Weather to convict

Howard Bodenhorn

John E. Walker Department of Economics, Clemson University

Research Associate, NBER

March 2026

bodnhrn@clemson.edu

Abstract: Several recent studies investigate the connection between environmental factors, including daily high temperatures, rainfall and pollution, and judicial decision making. This paper considers the effects of weather and other extralegal factors on judicial decision making in an environment where summer heat is salient. Moreover, decisions are high stakes because they result in severe consequences, including working at hard labor on a southern chain gang. Judges are not more likely to convict on hot days but conditional on conviction, but fines decline by 4.2% for a 1% increase in temperature. Incarceration sentences are 2.3% lower when the daily high rises from 80°F to 90°F. Fines and sentences declining in temperature are consistent with deterrence and retributivist approaches to criminal punishment. If working on a chain gang is disagreeable in agreeable weather, it was more disagreeable in less agreeable weather. Shorter sentences on hot summer days than on cooler day yielded comparable deterrence and retributivist proportionality.

Acknowledgements: I thank the archivists at the South Carolina Department of History and Archives for their assistance in accessing the records of the Greenville municipal court. I thank Jonathan Leganza for encouraging me to pursue the ideas discussed here. I am grateful for research assistance provided by several undergraduate students including Katherine Cannon, Cooper Chamblee, Allison Dierks, Kate Kaprosy, Kallie Pavlish, Elliott Swain, and Aiyana Wright. I thank Clemson University's Creative Inquiry program, the John E. Walker Department of Economics, and a summer research grant from the Wilbur O. and Ann Powers College of Business for supporting this research. None is responsible for the views expressed here.

INTRODUCTION

The Fifth and Fourteenth Amendments to the Constitution – the Due Process and Equal Protection clauses – codify the principle that citizens will not be treated differently by the state based on their race. Since 1866, Fourteenth Amendment protections have been extended to include ethnicity, national origin, sex, gender identity, religion, disability and age. At the same time, the Supreme Court of the United States has pushed back against legislative efforts to limit judicial discretion in criminal sentencing (*Blakely v. Washington*, 542 U.S. 296 (2004); *United States v. Booker*, 543 U.S. 220 (2005)). The principles of due process and judicial discretion need not be in conflict, however, because justice may be served when it is impartial and fair yet tailored to the circumstances of the individual and the offense (Henry 1999). Not every defendant convicted of the same nominal crime deserves the same sentence if the facts and the circumstances – the legal factors – differ. The ability to tailor decisions to the facts and circumstances is one reason why judges resist legislative infringements on discretion in criminal sentencing (Cohen 1991). Yet, there is robust evidence that convictions and discretionary sentences are influenced by myriad extralegal factors, including defendants' race, ethnicity, gender, age, and education (Abrams, Bertrand and Mullainathan 2012; Yang 2015). Close inspection of the tailoring reveals some fraying at the edges.

Even judges who believe they apply the law impartially, uniformly and predictably will in certain circumstances deliver decisions that depart from these principles. Whatever else they may be judges are people. They love their spouses, worry about their kids, watch their weight, walk their dogs, root for their favorite sports team, and fret over the current state of politics. They may be rational cost-minimizing utility maximizers (Posner 1993, Posner 2002) or boundedly rational cognitive misers who economize on difficult thinking (Sunstein et al. 2002). Unlike most people, whether rational or boundedly so, judges occupy front row seats in arenas that expose the worst of human behavior; they hear what Hutcheson (1929, 277) calls the "sad, still music of humanity." Criminal courts are stressful places that call on all the judges' cognitive capacities to deliver law and equity in high-stakes environments. Yet, it is the practice of experienced judges to intuit their way to difficult decisions, to rely on rules of thumb, and to act on their hunches (Hutcheson 1929; Guthrie,

Rachlinski and Wistrich 2007). Like most people, judges' decisions in their private lives will reflect their preferences, prejudices, and flawed heuristics (Kahneman 2011). The issue at hand is the extent to which hunches, prejudices, cognitive limitations and flawed heuristics influence judges' decisions involving defendants standing at the bar.

I use high-frequency (daily) historical data on weather and outcomes in the municipal court of Greenville, South Carolina, to investigate whether weather and other extralegal factors influence convictions and sentences. *The central identifying assumption is straightforward – within-month daily temperature and precipitation realizations are as good as random.* Early twentieth-century Greenville provides a strong test of the causal effects of weather on high-stakes, criminal adjudication. Greenville was a southern mill town that witnessed a doubling of its population in the early twentieth century following an influx of working-class households seeking employment in the cotton mills. Long-time residents and civic leaders labored to maintain order through aggressive public-order policing (Carlton 1982). Daily high temperatures between the beginning of June and the end of August average 87°F, which combined with average relative humidity of 70%, leads to heat indexes that regularly exceeds 100°F. Heat was salient. There were no modern climate controls so there was no easy escape from the heat. Although the municipal court adjudicated misdemeanors, judges' decision were high stakes because incarceration sentences resulted in convicted offenders serving up to 30 days on chain gangs that maintained the city's streets. Resetting cobblestones, moving gravel and removing horse manure while chained at the ankle to another convict are unpleasant enough activities in temperate weather. It must have been doubly unpleasant on cold, hot, and rainy days.

After linking daily municipal court outcomes with daily high temperatures and rainfall between 1910 and 1919, I find that neither daily high temperatures nor rainfall had any effect on the likelihood of convictions or defendants choosing to plead guilty. A 10°F increase in the daily high temperature decreases the likelihood of conviction by an insignificant 0.6%; it increases the likelihood of defendants entering a guilty plea by an insignificant 0.7%. Conditional on conviction, a one percent (≈ 7°F) increase in the within-month daily high temperature leads to a significant decline in the real dollar value fine of 4.2%. It leads to a significant 2.1% decrease in incarceration sentences. I propose that the result is consistent with both utilitarian (deterrence) and retributive approaches to criminal

punishment. If a given chain gang sentence is proportionate or reduces utility by a socially optimal amount on a temperate day, a shorter sentence on a hot day will remain proportionate or optimal given the unpleasantness of hard labor outdoors in the summer heat. The results also reveal that daily high temperatures exert no influence on convicted offenders' decision to serve time rather than pay fines, but conditional on opting into serving time, defendants serve 0.5% more days for each 1ºF increase in the daily high temperature on the day of conviction.

Daily rainfall has no significant effect on conviction probabilities or sentences. The only significant influence of rainfall is on the decision to serve time rather than pay the fine. The odds of choosing to serve time rather than pay a fine decreases by 7.7% when the hearing occurs on a rainy day versus a dry day. The relationship between actual days served and precipitation on the hearing day is such that compared to a day with a trace of rain (0.01 inch) defendants convicted on a day with one-tenth of an inch of rain are 47.8% less likely to serve time. The rainfall effect is nonlinear. An extra one-tenth of an inch of rain from 0.1 inches to 0.2 inches leads to a decrease in the number of days served by 17.8%. Convicted offenders are present oriented in their choice to serve. Rainfall on up to seven days after the decision to serve has no effect on the number of days served. Convicts who opt to serve do not subsequently buy their way out when the weather turns bad.

Extralegal factors other than the weather also influence judges' decision making. Judges treat Blacks and women differently from Whites and men. Black offenders are 5.1% more likely to be convicted than White offenders. Women are 3.0% less likely to plead guilty and 3.6% more likely to be convicted than men. Conditional on conviction, Blacks receive dollar fines $4.55 lower than Whites, or about one-fourth to one-half the estimated constants. Women receive fines $2.04 higher and incarceration options 0.72 days longer than men. Blacks are 12.0% more likely to serve time on the gang and serve 22.0% longer terms than Whites. Women are 9.8% more likely than men to serve time than men and serve 30.0% longer terms. It is evident that myriad extra-legal factors influence the dispensation of justice.

My study contributes to an emergent literature on the effects of weather and related factors on judicial decision making. It is well documented that heat is a psychological and physiological stressor that affects high-stakes, high-dimensional decisions (Hancock and

Vasmatzidis 2003). Heat impairs cognitive capacity and affects choices made by students, stock traders, and police officers, among others (Park et al. 2020; Cao and Wei 2005; Vrij, Van der Steen and Koppelaar 1994). Judges may be subject to heat-related diminished capacity, too. Heyes and Saberian (2019), for example, find that US immigration court judges are less likely to grant asylum petitions on hot days, though Spamann (2022) finds that their result is not robust. In their analysis of 2.8 million criminal cases in New South Wales, Evans and Siminski (2021) find that outdoor temperatures exert trivial and insignificant influences criminal court decisions. A 10°F increase in outdoor temperature increases the probability of conviction by just 0.04%. Behrer and Bolotnyy (2022, 2023), on the other hand, analyze 10 million arrests and find that Texas's criminal court judges are 5% less likely to dismiss cases and conditional on conviction hand down 4% larger fines and 6.5% longer prison sentences on days when the temperature exceeds 90°F. They contend that heat reduces self-control and stresses cognitive capacity so that judges facing crowded dockets impose harsher penalties. These mixed results from modern studies warrant further study in other environments because they speak to the credibility of high-stakes decision makers and the potential effects of variations in daily weather and long-term climate change on decision making generally.

My study also contributes to existing studies of judicial decisions that reveal the extent to which extralegal factors other than race, gender, age and so on influence the outcomes of criminal cases, and how cognitive stressors lead to suboptimal outcomes.[1] Danziger, Levav, and Avnaim-Pesso (2011) find that Israeli judges grant about two-thirds of parole modification petitions early in a court session, but are unlikely to rule in a parole petitioner's favor just before a lunch or coffee break.[2] Danziger et al. (2011) speculate that decision makers are more likely to accept the status quo (i.e., reject the petition asking for a change in parole status) once they become mentally fatigued. Breaks offer a respite and an opportunity to reset. I find that judges in Greenville's municipal court are less likely to convict offenders on busy court days, but the order in which cases come before the court

[1] Because judges' decisions are discretionary, it is difficult to determine whether they are correct, but the influence of extralegal factors in sentencing is prima facie evidence of inefficiencies and social welfare losses (Heyes and Saberian 2019).

