crime Does Not Increase the Probability of Police Chief Turnover

One weakness of the descriptive analysis in Section 3.1 is that the empirical approach looks for a relatively unsophisticated form of accountability from a mayor—the mayor removes the police chief if the chief oversees high crime even if there's higher crime in neighboring areas or if their appointment lead to a decline in crime. Given the information available to elected officials, this seems implausible. Instead, mayors would likely be able to discern when their city is beating expectations or falling behind.

In this section, we assess whether elected officials are performing a more sophisticated kind of accountability where they are firing police chiefs who under perform expectations. Does overseeing a period of higher-than-expected crime increase the probability that a police chief will lose their job or leave it?

To answer this question, we use our panel data to estimate two-way fixed effects regressions that offer a baseline for expected crime in a given city in a given year. Our regressions take the form

$$y_{it} = \tau c_{it-1} + \alpha_i + \gamma_t + \epsilon_{it}$$

where y_{it} is a binary variable taking the value 1 if police department i has a new chief in period t when compared to two years prior, c_{it-1} is the total number of index crimes reported to police department i in the prior two years (e.g., crime reported between January 2006 and December 2007 when turnover occurred between January 2006 and January 2008), α_i is a department fixed effect, γ_t is a period fixed effect, and ϵ_{it} is the residual error. Under this specification, τ is our estimate of how much more likely chief turnover is when crime rates increase by 1 index crime per resident above expectations. In some regressions, we include a lag of the crime rate to capture the possibility that high crime leads to turnover not in the same period but in the next period (e.g., perhaps crime reported between January

2006 and December 2007 leads a mayor to fire the police chief between January 2008 and January 2010).

It is important to note that, following Bueno de Mesquita and Tyson (2020), we interpret τ by reasoning about how changes in crime rates affect the strategic position of the elected official who is deciding whether to keep or relieve the police chief. We understand our estimate to be the sum of both the direct effect of crime on the elected official's decision—e.g., how crime affects their reelection odds, their work, etc—and the indirect effect of crime on the elected official's information about police chief performance. We are primarily interested in how a change in the elected official's information affects their behavior, but, since we do not see a plausible research design for isolating that component, we focus on the total effect as an approximation, assuming the direct effects of crime on an elected official's personnel decisions are relatively minimal.

Table 1 presents our findings. Column 1 captures our main estimate of the relationship between the crime rate—relative to expectations—and police chief turnover. We find that, periods with one more crime for every 100 residents were followed by a 0.05 percentage point higher probability that the chief would leave office would increase by 0.05 percentage points. Over the course of our 20 years of data, a typical municipality sees their crime rate range by approximately six crimes for every 100 residents. This means that our estimate implies that a police chief overseeing a crime increase from the bottom to the top of the typical department's range of crime rates over 20 years would only be 0.3 percentage points more likely to leave office. Given the noise in our estimate—the standard error on our main quantity of interest in 0.20 percentage points—we cannot rule out that there is exactly no relationship or even that increases in crime within a district are associated with lower rates of turnover. An ex-post power analysis implies that we would have 80% power to detect a relationship as small as a 3.5-percentage point increase in turnover following an increase in crime over expectation that is as large as the average 20-year range in crime rates. We

Table 1: Relationship between Crime Rates and Turnover within Municipalities.

	(1)	(2)	(3)	(4)	(5)	(6)	Turnover
Crime per Capita	-0.10 (0.25)	-0.10 (0.39)					
Lagged Crime per Capita		0.24 (0.39)					
Violent Crime per Capita			-1.49 (1.48)	-0.34 (2.06)			
Lagged Violent Crime per Capita				-1.82 (2.19)			
Property Crime per Capita					-0.06 (0.27)	-0.11 (0.42)	
Lagged Property Crime per Capita						0.36 (0.42)	
Num Municipalities	1,202	1,202	1,202	1,202	1,202	1,202	
Num Years	11	10	11	10	11	10	
Num Observations	13,222	12,020	13,222	12,020	13,222	12,020	
Municipality FEs	Yes	Yes	Yes	Yes	Yes	Yes	
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	

Robust errors clustered by municipality reported in parentheses. Data is a balanced panel of municipalities in even years.

view this as a quite modest relationship since it would mean that fewer than one in every twenty police chiefs who oversee massive increases in crime were fired or resigned.

