Municipal Reliance on Fine and Fee Revenues: How Local Courts Contribute to Extractive Revenue Practices in U.S. Cities

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By altering the distribution of fine and fee revenues, municipal courts provide a mechanism through which cash-strapped city governments can increase revenues flowing into city budgets. Using a unique municipal court dataset combined with city-level financial information, this paper exploits state-level differences in laws enabling municipal courts and differences in property tax effort across states to explore the relationship between local courts, fine and fee revenues, and municipal finances. I find that cities with municipal courts raise more fine and fee revenue than cities without a court; in cities with a court, reliance on these revenues decreases as per capita property tax yields increase; and these effects are more pronounced in cities in the bottom quartile of the population distribution. Taken together, results suggest that cities use municipal courts to fund the general operations of government and smaller cities and those with low property tax collections are more likely to do so.

INTRODUCTION

Little is known about the causes of the increasing reliance on criminal justice fine and fee revenue observed among U.S. cities (Singla et al. 2019), but critics have raised the concern that it is the result of cash-strapped political systems targeting their own citizens using the policing powers of the government (U.S. Department of Justice, Civil Rights Division 2015). Research has explored potential mechanisms used to increase these revenues: increasing traffic tickets (Garrett and Wagner 2009; Makowsky and Stratmann 2009; Su 2020), allowing access to civil asset forfeiture proceeds (Holcomb et al. 2018; Mughan, Li, and Nicholson-Crotty 2019; Worrall and Kovandzic 2008), and aggressive revenue collection practices (Bannon, Nagrecha, and Diller 2010). One mechanism overlooked by empirical studies is municipal courts,[1] an important

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omission as municipal courts are the primary determinant of the amount of fine and fee revenue retained by local governments.

APPLICATIONS FOR PRACTICE

- Municipal courts create the opportunity and incentive for local governments to generate revenues through their criminal justice systems.
- Reliance on criminal justice revenues is particularly pronounced in small municipalities.
- A key component of the public policy problem referred to as "policing-for-profit" is financial—governments are more likely to engage in this behavior when they have direct access to criminal justice revenues and when access to revenues from other sources is limited.
- Policymakers interested in police reform or concerned about policing-for-profit should consider financial reform (or abolition) of municipal courts.

Proponents of local courts argue that they remove pressure on state trial courts while providing a valuable local service, adjudicating low-level offenses according to the values held by the local community (Lamber and Luskin 1991; Tennessee Comptroller of the Treasury, Office of Research 2004). Others are skeptical of this rationale, suspecting their true purpose is to function as cash machines for their municipalities (Carpenter, Sweetland, and McDonald 2019). This perception gained traction after a U.S. Department of Justice (DOJ) investigation into the Ferguson Police Department in Missouri uncovered a system of governance organized around revenue extraction through the judicial branch (U.S. Department of Justice, Civil Rights Division 2015).

While Ferguson garnered the most headlines, there is no reason to believe that the Ferguson city government was the first or the only local government to abuse the revenue potential courts present. A recent analysis of municipal finances found cities that are heavily reliant on fine and fee revenue tend to be those with limited tax bases and/or *independent local courts* (Maciag 2019)."[2] The size of a given government's tax base is partially determined by the characteristics of the local population, but it is also the result of political choices; in environments where officials are loath to raise taxes, court fines and fees present an appealing alternative. As a municipal court judge in Alabama commented, "They don't want to say they are raising taxes, but every time they raise court costs, guess what you are doing? What they have done is make us a collection agency for some of the stuff they are doing in Montgomery (Cleek 2019)."

Excessive reliance on fine and fee revenues is problematic from a budgetary perspective as court fines and fees seldomly bring in as much revenue as is forecasted; in 2012, Alabama estimated that an increase in legal charges would generate $36 million annually, yet in 2013 the increase produced just half that amount (Public Affairs Research Council of Alabama 2015). There is also growing concern that excessive reliance on fines and fees distracts courts from their primary mission of administering justice and perverts the public's perception of the courts (Supreme Court of Kansas 2018). Even actors within the

[1]To the best of the author's knowledge, municipal courts have only been discussed in the academic legal literature. See Lamber and Luskin (1991) or Olson and Huth (1998).

[2]Many observers consider a municipality to be heavily reliant on fine and fee revenues when these revenues make up over 10 percent of total revenues (for example, see Carpenter, Sweetland, and McDonald 2019).

justice system appear concerned; states around the country have launched investigations into revenue practices in their municipal courts (see, e.g., Kansas Supreme Court 2018; Supreme Court Committee of New Jersey 2018; Tennessee Comptroller of the Treasury, Office of Research 2004). A task force convened by the Supreme Court of New Jersey expressed deep concern over excessive use fines and fees as well as revenue-orientated practices in the state's municipal courts.[3] In the neighboring state of New York, a judicial handbook intended to be a "…one-stop-shopping handbook of best practices…" for local officials reminds these officials:

> …While it is true that Justice Courts can be a source of revenue for their sponsoring localities…Justice Courts are not to be viewed as revenue generating entities for their municipalities… Even if Justice Court activities may affect the locality's fiscal balance, the Court's constitutional obligation is to decide every case fairly and independently for all litigants without regard for the sponsoring locality's potential revenue and costs. (New York Justice Court Task Force 2015, p 18)

Using a unique dataset containing all municipal courts in the United States in combination with city government financial and socioeconomic data spanning 2009 to 2016, this paper explores the effect of the financial incentive municipal courts present on the revenue structure of city governments. Specifically, I examine whether local courts are used to increase criminal justice revenues flowing into city coffers and if the propensity to do so is stronger when access to property tax revenues is limited. Because a nontrivial number of cities in the sample report zero fine and fee revenues, a two-stage selection model is used to account for potential selection bias, resulting from unobserved differences between these cities and cities reporting positive fine and fee receipts.

Estimates derived using ordinary least squares and instrumental variables regression indicate that municipal courts increase fine and fee revenues by up to 102 percent. The effect size is three times larger in cities in the bottom quartile of the population distribution (fewer than 7,048 residents) compared to those in the top quartile (populations of 37,847 or more). Additionally, the impact of municipal courts on fine and fee revenues diminishes as per capita property tax yields increase, a relationship that *only* holds in cities with municipal courts. Taken together, the results suggest that municipal courts serve as a mechanism to increase financial penalties in the criminal justice system, and this behavior is particularly prevalent in small cities and cities with limited access to property tax dollars.[4]

[3]Revenue-orientated practices are policies and/or punishments, whose primary purpose is to increase receipts. Common examples are bench warrants and/or drivers' license suspensions for failure to pay court debt. The New Jersey Report also cites the excessive use of discretionary contempt assessments, which garnered $22 million between 2015 and 2017 in New Jersey alone.

[4]Property tax revenues and total tax revenues are highly correlated; the Pearson's correlation statistic is 0.8353.

CONTEXT FOR STUDY

State court systems contain a variety of types of courts, including courts of general jurisdiction (these courts will be referred to as county courts hereafter), chancery courts, tax courts, small claims courts, juvenile courts, family courts, probate courts, and water courts. Twenty-seven states also allow for local (or municipal) courts, which often share geographic and legal jurisdiction with county courts. The co-existence of these two systems contributes to an extremely complex judicial structure that is difficult to decipher, characterized by overlapping jurisdiction, unclear lines of authority and responsibility, and suboptimal allocation of resources (Barr 1980). As such, court consolidation to reduce the number and type of courts has been a permanent fixture on the judicial administration reform agenda. However, despite numerous reports and recommendations, court consolidation has largely been a "non-starter" (Raftery 2013, p. 342). California completed the task in 2000 after amending the state constitution to *allow* municipal courts to be absorbed into the superior (county) courts (Lahey, Christenson, and Rossi 2000). *Actual* consolidation required the support of a majority of superior and municipal court judges in the relevant county. California aside, Illinois (1964) and Minnesota (1972) are the last states to abolish their municipal court systems.[5]

As suggested by the California experience, one obstacle to consolidation is the strong legal foundation municipal courts enjoy. In 10 of the 27 states currently permitting municipal courts, these courts find their legal grounding in state constitutions. In the remaining 17 states, local courts find their authority in state legislation. A list of these states can be found in Table 1.