[2] Follow-up studies of Israeli judges' decisions question whether case order is random and breaks are exogenous to the complexity of the cases heard on a given day (Weinshall-Margel and Shapard 2011, Glöckner 2016). A violation of either assumption may vitiate the result.

has no effect on convictions or sentences. Eren and Mocan (2018) find that Louisiana juvenile court judges impose 6% longer sentences in the week after their alma mater's football team suffers an unexpected loss. They argue that the result is driven by persistent (weeklong) emotional stress experienced by judges with strong ties to the losing team. Sarmiento and Nowakowski's (2023) analysis of India's courts reveals that higher levels of air pollution increase the number of criminal convictions by about 7%. Exposure to air pollution affects brain chemistry, causes systemic inflammation, and reduces cognitive performance (Lu 2020), and Sarmiento and Nowakowski (2023, 633) believe their results are consistent with pollution-induced irritability and anxiety.[3] The weight of empirical evidence points to psychological and physiological factors in addition to legal factors influencing judicial decisions. Perhaps the legal realists' trope that "justice is what the judge ate for breakfast" is more on point than some care to admit. I find that multiple extralegal factors – weather included – play a role in criminal adjudication in an environment in which race, gender, and weather are salient.

PROCEDURE AND PRACTICE IN MUNICIPAL COURTS

In this section I provide background information on the procedures and practices imposed by statute and followed in practice in Greenville's municipal court. Smith et al. (2017) studies South Carolina's modern municipal and magistrate courts and observe informal procedures and judicial discretion. Defendants are not well informed of their rights to trial by jury or to counsel, are pressured to plead guilty, and to pay fines and fees that are not made clear at the time of trial. Many linger in jails awaiting trial, sometimes for longer than the typical sentence for their alleged offense. These and other features of early twenty-first century municipal courts are little changed from early twentieth-century courts (Booth 2025, Smith 1899, Mayer 1910).

Statutory rules and regulations

[3] A counterexample is provided in Phillipe and Ouss' (2018) analysis of French misdemeanor courts in which they find that judges' decision are not influenced by irrelevant media coverage of crime, though jurors' decisions in serious felony cases are. They attribute the nil effect of media on judicial decisions to judges' experience and professionalism.

In 1896, South Carolina's legislature authorized incorporated cities and towns to establish municipal courts to adjudicate alleged violations of municipal ordinances and a limited set of misdemeanors, including public drunkenness, disorderly conduct, and public obscenity. City mayors served as judges, unless the city council appointed a local attorney to serve as a court Recorder. Mayors and Recorders adjudicated most cases in summary fashion. They heard evidence and arguments, determined guilt, and imposed penalties on those found guilty. State law limited misdemeanor punishments to $100 or 30 days to be served in jail (women and disabled men), or the city work gang (all able-bodied men).

Municipal courts operated without juries unless a defendant requested one (South Carolina Code Commissioner 1901, Ch. XCI). Despite a well-defined process and rigorous jury procedure, the right to a jury trial was rarely invoked. Brief bench trials that took no more than a few minutes were the usual method of adjudication, which occurred one to three days after arrest or receiving a summons. Convicted defendants had the right to appeal guilty verdicts. The first level of review was conducted by city councils. If the council confirmed and the defendant still believed their case was wrongly decided, they had the right to appeal to the Court of General Sessions – the state's general criminal court – which heard misdemeanor appeals de novo. With the option of a jury trial and the right to appeal, South Carolina's early twentieth century municipal courts provided what the Supreme Court of the United States now considers adequate due process.

Municipal courts' original jurisdictions included only municipal ordinances and a few minor misdemeanors, but over time their jurisdiction expanded to include most misdemeanors committed within the city limits previously adjudicated in county magistrate courts. By the 1910s, for example, municipal courts were adjudicating cases involving petit larceny (less than $20 in value), vagrancy, liquor, and gambling laws. Punishments remained capped at $100 or 30 days, but arresting officers sometimes split offenses to increase the potential penalties. Before 1918, individuals arrested for being drunk and disorderly, for example, faced a single charge. Beginning in 1918, the charges were divided into separate charges for public drunkenness and disorderly conduct so that the maximum penalties were $200 or 60 days.[4] Although the 30-day limit created a binding upper-bound in some

[4] To maintain consistency in entering the data, I combine the separate charges into a single offense. Doing so means that the penalties observed in the data occasionally exceed the $100 and 30-day limits.

instances or an anchor sentence in others, judges tended to reserve the $100 maximum fine for liquor violations.[5]

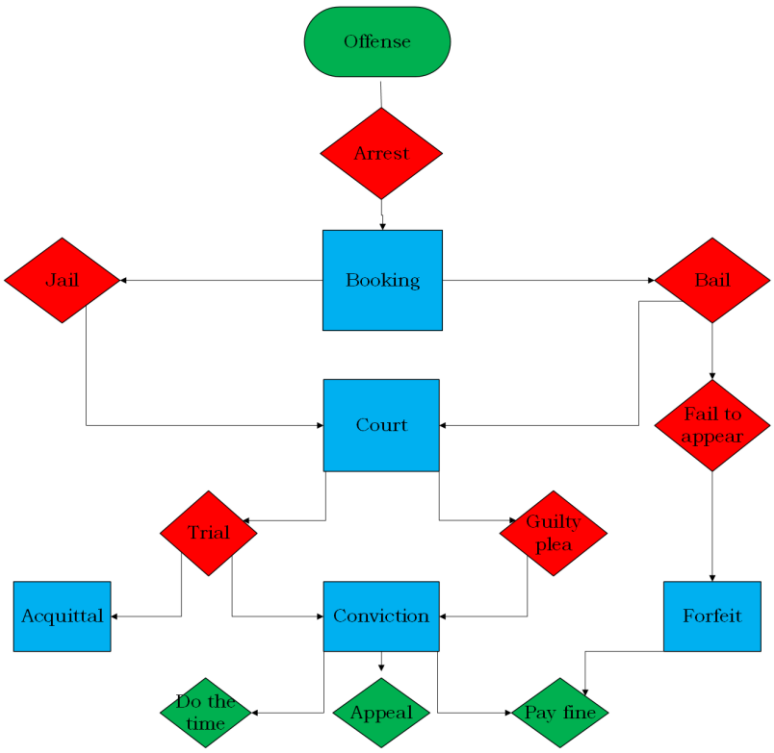


Figure 1: Municipal court process from arrest through appeal

Procedure in Greenville's municipal court

Modern misdemeanor adjudication differs from the familiar felony model in myriad ways. Most misdemeanors arrests are based on police officers observing a suspected offense and making an arrest in the moment rather than seeking an arrest warrant from a magistrate. Felony cases are prosecuted by city or county prosecutors, but arresting officers tend to prosecute their own misdemeanor arrests (Natapoff 2012, Smith et al. 2017). Defendants

[5] Absolom Blythe, elderly retired criminal defense attorney, was appointed as city Recorder in 1919. Where previous judges tended to impose twice the days as the dollar fine (e.g., $5 or 10 days), Blythe's default days alternative was 30 days regardless of the dollar fine.

may be represented by private counsel or public defenders, but most appear before misdemeanor courts without counsel (Leslie and Pope 2017). Municipal courts are informal spaces with variable and flexible procedural and evidentiary rules. Judges sentence in the shadow of statutory minima and maxima and tend to determine guilt and impose fines based on their own notions of fairness or community norms or both (Hutcheson 1929, Weinstein-Tull 2024). Due process is not chief among the court's concern in municipal courts (Yang 2017, Dobbie and Yang 2021).

In several regards, early twentieth-first century municipal court practices mimic practices a century ago. The flow chart in Figure 1 shows how cases progressed in the early twentieth century from arrest through disposition in the municipal court. After the defendant was arrested, he or she was taken to the police station and booked on a specific charge. Defendants charged with a minor misdemeanor were issued a summons to appear at the municipal court the next day. Defendants who were charged with more serious misdemeanors such as carrying concealed weapons or who were unlikely to appear such as vagrants could post cash appearance bonds and agree to appear the next day. It is not clear who established the bond amount, but it appears to have been established by either the arresting officer or the desk sergeant.[6] If the defendant did not post an appearance bond, he or she was committed to the city jail until the next session of the court, which convened at noon every day except Sunday. Hearings for offenders arrested between Saturday afternoon and the early hours of Monday morning began at noon on Mondays. At trial each defendant entered a plea. He might plead guilty or request either a bench or jury trial. If he pleaded guilty or was convicted after a brief trial, he faced three options: pay the fine, serve the time, or announce that he planned to appeal. If the defendant opted to serve the time, he was taken to the city barracks, issued a chain gang uniform, and set to work that afternoon. If the defendant announced his intention to appeal, he was released on an enhanced bond until the city council heard the case.

One difference in municipal courts then and now is the forfeited case. Some mayors or recorders required all offenders to appear, but common practice in early twentieth-century South Carolina allowed defendants who posted bail to skip their hearing the next day and

[6] The OLS coefficient on the dollar value of the fine imposed conditional on conviction on bail, after controlling for judge and crime fixed effects is 0.61 (s.e. = 0.035). This suggests that the bail setter was familiar with the fines imposed on conviction or plea by each judge.

be found guilty in absentia. The court then seized the bail to satisfy the fine.[7] More than one third of defendants arrested in Greenville posted bail and 70% of those who posted bail forfeited. Because we are interested in whether and how weather influences judicial decision making, forfeited cases are dropped from the sample. Future work will analyze forfeits.

DATA

Hearing data

Information on misdemeanor hearings in Greenville's municipal court are taken from the handwritten dockets kept by the clerk of the city's municipal court. Complete dockets are available for hearings between May 1910 and August 1911, and January 1915 through August 1919. Information in the dockets changed over time, but all included the hearing date, the presiding mayor or recorder, the court clerk, the defendant's name, sex and race, the alleged offense, whether the defendant posted bail and the amount, the disposition of the case (dismissal, nolle prosequi, guilty plea, or conviction), the sentencing alternative in dollars or days to serve conditional on conviction, the amount of the fine paid and days served, and the names of the arresting officer(s). The dockets for 1915 and 1916 failed to distinguish between guilty pleas and convictions and did not report the names or numbers of arresting officers, so they are excluded from the main analyses.

The hand-written records were transcribed into machine readable form. The transcription includes all the information included in the dockets. The complete dataset includes 17,879 hearings. Figure 2 presents the distribution of daily hearings (top coded at 40, the 99th percentile). Mayors or recorders typically adjudicated less than 15 cases each day. Busy days occurred on Mondays, especially after a weekend vice sweep of gambling games or bawdy houses that sometimes yielded more than a dozen arrests.

