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David S. Abrams
University of Pennsylvania Carey Law School

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The Law and Economics of Stop-and-Frisk

David Abrams*

The relevant economic and legal research relating to police use of stop-and-frisk has largely been distinct. There is much to be gained by taking an interdisciplinary approach. This Essay emphasizes some of the challenges faced by those seeking to evaluate the efficacy and legality of stop-and-frisk, and suggests some ways forward and areas of exploration for future research.

INTRODUCTION

Police use of the stop-and-frisk tactic is a subject that has garnered much attention in the press recently.1 It has also been the focus of a

1. See, e.g., Daniel Bergner, Is Stop-and-Frisk Worth It?, THE ATLANTIC, Mar. 19, 2014, at 54 (discussing the role and value stop-and-frisks have played in New York from the perspective of two police officers); Joseph Goldstein, Judge Rejects New York’s Stop-and-Frisk Policy, N.Y. TIMES, Aug. 12, 2013, at A1 (discussing a ruling by a federal judge in New York holding the stop-and-frisk tactics of the New York Police Department to be a violation of constitutional rights of minorities); Patrick Walters, ACLU Files Lawsuit Challenging ‘Stop and Frisk’ Searches in Philadelphia, IND. GAZETTE, Nov. 5, 2010, at 5 (discussing the litigation in which eight individuals argue they were stopped without reason by Philadelphia police due to stop-and-frisk tactics); Benjamin Weiser & Joseph Goldstein, Mayor Says New York City Will Settle Suits on
substantial amount of research by both legal academics and economists. However, the conversation surrounding stop-and-frisk has become fragmented: economic theorists consult largely with other economists, advocates tend to discuss their cases with other advocates, and often there is little communication across jurisdictions.

There is much to be learned from reaching across disciplines, geographic regions, and perspectives. The splintered discussion has slowed progress on the subject of stop-and-frisk, about which much remains to be done. The goal of this Essay is to set forth a plan for reinvigorating work on assessing the use of stop-and-frisk.

I begin by briefly summarizing the current lay of the land regarding stop-and-frisk and then describe the legal issues and origins of the stop-and-frisk tactic. Following this, I discuss the relevant economic literature and explain its contributions. I then describe how stop-and-frisk programs are currently evaluated and set forth proposals for how they should be evaluated. In particular, this Essay’s analysis addresses both the Fourth and Fourteenth Amendment issues involved in economic evaluations of stop-and-frisk, and how they differ. While there are difficulties in setting benchmarks for evaluating the legality of the use of stop-and-frisk in real-world litigation—which may differ markedly from assumptions made in economic models—I discuss the balance I have tried to strike in my role as an expert in litigation in Philadelphia. As an informative case study, I note the substantial differences between recent litigation in Philadelphia and New York City. I conclude with some thoughts on the challenge of implementing real reform.

Stop-and-Frisk Tactics, N.Y. TIMES, Jan. 30, 2014, at A1 (detailing the announcement made by New York City’s mayor that the city would withdraw its appeal of the ruling that stop-and-frisk searches were unconstitutional if the court approves the settlement agreement).
2. See, e.g., Andrew Gelman et al., An Analysis of the New York City Police Department’s “Stop-and-Frisk” Policy in the Context of Claims of Racial Bias, 102 J. AM. STAT. ASS. 813 (2007) (analyzing data for NYPD stops which indicated that they were stopping blacks and Hispanics more often than whites); David A. Harris, Across the Hudson: Taking the Stop and Frisk Debate Beyond New York City, 16 N.Y.U. J. LEGIS. & PUB. POL’Y 853 (2013) (discussing the need for more data on stop-and-frisk to broaden the debate over the impact of race on criminal justice); David Rudovsky & Lawrence Rosenthal, The Constitutionality of Stop-and-Frisk in New York City, 162 U. PA. L. REV. ONLINE 117 (2013) (discussing the constitutionality of stop-and-frisk searches and ultimately finding that both liability and remedial measures established in Floyd were necessary); Decio Coviello & Nicola Persico, An Economic Analysis of Black-White Disparities in NYPD’s Stop and Frisk Program (NBER Working Paper Series No. 18803, 2013), available at http://www.nber.org/papers/w18803 (analyzing data and attempting to determine the reason for the discrimination among stops).
I. LEGAL BACKGROUND

Police officers often use stop-and-frisk, a tactic whereby officers may stop an individual whom they suspect to be involved in criminal activity, and frisk that individual given the officer’s belief that there is some likelihood that the individual has a weapon. This tactic goes back decades, but its use has increased substantially in the past ten to fifteen years and has become a major tactic used by police departments in large cities aimed at crime prevention. Police departments have asserted that stop-and-frisk programs are responsible for a large reduction in crime since the mid-1990s, although there is no reliable evidence for this claim.