A second relevant feature is the decision to operate a court. In 13 states, municipalities are required to establish a court; in the remaining 14 states, municipalities choose whether to establish a court.[6]

Table 1 details other differences in the organization and jurisdiction of municipal courts. In seven states, municipal courts are established by state constitutions, giving them a stronger foundation than those established by local ordinance, as the latter may be abolished. For example, in Indiana, where courts are established by local ordinance, eight municipal courts were dissolved in 2011 and 2012, with city councils often citing finances as the primary reason (e.g., see Mauger 2011). Courts also differ in legal jurisdiction, the types of cases they adjudicate. In 12 states, local courts are limited to local ordinance violations; in the remaining 15 states, municipal courts adjudicate a greater variety of offenses (traffic infractions and small civil cases are common). There is also often variation within a state, with courts in larger cities often hearing a greater variety cases. States have also adopted different qualifications for holding judicial office; only eight states require judges to be licensed to practice law.

[5]Vermont, Arkansas, and New Hampshire also consolidated various courts in 2011 (VT and AR) and 2012 (NH), although these states did not have municipal courts.

[6]Two examples of relevant statutes are Texas State Code, "A municipal court is created in each municipality (§29.002)" and Oregon's relevant statute, "Any city of this state may establish a municipal court by charter or by ordinance (§ 221.336)."

TABLE 1
Municipal Court Features by State

State	State law allows	Choice or requirement	Creation of specific court	Establishing authority[f]	Local ordinance jurisdiction only	Law degree required
Alabama	Yes	Requirement[a]	Local Ordinance	Constitution	Yes	Yes
Alaska	No	–	–	–	–	–
Arizona	Yes	Requirement	State Legislation	State Legislation	No	No
Arkansas	No	–	–	–	–	–
California	No	–	–	–	–	–
Colorado	Yes	Choice	Local Ordinance	Constitution	Yes	No
Connecticut	No	–	–	–	–	–
Delaware	No	–	–	–	–	–
Florida	No	–	–	–	–	–
Georgia	Yes	Choice	Constitution	Constitution	No	No
Hawaii	No	–	–	–	–	–
Idaho	No	–	–	–	–	–
Illinois	No	–	–	–	–	–
Indiana	Yes	Choice	Local Ordinance	State Legislation	No	No
Iowa	No	–	–	–	–	–
Kansas	Yes	Requirement	Local Ordinance	State legislation	Yes	Yes
Kentucky	No	–	–	–	–	–
Louisiana	Yes	Requirement	State Legislation	Constitution	No	Yes
Maine	No	–	–	–	–	–
Maryland	No	–	–	–	–	–
Massachusetts	No	–	–	–	–	–
Michigan	No	–	–	–	–	–
Minnesota	No	–	–	–	–	–
Mississippi	Yes	Requirement	State Legislation	State legislation	Yes	No
Missouri	Yes	Choice[b]	Local Ordinance	Constitution	Yes	No
Montana	Yes	Choice[b]	Local Ordinance	State legislation	No	Yes
Nebraska	No	–	–	–	–	–
Nevada	Yes	Requirement	Local Ordinance	State legislation	No	Yes

(*continued*)

TABLE 1 (Continued)

State	State law allows	Choice or requirement	Creation of specific court	Establishing authority[f]	Local ordinance jurisdiction only	Law degree required
New Hampshire	No	–	–	–	–	–
New Jersey	Yes	Requirement	Local Ordinance	State legislation	No	Yes
New Mexico	Yes	Requirement[b]	State Legislation	State legislation	No	No
New York	Yes	Requirement	State Legislation/Local Ordinance[c]	Constitution	No	No
North Carolina	No	–	–	–	–	–
North Dakota	Yes	Requirement[b]	Local Ordinance	State legislation	Yes	No
Ohio	Yes	Choice[d]	Mayor/appointed	State legislation	No	No
Oklahoma	Yes	Choice	Constitution[e]	Constitution	Yes	Yes
Oregon	Yes	Choice	State legislation	Constitution	No	No
Pennsylvania	No	–	–	–	–	–
Rhode Island	Yes	Choice	Local Ordinance	State legislation	No	Yes
South Carolina	Yes	Choice	Local Ordinance	State legislation	No	No
South Dakota	No	–	–	–	–	–
Tennessee	Yes	Requirement	State Legislation or Local Ordinance	State legislation	Yes	Yes
Texas	Yes	Requirement	State Legislation or Local Ordinance	State legislation	No	No
Utah	Yes	Choice	State Legislation	State legislation	No	No
Vermont	No	–	–	–	–	–
Virginia	No	–	–	–	–	–
Washington	Yes	Choice[b]	Local Ordinance	State legislation	Yes	No
Washington DC	No	–	–	–	–	–
West Virginia	Yes	Choice	Local Ordinance	Constitution	Yes	No
Wisconsin	Yes	Choice	Local Ordinance	Constitution	Yes	No
Wyoming	Yes	Requirement	State Legislation	State legislation	Yes	No

[a]Does not apply to cities, which elected not to have such courts by ordinance prior to December 27, 1977.
[b]Is conditional on city population.
[c]Village courts are created by local ordinance town courts are created by state legislation.
[d]Mayors courts are only allowed in municipalities that have no municipal court to conduct mayor's court.
[e]If in existence at the time of constitution's adoption, local ordinance otherwise.
[f]This information is drawn from a survey of state court administrators conducted by the National Center for State Courts (National Center for State Courts).

These features give a sense of the tremendous amount of variation in municipal courts but do not fully convey it. In large cities, municipal courts are often complex, highly professionalized organizations. In small towns, municipal court hearings can occur in a small office or personal garage, with little oversight or expertise (a judge in one such court remarked "I just follow my own common sense. And the hell with the law"; Glaberson 2006). Additionally, the details of court financing differ; in each state, municipal courts collect a different mix of fines and fees, each of which is distributed to a specific state or local budgetary fund. Typically, the schedule of fines and fees—as well as their distribution—is established by state law, meaning municipal court judges are limited in the type and size of the financial sanctions they can impose. However, in some states, such as Kansas,[7] municipal courts are not bound by the state's fine schedule, meaning judges may increase fines above what the state prescribes.

Despite the variation, municipal courts share certain features. All municipal courts are courts of limited jurisdiction, meaning their authority is limited to certain types of cases. There are also important similarities in how these courts are financed. Unlike county courts where judicial salaries (typically a court's largest expenditure item) are paid by the state, local governments bear sole responsibility for setting and funding the court's budget, including judicial salaries (Gazell 1998).[8] Because they are funded locally, the vast majority of financial proceeds generated from case filings revert to the local government general funds. Table 2 provides details on the distribution of ticketing revenues in a sample of states.

In absence of a municipal court, those monies would be split between a variety of state, county, and municipal level funds (this explains how municipalities without courts report non-zero fine and fee amounts). However, municipal courts redirect a large portion of these monies toward municipal general funds, enabling these courts to function as a financial mechanism that can boost revenues used to fund the general operations of government.[9]

Local actors can increase revenues flowing from their court systems in a number of ways. Municipal courts have sole jurisdiction over local ordinance violations, so city councils may increase court-generated revenues by passing new local ordinances. For example, a suit was filed against the city of Carmel, Indiana (home to a municipal court) for passing local ordinances that duplicate state law in order to retain a larger fraction of ticket proceeds.[10] Courts themselves can seek to increase revenues by expanding their jurisdiction (Tennessee Comptroller of the Treasury, Office of Research 2004) and by establishing fees for court programs and services. Judges can also increase revenues by using their discretion to impose larger financial penalties, especially in states where they are not bound by the state's fine schedule.

[7]K.S.A. 8-2118.

[8]Judicial salaries are by far the single largest line item for the average (municipal or state) court.

[9]Cities with no municipal court face a similar incentive: they can issue more tickets and file them in the county court to increase their fine and fee revenue. However, that incentive is much weaker because the portion of revenues allotted to them are smaller than they would be if the ticket went through a municipal court, meaning the potential revenue gains are much smaller.