Column 2 repeats the specification from column 1 but also includes a lag of the crime rate. The inclusion of the lag does not meaningfully change the main coefficient estimate. While the coefficient on the lag is more positive than the coefficient on the coincident crime rate, it is still indistinguishable from zero, quite modest, and we have 80% power to detect very modest relationships.

In columns 3 through 6, we report regressions just like those in columns 1 and 2 but using the violent and property crime rates instead of the total crime rate. In both cases, we continue to see at most very modest relationships between crime and police chief turnover.

The average 20-year range in violent crime rates within cities is 7 for every 1,000 residents. Applying that to our estimated standard error in column 3, we find that we have 80% to detect a relationship between violent crime and turnover that is even smaller than our minimum detectable effect on the relationship between overall crime and turnover. We also have sufficient power to detect substantively small relationships between property crime and turnover. Yet, none of our estimates are statistically distinguishable from zero.

We take all of this as evidence that, even when elected officials learn about massive increases in crime relative to expectations, they are not meaningfully more likely to remove the police chief.

3.3 Police Chiefs Not Systematically Removed During COVID-era Crime Spike

One important weakness of our main analysis in Section 3.2 is that, due to the large secular decline in crime rates over the last twenty years, even chiefs who were overseeing crime rates substantially higher than the national trend may have been keeping crime rates steady or even bringing them down by a small amount. Perhaps, large, unanticipated increases in crime are more important for signaling to elected officials that the police chief is under performing. To investigate this possibility, we study the COVID-related crime spike. As was reported at the time, the crime spike varied considerably across cities with some witnessing a massive increase in crime while others saw essentially no change in crime.² We split our sample into half where cities with below-median spikes in crime during COVID are our comparison group and those with above-median spikes in crime are our main analysis group.

Figure 4 plots our results. In the left panel, we see that, while municipalities with the largest COVID crime spikes already have lower crime rates than those with the smaller

²See https://counciloncj.org/wp-content/uploads/2024/06/Pandemic_Social_Unrest_and_Crime_in_US_Cities_-_March_2021_Update.pdf for a discussion of the variation in the crime spike across cities.

Figure 4: Police Chief Turnover in Jurisdictions with Large vs Limited COVID Crime Spikes.

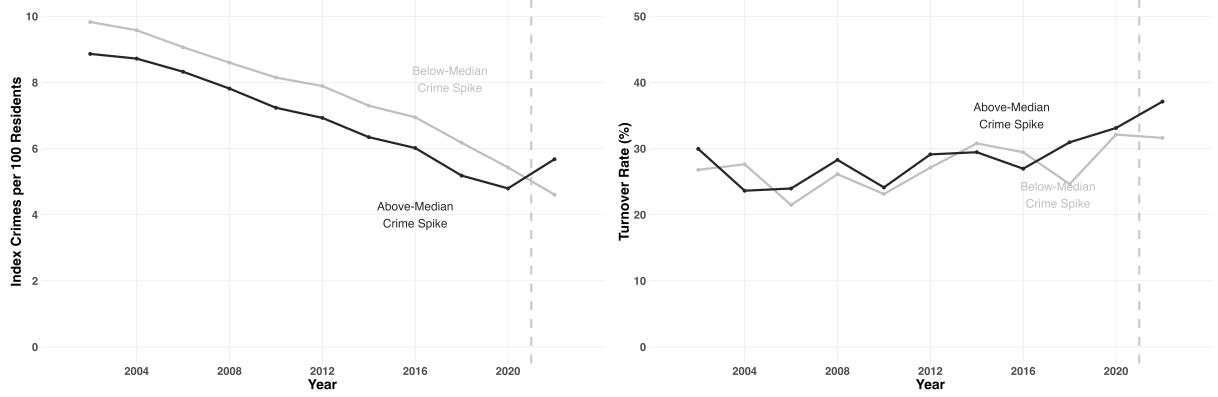


Table 2: Relationship between Size of COVID Crime Spike and Chief Turnover.