The current legal framework for stop-and-frisk can be traced back to the 1968 Supreme Court case *Terry v. Ohio*. There, the Court articulated a reasonable suspicion standard (lower than the probable cause standard required for a full search) for stopping and potentially frisking an individual on the street or in a vehicle. The justification for the lower standard to permit a search was that the person being stopped and frisked was potentially armed and dangerous, and could harm officers, themselves, or bystanders.

Several cities across the United States have witnessed at least some stop-and-frisk litigation in the past decade. Philadelphia and Los Angeles each had a round of litigation in the early 2000s. New York’s recent litigation has received a great deal of media coverage, while Philadelphia experienced its second round of stop-and-frisk litigation

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3. See *Black’s Law Dictionary* 1555 (9th ed. 2009) (defining stop-and-frisk as a “term used to describe what happens when a suspect is detained and then searched for any weapons”).
4. See *Harris*, supra note 2, at 854 (discussing the increase in stop-and-frisks by the NYPD from 97,000 in 2002 to nearly 700,000 in 2011).
5. *Id.* at 864.
7. *Id.* at 27.
8. *Id.* at 1.
9. See, e.g., United States v. Montero-Camargo, 208 F.3d 1122, 1132 (9th Cir. 2000) (holding that defendants’ Hispanic appearances were not enough to cause reasonable suspicion to justify stopping them); Commonwealth v. Zhahir, 751 A.2d 1153, 1163 (Pa. 2000) (holding that the seizure of drugs from Zhahir during a stop-and-frisk was permissible under the plain-feel doctrine).
10. See, e.g., *Goldstein*, supra note 1 (discussing a federal judge’s holding that New York stop-and-frisk tactics violated minorities’ constitutional rights); *Colleen Long*, *Trial Opens for NYC Stop-and-Frisk Challenge*, ASSOCIATED PRESS, Mar. 19, 2013, *available at* http://bigstory.ap.org/article/ny-stop-and-frisk-challenge-heads-federal-court (discussing the New York trial, testimony and statistics with regards to stop-and-frisks); *Weiser & Goldstein*, supra note 1 (discussing Mayor de Blasio’s decision to settle the dispute over stop-and-frisks, which was a divisive issue during his mayoral race, instead of continuing with the appeal).
beginning in 2010.\textsuperscript{11} The relevant New York case is \textit{Floyd v. City of New York},\textsuperscript{12} and the relevant Philadelphia case is \textit{Bailey v. Philadelphia}.\textsuperscript{13} The Department of Justice is actively involved in ongoing stop-and-frisk litigation in a number of different locations, including cities in California.\textsuperscript{14} Although Chicago has not had any recent litigation, the American Civil Liberties Union ("ACLU") has sent present Mayor Rahm Emanuel letters requesting the collection of data that would permit better evaluation of the Chicago Police Department’s practices.\textsuperscript{15}

At the heart of most stop-and-frisk litigation lie two constitutional issues: the Fourth Amendment’s protection from unreasonable search and seizure,\textsuperscript{16} and the Fourteenth Amendment’s Equal Protection Clause,\textsuperscript{17} each of which I discuss in turn below. Since the earliest stop-and-frisk litigation, scholars and lawmakers have scrutinized and attempted to resolve problems with stop-and-frisk programs. A shortcoming of some of these attempts is the absence of an interdisciplinary perspective. One disciplinary perspective that can help inform many stop-and-frisk questions is the economic one.

\section*{II. Economic Contributions}

Economists are very good at thinking about the incentives of different actors in the criminal justice system, and how to detect disparities that may indicate discrimination. This line of economic research originated


\textsuperscript{12} 959 F. Supp. 2d 540 (S.D.N.Y. 2013).

\textsuperscript{13} See Complaint, Bailey v. City of Philadelphia, 2010 WL 4662865 (E.D. Pa. Nov. 4, 2010) (No. 2:10-cv-05925). I have been involved with \textit{Bailey} as a statistical expert on behalf of the plaintiffs, and Professor Jeffrey Fagan of Columbia University has been the statistical expert in the \textit{Floyd} case.

