

# Who Pays for Government? Descriptive Representation and Exploitative Revenue Sources

**Michael W. Sances**, University of Memphis  
**Hye Young You**, Vanderbilt University

We examine US city governments' use of fines and court fees for local revenue, a policy that disproportionately affects black voters, and the connections between this policy and black representation. Using data on over 9,000 cities, we show that the use of fines as revenue is common and that it is robustly related to the share of city residents who are black. We also find that black representation on city councils diminishes the connection between black population and fines revenue. Our findings speak to the potential of descriptive representation to alleviate biases in city policy.

Much recent public discussion focuses on racial discrimination by local officials and not only in terms of police violence. According to a US Justice Department report in the wake of the Michael Brown shooting in Ferguson, Missouri—a city with a majority black population but a majority white government—city officials urged the police chief to generate more revenue from traffic tickets and court fines to address a substantial sales tax shortfall. Indeed, about 20% of Ferguson's revenues come from fines and related sources.<sup>1</sup> Other observers note that the dependence on fines is not unique to Ferguson but also occurs in other Missouri communities.<sup>2</sup>

Scholars have extensively documented racial bias in pedestrian stops by law enforcement (Epp, Maynard-Moody, and Haider-Markel 2014; Gelman, Fagan, and Kiss 2007; Weaver and Lerman 2010), elected officials' response to constituent requests (Butler and Broockman 2011; White, Nathan, and Fallor 2015), and public service delivery by bureaucrats (Einstein and Glick 2016; Ernst, Nguyen, and Taylor 2013). In contrast, bias in the form of local revenue generation is rarely

discussed in this literature, perhaps because city officials are assumed to be limited in their policy discretion (Ferreira and Gyourko 2009; Peterson 1981). Police spending, on the other hand, is one of the few areas where past work does find evidence of local discretion (Gerber and Hopkins 2011). We should therefore expect local governments to exercise discretion over law enforcement revenue as well.

In this paper, we examine city governments' use of fines and court fees, a policy that disproportionately harms black voters.<sup>3</sup> Using data on over 9,000 cities, we show that the use of fines as revenue is both commonplace and robustly connected to the proportion of residents who are black: 86% of the cities in our sample obtain at least some revenue through fines and fees, with an average of about \$8.00 per capita, and this is higher in cities with larger black populations—up to about \$20.00 higher per capita—when we compare cities with the lowest black populations to the highest.

We then show that the relationship between black population and fines is conditioned by black representation on the city council. Previous studies show that politicians are

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Michael W. Sances is assistant professor in the Department of Political Science at University of Memphis, Memphis, TN 38152. Hye Young You is assistant professor in the Department of Political Science at Vanderbilt University, Nashville, TN 37203.

Data and supporting materials necessary to reproduce the numerical results in the paper are available in the *JOP* Dataverse (<https://dataverse.harvard.edu/dataverse/jop>). An online appendix with supplementary material is available at <http://dx.doi.org/10.1086/691354>.

1. US Department of Justice, Civil Rights Division, "Investigation of the Ferguson Police Department," March 4, 2015.

2. For instance, in Normandy, a city near Ferguson, 38% of revenue came from fines and court costs in 2013 ("Contesting Traffic Fines, Missouri Sues 13 Suburbs of St. Louis," *New York Times*, December 18, 2014).

3. There is evidence that traffic and pedestrian stops that could lead to fines and fees are racially concentrated (Gelman et al. 2007; Weaver and Lerman 2010). See also the report of the Missouri state attorney general, "2014 Vehicle Stops Executive Summary," Missouri Attorney General's Office, <https://ago.mo.gov/home/vehicle-stops-report/2014-executive-summary/> (accessed May 8, 2017).

more likely to address issues relevant to constituents sharing similar descriptive traits (Broockman 2013) and that constituents disproportionately communicate more to same-race representatives (Broockman 2014; Gay 2002). If the presence of black representatives on city councils gives black citizens a channel to deliver complaints and concerns regarding unequal treatment, descriptive representation may reduce a city's use of fines. Alternatively, a black councilor could monitor the degree to which the budget depends on exploitative sources. Consistent with past findings that descriptive representation matters for city policy (Eisinger 1982; Mladenka 1989; Stein 1986), we find that the presence of black council members significantly reduces the relationship between race and fines.