The analytical sample contains just 5,402 individual hearings. I drop all traffic-related offenses, which include speeding, reckless driving, driving under the influence, and other minor traffic violations. I drop offenses in which the court determined it did not have jurisdiction, most of which involve larceny exceeding the $20 misdemeanor limit or

[7] On January 25, 1910, *The Herald and News* (Newberry, S.C.) reported that Mayor Cole Blease would no longer allow defendants to forfeit their bonds. Blease refused to follow the lead of many mayors, rather he wanted all "offenders to answer the charges against them."

burglary. I drop hearings adjudicated by temporary Recorders who disposed of less than 50 cases. I drop hearings for which the clerk failed to record the disposition or the defendant's race or sex. As discussed above, I drop forfeited cases and all hearings in 1915 and 1916 because they do not distinguish between guilty pleas and convictions. Finally, in the full sample of 17,000 cases there are more than 150 offenses reported in the dockets, ranging from more than 2,000 arrests for gambling to one arrest for throwing a bottle at a baseball umpire. Because the analysis includes crime fixed effects, I limit the 5,400-observation analytical sample to seventeen offenses for which there are more than 50 arrests. The most common offenses in the full and the analytical sample are gambling, disorderly conduct, stealing (petty theft), fighting or brawling, public drunkenness, and vagrancy.

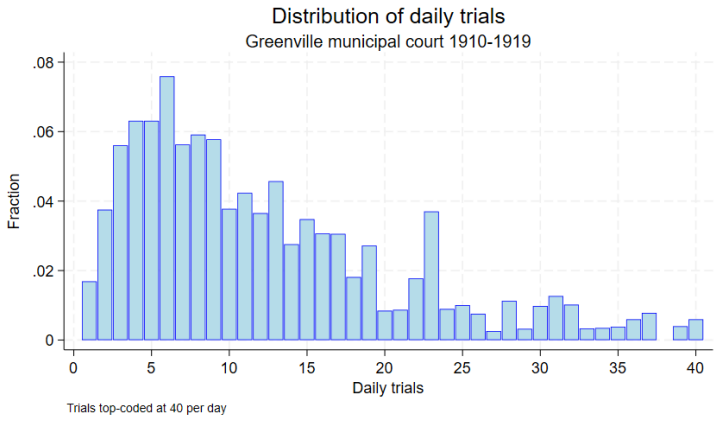


Figure 2: Daily hearings in Greenville's municipal court

Source: Author's calculations from Greenville (S.C.) Municipal Court (1910-1919).

Weather data

Historical weather data for Greenville, South Carolina – daily high and low temperatures in ºF and precipitation in inches – are taken from the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service historical weather website. NOAA (2025) provides monthly reports of daily maximum, minimum, and average temperatures, as well as the departure from the long-run average for that date. The

monthly tables also report daily precipitation as rain or snow, though there are few snow days reported at the Greenville-Spartanburg (GSP) station. The current station is located at GSP airport, which is 15 miles from downtown Greenville. The website does not provide a location for the GSP weather station in the period between 1910 and 1919. The quality of early twentieth-century instrumentation and microclimate variation in a region as diverse as the Greenville-Spartanburg area means that weather measured at GSP may differ from the weather experienced by offenders, officers, and judges. If these measurement errors are random, the coefficients on the weather variables will be biased toward zero.

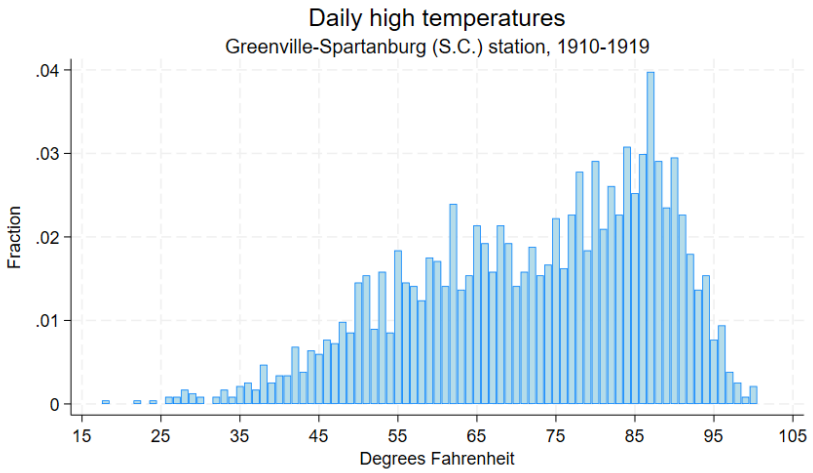


Figure 3: Daily high temperatures (ºF) Greenville-Spartanburg area, 1910-1919
Sources: NOAA (2025).

Daily information on the weather variables are matched to arrest dates. Figure 3 provides a histogram of the daily high temperatures recorded at the Greenville–Spartanburg station. There are relatively few days where the daily high is less than 35ºF or above 95ºF. People are comfortable between 68ºF and 72ºF and relative humidity between 30% and 50%. Greenville's average year–round humidity is about 70%, which combined with an average daily high of 86.6ºF in June, July and August implies a heat index of approximately 100ºF. Given that the period studied here predates the advent of modern air conditioning, Greenville provides a strong test of heat–related misdemeanor dispositions. Heat was salient and inescapable in the summer months in South Carolina's Upcountry.

In addition to the daily high temperatures, baseline analyses includes daily rainfall in inches. Average daily rainfall is 0.15 inches (s.d. = 0.38). Median daily rainfall is zero. Nearly 75% of days are dry.

EMPIRICAL APPROACH

Dell, Jones and Olken (2014) argue that researchers can exploit exogenous variation in weather outcomes over time and across space to identify the causal effects of weather on a wide range of economic outcomes, including crime. Weather studies impose few identification assumptions. Best practice includes only plausibly exogenous regressors that are themselves not a function of weather. Best practice is also agnostic about the appropriate functional form for the weather variables.

I adopt an agnostic approach and estimate multinomial logit, Poisson and OLS models, based on the nature of the dependent variable, using linear and logarithmic transformations of temperature and rain. Each transformation offers different insights into the causal effects of weather. It turns out that the effects of temperature and rain on sentences are sometimes nonlinear (see Figures 5 and 6).

In addition to daily temperature and precipitation, each regression includes month fixed effects, so the causal effects of weather are identified by deviations in *within-month* daily temperature and rainfall. *The central identification assumption is that the daily high temperature and rainfall on a given day within a month is as good as random.*

Each regression also includes fixed effects for day of the week, presiding judge, each defendant's prior arrests and the number of officers involved in the arrest and testifying at trial. Because Danziger, Levav, and Avnaim-Pesso (2011) and Glöckner (2016) contend that judges' cognitive capacities may decline in case order and the total number of cases in a session, I include case order and daily case totals as independent regressors. These independent variables arguably are exogenous because judges cannot select cases. Elected mayors or appointed recorders hear all cases during their term of office, sick and vacation days excepted. Mayors and recorders do not control police officer assignments. Daily hearing orders are determined by the order in which defendants are arrested and logged into the docket by a police desk sergeant. Mayors and recorders may anticipate heavier caseloads on Mondays following a busy weekend of arrests, but they do not know the

number before they arrive for the day's session. And because we observe up to seven prior arrests for defendants, standard errors are clustered on individual defendants.

Reverse causality is unlikely to present an issue because convictions and sentences do not affect outdoor temperature. There may be measurement error issues, however. First, we do not observe the mayors' exposure to measured outdoor temperature on the hearing date. Second, there may be random and nonrandom errors introduced into the records by the clerk of the court. If errors introduced by the clerk in recording information on race, sex, offense, conviction and sentence are orthogonal to outdoor temperature, these random errors will not affect the point estimates. If clerks are as susceptible to the same heat stressors and cognitive impairment as judges, inaccuracies in recording introduces measurement errors that may not be random but there is no reason to think that clerks systematically misreport convictions or record different sentences than those handed down by the judge, regardless of the weather. Clerks had incentives to be accurate because they were responsible for recording, collecting, and remitting assessed fines to the city treasurer.

Hearing outcomes

I estimate variations of a parsimonious model as in Equation (1):

$$y_{ijt} = \alpha_0 + \alpha_1 temp_t + \alpha_2 rain_t + \sum_{k=3}^{n} \alpha_k X_{it} + \delta_t + \mu_t + \gamma_j + \epsilon_{ijt}, \quad (1)$$

where y_{ijt} is one of the three outcomes considered here – conviction, sentences in dollars or days to serve, and whether the convicted defendant serves time and the number of days served. Each analysis includes the daily high temperature (ºF) and daily rainfall (inches) in levels and logs. The δ_t are day-of-week fixed effects, excluding Sundays because the court did not sit on Sundays. Mondays were the busiest days because defendants who were arrested between Saturday afternoon and early Monday morning appeared in court on Monday. The μ_t are month fixed effects, which are included to capture unobserved seasonal shocks in weather and other seasonal factors; γ_j are judge fixed effects, one for each of the nine judges who adjudicated 50 or more cases; and the vector X_{it} includes individual characteristics (race, sex, prior arrests) and case characteristics (offense fixed effects, the number of officers involved in the arrest, case order, and total number of cases

on the hearing day). I do not include year fixed effects because one mayor (1910/1911) and two recorders (1917 and 1919) heard every or nearly every case during those years.

RESULTS

Summary statistics are reported in Table 1. There is an average of 11.3 cases heard in Greenville's municipal court each day. There are as few as one case and as many as 53, but the data are top coded at 30 (≈95th percentile). The average daily high temperature is 71.3ºF; 18ºF is the coldest day in the sample and the hottest reached 95ºF. Average daily rainfall is 0.15 inches, but most days are dry. Median daily rainfall is zero.

The dependent variables of interest are disposition, sentences, and whether the offender is incarcerated. More than one-fourth of cases are dismissed by the presiding judge, more than a third of offenders plead guilty, and nearly four-tenths are convicted following a brief bench trial. About one-fourth of offenders are women and nearly three-fourths are Black. The average offender has 1.2 prior arrests, though the median is zero. Prior arrests are top coded at seven (≈95th percentile). One habitual offender has 31 prior arrests at the end of 1919. There is an average 1.8 police officers involved in arrests; the median is two.