\textsuperscript{14} See, e.g., United States’ Opposition to Defendant’s Motion for a Stay Pending Appeal at 20, United States v. City of New Orleans, 2014 WL 3706621 (E.D. La. June 25, 2014) (No. 13-30161) (asking the court to deny the motion to stay to trigger police reform); Statement of Interest by the United States at 3–4, Ortega-Melendres v. Arpaio, 836 F. Supp. 2d 959 (D. Ariz. 2013) (No. 07-cv-02513) (discussing the need to ensure that the unconstitutional practice is adequately remedied); Los Angeles County Sheriff’s Department - Antelope Valley: Statement of Intent, July 27, 2013, available at \url{http://www.justice.gov/crt/about/spl/documents/antelope_statemntointent_6-28-13.pdf} (detailing a statement of intent to reach a settlement agreement between the parties to resolve issues identified by the DOJ).


\textsuperscript{16} U.S. CONST. amend. IV.

\textsuperscript{17} U.S. CONST. amend. XIV, § 1.}
in the 1960s with Nobel Laureate Gary Becker.\textsuperscript{18} The first well-known article applying the economic perspective on discrimination to police stops was published in 2001 in the Journal of Political Economy by John Knowles, Nicola Persico, and Petra Todd.\textsuperscript{19} Their article addresses a Fourteenth Amendment question regarding the detection of racial discrimination in motor vehicle searches, which is very similar to the stop-and-frisk context.\textsuperscript{20} They employ a simple model of stops that leads to a very stark conclusion about the detection of racial disparities in stops.\textsuperscript{21}

In the model, a race-blind officer simply seeks to stop individuals most likely to be in possession of contraband. When a police officer seeks to detect contraband in a race-blind way, there may still be unequal stop rates by race,\textsuperscript{22} possibly due to a variation in crime rates by race. However, a race-blind police officer should stop individuals such that the likelihood of discovering contraband is equal across races.\textsuperscript{23}

This perspective naturally leads to an evaluation approach called a “hit-rate” analysis.\textsuperscript{24} The “hit-rate” is simply the percentage of stops in which contraband is discovered. The insight of the Knowles, Persico, and Todd paper is that one may evaluate the Fourteenth Amendment compliance of policing by simply calculating and comparing hit-rates by race.\textsuperscript{25} According to their theory, as long as hit rates are the same, there is no evidence of racial bias, even if stop rates differ by race.

Since the 2001 paper, a number of economists who have written about hit-rate analysis have questioned some of the paper’s basic assumptions.\textsuperscript{26} These subsequent papers critique the Knowles, Persico,

\textsuperscript{18} Gary S. Becker, \textit{The Economics of Discrimination} (Univ. Chicago Press 1957).
\textsuperscript{20} Id. at 203.
\textsuperscript{21} Id. at 209.
\textsuperscript{22} Id. at 205.
\textsuperscript{23} Id. at 211.
\textsuperscript{24} See, e.g., Nicola Persico & Petra E. Todd, \textit{The Hit Rates Test for Racial Bias in Motor-Vehicle Searches}, 25 JUST. Q. 37 (2008) (discussing how a previously developed rational choice model provides a test for detecting police bias in how they enforce the law).
\textsuperscript{25} See id. at 42.
and Todd paper and point out its limitations. For example, if one assumes that police officers seek to achieve multiple objectives with a stop, then the result vanishes. If some of the paper’s assumptions change, then the analysis becomes much more complex. In fact, it becomes so complicated that it is hard to know how one might perform an analysis evaluating Fourteenth Amendment compliance of a real-world police department.

This begs the question: if the theory is so complicated, then how does one evaluate a stop-and-frisk program when the law requires it? How does an attorney determine if litigation is warranted? Or, if litigation has already occurred, how does a statistical expert evaluate whether police are implementing reforms that have produced substantial change?

Almost all of the current economic literature in the area focuses on Fourteenth Amendment issues. One general trend in this literature seems to be that the more realistic the models get, the less useful they are for actual evaluation. The authors of these models are economic theorists attempting to devise and solve simplified models that capture the overall character of the problem. They are not involved in litigation and therefore not bound by exigencies of responding to real-world facts and constraints. In the absence of an interdisciplinary perspective, these models will continue have limited utility in real-world evaluations.

III. CURRENT APPROACHES TO FOURTEENTH AMENDMENT ANALYSIS

So how does one go about solving this problem? On the one hand, one may use the simpler results of the earlier hit-rate paper and adopt their assumptions, which give a very clear method of analyzing actual data. On the other hand, one may wish to use a more complicated model, acknowledging that the world is complex. But in attempting to apply the more detailed models, one may lose the ability to make any evaluations at all, at least without substantial additional assumptions.