#### DATA

To measure cities' use of fines, we use the Census of Governments (COG), a project of the US Census Bureau that collects revenue and expenditure data for all local governments every five years. The COG asks cities how much revenue they collect from "penalties imposed for violation of law; civil penalties (e.g., for violating court orders); court fees if levied upon conviction of a crime or violation . . . and forfeits of deposits held for performance guarantees or against loss or damage (such as forfeited bail and collateral)." This variable only includes penalties related to matters of law, and it does not include "penalties relating to tax delinquency; library fines; and sale of confiscated property" (US Census Bureau 2011). We use the COG data from 2012.<sup>4</sup> Of the 35,000 city, town, and township governments in the COG, we focus on those with police and/or court systems only, as only these governments have the capacity to issue fines, and we also restrict the sample to cities with populations of at least 2,500.<sup>5</sup> The resulting sample consists of 9,143 observations.

Because the raw amount of fine revenues is skewed, we divide by city population, and we then take the logarithm plus one. We present the distribution of this variable in figure 1A, which shows that the majority of cities collect at least some revenue from fines and fees. Although 1,252 of the cities in our

sample report collecting zero revenue from fines, 7,891, or 86%, collect greater than zero revenues.<sup>6</sup> Among the full sample, the average collection is about \$8.00 per person (among cities with greater than zero fines revenue, the average is \$11.00). There is also substantial variation in the collection of fines: it varies from a few cents to a few hundred dollars per person.<sup>7</sup>

#### FINES, RACE, AND REPRESENTATION

We combine our fines data with population information from the 2010 US Census. Figure 1B displays the relationship between fine revenue and the proportion of a city's population that is black (we log this variable as well, as it is similarly skewed). This figure shows a clear positive relationship between the two variables.

To account for potential confounding—cities with high black populations may also differ in other ways that impact fines use—we next conduct a series of linear regressions of (log) fines per capita on (log) percent black population; we scale black population such that zero is the sample minimum and one is the sample maximum. We include a set of municipal- and county-level variables meant to capture other determinants of fines that may also be related to percent black population: local finances (total local revenue, share of revenue from taxes, share of revenue from state and federal), demographics (log population, log population density, income per capita, share with a college degree, share over age 65), and county-level characteristics (crime per capita, police officers per capita, share Democratic vote in 2012, number of governments per capita, net migration). Notably, our set of demographic controls includes other measures of ethnic and racial diversity, including a Herfindahl index (Alesina, Baqir, and Easterly 1999), Theil's measure of segregation (Theil 1972; Trounstein 2016), and the proportions Hispanic and foreign-born.

We summarize the results in table 1; we include the full results in the appendix (available online). In all specifications, the point estimates on percent black population are statistically significant: the estimates range from 1.0 to 1.5, and the smallest *t*-statistic is 9. Because log-log coefficients

4. While the data on fines revenue are available for both 2007 and 2012, we do not exploit the panel data structure because there is little variation within a city in terms of revenues from fines over the five-year period.

5. We code a city as having police or courts if the city reports spending more than zero dollars on either service. Based on our correspondence with the Census Bureau, using the spending data is the best available method for determining which general purpose funds governments provide for what services. We focus on cities with at least 2,500 persons, as this is the conventional definition of urban areas used by the Census and many other scholars (e.g., Boustan et al. 2013). In the appendix, we show that we achieve similar results when we use all 35,000 observations, most of which have a value of zero on the dependent variable.

6. Cities may report zero revenue from fines for several reasons. They may issue fines but not use them as a general revenue source (perhaps instead putting the money in a separate state or local fund), they may have issued no fines, or they may misreport. In the appendix, we show that population and income are the biggest predictors of having any revenues from fines and fees. We also estimate a selection model for robustness, finding similar results.