[10]Case No. 1:16-cv-01373-TWP-MPB (S.D. Ind. Jul. 28, 2017).

For example, they may take advantage of "poverty penalties," charges resulting from an inability to pay. These include late fines, charges for enrolling in a payment plan, charging interest on criminal justice debts, and contracting with debt collection agencies (Bannon, Mitali, and Rebekah 2010). In Ferguson, it was common practice to impose "… a separate Failure to Appear charge for missed appearances and payments," resulting in additional fines approximating $100 per ticket (U.S. Department of Justice, Civil Rights Division 2015; 42). Finally, police can act more or less aggressively in enforcing new and existing ordinances, and police chiefs may work with city council members to set ticket quotas or encourage policing in more "profitable" areas.

It should be noted counties can also increase court revenues in any of the ways just described. However, the fiscal incentive leading to an overreliance on fine and fee revenues is likely stronger in cities where fine and fee revenues often comprise a larger proportion of total revenues, the government has fewer tax bases to tap (Brunori 2007) and borrowing is more expensive (Rivers and Yates 1997; Simonsen, Robbins, and Helgerson 2001). Characteristics of municipal courts also make them uniquely attractive to public officials looking for alternative revenue sources. First and foremost, in many states, municipal courts are not grounded in state constitutions (see Table 1) and can be dissolved by city councils if perceived as a financial burden. This creates a strong incentive for judges who value the work or their court (and/or their job) to prevent their court from becoming a burden on local finances. Second, local ordinance and traffic ticket caseloads (the most common case-type in municipal courts) can be increased even as underlaying conditions are unchanged. In other words, police can expand enforcement without an equivalent increase in the number of traffic infractions or ordinance violations committed. Moreover, a large degree of discretion enjoyed by justice system actors also enables them to mitigate the political costs associated with overprovision of law enforcement services by targeting groups with low levels of political power such as racial minorities (as seen in Ferguson) or non-voting, non-residents (Makowsky and Stratmann 2009).

LITERATURE

Much of the existing literature on criminal justice revenues focuses on the racial determinants of fines and fees and how this relationship is mediated by representation. Using data from Comprehensive Annual Financial Reports for a random sample of Californian cities, Singla et al. (2019) find that minority population share is a significant driver of fine and fee revenues, while budgetary need and public safety concerns are not. Additionally, this relationship is conditional on the racial composition of the population and police force; fines and fees are levied at a heavier rate when White officers are overrepresented relative to the share of White residents in the communities they serve. Sances and You (2017) estimate the relationship between a municipality's reliance on fine and fee revenue and the size of the city's Black population. They find that fine and fee revenues increase as the Black population comprises a larger share of the total population but that this relationship is moderated by the presence of a

TABLE 2
Distribution of Municipal Court Revenues in the Selected States

State	Court	Description	Source
AL	Municipal	$5 of $12 court costs to muni GF	§ 12-14-14
AZ	Municipal	All fines and forfeits to municipal treasurer, 73 percent of these to municipal GF	§ 122-404
CO	Municipal	All fines and costs to municipal treasurer then to municipal GF	§ 13-10-115
IN	City/town	45 percent of court costs into local GF (rest to state/county GF), 100 percent of document fee into local GF	§ 33-37-4-2
LA	Mayors Court	All fines and court costs paid into town's treasury	Mayor's handbook
MT	City/Muni	All revenues deposited directly into municipal GF	MT Municipal Officials Handbook
NV	Municipal	"most" funds into municipal GF	NV Judiciary website[21] https://nvcourts.gov/Supreme/Court_Information/About_the_Nevada_Judiciary/
NJ	Municipal	"…vast majority of monies turned over to municipalities from the courts go to the respective municipal GF and can be used for any purpose (Supreme Court Committee of New Jersey 2018, 12)"	NJ Supreme Court Report
OK	Municipal	Fees, forfeitures, and other monies payable to court to municipal treasurer then into municipal GF	Del City, OK § 12-36
OR	Municipal	Some to state, "are posted to the City's GF and the funds are used for City-wide programs and projects"	ORS 153.633 and city of Eugene website[22] https://www.eugene-or.gov/1783/Court-Fines-Payments
RI	Municipal	All court costs into general treasury of the municipal	Central Falls, RI § 14-29
WA	Municipal	All fees, costs, fines, forfeitures for local ordinance violations into municipal GF	§ 3-50-100

**Source*: GF short for general fund. This table is not comprehensive; it includes a sample of states for which data was located.

Black city council member. Like this paper, the authors use a two-stage selection model. Accounting for selection bias does not affect the significance of their results ($p < 0.001$); however, it does reduce the magnitude of the point estimate on the Black population share from 1.02 to 0.68.

Using three measures of solvency, Singla et al. (2019) test the effect of local government fiscal health on fine and fee reliance, finding no evidence of a significant relationship. This is contrary to the broader public finance literature, which generally finds that the inability to tax is linked to greater reliance on non-tax revenue sources such as user charges, fees and fines, and miscellaneous revenues (Mullins and Joyce 1996; Skidmore 1999; Sun 2014). Research in the policing context has produced similar results. Makowsky and Stratmann (2009) develop a political economyhypothesis (513) in which ticketing by local police departments is responsive to the fiscal condition of their government, which controls the police department's appropriations. Governments are invested in the practices of their police departments because the revenues resulting from the tickets police officers issue are not retained by the police but instead flow to the general-purpose government. The authors show that police ticketing is responsive to local fiscal conditions, fiscal stress is associated with an increased number of tickets issued and increases the value of the fines attached to those tickets by approximately 8 percent. Similarly, using aggregated caseload data from North Carolina and California, respectively, Garrett and Wagner (2009) and Su (2020) find the number of tickets issued increases in response to revenue shortages. Related research also finds that law enforcement responds to financial incentives. For example, state laws allowing agencies to profit from civil asset forfeiture lead police to engage in more profitable forms of policing (Baicker and Jacobson 2007; Makowsky, Stratmann, and Tabarrok 2019; Mughan et al. 2019) and to use federal programs to circumvent state laws when those laws limit law enforcement's access to seized assets (Holcomb et al. 2018; Worrall and Kovandzic 2008).

These observations lead to the following hypotheses:

Hypothesis 1: Cities with municipal courts generate more fine and fee revenues than do cities without courts.

Hypothesis 2: The positive effect of courts on fine and fee revenues is larger in smaller cities.

Hypothesis 3: Cities that raise more money through the property tax rely less on fine and fee revenues.

DATA

City-level financial data for the years 2009 through 2016 is obtained from the Census Survey of State and Local Governments, which collects financial data from all U.S. local governments every five years and a representative sample all other years. This data contains a measure of

fine and fee revenue and is combined with a municipal court dataset compiled by the author.[11] Cities were identified as operating a municipal court through an extensive search of state government websites and specialty websites such as the National Center for State Courts and, where possible, cross-validated using judicial financial reports published by state governments. To supplement this data, state-level information on the legal grounding (state constitution or state legislation) and legal jurisdiction (including local ordinances, traffic tickets, and misdemeanors) of municipal courts was collected. One limitation of the dataset is that state laws do not vary over the sample period and I lack comprehensive information of the date municipal courts were established and/or dissolved. The Empirical Section discusses how the paper addresses this issue.

Data from a variety of sources supplements the primary dataset. City-level race, education, and income data (all first available in 2009) and information on county population density are obtained from the American Community Survey, published by the United States Census Bureau. County-level property crime data is sourced from the Unified Crime Reporting Program, and county-level presidential vote returns are from the MIT Election Data and Science Lab.[12] These variables are measured at the county level because they are not available at the city level. As a result, they do not capture the features of cities that differ from those of their county and will be least accurate in instances when a city's population comprises a small fraction of its county's population. Nevertheless, on average, these measures are a good proxy for their city-level equivalent (Mughan et al. 2019).