The disposition and sentencing regressions include as regressors the case order for each hearing and the total number of cases heard on a given day. In their study of Israeli parole judges, Danziger et al. (2011) argue that individuals asked to make repeated, related decisions may have depleted their cognitive resources after a few hearings, which will affect their decisions. They find that the likelihood of rulings favorable to the defendants are greater at the beginning than at the end of court sessions. Because Israeli defendants are requesting modifications to their parole status it is easier for hungry, mentally depleted judges to maintain the status quo rather than modify parole conditions. Weinshall-Margel and Shapard (2011) argue that, despite Danziger et al.'s (2011) claim, case ordering is not random. Using simulations, Glöckner (2016) also shows that the original result may be driven by "dropouts," or that there are few observations at the right tail of case counts.[8]

Figure 4 presents the estimated conviction rate (without covariates) for hearing order and total daily hearings for up to 20 hearings for all offenses. The conviction rate increases

[8] Bergonzoli, et al. (2024) consider running order on test scores among Swiss law students taking oral exams. They find no evidence of mental depletion (zero coefficient on order) among professors scoring the exams despite sitting through several such exams each day.

by about five percentage points from the first case to the twentieth case, though the variance increases at higher case orders. The conviction rate remains relatively constant in the number of daily cases, though the estimates are increasingly erratic above 12 hearings. For the regressions, daily hearing order is top coded at 18 (95th percentile) to mitigate the dropout problem described by Glöckner (2016). For the regressions, the total daily number of hearings is top coded at 30 (95th percentile).

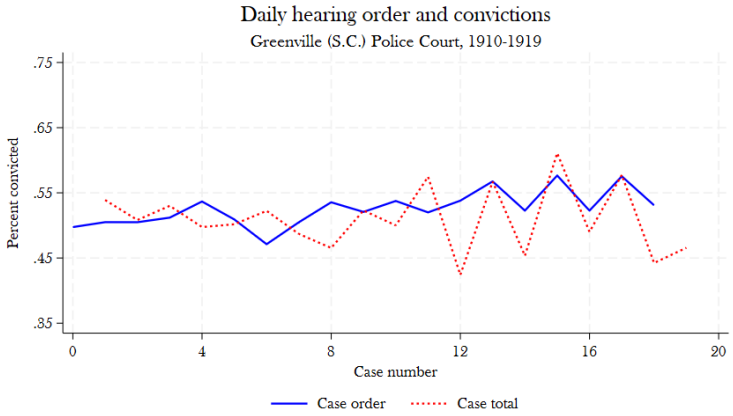


Figure 4: Hearing order, total daily hearings, and convictions
Source: Author's calculations from Greenville (S.C.) Municipal Court (1910-1919).

Dispositions

Table 2 reports estimated average marginal effects from two multinomial logit regressions, one in which the daily high temperature and precipitation enters linearly and one in which temperature and precipitation enter in logs. Because there is no obvious ordering the outcomes – dismissal, guilty plea, conviction – the base category is dismissal.

The weather variables have no significant effect on defendants' decision to plead guilty or the judges' decision to convict whether the measures enter in linear or log form. In Column (1), for instance, a 1ºF increase in the daily high temperature decreases the likelihood of a dismissal by 0.01%. An additional inch of rain (a rare event) decreases the likelihood of dismissal by 1.65%, but the estimate is insignificant. Temperature and rain have no meaningful effect on defendants' decision to plead guilty. When daily highs and rain enters in log form in Columns (4) through (6), they too are insignificant.

Marginal effects on the number of arresting and testifying officers reveal one of the principal concerns critics have of modern misdemeanor courts. Many unrepresented defendants are unprepared to mount a vigorous defense on their own behalf. They face judges who are more disposed to prosecuting officers than defendants, more so when two or three officers provide consistent accounts. Defendants arrested and prosecuted by three officers are 4.4% more likely to be convicted than defendants prosecuted by a single prosecuting officer. Simply put, defendants are often outgunned.

Besides the weather, other extralegal factors are significant and meaningful determinants of convictions. Black defendants are 5.1% more likely to be convicted than White defendants. My results are consistent with many studies that find racial disparities in criminal convictions and sentencing in modern courts (Abrams et al. 2012, Rehavi and Starr 2014, Lofstrom and Raphael 2016, Agan 2024). It is also consistent with recent studies of misdemeanor courts in post-Civil War and Jim Crow southern cities. White citizens and civic leaders were concerned with Black criminality, which was perceived as creating a greater threat to the social order than White criminality (Booth 2025). White leaders attempted to rein in Black criminality through aggressive and punitive public-order policing (Brailsford 1969, Lichtenstein 1993).

Women are 3.6% more likely than men to be convicted; they are also less likely to plead guilty. The harsher treatment of female offenders differs from results found elsewhere (Mustard 2001, Starr 2015, Butcher, Park and Piehl 2017). Although the marginal effects are estimated within-crime, the result may be a consequence of men and women committing different offenses. Women were more likely than men to be arrested and convicted for operating a bawdy house, cohabitating outside marriage, loitering, and vagrancy, all of which are linked to prostitution. The court never charged anyone with prostitution per se, but groups of three or four women charged with loitering around the train depot or vagrancy were often arrested and tried consecutively, which points to vice sweeps and prostitution arrests.[9] Higher conviction rates for women charged with these offenses is also consistent with the opening of Camp Sevier, an army training camp, just north of the city and the U.S. Army's and the public's concern with the spread of venereal

[9] Of the 139 hearings for loitering, for example, there are 107 female defendants who were convicted 55.1% of the time. The 32 male defendants were convicted in 28.1% of hearings.

disease among soldiers stationed at training camps. The War Department created the Commission on Training Camp Activities, which discouraged young trainees from drinking alcohol and visiting prostitutes through educational programs. The Commission was also granted to legal authority to prohibit and prosecute liquor sales and prostitution within five miles of each camp (Janke 2006). Military police at the camps also coordinated their enforcement efforts with local authorities, who may have stepped up enforcement, lowered the bar for conviction, and increased penalties for prostitution and liquor sales to stem the spread of disease and disorder among trainees who came into town to gallivant while on weekend passes.

Although the daily hearing order has no relationship with hearing dispositions, defendants who appear on days with one more hearing than average are 3.8% more likely to have their case dismissed or, conversely, 3.6% less likely to be convicted if they opt for a bench trial. If we were to speculate on the mechanism, we might conclude that Greenville's mayors and recorders resemble Israel's hungry judges (Danziger et al. 2011). The municipal court convened at the lunch hour. Dismissals (acquittals) may take more time than guilty pleas (one or two minutes) or a conviction. Dismissals likely follow from defendants providing spirited, vigorous, and plausible defenses, which take more time than simple denials of the facts presented by the prosecuting officer that result in convictions. To minimize the time cost of holding court, a hungry mayor may cut short vigorous defenses by quickly dismissing such cases rather than taking the time to listen to time-consuming rebuttals of the arresting officers' accounts. Efforts to save time may be more pronounced when the court faces a busy docket, so more cases are dismissed. Such an interpretation is consistent with Posner's (1983) rational cost-minimizing judges or Sunstein et al.'s (2002, 1163) boundedly rational judges who "economize on difficult thinking."

Sentences

Columns (1) and (2) of Table 3 report coefficients estimated from OLS regressions in which the dependent variable is the integer dollar value of the sentence imposed by the judge, conditional on conviction. When the daily high temperature and precipitation enter in linear form, the dollar value of sentences decline by a statistically significant $0.07 for each 1°F increase in the daily high temperature and decline by an insignificant $0.08 for a

one-inch increase in rainfall on the day of the hearing. Based on the linear estimate, an offender who appears on an average August day when the daily high is 88ºF receives a sentence of $1.05 lower than a defendant who appears on an August day when the daily high temperature is 73ºF or one standard deviation below the average temperature (record low daily highs for days in August range between 61ºF to 74ºF (NOAA 2025)). A one standard deviation difference in the within-month daily high translates into a fine about 7.2% less than the average fine of $14.50. When the daily high temperature and rain enters in log form, the OLS coefficient is interpreted as a semi-elasticity, so that that a 1% increase in the daily high temperature (≈ 7ºF) results in a fine 4.2% lower fine.

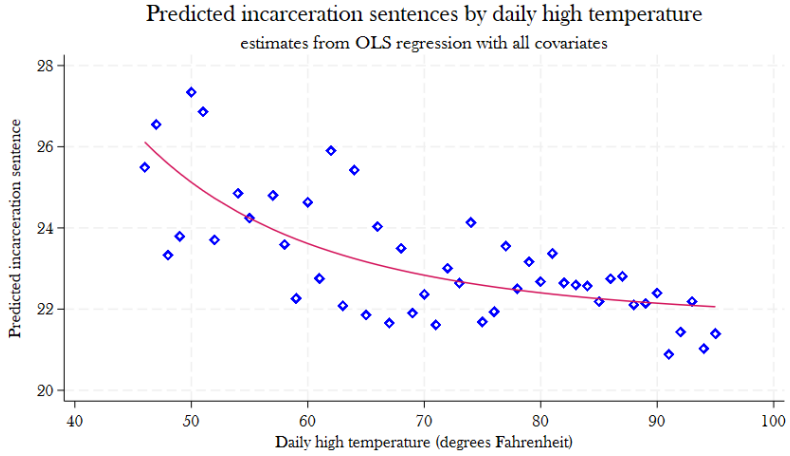


Figure 5: Predicted days and daily high temperatures
Sources: Author's calculations from Greenville (S.C.) Municipal Court (1910-1919) and NOAA (2025)

The effects of daily high temperatures and rainfall on incarceration sentences mirror those of dollar fines. The effects are less pronounced for days because the legal margin of adjustment for incarceration sentences (30 days) is smaller than the margin of adjustment for fines ($100). Based on the linear estimate, a 1ºF increase in the daily high temperature leads to a significant 0.04 decrease in the number of days of potential incarceration. Based on the log specification, the mean incarceration sentence decreases by 0.02% for a 1% increase in the daily high temperature. A defendant who is convicted on a 90ºF day instead of an 80ºF day will be sentenced to 0.4 fewer days or about a 2.25% shorter sentence. Daily

rainfall has no meaningful effect on the incarceration sentence alternative. Figure 5 presents predicted sentences from the linear specification against the daily high temperature that includes all the covariates. The negative effect of high temperatures on sentences is evident.

