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The Criminal Justice System Creates Incentives for False Convictions

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ABSTRACT

We examine the incentive structure of the various actors of the criminal justice system within an organization economics framework. Specifically, we examine the incentives of the police, forensic scientists, prosecutors and public defenders. We find that police, prosecutors and forensic scientists often have an incentive to garner convictions with little incentive to convict the right person, whereas public defenders often lack the resources and incentives to provide a vigorous defense for their clients. The “multitask problem” of organizational economics helps explain how this skewed incentive structure creates false convictions.
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Except in the few cases where evidence is consciously suppressed or manufactured, bad faith is not necessarily attributable to the police or prosecution; it is the environment in which they live, with an undiscriminating public clamor for them to stamp out crime and make short shrift of suspects, which often serves to induce them to pin a crime upon a person accused. ---- Edwin M. Borchard, *Convicting the Innocent: Errors of Criminal Justice*, 1932

I. Introduction

Police, prosecutors and forensic scientists often have an incentive to convict *someone*, with little or no incentive to convict the *right one*. In other words, they often have an incentive to get a conviction without at the same time having any material incentive to distinguish between the guilty and the innocent. Public defenders often lack sufficient resources and incentive to mount a vigorous defense and cannot, therefore, be viewed as adequate counterweight to the inappropriate incentives of police, forensic scientists, and prosecutors. As we explain below, this situation can lead to false convictions. In this sense, the American criminal justice system creates incentives for false conviction.

The rate of false convictions is hard to estimate. It seems to be relatively low given the strength of the incentive to convict, however, which would seem to be a testament to human decency. Most actors in the system wish to serve justice. But with about one million felony convictions per year, even a low *rate* of false conviction can produce a high *number* of false convictions. Michael Risinger estimates that the rate of false convictions for rape-murders in the 1980s was not less than 3.3%. If that rate applied to all felony convictions today, the US would have at least 33,000 false felony convictions per year. The number of false convictions could be reduced by structural changes that strengthen the incentive of criminal-justice professionals to
discriminate between the innocent and the guilty. Incentives matter even when the actors are sincerely motivated to achieve justice. Thus, improved outcomes require structural changes rather than policies meant to “get tough” with overt cheaters and frauds.

We review evidence that false convictions are probably not rare or fluky. This conclusion motivates attention to the incentives of criminal-justice professionals. We examine those incentives in light of the “multitask problem” of organizational economics, which is explained. As a part of that examination, we consider evidence that criminal-justice professionals sometimes respond to incentives. We review evidence suggesting that people can respond to incentives without knowing it. In other words, “bad apples” are not the only ones whose actions may be skewed by inappropriate incentives. Finally, we do make a few suggestions about how to improve the incentives of criminal-justice professionals. More importantly, however, we call for further work to better understand the nature and power of inappropriate incentives in the American criminal justice system and to find structural changes that may better align incentives with justice.

Our review of incentives in the criminal justice system is not complete and comprehensive. We do not address, for example, the incentives of judges or the incentives created by civil and criminal forfeiture. We do, however, address important incentives affecting actors from uniformed officers, to forensic scientists, to prosecutors and public defendants. We believe our survey is broad enough to suggest the likely value of structural change and the desirability of further scholarly work on incentives in the criminal justice system and how they might be improved through well-designed structural change.
II. False convictions are a problem

A. The logic of technique absorption explains why it is hard to estimate the rate of false convictions

Many competent observers think false convictions are relatively common, while other competent observers view them as relatively rare. If they are relatively common, then non-incremental change in the American criminal-justice system might be appropriate and desirable. If they are relatively rare, then such changes might not be appropriate or desirable. The death penalty is a particularly charged issue in this connection. Many opponents of the death penalty argue (among other things) that the risk of executing an innocent person is too high. Supporters of the death penalty generally (perhaps universally) view that risk as low.

It is not easy to estimate the rate of false convictions. The difficulty is explained by the “logic of technique absorption,” as we might call it. The criminal justice system is our nearly exclusive method of determining guilt and innocence. To estimate the error rate of the system, we need a technique to measure guilt or innocence that is not in the system. To be an external measure, the technique would have to be external to the system. But if we had a regular and reliable external technique for judging guilt and innocence, we would likely incorporate it into the criminal justice system. Once the technique is absorbed it can no longer serve as an external measure of the system’s error rate.

The logic of technique absorption describes what happened with DNA typing. The correctness of some convictions reached in the years prior to DNA typing could be (imperfectly) tested with DNA typing. But the technique was fairly quickly absorbed by the system. This absorption probably made the system better, but it made DNA typing less useful as an external
measure of error rates. (Independent DNA analysis has been used, however, to identify false convictions based on mistaken DNA analysis.)