A number of restrictions are placed on the data. Following Sances and You (2017), the analysis is limited to cities with populations of at least 2,500, and cities without a police department are excluded due to their limited ability to generate fine and fee revenues.[13] Additionally, cities in Arkansas, Vermont, and New Hampshire are dropped from the sample because these states undertook significant court reform during the sample time period. Finally, cities in Ohio and Oklahoma are excluded due to a lack of dependable data on local courts in those states. The result is a sample of 7,609 cities in 43 states in the continental United States. Summary statistics are presented in Table 3.

[11]The fine and fee measure is defined as "Receipts from penalties imposed for violations of law; civil penalties (e.g., for violating court orders); court fees if levied upon conviction of a crime or violation; court-ordered restitutions to crime victims where government actually collects the monies; and forfeits of deposits held for performance guarantees or against loss or damage (such as forfeited bail and collateral)." According to the conversation with the statisticians at the Census Bureau, this measure does not include proceeds from asset forfeiture. One shortcoming of this measure is that it includes forfeited bail and restitution paid by defendants, neither of which would be included in an ideal measure of fine and fee revenue. However, because municipal courts deal primarily (and in some cases exclusively) with ordinance violations and traffic infractions, revenues from these sources are thought to be minimal.

[12]Property crimes include burglary, larceny, motor vehicle theft, and arson. Because the Unified Crime Report relies on data self-reported by law enforcement agencies, the data for a small number of counties are missing. This is reflected in the summary statistics presented in Table 2.

[13]Twenty-five hundred residents is the definition of an "urban area" used by the Census Bureau. Cities are coded as not having a police department if they spend zero dollars on the service.

TABLE 3
Summary Statistics

	Without court					With court				
	Mean	**SD**	**Min**	**Max**	***N***	**Mean**	**SD**	**Min**	**Max**	***N***
Total revenue pc	2,509	2,004	0.336	36,563	17,805	2,334	3,398	9	121,670	12,145
Total expenditure pc	2,466	2,030	0.977	43,249	17,811	2,289	3,412	4	129,828	12,150
Total tax revenue pc	1,060	1,057	1.035	18,367	17,788	764	654	4	10,744	12,140
Property tax revenue pc	837	997	0.001	11,609	17,811	393	508	0.001	6,406	12,150
Fine and fee revenue pc	13	23	0.001	708	17,811	28	31	0.001	631	12,150
Judicial direct expenditure pc	11	21	0.001	744	17,811	26	28	0.001	364	12,150
Police direct expenditure pc	229	157	0.001	3,747	17,811	244	145	0.001	2,111	12,150
Population (city)	51,787	248,048	129	8,461,961	13,586	39,192	10,785	1,964	2,240,582	11,268
Population density (county)	914	1,963	1	69,468	17,811	725	1,348	0.700	13,731	12,150
Black population share (city)	0.094	0.150	0.001	0.994	13,586	0.126	0.182	0.001	0.986	11,268
Earnings (city)	35,839	10,704	13,090	128,274	13,086	35,339	11,533	13,237	133,786	10,802
Share of population without high school degree	0.210	1.504	0.003	1	13,586	0.194	0.626	0.002	0.291	11,268
Democratic vote share (county)	0.502	0.139	0.058	0.920	17,811	0.431	0.149	0.073	0.870	12,150
Property crimes pc (county)	0.025	0.043	0.001	1	15,912	0.029	0.047	0.001	1	10,882
Binding TEL	0.663	0.473	0	1	17,811	0.709	0.454	0	1	12,150

Source: Sample limited to cities reporting fine and fee revenues. 0.001 indicates a value greater than 0 but less than 0.001. All values in 2016 dollars.

Not surprisingly, cities operating a court report higher levels of judicial spending. They also have slightly lower total revenues and expenditures while collecting significantly less in property taxes. In terms of demographic characteristics, cities without a court are Whiter and have smaller and less geographically-concentrated populations. The average city with a municipal court reports over $28 per capita in fine and fee revenue (or 5.2 percent of total tax revenue), compared to just under $13 for every resident in the average city with no court (two percent of total tax revenue). Approximately 19 percent of cities report no fine and fee revenues in at least one year in the sample. Cities in this group may misreport or they may not collect fine and fees monies. However, it is also possible that these cities collect fine and fee monies but report them as other forms of revenue.

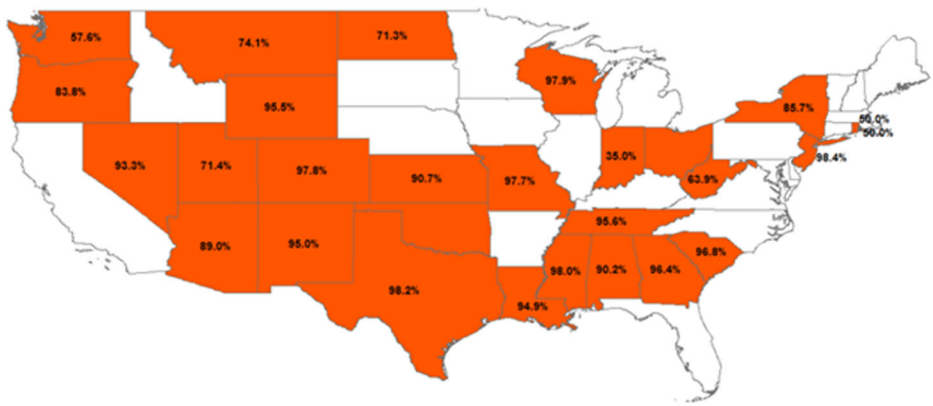
In the 27 states that allow for municipal courts, 77.5 percent (3,253) of cities host a local court. Figure 1 maps this statistic by state, also indicating the states with municipal courts.

Figure 1 does not reveal an obvious pattern or concentration in state laws. However, it does show very high take-up rates; in many states, upward of 90 percent of cities operate a municipal court.

EMPIRICAL STRATEGY

There are two potential sources of endogeneity, sample selection bias (cities reporting non-zero fine and fee revenues are a non-random subset of the population) and treatment endogeneity (non-random assignment of a city's court status). How this paper deals with each is discussed in turn.

FIGURE 1
States With Municipal Courts



Notes: Blank states do not allow for municipal courts. The percentages in the orange states indicate the percent of cities with a court in that state. Ohio and Oklahoma are blank due to missing data on municipal courts in those states.

As previously discussed, a non-trivial proportion of cities report zero fine and fee revenues. Dropping these cities from the analysis will introduce selection bias if the decision to report fine and fee revenue is correlated with unobservable characteristics of cities that also affect revenue-orientated behavior in local criminal justice systems. A Heckman two-stage selection model corrects for selection bias by estimating the effect of municipal courts on fine and fee revenue *conditional* on municipality *i* reporting positive fine and fee revenues. This is done by using all observations to fit a probit model where the dependent variable is equal to one if a city has positive fine and fee revenues and zero otherwise. The predicted values are used to calculate the inverse Mills ratio (IMR), which is included in the second stage to correct for selection bias. In this second regression, the variable of interest—per capita fine and fee revenue—is regressed on the IMR, a municipal court indicator, and a variety of control variables, and only those cities that reported positive fine and fee amounts are included. The models are:

$$F\&F_{ijt} = \beta_0 + \beta_1 \text{ Has Court}_{ij} + \beta_2 \text{ Property Tax Revenue}_{it} + aX_{it} + \eta Z_{\text{jt}} + \delta_t + \varepsilon_{ijt}$$

$$F\&Fpc_{ijt} = \beta_0 + \beta_1 \text{ Has Court}_{ij} + \beta_2 \text{ Property Tax Revenue}_{it} + \hat{\lambda}_{ijt} + aX_{it} + \eta Z_{jt} + \delta_t + \mu_{ijt} \quad (1)$$

The IMR is $\hat{\lambda}_{ijt}$ in the second equation and the dependent variable is the logged value of per capita fine and fee revenue in city *i*, in county *j* in year *t*. The main predictors of interest are the municipal court measure and a logged measure of per capita property tax revenues.[14] In the second equation, the court dummy variable is interacted with property tax revenues, allowing for fiscal capacity to influence any impact local courts have on fine and fee revenues:

$$\begin{aligned} F\&Fpc_{ijt} = \beta_0 + \beta_1(\text{Has Court}_{ij} \times \text{Property Tax Revenue}_{it}) + \beta_2 \text{Has Court}_{ij} \\ + \beta_3 \text{ Property Tax Revenue}_{it} + \hat{\lambda}_{ijt} + aX_{it} + \eta Z_{jt} + \delta_t + \mu_{ijt} \end{aligned} \quad (2)$$