My findings differ from those reported in Evans and Siminski (2021), who find precise nil effects of temperature on fines or incarceration sentences in New South Wales between 1994 and 2017, and Behrer and Bolotnyy (2022, 2023), who find that fines increase by 4.0% and incarceration sentences increase by 6.5% when the daily high temperature exceeds 90ºF in Texas in the 2010s. One plausible explanation for the difference is that heat was more salient in a non-air conditioning environment than in modern climate-controlled courtrooms and jails. That Greenville's judges imposed smaller fines and shorter incarceration sentences on hot days raises interesting questions. The standard account is that heat makes people, including judges, uncomfortable, short-tempered, and prone to aggressive behaviors. Perhaps, but any short tempers or aggressiveness on the part of judges does not translate into more punitive sentences in 1910s Greenville.

Given the nature of the punishment – days at hard labor on the city's streets – and the salience of summer heat and humidity in the South Carolina's Upcountry, shorter sentences in hot weather are consistent with both utilitarian (deterrence) and retributive approaches to punishment. If setting cobblestones, moving gravel, and removing manure are less pleasant activities on hot days than on temperate days, a given optimal or proportionate retributive severity of punishments demands shorter sentences on hot relative to temperate days.

Other features of the regression results merit discussion. Defendants who plead guilty receive fines of 9.2% less than defendants who opt for a bench trial. They are sentenced to about 2.0% less days of incarceration. There is robust evidence of guilty plea discounts in modern courts and a substantial literature that addresses the controversies that surround pleading (Bibas 2004, Bushway, Redlich and Norris 2014).[10] There is no general agreement on when plea bargaining became an important method of case resolution. Recent historical accounts contend that it emerged in the nineteenth century but came to prominence in the 1920s (Fisher 2003, Ortman 2020). Common wisdom holds that pleading increased during

[10] Some students of plea bargaining in fact do not discuss the practice in terms of plea discounts, but of trial penalties (Bibas 2004, Bushway and Redlich 2012).

Prohibition as caseloads increased and courts encouraged guilty pleas to clear crowded dockets. South Carolina adopted Prohibition early (1915), Greenville went dry even earlier (1905), and more than one-third of misdemeanor cases were resolved by a guilty plea in the 1910s. Greenville's experience does not provide a causal connection between caseloads and guilty pleas, but it is suggestive.

The number of arresting and testifying officers increases average fines. If a defendant must defend himself against three officers, he receives an average fine $1.79 higher than if he defends himself against a lone prosecuting officer. The average incarceration sentence increases by 0.8 days when a defendant is convicted on the testimony of three officers.

Daily high temperatures are not the only extralegal factors that affect sentencing decisions. Black defendants receive 25% lower fines than Whites, whereas race has no effect on incarceration sentences. Here we return to the idea of equitable tailoring of sentences. Posner (1986, p.208) notes that the lawyers' model of justice is to punish all offenses of a type with uniform punishments. Two issues emerge from this impulse toward defining sentencing equity as strict equality. The first is marginal deterrence. A uniform fine for the same offense creates different levels of deterrence for the rich and the poor offender. In the context of 1910s Greenville, a $100 fine for carrying a half-dozen bottles of whiskey in from Tennessee is an inconvenience for a salaried cotton mill manager; it is potentially catastrophic for a cotton mill operative that earns $2 a day. A $100 fine has little deterrent effect on the manager and a large effect on the operative. If our moral intuition is that the harms are the same, our retributive intuition is satisfied that the punishments are just, but deterrence is sacrificed in the name of equity.

The second issue is that fines and incarceration are different ways of imposing disutility on offenders. The retributivist approach is that equally outrageous acts deserve the same punishment. But there is an exchange rate between dollars and days that equates, for a particular individual, equal punishment. In handing down sentencing alternatives, judges should be aware of and responsive to three factors: (1) the implicit opportunity cost of a day on the city work gang to the offender, which may be approximated by his average daily earnings plus the disutility of shoveling manure; (2) the wealth constraint facing the offender – simply put, does he have the wherewithal to pay the fine – and the collection costs facing the municipality for a large fine imposed on a low-wealth offender; and (3) that fines are

superior to incarceration because incarceration raises no revenue for the municipality and imposes social costs greater than value of fines paid by defendants with the wherewithal to pay.

Without trial transcripts or other records that reveal the factors that judges took into consideration when handing down sentences, we are left to speculate about motives. But the coefficients on Black in Columns (1) and (2) show that *within-month, within-crime, within-judge* fines for Black offenders are on average $4.55 less than the fines imposed on White offenders from a raw average of $14.50. The Black discount is substantial. But it is also consistent with the 10:1 racial wealth gap observed between 1900 and 1920 (Derenoncourt et al. 2024). Racial gaps in weekly wages were less pronounced than wealth gaps but were substantial (Carruthers and Wanamaker 2017). Despite the popular belief that road gangs saved municipalities on repair costs, the evidence is that they did not. The effective wages of prisoners were lower than paid labor, but prisoners were less productive. The effective cost per mile maintained was about the same (Bodenhorn 2023).

Municipal court judges appear to have responded to the wealth and productivity gaps in tailoring sentences to account for the opportunity cost of incarceration and the offenders' ability to pay. The current debate over bail and pretrial release focuses attention on defendants' ability to pay (Yang 2017). Judges weigh the likelihood that a defendant will return for trial or represent a threat to public safety against the costs of extended pretrial detention when imposing bail potentially beyond defendants' ability to pay. Greenville's judges may have considered similar considerations (e.g., general deterrence, recidivism, incapacitation, and retributive proportionality) when imposing post-conviction fines. Judges imposed fines that Black defendants were able to pay and fines consistent with the social and private costs of alternative incarceration sentences.

Incarceration

Early twentieth century municipal courts offered three options to defendants convicted of an offense: they could pay the fine established by the judge in full; they could serve the alternative incarceration sentence on the city street gang (women served their time in the city jail); or they could pay some part of the fine and serve out the remaining days pro rata. Thus, a defendant facing the option of $10 or 20 days might choose to pay $5 and serve 10

days. On average, convicted defendants paid $7.98 of a $14.50 fine and served 5.7 days of a 22.9-day alternative (see Table 1). Columns (1) and (2) of Table 4 report odds ratios from logistic regressions in which the binary dependent variable equals one of they served one or more days, and zero otherwise. The estimates reveal that the daily high temperature on the day of the hearing had no effect on the binary decision to serve or not to serve. The linear estimate in Column (1) implies that the odds that a defendant chose to serve time on a day with one inch of rain are just 0.96 times the odds that the defendant chose to serve time on a day on which it was not raining.

Column (2) reports the effect of daily high temperatures and rainfall in log form. The daily high has a small and insignificant effect on the decision to serve the time rather than pay the fine. Logged rainfall, on the other hand, is significant, and the odds ratio implies that the odds of serving any time falls by 7.7% when the hearing occurs on a rainy day compared to when a hearing occurs on a dry day. Column (4) of Table 4 reports the relative risk estimated from Poisson regressions in which the dependent variable are actual days served. The coefficient underlying the relative risk reveals that the relationship between rainy days and days served is nonlinear. If a hearing occurs on a day with one-tenth inch of rain relative to a day with just a trace of rain (coded as 0.01), the number of days served declines by 47.8%. By comparison an extra one-tenth inch of rain from 0.1 inches to 0.2 inches leads to a decrease in the number of days served by 17.8%.

Figure 6 plots the predicted number of days served by daily precipitation in inches and the distribution of rainfall in inches. Most days are dry and the predicted number of days served is approximately six, which is close to the raw average of 5.7 days (see Table 1). On a rainy day, one with about an inch of rain, the predicted number of days served falls to about 3.5. It is not surprising that convicted offenders avoided working on the city's street gang in rainy weather. Resetting cobblestones, smoothing gravel and raking and disposing of horse manure are unpleasant tasks on pleasant days. The work was doubly unpleasant on unpleasant days. Offenders who were able and willing to pay the fines to avoid the work were more likely to do so on rainy days.

It is interesting, as well, that convicted defendants are short-sighted in that rain on days after the hearing have no effect on the number of days served.[11] That is, defendants who opted into serving time on dry days did not cut short their time by paying the remaining pro rata balance of the fine to escape work in the rain. Once the decision to serve occurs, some factor(s) other than rain determine days served once the rain comes. Likely (unmeasured) candidates are the offenders' jobs, and the risk of losing a job if they missed days while incarcerated, and incomes or daily wages, which is the opportunity cost of a day spent setting cobblestones and disposing of manure.

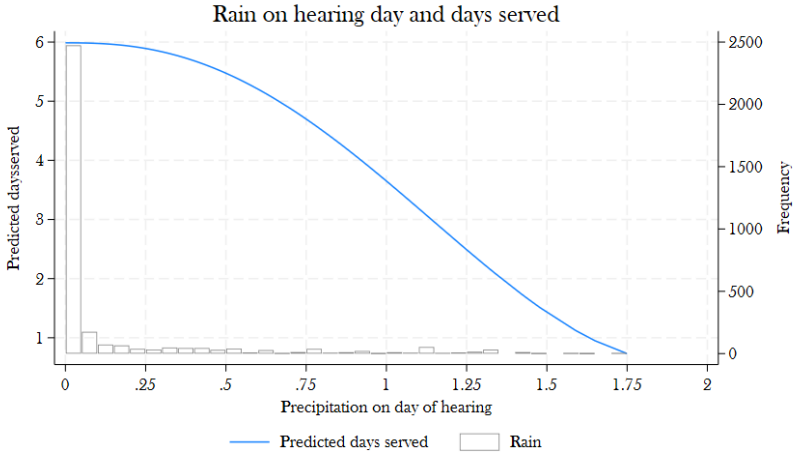


Figure 6: Predicted number of days served and distribution of rain on hearing days
Sources: Author's calculations from Greenville (S.C.) Municipal Court (1910-1910); NOAA (2025).

Finally, it is noteworthy that Blacks and women were more likely than Whites and men to serve time. The greater likelihood and longer time spent incarcerated might follow from racial and gender discrimination, but it may follow from the reality than Blacks and women in the early twentieth-century South were paid less than Whites and men for comparable work.[12] Even after judges made some compensation for lower incomes and wealth for

[11] I estimate regressions with daily rainfall up to seven days after the trial and none of the coefficients on the leads are significant.
[12] Kohn (1907) reports average daily wages in 1907 for mills by occupation as: machine shop (white males) $1.34; weavers (white males) $1.24; spinners (women and youth) 0.93; and other outdoor labor (black men) $0.68.

Blacks and women, many still did not have the wherewithal to pay their fines and avoid serving time.