7. On average, revenues from fines and fee make up 2% of a city's own revenues. In the appendix, we replicate our findings using the fine revenue share as the outcome variable.

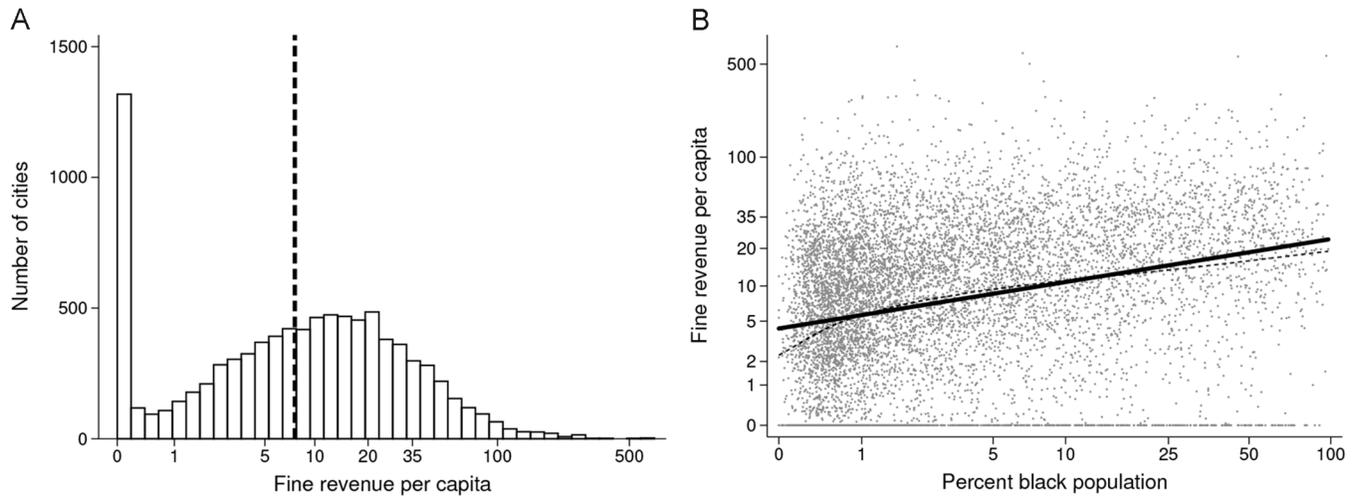


Figure 1. Distribution of fines per capita and relationship with black population. Sample is all US cities that spend more than zero on law enforcement. The dashed vertical line in panel A denotes the sample average, the solid line in panel B represents the regression line, and the dashed line in panel B is a lowess line. Both fines and black population are logged, with the scales exponentiated for readability. The number of observations in each figure is 9,143.

are difficult to interpret (and more so when one of the untransformed variables is a proportion), we translate the coefficients to dollar amounts in the footer (we describe the procedure for transforming the coefficients in the appendix). Substantively, the estimates imply that cities with the largest share of black residents collect between \$12.00 and \$19.00 more, per person, than cities with the smallest black share of residents.

While data limitations prevent us from ruling out unobservable city-level confounders—we lack enough panel variation to implement a difference-in-differences design and the city council election data for a discontinuity design are unavailable—in the appendix we re-estimate the regression in table 1 while including state-level and county-level fixed effects. This specification controls for all possible unobserved confounding variables, provided that they vary at the state level or the county level. The relationship between race and fines is robust to these strategies. Thus, while strong conclusions regarding causality would be unwise here, we do demonstrate a strong, robust relationship that is consistent with a causal effect. Also in the appendix, we show that our estimates are robust to clustering errors at the county level, that the impact of race is seen in both large (above 10,000 persons) and small (less than 10,000 persons) cities, and that the results are unchanged when using a two-stage selection model to account for cities reporting zero fines revenue.