The second empirical issue to address is treatment endogeneity; if cities opt into operating a court because there is some latent preference among the citizenry for raising revenues through the judicial branch, OLS estimates will overstate the relationship between local courts and criminal justice revenues. To address this problem, a binary variable (St Court Law_s) equal to one if *state law* allows for independent local courts, is employed as an instrument for *the decision of a city* to establish a local court. These laws are decades—if not centuries—old; thus their connection to the *current* voter or government preferences for courts and court-generated

[14]Because municipal courts alter the distribution of fine and fee revenues across levels of government, rather than suggesting revenue-generating activity in local courts, a positive estimate on the municipal court indicator in Equation 1 may simply reflect the redirection of fine and fee revenues from state and county government funds to local general funds. In the Appendix to this paper, I present evidence that this is not the case; municipal fine and fee revenues and county fine and fee revenues are complements (positively correlated) rather than substitutes (negatively correlated).

revenues or policies regarding the treatment of citizens is questionable. An ancillary benefit of the instrumental variables approach is that it accounts for measurement error resulting from localities opting to dissolve their local court.

The first stage estimates the strength of the relationship between state laws governing the establishment of local courts and the choice by a municipality to operate such a court, and is specified as follows:

$$\text{Has } \widehat{\text{Court}}_{ijs} = \beta_0 + \beta_1 \text{ State Court Law}_s + \beta_2 \text{ Property Tax Revenue}_{it} + aX_{it} + \eta Z_{jt} + \delta_t + \hat{\lambda}_{ijt} + \varepsilon_{ijts} \quad (3)$$

Where the outcome variable is a dummy measure equal to one if a city i in county j in state s has a municipal court and zero otherwise.[15] The state court law measure is also binary, equal to one if state law allows for municipal courts within the state and zero if it does not. The reduced form is given by:

$$F\&Fpc_{ijts} = \beta_0 + \beta_1 \text{ Has } \widehat{\text{Court}}_{ijs} + \beta_2 \text{Property Tax Revenue}_{it} + aX_{it} + \eta Z_{jt} + \delta_t + \hat{\lambda}_{ijt} + \varepsilon_{ijts} \quad (4)$$

Each specification contains year fixed effects and a vector of city (X_{it}) and county (Z_{jt}) control variables that might be correlated with fine and fee revenues. *Property Tax Revenues* are scaled by the city population and captures a city's ability to generate tax revenue. It is expected to be negatively related to court-generated revenues. Per capita grant receipts further account for differences in financial resources available to municipalities. Because increased activity by police likely increases the number of cases flowing into local courts, city expenditures on police are also controlled for. The same logic motivates the inclusion of a variable capturing judicial branch spending.

In addition to the financial characteristics, the models control for various demographic characteristics of cities. Because previous research suggests a quadratic relationship between minority population and policing outcomes, the Black share of the municipal population is included as a quadratic term (Nicholson-Crotty, Nicholson-Crotty, and Fernandez 2017). The model also accounts for differences in median earnings across cities, as economic capacity may be related to the rate at which people incur tickets and the likelihood those tickets are paid.

Fines and fees collected by the county capture road conditions and demand for police services in the wider geographic area.[16] For example, any seasonal variation in driving patterns

[15]These estimates are not included in the paper but are available upon request.

[16]Due to lack of city-level crime data, it is common practice to use a county-level measure to account for changes in the city crime environment (e.g., see Mughan, Li, and Nicholson-Crotty 2019). Doing so will invariably fail to capture some portion of city-level variation, a problem that varies inversely with city size. However, crime is not geographically constrained, and it seems reasonable to assume that city police departments are responsive to events in areas surrounding their geographic boundaries. This suggests the county measure is a reasonable proxy for a city-level measure.

or changes in demand for law enforcement services that increase fine and fee revenues at the local level would presumably lead to an increase at the county level as well. The number of property crimes reported in county j at time t is included to control for changes in crime environment that might affect fine and fee revenue, for example, police may devote fewer resources to traffic enforcement if an increase in crime means those resources are deployed elsewhere. Population density accounts for differences in the opportunity to issue the traffic tickets that generate fine and fee monies in urban versus rural areas. The proportion of a county's population that voted for the democratic presidential candidate in the 2008, 2012, and 2016 elections captures cross-county differences in fiscal policy preferences and demand for law enforcement services.[17] Finally, a binary variable equal to one if the city is operating under a binding TEL is included to account for sustained financial pressure that may affect revenue policy.

RESULTS

Table 4 presents estimates of the effect of financial incentives, in the form of municipal courts, on fine and fee revenues.

I begin by discussing the impact of select control variables. First, as expected, property tax revenue is negatively associated with fine fee revenues ($p < 0.01$); as municipalities generate more revenue through property taxation, they raise less through criminal justice charges. Additionally, cities that spend more on police and judicial services raise more money through fines and fees ($p < 0.01$). Third, consistent with previous research, the racial composition of the city has a large, positive influence on criminal justice revenues and this relationship is non-linear. Finally, the positive estimates on population density suggest that fine and fee revenues increase as the ticketing base expands.

Turning to the main variable of interest, results reveal that cities with a municipal court generate between 62.4 and 97.4 percent more in fine and fee revenues than do cities without a court, all else equal. This result must be interpreted with caution because the redirection of fine and fee revenues engendered by municipal courts means that these estimates reflect revenue-seeking behavior incentivized by courts *and* the mechanical effect of altering the flow of fine and fee revenues. Unfortunately, the nature of the data prevents the isolation of each effect. However, in the Appendix to this paper, I provide evidence that fine and fee revenues collected at the county and municipal level are positively correlated, implying that shifting fine and fee revenues across the levels of government do not fully explain the estimates in Table 3. Additionally, because any redistributive effect is independent of city size and property tax collections, we can draw inferences about revenue-seeking behavior by studying the revenue effects of municipal courts along these dimensions. This is how the remainder of the analysis proceeds.

To test how the results from Table 4 vary with city size, the previous analysis is repeated at different quartiles of the population distribution. The first two columns of Table 5 report results

[17]Values for off-election years are generated using linear interpolation.

TABLE 4
Relationship Between Municipal Courts and Fine & Fee Revenues

	OLS			IV
	(1)	(2)	(3)	(4)
Municipal court	0.974 (0.089)***	0.739 (0.074)***	0.633 (0.051)***	0.615 (0.076)***
Property tax revenue (log, pc)	–	0.000 (0.023)		
−0.074 (0.015)***	−0.074 (0.015)***			
Black population share	–	2.175 (0.252)***	1.509 (0.254)***	1.516 (0.253)***
Black population share^2	–			
−1.827 (0.381)***	−1.225 (0.342)***			
−1.225 (0.341)***	City population (log)	–	0.064 (0.016)***	−0.033 (0.021)
−0.033 (0.021)				
IMR	–			
−1.958 (0.145)***	−1.253 (0.116)***			
−1.260 (0.117)***	County F&F revenue	–	–	0.023 (0.013)*
0.023 (0.013)*				
Police exp (log, pc)	–	–	0.132 (0.021)***	0.132 (0.021)***
Judicial exp (log,pc)	–	–	0.102 (0.019)***	0.104 (0.020)***
Earnings (log)	–	–	0.004 (0.097)	0.006 (0.095)
Total grants (log, pc)	–	–	0.003 (0.010)	0.002 (0.010)
Property crimes reported (log, pc)	–	–	0.001 (0.038)	0.003 (0.039)
Population density (log)	–	–	0.143 (0.027)***	0.143 (0.027)***
Democratic vote share (county)	–	–	0.110 (0.232)	0.094 (0.231)
Binding TEL	–	–	−0.074 (0.049)	−0.073 (0.049)
Constant	2.860 (0.083)***	2.439 (0.204)***	2.157 (0.992)**	2.165 (0.995)**
F-statistic (*p* values in parentheses)	26.54 (0.000)***	159.75 (0.000)***	76.17 (0.000)***	1468.08 (0.000)***
N	22,933	15,942	15,942	15,942

Source: Year fixed effects included in all specifications. Robust standard errors clustered at the county level and in parentheses unless otherwise indicated. Chi squared statistic presented in place of F-statistic in IV models.
*$p < 0.10$.
**$p < 0.05$.
***$p < 0.01$.

for the 25 percent of cities with the smallest populations, while the seventh and eighth columns show equivalent point estimates for the largest 25 percent of cities.