	Crime Per Resident (1)	Lagged Turnover (2)	Turnover (3)
Above-Median Spike × 2022	0.019 (0.001)	0.000 (0.028)	0.045 (0.029)
Num Municipalities	1,202	1,202	1,202
Num Years	11	10	11
Num Observations	13,222	12,020	13,222
Municipality FEs	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes

Robust errors clustered by municipality reported in parentheses. Data is a balanced panel of municipalities in even years.

spikes, both are trending in the same direction and at the same rate. We also see in the left panel that, as expected, the average city with an above-median increase in crime during the COVID pandemic had a large positive increase in crime while those with a below-median increase in crime continued on the same trend they were on before COVID, on average.

In the right panel of Figure 4, we plot the turnover rate over time in cities with above and below average COVID crime spikes. While the turnover rates are noisy over time, we do not see a dramatic increase in turnover in 2022 in cities with above-median spikes in crime around the same time.

Table 2 presents our formal estimates. In column 1, we document that cities with above-median crime spikes saw approximately 2.3 more crimes per 100 residents than expected. Column 2 reports another validation, in this case a check that cities with above- and below-median crime spikes are on similar turnover trajectories prior to 2022. Finally, in column 3 we report our estimate that places with above-median crime spikes saw turnover increase by 2.4 percentage points. This estimate is slightly larger than would be consistent with our estimates from our main panel analysis, but not consequentially. This suggests that our main estimates are not simply relying on comparisons between the pace of improving crime rates in places that are all doing better over time.

The most important shortcoming of this analysis is that the standard errors are large, so there are plausibly some small relationships between the size of the COVID crime spike and turnover that would be substantively meaningful but not be detectable with 80% power in our analysis. Nevertheless, we take this as one more complementary piece of evidence that election officials are not systematically removing police chiefs due to high crime rates.

4 Some Police Chiefs Are Removed for High-Profile Failure

If there are significant frictions in hiring and firing police chiefs or the electorally pivotal segment of the public is inattentive to crime rates, we might not expect to see crime rates increase turnover. Instead, these mechanisms suggest that turnover may be more likely to follow high-profile police misconduct where the information may reach inattentive voters and shift the beliefs of an elected official enough to feel they need to act.

Department of Justice (DOJ) “pattern-or-practice” investigations provide a clear signal of wrongdoing that is both observable and politically salient. These investigations, typically launched in response to systemic civil rights violations or high-profile misconduct, draw extensive media coverage and often place intense public pressure on local officials to act. As such, they offer a valuable case study of what happens to police leadership under condi-

tions of undeniable performance failure, complementing the broader analysis of crime and turnover presented above.

To examine how leadership accountability operates under these more visible conditions, we collect every DOJ pattern-or-practice investigation of local police departments from 1996 to 2025. For each investigation, we matched its opening and closing dates with the tenure of the sitting police chief(s) to determine whether the chief remained in office through the investigation or departed before its conclusion. Across the total of 51 DOJ investigations, roughly half of the police chiefs (50.98%) left office before the investigation concluded, compared to 45.1% who remained in place. This turnover rate is considerably higher than the background rates we observe in years of ordinary fluctuation in crime, suggesting that these visible shocks to department legitimacy produce much stronger political incentives for leadership change. While indicating that turnover among police leadership is common following DOJ intervention, it is still clearly not universal—many departments retain the same chief even as federal investigators document serious institutional failings.

Patterns of turnover after these investigations also vary sharply by the form of federal intervention. Departments placed under consent decrees, the most intensive and legally binding oversight agreements, experienced the highest turnover, with nearly 69% of chiefs departing. These decrees typically follow severe scandals and involve years of court-monitored reform, making leadership change both symbolically and practically attractive to local officials. At the other end of the spectrum, departments receiving technical assistance letters, which often signal cooperation, limited findings of misconduct, and include almost no required reforms, saw almost no turnover, with nearly 88% of chiefs staying on. Findings reports, settlement agreements, and memoranda of agreement or understanding fall in between, each associated with moderate levels of leadership replacement. Put together, investigations that ended in DOJ action also resulted in turnover in 68% of cases while investigations that end in a letter or report resulted in turnover in only 28% of cases, a statistically significant difference based on Fisher's exact test.