DISCUSSION

Legal scholars note that convictions and punishments influenced by extralegal factors are unjust. Systemic and even idiosyncratic injustice is not merely inequitable, it undermines the credibility of the entire criminal justice apparatus. Judicial discretion of the magnitude seen here do not reflect well on the rule of law in Greenville's early twentieth-century municipal court. Concerns over the disconnect between discretion and the rule of law date to Aristotle ("government by laws not government by men") and were of concern of Anglo-American jurists in the period considered here. In 1913 (*Scott v. Scott*, A. C. 417 at 477), for example, Lord Shaw of Dunfermline wrote in a dissent that among the factors that guaranteed civil liberties in a democracy, the most important was the "open administration of justice according to known laws truly interpreted, and fair constructions of evidence," and that "real freedom" followed only from "their constant exercise." When asked to intervene in the Sacco and Vanzetti execution because the decision was handed down by an admittedly prejudiced trial judge, Oliver Wendell Holmes (1927) wrote that the rule of law offered him no grounds to do so. "Far stronger cases than this," he wrote, "have arisen with regard to the blacks" when the Supreme Court has refused to intervene (Linder 2025).

It would be another generation before federal courts found discretionary – racially discriminatory – sentencing sufficiently antithetical to their moral intuitions that they weighed in. It is instructive – though hardly surprising – that race played a key role in judicial discretion in the Jim Crow South, though not always in expected ways. Race was the most substantial factor in the differences between Mayor J. B. Marshall's and Recorder Robert F. Watson's convictions. Marshall was 20.3% ($p<0.001$) more likely to convict a Black than a White defendant, all else constant; Watson was 3.9% ($p=0.242$) less likely to convict a Black than a White defendant. It may also not be surprising that Marshall the businessman was prone to greater race-based discretion than Watson the criminal defense attorney. Lawyers tend to be more concerned with the on-the-ground application of the rule of law than businessmen. Of the eight attributes that define the rule of law, Greenville's

municipal court judges' inconsistent decisions arose mostly from the equal application attribute (Bingham 2007, Stein 2019, Fischman 2014).[13] The four judges that adjudicated most of the city's misdemeanor offenses between 1910 and 1919 were idiosyncratic in their treatment of race and gender.

A related issue is the extent of judicial discretion in Prohibition violations and the treatment of women. When asked about federal criminal sentencing guidelines in a 1994 interview, Justice Stephen Breyer defined and expressed a fundamental concern with the criminal law's incoherence. "Try listing all the crimes there are in rank order of punishable merit. Try it," he challenged. "Sit down as a parlor game and do it. Then collect results from your friends and see if they match. I will tell you they won't" (Rosen 1994, p.25). Therein lies the challenge of coherence; there is no generally agreed-upon rank order of wickedness (punishable merit) even for offenses everyone believes are wicked and should be punished. Assessments of the risks to the public and the degree of wickedness varied across judges and modern moral intuitions clearly differ from those a century ago. The issue is not whether we might weight offenses differently than our forebears, but whether there was a logic, rather than prejudice, that motivated the judges' decisions.

Two late nineteenth- and early twentieth-century social movements influenced the Progressives' risk assessments and views on the wickedness of certain offenses. The Progressive Era temperance movement, spearheaded by the Women's Christian Temperance Union and the Anti-Saloon League, associated immoderate liquor consumption with domestic violence, child abuse and abandonment, prostitution, and political corruption. It was also at this time that physicians and psychologists recognized alcoholism as a medical problem rather than a moral failing (Foner and Garraty 1991). The extent to which immoderate alcohol consumption increased domestic violence in the 1910s is unknown, but if we accept the WCTU's contention, the benefits of less alcohol-driven domestic violence may have been substantial. Miller et al. (2021) estimate the modern per case social cost of domestic violence to be $28,250 and child maltreatment to be $79,318. Peterson et al. (2018) estimate the modern lifetime costs to the female victims of domestic

[13] The eight attributes are: (1) all persons are subject to the law, (2) legislatures enact laws, executives applies laws, courts adjudicate disputes regarding how laws are applied, (3) laws are known and not applied arbitrarily, (4) equal application to all people in like circumstances, (5) laws must protect fundamental human rights, (6) legal processes are accessible to all, (7) there is an independent judiciary, and (8) wide participation in creation of laws (i.e., fair elections of representatives) (Stein 2019).

violence at $103,000 and child maltreatment at $225,000, which are comparable to the lifetime costs of rape. The WCTU's narrow focus on improving the home life of women and children, of course, failed to account for the social costs of Prohibition enforcement and the utility loss of moderate drinkers due to the higher costs and lower quality of bootleg alcohol, but the costs of domestic violence were sizeable, and their concerns were not groundless.

In the early twentieth-century prostitution presented a threat to public safety. Recent high-profile cases have increased public awareness and concern over human trafficking, but the first human-trafficking hysteria occurred a century earlier (Luhnow 2023, Ramey and Albert 2025, Safdar, Dalton and Gurman 2026, Langum 1994). Observers claimed that thousands of single, immigrant women – popularly labeled "white slaves" – were in fact tricked, coerced or kidnaped and brought against their will to America to engage in prostitution. Dubious claims circulated in the press that native-born, virtuous, white girls and young women were similarly coerced into prostitution and transported across the country by organized groups of white slavers (Langum 1994). Congress responded to the scare in 1910 by passing the White Slave Traffic Act, more commonly known as the Mann Act. The law made it illegal to transport women across states line for immoral purposes.

Federal, state and local authorities attacked the alleged problem by closing brothels or bawdy houses that had operated in the open for years. In Greenville, South Carolina, for instance, there were no fewer than eight operators of bawdy houses arrested who were listed in the 1910 city directory.[14] Most conducted business in a red-light district around the 400 and 500 blocks of East Broad and East Court streets, which was near the old Southern Railway freight depot. The six women operators' occupations were listed as "madam;" of the two men arrested for operating bawdy houses, one listed his occupation as cotton broker and the other ran a (perhaps a truly) general store. After being arrested and prosecuted in 1910, most paid their fines and went back to work. Four of the eight were still listed in the 1912 city directory, but no madams were listed in 1917. Whether the bawdy houses closed or operated less openly is unknown. Regardless, prostitution continued as women were arrested for vagrancy and loitering throughout the period.

[14] Gertrude Robinson operated her bawdy house between 1905 and 1912. She was listed as a madam in the 1905, 1907, 1909, 1910, and 1912 city directories, but not in the 1917 directory (Walsh 1905, Walsh 1907, Miller 1909, Miller 1910, Miller 1912, Miller 1917).

Instead of working inside a compact red-light district, they turned to saloons, dance halls, theaters, streetwalking, cheap hotels, and other places paying customers might congregate.

It is not surprising that bawdy houses and prostitution went underground. While prostitution came under attack for its connection to human trafficking, the greater public health concern centered on syphilis and its popular connection to prostitution. Concerns with syphilis increased for a variety of reasons: it became more socially acceptable to discuss it in public forums, there was an increased understanding of its long-term health effects, the public linked it to pauperism and, most importantly, depictions of its devastating effects on family life. Wives who contracted syphilis from unfaithful husbands and children born with congenital syphilis were presented as the innocent victims of male infidelity and female prostitution (Parascandola 2008).

The sometime vigorous enforcement of the 1910 Mann Act notwithstanding, federal efforts to curtail prostitution gathered steam once the United States entered the First World War (Langum 1994). Military commanders understood that disease, especially syphilis, represented a greater threat to unit battlefield effectiveness than casualties so camp commanders were given the authority to close brothels and saloons within five miles of any training facility. Camp Sevier was seven miles from downtown Greenville, and city police worked with military police to curb prostitution, which may explain why bawdy houses disappeared from city directories by 1917. Of 15 female vagrancy arrests in 1917 that were likely prostitution arrests, the military police were involved in four of them. Of the 31 arrests in 1918, the military police were involved in 11. Despite these efforts to limit their access to prostitutes, soldiers contracted syphilis at rates several times higher than the general population (Parascandola 2008). If early twentieth-century risk assessments drove ideas about the punishable merit (or wickedness) of certain acts, then some of the arguably discriminatory sentencing practices of the period appear as less than arbitrary abuses of power.

CONCLUSION

Several recent studies investigate the extent to which extralegal factors, including weather, influence judicial decisions. Although the results of these modern studies generate mixed results, there is now enough evidence of decisions based on other than legal factors

to raise concerns with the equitable dispensation of justice. More evidence from a variety of places and times are needed to better understand how and why judges are susceptible to cognitive stressors and biases in their decision making.

Using the records of a southern municipal court in the 1910s, an environment in which heat is salient, I find that neither daily high temperature nor rainfall influences conviction rates. A 10ºF increase in the daily high temperature increases the probability of conviction by just 0.6% on average. It increases the likelihood that defendants plead guilty by an insignificant 0.7%. Higher daily temperatures, however, lead to lower fines and shorter incarceration sentences. Rainfall influences only a convicted defendant's decision to serve time. Convicts are less likely to serve time if it is raining on the trial date than if it is not raining. It is not a surprise to find that race and gender influence conviction rates, sentences and the probabilities of incarceration. These decisions were made at the height of Jim Crow, a human-trafficking scare, and growing concerns with the spread of syphilis.

REFERENCES

Abrams, David S., Marianne Bertrand, and Sendhil Mullainathan. 2012. Do judges vary in their treatment of race? *Journal of Legal Studies* 41(2), 347-384.

Agan, Amanda Y. 2024. Racial disparities in the criminal legal system: *Shadows of Doubt* and beyond. *Journal of Economic Literature* 62(2), 761-806.

Ayers, Ian and Joel Waldfogel. 1993. A market test for race discrimination in bail setting. *Stanford Law Review* 46(5), 987-1048.

Behrer, A. Patrick and Valentin Bolotnyy. 2022. Heat, crime, and punishment. World Bank Group. Policy Research Working Paper 9909.

Behrer, A. Patrick and Valentin Bolotnyy. 2023. Heat and law enforcement. PNAS Nexus 3(5), 1-8.

Bergonzoli, Katja, Laurent Bieri, Dominic Rohner, and Christian Zehnder. 2024. Hungry professors? Decision biases are less widespread than previously thought. Working paper.

Bibas, Stephanos. 2004. Plea bargaining outside the shadow of trial. *Harvard Law Review* 117(8), 2463-2547.

Bingham, Lord Thomas. 2007. The rule of law. *Cambridge Law Journal* 66(1), 67-85.

Bodenhorn, Howard. 2023. Bad men, good roads, Jim Crow, and the economics of southern chain gangs. *Essays in Economic & Business History* 41(2), 149-170.