Turning first to the variable of interest, the indicator for municipal courts. In the smallest cities, municipal courts increase per capital fine and fee revenues by between 94.3 and 102.2 percent. The equivalent statistics are 38.3 and 38.2 percent in the largest cities. According to

TABLE 5
Relationship Between Municipal Courts and Fine & Fee Revenue by City Size

	Bottom 25 percent (population ≤ 7,047)		Bottom 50 percent (population ≤ 15,542)		Top 50 percent (population ≥ 15,542)		Top 25 percent (population ≥ 37,847)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Municipal court	0.943 (0.073)***	1.022 (0.106)***	0.857 (0.059)***	0.898 (0.087)***	0.489 (0.065)***	0.438 (0.096)***	0.383 (0.074)***	0.382 (0.108)***
Property tax revenue (log, pc)	−0.035 (0.022)	−0.031 (0.023)	−0.059*** (0.018)	−0.057*** (0.018)	−0.081*** (0.023)	−0.084*** (0.023)	−0.103*** (0.039)	−0.103*** (0.040)
Black population share	2.099 (0.422)***	2.024 (0.426)***	1.371 (0.358)***	1.340 (0.361)***	1.582 (0.351)***	1.584 (0.350)***	1.056 (0.454)**	1.055 (0.453)**
Black population share^2	−1.845 (0.524)***	−1.794 (0.531)***	−0.868 (0.483)*	−0.846 (0.485)*	−1.526 (0.481)***	−1.505 (0.481)***	−1.586 (0.630)**	−1.585 (0.631)**
City population (log)	−0.004 (0.088)	−0.003 (0.088)	−0.100 (0.041)**	−0.099 (0.040)**	−0.024 (0.031)	−0.025 (0.032)	−0.002 (0.035)	−0.002 (0.036)
County F&F revenue	0.022 (0.015)	0.021 (0.016)	0.026 (0.013)*	0.026 (0.014)*	0.011 (0.018)	0.011 (0.017)	0.001 (0.024)	0.001 (0.024)
Police exp (log, pc)	0.192 (0.031)***	0.194 (0.030)***	0.158 (0.027)***	0.159 (0.027)***	0.116 (0.026)***	0.116 (0.026)***	0.081 (0.029)***	0.081 (0.029)***
Judicial exp (log, pc)	0.088 (0.019)***	0.080 (0.021)***	0.089 (0.020)***	0.084 (0.021)***	0.118 (0.024)***	0.125 (0.026)***	0.141 (0.027)***	0.141 (0.027)***
Earnings (log)	0.062 (0.169)	0.057 (0.167)	−0.031 (0.121)	−0.035 (0.120)	0.060 (0.105)	0.069 (0.104)	−0.024 (0.112)	−0.023 (0.111)
Total grants (log, pc)	0.018 (0.011)	0.021 (0.012)*	0.024 (0.010)**	0.026 (0.010)***	−0.010 (0.019)	−0.012 (0.019)	0.034 (0.029)	0.034 (0.029)
Property crimes reported (log, pc)	0.034 (0.049)	0.031 (0.048)	0.062 (0.039)	0.060 (0.039)	-0.112 (0.076)	-0.104 (0.078)	-0.252** (0.102)	-0.252** (0.103)

(*continued*)

TABLE 5 (Continued)

	Bottom 25 percent (population ≤ 7,047)		Bottom 50 percent (population ≤ 15,542)		Top 50 percent (population ≥ 15,542)		Top 25 percent (population ≥ 37,847)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Population density (log)	0.145 (0.031)***	0.147 (0.031)***	0.156 (0.030)***	0.157 (0.030)***	0.133 (0.032)***	0.133 (0.031)***	0.104 (0.031)***	0.104 (0.031)***
Democratic vote share (county)	−0.256 (0.304)	−0.197 (0.295)	−0.081 (0.292)	−0.051 (0.287)	0.361 (0.236)	0.310 (0.240)	0.699*** (0.265)	0.698** (0.279)
Binding TEL	−0.230 (0.067)***	−0.247 (0.067)***	−0.194 (0.056)***	−0.201 (0.055)***	−0.036 (0.066)	−0.036 (0.067)	−0.201 (0.068)***	−0.201 (0.070)***
IMR	−0.383 (0.233)	−0.333 (0.239)	−0.732 (0.168)***	−0.708 (0.170)***	−1.453 (0.148)***	−1.468 (0.149)***	−1.722 (0.192)***	−1.722 (0.192)***
Constant	0.793 (1.777)	0.708 (1.811)	2.928 (1.197)**	2.896 (1.211)**	1.197 (1.234)	1.214 (1.230)	1.614 (1.307)	1.615 (1.312)
F-statistic (*p* values in parentheses)	44.75 (0.000)	897.71*** (0.000)	61.43*** (0.000)	1205.26*** (0.000)	35.79*** (0.000)	699.69*** (0.000)	27.18*** (0.000)	486.84*** (0.000)
N	3,825	3,825	7,727	7,727	8,215	8,215	4,312	4,312

Source: Year fixed effects included in all specifications. Robust standard errors clustered at the county level and in parentheses unless otherwise indicated. χ^2 statistic presented in place of *F*-statistic in IV models.

*$p < 0.10$.

**$p < 0.05$.

***$p < 0.01$.

the IV estimates, the smallest cities generate $1.31 more in fine and fee revenue per resident than do the largest cities.[18]

Differences in the control variables' point estimates across population size provide further insight into revenue-generating activities. A one percent increase in the Black share of city population increases fine and fee revenue by twice as much in the smallest (columns 1 and 2) relative to the largest (columns 7 and 8) cities. If this relationship results from city governments targeting disempowered minorities as a revenue source (Sances and You 2017), then these results suggest smaller city governments more fully engage in such behavior. Turning to the financial variables, in all but the smallest cities (columns 1 and 2), property tax revenues are a negative and highly significant predictor of fine and fee revenue ($p < 0.01$). It may be that small cities with courts maximize criminal justice revenues regardless of available tax dollars, a conclusion that is consistent with descriptive statistics showing that among cities with municipal courts, those in the bottom quartile of the population distribution generate $31 per capita in fine and fee revenue compared to $22 per capita among those in the top quartile.[19]

After racial composition, the amount city governments spend on their policing function is the strongest predictor of fine and fee revenue and has over twice the predictive power in the smallest cities. It appears that relative to their peers in larger cities, small city law enforcement agencies are more likely to channel funding increases into revenue-positive activities. An alternative explanation is that police departments in larger cities perform a greater array of functions and as a result, increases in funding may be devoted to non-revenue generating functions.

Next, I consider how the impact of municipal courts varies with property tax revenues. The results from Equation 2 are reported in Table 6.

Column 1 contains models without control variables while column 2, the preferred specification, includes the full set of controls. The results indicate that municipal courts are positively related to fine and fee revenues; however, this relationship is mitigated by property tax revenues. Figure 2 allows for a visual interpretation of the estimates in column 2.

The solid line, giving the relationship between property taxes and fines and fees in the absence of a municipal court, is slightly upward sloping. However, in cities with courts, there is a clear, negative relationship; these cities raise less money through criminal justice fines and fees as property tax revenues increase. Moreover, at high levels of property tax collections, court status has no statistical or substantive impact on fine and fee revenues. This result is robust to the inclusion of city fixed effects and provides support for claims that cities that are unwilling or unable to increase taxes use their criminal justice systems to replace the needed tax dollars.[20]

[18]Calculated by taking the difference of the exponential values of the point estimates on the municipal courts dummy in columns 2 and 8, $2.78–$1.47.