Perhaps the most commonly used approach to evaluate stop-and-frisk
programs is regression analysis. For example, in the *Floyd* litigation in New York, Professor Jeffrey Fagan used regressions to estimate the impact of race on stop rates, while attempting to control for other factors. However, this approach is difficult to implement and interpret because the researcher must determine which other factors to control for. Should the researcher control for demographics of the area, economic status of the neighborhood where people are being stopped, other demographics of the area, or crime rates? These may already be a function of what the police are doing, or the way the society is structured. Does one control for police presence? Again, that might already be a function of a police decision that was previously made. In addition, there will always be control variables that the expert would like to include but that are not available.

Indeed Fagan’s regression analysis finds racial disparity in New York, while a recent paper by Decio Coviello and Nicola Persico—one of the co-authors of the hit-rate paper—analyzed the New York data and found no racial disparity.

IV. PRELIMINARY SUGGESTIONS FOR FOURTH AMENDMENT ANALYSIS

Thus far, I have focused on the Fourteenth Amendment question, but now I turn to the Fourth Amendment issue, which in some ways is even more interesting. There has been almost no work done by economists on the Fourth Amendment elements of these issues. This is perhaps because the precise question is somewhat less clear and lends itself less easily to economic analysis.

The Fourth Amendment issue ultimately comes down to a tradeoff between liberty and safety. With stop-and-frisk, this means a balance between the liberty to walk down the street without being stopped and the safety that comes from not being victimized by crime or having fear of such victimization. How might we think about this from an economic perspective, given that both of these considerations are very difficult to measure?

First, one must try to analyze and quantify stop-and-frisk’s impact on safety. The preliminary question that must be answered is whether stop-and-frisk actually reduces crime. While a large number of police departments that use the tactic claim that it reduces crime, there is no rigorous study that supports this assertion.

33. *Id.* at 18.
So how might one go about determining the impact of stop-and-frisk tactics on crime? One approach would be to use a difference-in-difference design. In general, the difference-in-difference approach allows for the evaluation of an intervention by comparing changes over time in two otherwise very similar groups: one of which receives the intervention and the other of which does not.

For example, consider a hypothetical where two precincts in South Philadelphia have similar demographics, patterns of crime, police presence, and other characteristics. Perhaps due to budgetary constraints one of the two precincts is chosen to implement a large increase in the use of stop-and-frisk and the other is not. One measure of the impact of stop-and-frisk would be the difference in crime rates between the two precincts after the policy change (this is known as a single difference). An even better measure may be obtained by subtracting off the crime rates in each precinct before the increase in stop-and-frisk. By looking at the difference in the change in crime rates between the two precincts, one may control for pre-existing differences in crime rates and isolate just the impact of the stop-and-frisk change. Of course the difficulty of finding such examples in real life is what makes estimating the impact of stop-and-frisk on crime particularly challenging.

But even once we estimate the impact of stop-and-frisk on crime, how can we measure the liberty aspect of stop-and-frisk? This is an even greater empirical challenge, to which there is currently no good answer. But progress can be made, even if we can only nail down the safety half of the question, because ultimately the tradeoff is a political one, made by aggregating how people individually trade off safety and liberty. If we have good empirical estimates for the impact of stop-and-frisk on crime, then we can ask people precise questions about the tradeoff.

For example one could pose survey questions such as:

A recent study determined that an increase from 200,000 to 300,000 stops per year would eliminate thirteen robberies and twenty-two thefts a year. Would you be in favor of this change?

Alternatively,

Halving the current rate of stops from 200,000 to 100,000 per year would result in an extra twenty robberies and thirty-two thefts per year. Would you be in favor of this change?
Responses may be dramatic. There may be a vast number of people who believe that greater use of the stop-and-frisk tactic is necessary, or the reverse could be true. But, at least if we quantify one part of the equation, we can ask people about the other, because ultimately, striking the right balance is a matter of aggregating individuals’ preferences (while of course taking account of potential distributional issues).

While the economic approach to the Fourth Amendment analysis described here is difficult, the legal approach currently in use is more straightforward (see below) and involves a determination of the legal sufficiency of the reason given for a stop.