Booth, Jonathon J. 2025. Policing after slavery: race, crime, and resistance in Atlanta. *University of Colorado Law Review* 96(1), 1-73.

Brailsford, Daniel T. 1969. The historical background and present status of the county chain gang in South Carolina. *South Carolina Law Review* 21(1), 53-69.

Bushway, Shaw D. and Allison D. Redlich. 2012. Is plea bargaining in the 'shadow of trial' a mirage. Journal of Quantitative Criminology 28(3), 437-454.
Bushway, Shawn D., Allison D. Redlich, Robert J. Norris. 2014. An explicit test of the plea bargaining in the 'shadow of trial.' *Criminology* 52(4), 723-754.
Butcher, Kristin F., Kyung H. Park, and Anne Morrison Piehl. 2017. Comparing apples to oranges. *Journal of Labor Economics* 35(S1), S201-S234.
Cao, Melanie and Jason Wei. 2005. Stock market returns: a note on temperature anomaly. *Journal of Banking & Finance* 29(6), 1559-1573.
Carlton, David L. 1982. *Mill and Town in South Carolina, 1880-1920*. Baton Rouge: LSU Press.
Carruthers, Celeste K. and Marianne H. Wanamaker. 2017. Separate and unequal in the labor market: human capital and the Jim Crow wage gap. *Journal of Labor Economics* 35(3), 655-688.
Cohen, Mark A. 1991. Explaining judicial behavior or what's 'unconstitutional' about the sentencing commission. *Journal of Law, Economics & Organization* 7(1), 183-199.
Danziger, S., J. Levav, and L. Avnaim-Pesso. 2011. Extraneous factors in judicial decisions. *Proceedings of the National Academy of Sciences* 108(17), 6889-6892.
Dell, Melissa, Benjamin F. Jones, and Benjamin A. Olken. 2014. What do we learn from the weather? The new climate-economy literature. *Journal of Economic Literature* 52(3), 740-798.
Derenoncourt, Ellora, Chi Hyun, Moritz Kuhn, and Moritz Schularick. 2024. Wealth of two nations: the U.S. racial wealth gap, 1860-2020. *Quarterly Journal of Economics* 139(2), 693-750.
Dobbie, Will, Jacob Goldin, and Crystal S. Yang. 2018. The effect of pretrial detention on conviction, future crime, and employment: evidence from randomly assigned judges. *American Economic Review* 108(2), 201-240.
Donohue, John J., Abhay Aneja, and Kyle D. Weber. 2019. Right-to-carry laws and violent crime: a comprehensive assessment using panel data and a state-level synthetic control analysis. *Journal of Empirical Legal Studies* 16(2), 198-247.
Eren, Ozkan and Naci Mocan. 2018. Emotional judges and unlucky juveniles. *American Economic Journal: Applied Economics* 10(3), 171-205.
Evans, Sally and Peter Siminski. 2021. The effect of outside temperature on criminal court sentencing decisions. *Series of Unsurprising Results in Economics*. University of Technology, Sydney, NSW.
Fischman, Joshua B. 2014. Measuring inconsistency, indeterminacy, and error in adjudication. *American Law and Economics Review* 16(1), 40-85.
Fisher, George. 2003. *Plea Bargaining's Triumph: A History of Plea Bargaining in America*. Stanford University Press.
Foner, Eric and John A. Garraty (eds.) 1991. *The Reader's Companion to American History*. Boston: Houghton Mifflin Company.
Fransden, Brigham, Lars Lefgren, and Emily Leslie. 2023. Judging judge fixed effects. *American Economic Review* 113(1), 253-277.
Glöckner, Andreas. 2016. The irrational hungry judge effect revisited: simulations reveal that the magnitude of the effect is overestimated. *Judgment and Decision Making* 11(6), 601-610.
Greenville (S.C.) Municipal Court. 1910-1919. Dockets of the Municipal Court. Series L1037009. South Carolina Department of History and Archives. Columbia, S.C.

Guthrie, Chris, Jeffrey J. Rachlinski, and Andrew J. Wistrich. 2007. Blinking on the bench: how judges decide cases. *Cornell Law Review* 93(1), 1-44.

Hancock, P. A. and I. Vasmatzidis. 2003. Effects of heat stress on cognitive performance; the current state of knowledge. *International Journal of Hyperthermia* 19(3), 355-372.

Henry, Rebecca S. 1999. The virtue of discretion: ethics, justice, and why judges must be 'students of the soul.' *New York University Review of Law & Social Change* 25(x), 65-108.

Heyes, Anthony and Soodeh Saberian. 2019. Temperatures and decisions: evidence from 207,000 court cases. *American Economic Journal: Applied Economics* 11(2), 238-265.

Hutcheson, Joseph C. Jr. 1929. Judgment intuitive: the function of the hunch in judicial decision. *Cornell Law Review* 14(3), 274-288.

Janke, Linda Sharon. 2006. *Prisoners of war: sexuality, venereal disease, and women's incarceration during World War I.* Ph.D. dissertation, State University of New York at Binghamton.

Kahneman, Daniel. 2011. *Thinking Fast and Slow.* New York: Farrar, Straus and Giroux.

Kohn, August. 1907. *The Cotton Mills of South Carolina.* Columbia, S.C.: South Carolina Department of Agriculture.

Langum, David J. 1994. *Crossing Over the Line: Legislating Morality and the Mann Act.* Chicago: University of Chicago Press.

Lichtenstein, Alex. 1993. Good roads and chain gangs in the progressive South. *Journal of Southern History* 59(1), 85-110.

Linder, Douglas O. 2025. Opinion of Justice Oliver Wendell Holmes in the case of Commonwealth v. Nicola Sacco & another. Available at https://famous-trials.com/saccovanzetti/811-holmesopinion.

Lofstrom, Magnus and Steven Raphael. 2016. Crime, the criminal justice system, and socioeconomic inequality. *Journal of Economic Perspectives* 30(2), 103-126.

Lott, John R. 2010. *More Guns, Less Crime: Understanding Crime and Gun Control Laws.* Chicago: University of Chicago Press.

Lu, Jackson G. 2020. Air pollution: a systematic review of its psychological, economic, and social effects. *Current Opinion in Psychology* 32, 52-65.

Luhnow, David. 2023. Social-media influencer Andrew Tate is charged with rape, human trafficking. *Wall Street Journal* (June 20, 2023).

Mayer, Julius M. 1910. Administration of criminal law in the inferior courts. *Annals of the American Academy of Political and Social Science* 36(1), 169-174.

Miller, Ernest H. (compiler). 1909. *Greenville, S.C. City Directory 1909.* Asheville, N.C.: Piedmont Directory Co.

Miller, Ernest H. (compiler). 1910. *Greenville, S.C. City Directory 1910.* Asheville, N.C.: Piedmont Directory Co.

Miller, Ernest H. (compiler). 1912. *Greenville, S.C. City Directory 1912.* Asheville, N.C.: Piedmont Directory Co.

Miller, Ernest H. (compiler). 1917. *Greenville, South Carolina City Directory 1917-1918.* Asheville, N.C.: The House of Directories.

Miller, Ted R., Mark A. Cohen, David I. Swedler, Bina Ali, and Delia V. Hendrie. 2021. Incidence and costs of personal and property crimes in the USA, 2017. *Journal of Benefit and Cost Analysis* 12(1), 24-54.

Mnookin, Robert H. and Lewis Kornhauser. 1979. Bargaining in the shadow of the law: the case of divorce. *Yale Law Journal* 88(5), 950-997.
Mustard, David B. 2001. Racial, ethnic, and gender disparities in sentencing: evidence from the U.S. federal courts. *Journal of Law and Economics* 44(1), 285-314.
National Oceanographic and Atmospheric Administration. National Weather Service. 2025. Greenville-Spartanburg weather. Available at: https://www.weather.gov/gsp/gspcli.
Ortman, William. 2020. When plea bargaining became normal. *Boston University Law Review* 100(4), 1435-1500.
Parascandola, John. 2008. *Sex, Sin, and Science: A History of Syphilis in America*. Westport, Conn.: Praeger.
Park, R. Jisung, Joshua Goodman, Michael Hurwitz, and Jonathan Smith. 2020. Heat and learning. *American Economic Journal: Economic Policy* 12(2), 306-339.
Peterson, Cora, Megan C. Kearns, Wendy LiKamWa McIntosh, Lianne Fuino Estefan, Christina Nicolaidas, Kathryn E. McCallister, Amy Gordon, and Curtis Florence. 2018. Lifetime economic burden of intimate partner violence among U.S. adults. *American Journal of Preventive Medicine* 55(4), 433-444.
Phillipe, Arnaud and Aurélie Ouss. 2018. 'No hatred or malice, fear or affection': media and sentencing. *Journal of Political Economy* 126(5), 2134-2178.
Posner, Richard A. 1986. *Economic Analysis of Law*. Third edition. Boston and Toronto: Little, Brown & Co.
Posner, Richard A. 1993. What do judges and justices maximize? (The same thing everybody else does). *Supreme Court Economic Review* 3, 1-41.
Posner, Richard A. 2002. Behavioral law and economics: a critique. *Economic Education Bulletin* 42(8). American Institute for Economic Research.
Priest, George L. and Benjamin Klein. 1984. The selection of disputes for litigation. *Journal of Legal Studies* 13(1), 1-55.
Ramey, Corinne and Victoria Albert. 2025. Cassie Venture testifies about "freak-offs" with Sean "Diddy" combs in sex trafficking trial. *Wall Street Journal* (May 13, 2025).
Rehavi, M. Marit and Sonja B. Starr. 2014. Racial disparity in federal criminal sentences. *Journal of Political Economy* 122(6), 1320-1354.
Rosen, Jeffrey. 1994. Breyer restraint. *The New Republic* 211(2), 19-25.
Safdar, Khadeeja, Matthew Dalton, and Sadie Gurman. 2026. Epstein files give some prosecutors plenty to investigate. *Wall Street Journal* (February 20, 2026).
Sarmiento, Luis and Adam Nowakowski. 2023. Court decisions and air pollution: evidence from ten million penal cases in India. *Environmental and Resource Economics* 86(x), 605-644.
Smith, Alisa, Sean Madden, Diane DePietropalo Price, and Colette Tvedt. 2017. Rush to judgment: how South Carolina's summary courts fail to protect constitutional rights. Washington, D.C.: National Association of Criminal Defense Lawyers.
Smith, Mary Roberts. 1899. The social aspect of New York police courts. *American Journal of Sociology* 5(2), 145-154.
South Carolina. 1902. *Code of Laws of South Carolina, 1902. Vol. II. Code of Civil Procedure and Criminal Code*. Columbia: The State Company, State Printers.
Starr, Sonja B. 2015. Estimating gender disparities in federal criminal cases. *American Law and Economics Review* 17(1), 127-159.