[19]The equivalent statistics for small and large cities without courts are $11 and $13, respectively.

[20]Regression results from a city fixed effects model and a visual depiction of the results can be found in Table A2 and Figure A2 of the Appendix.

TABLE 6
Relationship Between Municipal Courts, Fine & Fee, and Tax Revenue

	(1)	(2)
Municipal court	2.034 (0.362)***	1.648 (0.314)***
Property tax revenue (log, pc)	0.136 (0.058)**	0.039 (0.043)
Municipal court × property tax revenue	−0.195 (0.061)***	−0.156 (0.049)***
Black population share	–	1.492 (0.253)***
Black population share^2	–	−1.217 (0.342)***
City population (log)		−0.033 (0.020)
County F&F revenue	–	0.024 (0.013)*
Police exp (log, pc)	–	0.127 (0.021)***
Judicial exp (log, pc)	–	0.098 (0.018)***
Earnings (log)	–	−0.009 (0.097)
Total grants (log, pc)	–	0.004 (0.010)
Property crimes reported (log, pc)	–	−0.000 (0.037)
Population density (log)	–	0.149 (0.027)***
Democratic vote share (county)	–	0.032 (0.218)
Binding TEL	–	−0.073 (0.048)
IMR	−2.058*** (0.155)	−1.276*** (0.117)
Constant	2.404*** (0.343)	1.593 (0.117)
F-statistic (*p* values in parentheses)	89.73*** (0.000)	80.71*** (0.000)
Controls	No	Yes
N	15,942	15,942

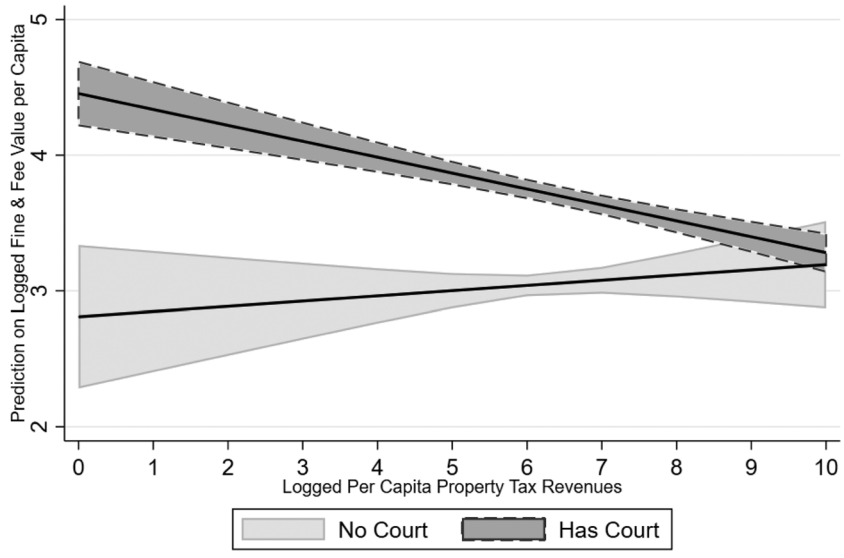
Source: Year fixed effects are included in all specifications. Robust standard errors clustered at the county level and in parentheses unless otherwise indicated.
*$p < 0.10$.
**$p < 0.05$.
***$p < 0.01$.

DISCUSSION AND CONCLUSION

Using a new dataset on municipal courts and local government financial and demographic characteristics, this paper examines the effect of financial incentives on extractive revenue practices in U.S. cities and their interaction with tax policy. A finding running throughout is that municipal courts are positively associated with criminal justice fine and fee revenues. Although the intergovernmental redistribution of these revenues engendered by municipal courts prevents direct interpretation of the magnitude of this effect, we can gain valuable insight into the relationship by studying the effect municipal courts have on fines and fees in different settings.

Consistent with existing anecdotal and descriptive evidence (Maciag 2019) and Hypothesis 2, local courts have the largest effect on fine and fee revenues in small cities. In these cities, fine and fee revenue responds positively to increases in police funding but does not decrease as property crime rates increase. In larger cities, fine and fee revenue is less responsive to changes in police funding and decreases as crime rates increase, suggesting police shift resources away

FIGURE 2
The Impact of Local Courts on Fine & Fee Revenues as Property Tax Collections Increase



Because the per capita property tax variable is log transformed, the values on the x-axis are not directly interpretable.

from traffic enforcement when there are competing demands for their services. Taxing capacity (measured as per capita property tax yield) exerts a negative influence on fine and fee revenue across city size, providing support for Hypothesis 3; cities are less prone to look to their criminal justice systems for money when they are raising funds via property taxation. Taken together, variation in the effect of various control variables and the magnitude of the impact of municipal courts are interpreted as evidence of a revenue motivation at work in local criminal justice systems.

This paper builds on previous work studying how a city's racial composition impacts reliance on fine and fee revenues and on a broader literature studying the financial determinants of law enforcement. At the same time, this paper makes several novel contributions to existing knowledge. It is the first empirical study of the role local courts play in municipal finances and their impact on revenue-generating activity in the judicial branch. Second, it provides additional evidence that a key component of the public policy problem referred to as "policing-for-profit" is financial—governments that lack taxing power look for revenue elsewhere. Finally, this research shows that smaller local governments appear to be more susceptible to the problematic issues associated with fines and fees. The clear and critical policy implication is that politicians who want to address these issues should reconsider how municipal courts are funded (if not their very existence), particularly in smaller municipalities. It is also a particularly timely question as legal and moral questions surrounding criminal justice revenue practices in U.S. cities are mounting. More research is needed to develop an understanding of

how the financial incentives created by municipal courts interact with municipal finances and city characteristics, with a particular focus on the racial composition of cities. Future work would certainly benefit from better data on municipal courts, but given the current state of knowledge, this paper is a step in the right direction.

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APPENDIX

Municipal Courts and the Distribution of Fine and Fee Revenues

Municipal courts alter the distribution of fine and fee revenues across levels of government. Take City A for example: City A does not have a court. Therefore, traffic tickets issued by law enforcement are filed in county courts and the resulting fine and fee revenues are retained by the county government. In an alternate universe, City A operates a court, and as a result, those

TABLE A1
Do Municipal Fine and Fee Revenues Detract from County Fine and Fee Revenues?

	State law does not allow courts			State law allows courts		
	(1)	(2)	(3)	(4)	(5)	(6)
Municipal F&F revenue	−0.096 (0.092)	−0.1211*	0.008	−0.099*	−0.002	0.053*
		(0.066)	(0.035)	(0.059)	(0.048)	(0.032)
N	5,786	5,786	5,786	9,034	9,034	9,034
Fixed effects	None	State	County	None	State	County

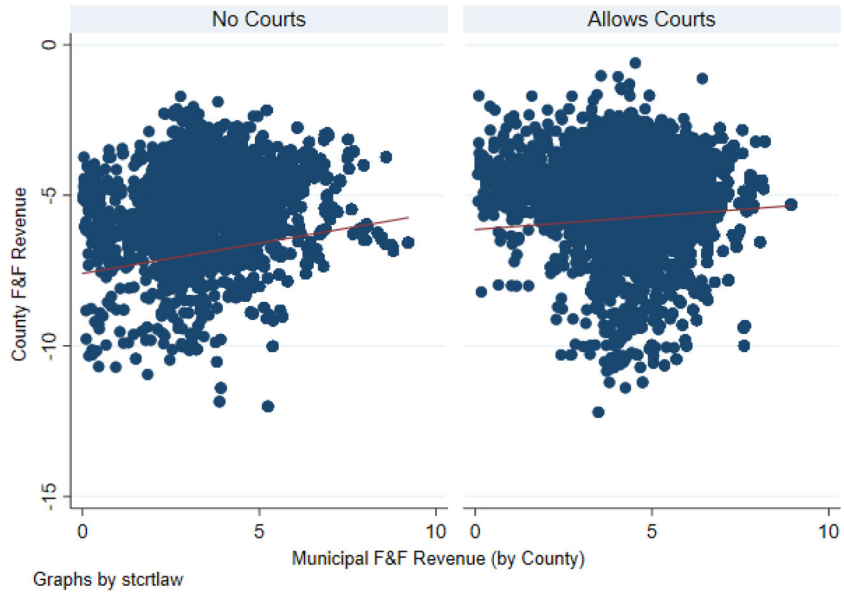
Source: Year fixed effects and control variables are included in all specifications. Robust standard errors clustered at the county level.
*$p < 0.10$.