These results suggest that political accountability for policing may depend less on performance metrics like crime rates and more on the visibility and severity of perceived misconduct. When wrongdoing is widely covered and formally acknowledged, such as in consent decrees, elected officials appear far more likely to replace police leadership, whereas quieter or cooperative reform mechanisms elicit little change.

5 Discussion

Are police leaders held accountable for performance? In this paper, we assemble a large new dataset on police tenure to study whether police leaders are more likely to leave office following a period of high crime or serious misconduct. We find that elected officials are not meaningfully more likely to remove a police chief following a high-crime period than following a low-crime period. Even when sufficient reports of misconduct have amassed such that the federal government feels compelled to conduct an investigation of a police department, turnover rates stay relatively low if the investigation ends in a report or letter. Turnover only increases in cases where the federal investigation ends in punitive action against the police department.

We take our evidence as consistent with the view that elected officials face a lot of friction in hiring and firing police chiefs and the public does not pressure elected officials sufficiently to prioritize the accountability for crime. In future work or future extensions of this paper, we hope to look more closely at these mechanisms and attempt to estimate how much each one is helping to keep the relationship between crime and turnover relatively weak.

References

- Arnold, R. Douglas, and Nicholas Carnes. 2012. "Holding Mayors Accountable: New York's Executives from Koch to Bloomberg." *American Journal of Political Science* 56(4): 949–963.
- Ba, Bocar A, Dean Knox, Jonathan Mummolo, and Roman Rivera. 2021. "The role of officer race and gender in police-civilian interactions in Chicago." *Science* 371(6530): 696–702.
- Becker, Gary S. 1968. "Crime and Punishment: An Economic Approach." *Journal of Political Economy* 76(2): 169–217.
- Bueno de Mesquita, Ethan, and Scott A Tyson. 2020. "The Commensurability Problem: Conceptual Difficulties in Estimating the Effect of Behavior on Behavior." *American Political Science Review* 114(2): 375–391.
- Burch, Traci. 2013. *Trading Democracy for Justice: Criminal Convictions and the Decline of Neighborhood Political Participation*. University of Chicago press.
- de Benedictis-Kessner, Justin, and Christopher Warshaw. 2020. "Accountability for the Local Economy at All Levels of Government in United States Elections." *American Political Science Review* 114(3): 660–676.
- Gailmard, Sean, and Jeffery A. Jenkins. 2009. "Agency Problems, the 17th Amendment, and Representation in the Senate." *American Journal of Political Science* 53(2): 324–342.
- Holmstrom, Bengt, and Paul Milgrom. 1991. "Multitask principal–agent analyses: Incentive contracts, asset ownership, and job design." *The Journal of Law, Economics, and Organization* 7(special_issue): 24–52.
- Kaplan, Jacob. 2025. "Jacob Kaplan's Concatenated Files: Uniform Crime Reporting Program Data: Offenses Known and Clearances by Arrest (Return A), 1960–2024.".
- Lerman, Amy E, and Vesla M Weaver. 2014. "Arresting Citizenship: The Democratic Consequences of American Crime Control." In *Arresting Citizenship*. University of Chicago Press.
- Levitt, Steven D. 2002. "Using Electoral Cycles in Police Hiring to Estimate the Effects of Police on Crime: Reply." *American Economic Review* 92(4): 1244–1250.
- Mummolo, Jonathan. 2018. "Modern Police Tactics, Police-Citizen Interactions, and the Prospects for Reform." *The Journal of Politics* 80(1): 1–15.
- National Directory of Law Enforcement Administrators*. 1990–2022.
- Sharkey, Patrick. 2018. *Uneasy Peace: The Great Crime Decline, the Renewal of City Life, and the Next War on Violence*. WW Norton & Company.
- Wilson, Jeremy M, Erin Dalton, Charles Scheer, and Clifford A Grammich. 2010. "Police Recruitment and Retention for the New Millennium." *Santa Monica, CA: RAND Corporation* 10(1): 44–52.

Online Appendix

Intended for online publication only.

Contents

A.1 Additional Statistical Results	18
--	----

A.1 Additional Statistical Results

Figure A.1: Violent and Property Crime Over Time.