Stein, Robert A. 2019. What exactly is the rule of law. *Houston Law Review* 57(1), 185-203.

Sunstein, Cass R., Daniel Kahneman, David Schkade and Ilana Ritov. 2002. Predictably incoherent judgments. *Stanford Law Review* 54(6), 1153-1215.

Vrij, Aldert, Jaap van der Steen, and Leendert Koppelaar. 1994. Aggression of police officers as a function of temperature: an experiment with fire arms training system. *Journal of Community & Applied Social Psychology* 4(5), 365-370.

Walsh Directory Company. 1905. *Walsh's Directory of the City and County of Greenville, S.C. for 1905-06*. Charleston: Walsh Directory Company.

Walsh Directory Company. 1907. *Walsh's Directory of the City and County of Greenville, S.C. for 1907*. Charleston: Walsh Directory Company.

Weinshall-Margel, K. and Shapard, J. 2011. Overlooked factors in the analysis of parole decision *Proceedings of the National Academy of Sciences* 108(42), E833.

Yang, Crystal S. 2015. Free at last? Judicial discretion and racial disparities in federal sentencing. *Journal of Legal Studies* x(x), pp.

Yang, Crystal S. 2017. Toward an optimal bail system. *New York University Law Review* 92(5), 1399-1493.

Table 1

Summary statistics

VARIABLES	(1) mean	(2) sd	(3) min	(4) max
Daily hearings	11.34	8.341	1	40
Daily high °F	71.34	15.50	18	95
ln(Daily high °F)	4.240	0.247	2.890	4.605
Daily precipitation (inches)	0.148	0.380	0	4.570
ln(Daily precipitation + 1)	0.104	0.232	0	1.717
Decision (0/1/2)	1.092	0.805	0	2
Dismissal	0.282	0.450	0	1
Plea	0.344	0.475	0	1
Conviction	0.374	0.484	0	1
Hearing day of week	2.793	1.817	1	6
Hearing month	6.267	3.402	1	12
Hearing year	1915.7	3.331	1910	1919
Daily hearing order	5.096	5.663	0	30
Female	0.246	0.431	0	1
Black	0.725	0.446	0	1
Prior arrests	1.206	2.022	0	7
Number of officers involved	1.822	0.701	1	3
Fine sentence (real $1910)	14.504	16.539	1	100
Fine paid (real $1910)	7.980	9.430	0	100
Days to serve	22.992	7.949	1	60
Days served	5.695	10.040	0	60

Notes: 5,401 observations except sentence, which are conditional on conviction (N=3,811). Daily hearings to-coded at 30. Daily hearing order top-coded at 18. Each top code is set at 95th percentile. Number of officers top-coded at 3. Decision is dependent variable in multinomial logit estimates for hearing dispositions. Because there is no obvious order, I code dismissals = 0 (base or comparison group), guilty pleas = 1, and convictions = 2.
Sources: Author's calculations from Greenville (S.C.) Municipal Court (1910-1919), NOAA (2025).

Table 2

Daily high temperature, rainfall, and hearing dispositions
Marginal effects from multinomial logit regressions

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Dismissal	Plea	Conviction	Dismissal	Plea	Conviction
Daily high °F	-0.0001	0.0007	-0.0006			
	(0.0008)	-0.0007	(0.0008)			
Daily precipitation (inches)	-0.0165	0.0027	0.0138			
	(0.0168)	(0.0164)	(0.0180)			
ln(Daily high °F)				-0.0197	0.0473	-0.0276
				(0.0544)	(0.0431)	(0.0477)
ln(Daily precipitation)				-0.0302	0.0092	0.0210
				(0.0276)	(0.0275)	(0.0300)
Black	-0.0746	0.0238	***0.0509****	-0.0743	0.0239	***0.0505****
	(0.0148)	(0.0161)	(0.0156)	(0.0148)	(0.0161)	(0.0156)
Female	-0.0058	***-0.0303****	***0.0361****	-0.0057	***-0.0306****	***0.0363****
	(0.0162)	(0.01789)	(0.0171)	(0.0162)	(0.0179)	(0.0172)
Daily hearing order	-0.0018	-0.0000	0.0019	-0.0018	-0.0001	0.0019
	(0.0018)	(0.0017)	(0.0019)	(0.0018)	(0.0017)	(0.0019)
Daily hearing total	***0.0038****	-0.0021	***-0.0036****	***0.0038****	-0.0002	***-0.0036****
	(0.0015)	(0.0014)	(0.0015)	(0.0014)	(0.0013)	(0.0015)
Two officers	-0.0137	0.0023	0.0114	-0.0139	0.0022	0.0117
	(0.0139)	(0.0141)	(0.0152)	(0.0139)	(0.0141)	(0.0152)
Three officers	-0.0320	-0.0115	***0.0435****	-0.0320	-0.0117	***0.0437****
	(0.0207)	(0.0203)	(0.0229)	(0.0207)	(0.0203)	(0.0229)
Day of week FE	Y	Y	Y	Y	Y	Y
Month FE	Y	Y	Y	Y	Y	Y
Crime FE	Y	Y	Y	Y	Y	Y
Judge FE	Y	Y	Y	Y	Y	Y
Prior arrests	Y	Y	Y	Y	Y	Y
Observations	5,401	5,401	5,401	5,401	5.401	5.401

Notes: Dependent variable in Columns (1) and (4) are dismissals; Columns (2) and (5) are guilty pleas, and Columns (3) and (6) the disposition is conviction. The base category in the multinomial equation is dismissal. Reported values are average marginal effects. Standard errors clustered on the defendant in parentheses. Daily hearing order is top coded at 18; Daily total hearings is top coded at 30. Prior arrests is top coded at 7. * p<0.10.

Sources: Author's calculations from Greenville City (S.C.) Police Court (1910-1919) and NOAA (2025).

Table 3

Fines or days to serve sentences

VARIABLES	(1) Dollars	(2) Dollars	(3) Days	(4) Days
Daily high (°F)	*-0.0713**		*-0.0359**	
	(0.0251)		(0.0126)	
Daily precipitation (inches)	0.0798		-0.1659	
	(0.5206)		(0.2899)	
ln(Daily high °F)		*-4.1891**		*-2.1390**
		(1.5513)		(0.7363)
ln(Daily precipitation)		0.1986		-0.1561
		(0.8797)		(0.4815)
Black	*-4.5541**	*-4.5530**	-0.0644	-0.0631
	(0.6720)	(0.6719)	(0.2760)	(0.2760)
Female	**2.0363***	**2.0422***	**0.7164***	**0.7201***
	(0.6299)	(0.6299)	(0.2959)	(0.2958)
Plea	*-1.0563**	*-1.0573**	-0.3607	-0.3602
	(0.4309)	(0.4308)	(0.2263)	(0.2262)
Two officers	0.4159	0.4185	-0.0537	-0.0516
	(0.4977)	(0.4978)	(0.2603)	(0.2604)
Three officers	*1.7878**	*1.7989**	*0.8039**	*0.8099**
	(0.7174)	(0.7173)	(0.3309)	(0.3311)
Daily case order	-0.0146	-0.0150	-0.0115	-0.0117
	(0.0616)	(0.0616)	(0.0289)	(0.0289)
Total daily cases	0.0652	0.0643	-0.0318	-0.0324
	(0.0476)	(0.0477)	(0.0232)	(0.0232)
Constant	10.5062*	23.2669*	27.8300*	34.3666*
	(1.8439)	(6.3137)	(0.8814)	(2.9539)
Day of week FE	Y	Y	Y	Y
Month FE	Y	Y	Y	Y
Offense FE	Y	Y	Y	Y
Judge FE	Y	Y	Y	Y
Prior convictions	Y	Y	Y	Y
Observations	3,803	3,803	3,803	3,803
R-squared	0.435	0.435	0.386	0.386

Notes: Regressions include hearings that resulted in conviction. Reported values are coefficients from OLS regressions. Standard errors clustered on the defendant in parentheses. Fines are in real $1910. Prior arrests top-coded at 7. Daily hearing order is top-coded at 18; Daily total hearings is top-coded at 30. * p<0.10.
Sources: Author's calculations from Greenville City (S.C.) Police Court (1910-1919) and NOAA (2025).

Table 4

Served on gang and days served

VARIABLES	(1) Odds ratio	(2) Odd ratio	(3) Relative risk	(4) Relative risk
Daily high °F	1.0009		*1.0050**	
	(0.0008)		(0.0030)	
Daily precipitation (inches)	*0.9575**		0.8541	
	(0.0245)		(0.0936)	
ln(Daily high °F)		1.0422		1.2848
		(0.0493)		(0.2125)
ln(Daily precipitation)		*0.9226**		*0.7559**
		(0.0335)		(0.1139)
Black	*1.1185**	*1.1184**	*1.2198**	*1.2195**
	(0.0220)	(0.0220)	(0.0867)	(0.0868)
Female	*1.0976**	*1.0977**	*1.2987**	*1.2995**
	(0.0224)	(0.0224)	(0.0867)	(0.0867)
Plea	0.9849	0.9850	0.9342	0.9345
	(0.0156)	(0.0156)	(0.0548)	(0.0548)
Constant			2.5037*	1.2293
			(0.5097)	(0.8114)
Day of week FE	Y	Y	Y	Y
Month FE	Y	Y	Y	Y
Judge FE	Y	Y	Y	Y
Crime FE	Y	Y	Y	Y
Prior arrests	Y	Y	Y	Y
Observations	3,386	3,386	3,386	3,386

Notes: Regressions include hearings that resulted in conviction. Reported values in Columns (1) and (2) are odds ratios from logit regressions. Reported values in Columns (3) and (4) are relative risks from Poisson regressions. Standard errors clustered on the defendant in parentheses. Prior arrests top-coded at 7. Daily hearing order is top coded at 18. Daily total hearings is top coded at 30. Police officers involved in arrest is top coded at 3. * $p<0.10$.
Sources: Author's calculations from Greenville City (S.C.) Police Court (1910-1919) and NOAA (2025).