TABLE A2
Relationship Between Municipal Courts, Fine & Fee, and Tax Revenue

	(1)	(2)
Municipal court	1.469 (0.669)**	1.067 (0.639)*
Property tax revenue (log, pc)	0.078 (0.099)	−0.005 (0.091)
Municipal court * property tax revenue	−0.141 (0.103)	−0.080 (0.097)
Black population share	–	1.383 (0.600)**
Black population share^2	–	−0.870 (0.892)
County F&F revenue	–	0.028 (0.013)**
Police exp (log, pc)	–	0.025 (0.027)
Judicial exp (log, pc)	–	0.042 (0.016)***
Earnings (log)	–	0.215 (0.129)*
Total grants (log, pc)	–	−0.026 (0.009)***
Property crimes reported (log, pc)	–	0.003 (0.033)
Population density (log)	–	0.049 (0.033)
Democratic vote share (county)	–	0.358
		(0.282)
Binding TEL	–	0.208***
		(0.075)
IMR	−1.621***	−1.286***
	(.259)	(0.117)
F-statistic	20.32***	15.69***
	(0.000)	(0.000)
City fixed effects	Yes	Yes
Controls	No	Yes
N	15,942	15,942

Source: Year fixed effects are included in all specifications. Robust standard errors clustered at the county level and in parentheses unless otherwise indicated.
*$p < 0.10$.
**$p < 0.05$.
***$p < 0.01$.

FIGURE A1
Relationship Between Municipal and County Fine and Fee Revenue

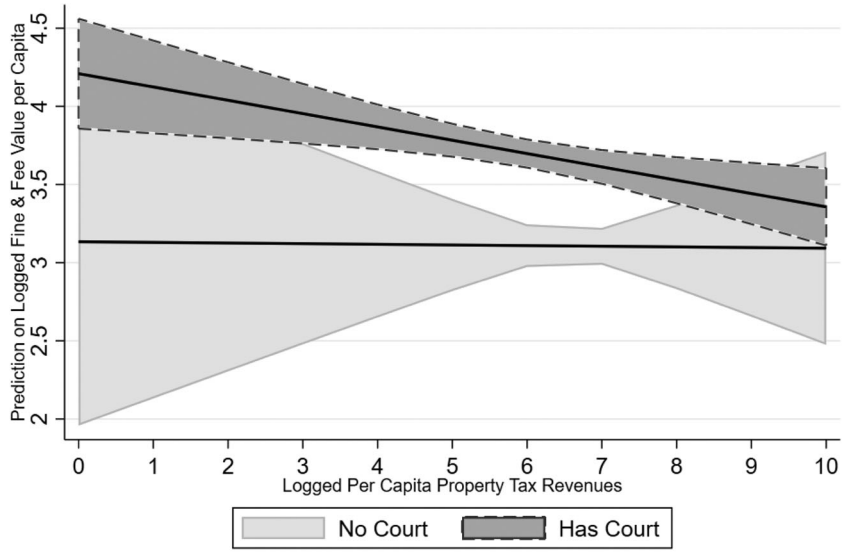


Notes: The figure plots total county fine and fee revenue against total municipal fine and fee revenue, by county. The dashed line is the line of best fit. If there is a fixed amount of fine and fee revenues, an increase in municipality's share of fine and fee revenues would necessitate a decrease in the county share and the scatterplots would depict a negative relationship. Instead, there is a positive relationship, suggesting that the pool of criminal justice revenues is expandable.

same traffic tickets are filed in City A's court and the resulting profits are retained locally. This poses a problem for regression analysis as a finding indicating a positive relationship between municipal court status and fine and fee revenues may simply reflect the redirection of fine and fee revenues from state and county government funds to local general funds. If this is the case, any increase in municipal fine and fee revenues necessitates a decrease in fine and fee monies flowing to counties (and vice versa). In other words, there is a fixed amount to be collected through the levying of fines and fees, and the only effect of municipal courts is to alter the intergovernmental distribution of these revenues.

Alternatively, the pool of criminal justice revenues could be expandable. This is true if, for example, municipal courts lead to the passage of new ordinance violations or an increase in the number or amount of tickets issued (Carpenter, Sweetland, and McDonald 2019). If this is the case, municipal courts need not detract from county's fine and fee haul and the estimate on the municipal court indicator in Equation 1 reflects some amount of revenue-generating activity in local justice systems.

FIGURE A2
The Impact of Local Courts on Fine & Fee Revenues as Property Tax Collections Increase with City Fixed Effects



Because the per capita property tax variable is log transformed, the values on the x-axis are not directly interpretable.

To rule out the first scenario, municipal fine and fee revenue is aggregated to the county level. If the only effect of municipal courts is to change the intergovernmental distribution of fine and fee revenues, then there must be a negative relationship between the county and municipal fine and fee monies (where the latter is aggregated to the county level). Figure 1A depicts this relationship in states that do and do not allow for municipal courts.

In each scenario, the regression line is upward sloping, providing support for the contention that fine and fee revenues are not zero sum; monies received by local governments need not detract from those received by county governments.

To test this relationship empirically, the logged value of per capita county fine and fee revenue is regressed on the aggregated municipal measure, a variety of controls, and year and county fixed effects in states that allow and do not allow for local courts. Results of this analysis are reported in Table 1A.

The preferred specification uses county fixed effects (columns 3 and 6) because it accounts for time-invariant, unobservable characteristics of counties, such as preferences for criminal justice revenues. Looking first at states without municipal courts, within a county, a one percent increase in per capita municipal court fine and fee revenues is associated with a 0.008 percent increase in per capita county fine and fee revenues, an effect that is statistically and substantively insignificant. However, within counties located in states allowing for municipal courts, a one percent increase in municipal court fine and fee revenues is associated with a

0.053 percent increase ($p < 0.1$) in county fine and fee revenues, suggesting that municipalities are able to grow criminal justice revenues by issuing tickets to new populations or by issuing new types of tickets.

These results provide strong, suggestive evidence that municipal courts increase municipal fine and fee revenues above what they would be if the municipality did not operate a local court. However, assuming municipal courts have a positive effect on fine and fee revenue, I remain unable to separate the portion of the effect that is due to the redistribution of these revenues caused by local courts from the portion of the effect resulting from behavioral changes induced by the financial incentive courts provide. Therefore, rather than directly interpreting the magnitude of the municipal court effect, the discussion focuses on how the effect varies by city size and tax capacity.

Estimating the How the Effect of Municipal Courts on Fine and Fee Revenues Varies With Tax Collections Using City Fixed Effects

Because the court measure is time-invariant, in the majority of the analyses, I am prevented from using city fixed effects to account for time-invariant city characteristics that might influence court adoption and reliance on fine and fee revenues. However, I am able to include city fixed effects in Equation 2, where property tax revenues interact with the municipal court indicator. Repeating this analysis with city fixed effects gives how the effect of municipal courts on fine and fee revenues varies with property tax collections within a city over time. This relationship is modeled as:

$$F\&Fpc_{ijt} = \beta_0 + \beta_1 (\text{Has Court}_{ij} \times \text{Property Tax Revenue}_{it}) + \beta_2 \text{Has Court}_{ij} + \beta_3 \text{Property Tax Revenue}_{it} + \hat{\lambda}_{ijt} + aX_{it} + \eta Z_{jt} + \pi_i + \delta_t + \mu_{ijt} \quad (1A)$$

where π_j are city fixed effects. Regression results and marginal effects graph mirroring those included in the main body of the paper are reported below in Table 2A and Figure 2A, respectively.

The direction of the results on the interaction term and the main effects are unchanged from the OLS analysis and the main variables of interest remain jointly significant.