To explore the moderating effect of descriptive representation, we use data on city councilor races from the 2006 and 2011 International City/County Management Association (ICMA). Unlike the COG, not all cities respond to the ICMA surveys; those that do so tend to be larger, and our

sample reduces to about 3,700 cities after merging with the ICMA. However, we are able to replicate the results from table 1 on this smaller subsample, which suggests that any patterns evident using this subset of cities would likely hold in the full sample. We estimate the impact of descriptive representation by interacting the share of the population that is black with the presence of at least one black city councilor, using the same set of control variables as before. The interaction represents how the relationship between fines and black population changes when moving from no black councilor

Table 1. Revenue from Fines and Black Population in US Cities

	(1)	(2)	(3)	(4)
Percent black population	1.47*** (.06)	1.35*** (.06)	1.16*** (.12)	1.02*** (.12)
Effect size (\$)	18.91 (1.08)	16.79 (1.04)	13.65 (1.98)	11.59 (1.78)
Controls:				
Local finances		Yes	Yes	Yes
Demographics			Yes	Yes
Crime, fragmentation, mobility,				
Democratic vote				Yes

Note. The sample size is 8,665 for all specifications. Robust standard errors are in parentheses.

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

Table 2. Revenue from Fines and Black Representation on City Councils

	(1)	(2)	(3)	(4)
Percent black population	1.26*** (.12)	1.00*** (.19)	1.50*** (.14)	1.00*** (.19)
Any black council	-.13 (.07)	-.09 (.07)	.39** (.14)	.23 (.15)
Black population × any black council			-.94*** (.25)	-.61* (.28)
Controls		Yes		Yes

Note. The sample size is 3,764 in all specifications. Robust standard errors are in parentheses.

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

to having at least one black councilor. If this interaction is negative, the presence of minority city council members reduces the relationship between fines and race.

In the first two columns of table 2, we report specifications where we exclude the interaction terms. The relationship between fines and black population holds in the relatively smaller subsample of cities for which we can obtain data on city council race. The lack of an unconditional effect for black councilor suggests that black representatives' own preferences play only a limited role in revenue collection. In contrast, the third and fourth columns include the interaction between black population and an indicator for the presence of at least one black councilor. As predicted, the interactions are negative. Comparing the magnitudes of the coefficients, the relationship between race and fines is 50% less in cities with at least one black representative.<sup>8</sup>

It is important to note that our results do not indicate that the presence of a black council member completely eliminates the relationship between race and fines. The baseline relationship between black population and reliance on fines holds, albeit at a substantially reduced magnitude, even when descriptive representation is achieved. Although local government officials may decide the overall portfolio of revenue sources, street-level bureaucrats also wield significant discretion (Lipsky 2010), and their own biases could affect who receive traffic tickets and other penalties, as previous research suggests (Antonovics and Knight 2009).

8. Calculations of substantive magnitudes are available in the appendix, as are results using interactions with the share of the council that is black. The appendix also presents results that relax the assumption of a linear relationship between race and fines.

## DISCUSSION

Assembling a new data set on fines use and using variation in descriptive representation, we find municipal governments with higher black populations rely more heavily on fines and fees for revenue. Further, we find that the presence of black city council members significantly reduces—though does not eliminate—this pattern. While data limitations prevent us from implementing more credible designs, the robust relationships we observe are consistent with race playing a crucial causal role in the degree to which cities rely on regressive revenue sources.

Aside from regressivity (Harris, Evans, and Beckett 2010), policing for revenue may disenfranchise. Contact with law enforcement decreases democratic participation (Lerman and Weaver 2014; Weaver and Lerman 2010), and that fines and fees are often implemented in a racially biased fashion may help explain why turnout is lower among poor minority voters (Hajnal 2009). While descriptive representation at the city council level decreases fine use, fines may make descriptive representation less likely by depressing minority turnout (Hajnal and Trounstone 2005).

Future work should explore the mechanisms that produce these patterns. One interpretation of our results is that cash-strapped cities target poor and minority voters simply because they are less likely to complain and not due to any inherent bias. An alternative interpretation, however, is that fines and other law enforcement policies are intended as methods of social control (Soss, Fording, and Schram 2008). We encourage future studies that explicitly attempt to untangle these two explanations.

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