V. RECENT EVALUATIONS IN PHILADELPHIA AND NEW YORK CITY

The questions discussed here are ones with which economists, scholars, policymakers, and litigators struggle. Having served as an expert in the Bailey litigation in Philadelphia, I have been forced to choose what I believe to be the best currently available tools to examine the facts at hand. I describe my approach here as an example of how to use insight from economic theory to inform practical analysis of real-world data.

In my work, I make use of both regression and hit-rate analysis in studying Philadelphia stop-and-frisk data from 2010 to 2012. I have found some evidence of racial disparities in this time period, but these disparities vary over time in their strength and significance. In contrast, the Fourth Amendment analysis results are very consistent and stark.

Concretely, the Fourth Amendment analysis incorporates two approaches. Every time there is a stop in Philadelphia, a form must be filled out by the police officer performing the stop. In one approach for the Bailey analysis, attorneys David Rudovsky and Paul Messing examine a sample of the stops and their explanations and analyze them for legal sufficiency. This approach reveals that about 40–50% lack legal basis for the stop; a figure that has been fairly consistent over the last three years since Philadelphia entered into a consent decree.

The second approach is to examine the fraction of the time that police officers actually find a weapon, the suspected presence of which is the
justification for performing a frisk. In New York from 2003–2013, approximately 1-in-50 frisks resulted in a weapon.\(^{37}\) In Philadelphia in 2012, approximately 1-in-600 stops resulted in a weapon.\(^{38}\) This then may feed back to the question to citizens: “Does this rate seem appropriate?” If individuals are extremely fearful of firearms and place very little weight on liberty, then this rate may be appropriate, but ultimately this is a political question.

It is interesting to contrast the legal strategies and the stop-and-frisk rates of the cities of Philadelphia and New York over the past few years. Philadelphia did not fight litigation in court, but instead chose to enter into a consent decree to monitor its stop-and-frisk program.\(^{39}\) Contrast this to New York, where the city actively fought litigation, went to court, received a lot of press, and was openly very resistant to change.\(^{40}\)

Philadelphia started out with a higher stop-and-frisk rate than New York, with 253,000 stops in 2009 out of a population of about 1.5 million,\(^{41}\) versus 581,168 stops in New York for a population of about 8.4 million in the same year.\(^{42}\) Philadelphia’s rate of stop-and-frisk has remained relatively the same since it entered into the consent decree, with 215,000 stops per year in 2012,\(^{43}\) while New York’s rate has dropped by more than half after the litigation began, to 191,558 stops in 2013.\(^{44}\) More than three years have passed since the consent decree in Philadelphia was signed in 2011 and there remains the same high rate of improper stops, an incredibly low rate of finding weapons and an

\(\text{37. } \text{See Floyd v. City of New York, 959 F. Supp. 2d 540, 558 (S.D.N.Y. 2013) (“Between January 2004 and June 2012, the NYPD conducted over 4.4 million Terry stops . . . . [A] weapon was found after 1.5% of these frisks.”); N.Y. CIV. LIBERTIES UNION, STOP AND FRISK DURING THE BLOOMBERG ADMINISTRATION (2002-2013), at 1 (2014) (“Of those frisked, a weapon was found only two percent of the time.”).}\)

\(\text{38. Plaintiffs’ Fourth Report to Court and Monitor on Stop and Frisk Practices, supra note 35, at 17.}\)

\(\text{39. Settlement Agreement, Class Certification, and Consent Decree, Bailey v. City of Philadelphia, supra note 35.}\)

\(\text{40. See Weiser & Goldstein, supra note 1, at A1.}\)


\(\text{44. New York peaked at over 685,724 stops in 2011. N.Y. CIV. LIBERTIES UNION, supra note 22.}\)

incredibly high stop rate overall.45 As evidenced by the data, things
have not changed in Philadelphia. This makes one wonder whether the
cooperative approach might not be superior to the adversarial one for
institutions seeking to maintain current practices.

**QUESTIONS FOR FUTURE RESEARCH**

This leads to one final set of questions: even after getting past all of
the challenges of measuring the legality of stop-and-frisk programs, if
one does find problems, how does one bring about change? How do
college departments implement reform? Bringing about change in large
complicated organizations like a major city’s police force is well
beyond the scope of this Essay, but is ultimately the final step in
e nsuring that police keep citizens safe while respecting the Constitution.

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45. See Plaintiffs’ Fourth Report to Court and Monitor on Stop and Frisk Practices, *supra* note
35 (noting that in the first quarter of 2013, there were 1126 pedestrian stops, 487 of which were
made without reasonable suspicion, and 196 pedestrian frisks, 106 of which were made without
reasonable suspicion).