Technique absorption is a good thing. It would not improve the criminal justice system to exclude techniques capable of improving the system’s ability to discriminate between the guilty and the innocent. Nevertheless, the logic of technique absorption puts the system in the position of the baseball umpire Bill Klem who quipped, “It ain’t nothing until I call it!” In principle, a ball is fair or foul depending on which side of the line it is on. In practice, it is fair or foul according to how the umpire calls it. It is much the same with criminal justice. In principle, a person is guilty or not guilty depending on whether he did it. In practice, we have no choice but to ask the criminal justice system to call it.

B. Examples of possible false convictions have produced conflicting interpretations

The logic of technique absorption makes it hard to resolve differences of opinion about the rate of false convictions. Samuel Gross\(^2\) published a list of 340 exonerations in the US from 1989 to 2003. Their list is conservative because they do not count “mass exonerations” such as those from the LAPD’s Rampart scandal, which we discuss below, or about 70 cases in which convicted childcare sex abuse defendants seemed to have been wrongly convicted\(^3\). Joshua Marquis\(^4\), then district attorney of Oregon’s Clatsop County, drew a very different conclusion from the same facts. He acknowledged that the 340 cases documented by Gross and colleagues may be only a fraction of the number of false convictions. For the sake of argument, he assumes 4,000 false convictions for the 15-year period in question\(^5\).

Supreme Court Justice Scalia quoted the Marquis op-ed favorably in the capital case *Kansas v. Marsh*\(^6\). Scalia dismisses the possibility of false executions in the US. Scalia says, “as
far as anyone can determine (and many are looking), none of the cases included in the 0.27% error rate for American verdicts involved a capital defendant erroneously executed.7” One of Scalia’s comments reflects the logic of absorption.

Remarkably avoiding any claim of erroneous executions, the dissent focuses on the large number of non-executed “exonerees” paraded by various professors. It speaks as though exoneration came about through the operation of some outside force to correct the mistakes of our legal system, rather than as a consequence of the functioning of our legal system. Reversals of an erroneous conviction on appeal or on habeas, or the pardoning of an innocent condemnee through executive branch clemency, demonstrates not the failure of the system but its success. Those devices are part and parcel of the multiple assurances that are applied before a death sentence is carried out8.

The attitude of Marquis and Scalia is probably shared by many participants in the criminal justice system. Borchard gives us another, possibly apocryphal, example. He examined 65 cases of false conviction as part of an argument for reparations to the exonerated. He relays a supposed remark of one prosecutor saying, “Innocent men are never convicted. Don’t worry about it, it never happens in the world. It is a physical impossibility9” Such statements and attitudes are understandable for decent, honest people who would be dismayed to think that they had helped to convict innocent persons. Your role in the system may help to shape your judgment of its efficacy and fairness.

Since Scalia wrote his dissent in Kansas v. Marsh increasing attention has been drawn to a clear case of wrongful execution. Cameron Todd Willingham was convicted in 1991 of the arson murder of his three young children based in large part on now-discredited fire investigation techniques.10 The evidence in this case seems to show rather unambiguously that Willingham was wrongly convicted and wrongly executed.11

Scalia and Marquis both expressed doubt that false convictions are relatively common. Scalia said in his opinion, “But with regard to the punishment of death in the current American
system, that possibility has been reduced to an insignificant minimum.” Mills & Possley chronicled the fact that Willingham was likely wrongly convicted well before the ruling in *Kansas v. Marsh.* Scalia’s claim that no one had found a case of wrongful conviction in spite of much searching (quoted above) may now appear to be grounded more in optimism than fact. In fact, Scalia’s claim may have been optimistic even apart from the Willingham case. As of 22 September 2011, the Death Penalty Information Center (DPIC) lists 9 executions in the US since 1976, including that of Willingham, in which there was “strong evidence of innocence”. There does seem to be significant doubt attaching to these cases.

The recent Troy Anthony Davis case was not on the DPIC list at the time of this writing. It has become another, albeit somewhat ambiguous, example of a possible wrongful execution. Davis was executed on 21 September 2011. It seems plausible that Davis was falsely convicted, and many activists have strongly supported the hypothesis that Davis is innocent. At trial, several witnesses testified against Davis, who was charged in the shooting of an off-duty police officer in Savanna, Georgia. Most of them recanted, and in fact Davis’ legal team has long maintained that the true killer was among the first of the eyewitnesses who were at the crime scene and came forward to implicate Davis in MacPhail’s slaying. Like the Willingham case, the Davis case is a *cause célèbre.* The Davis case is more ideologically charged than the Willingham case, however, perhaps because it is more ambiguous. With Davis, strong opinions divide along mostly ideological lines with mutual recriminations across the ideological divide. The charged public controversy over the Davis execution may be a good thing on grand views. It is unfortunate for our purposes in this paper, however, because it may distract attention from the facts at issue, which should be evaluated independently of ideology.
C. Michael Risinger’s estimate of the rate of false convictions and supporting evidence

Michael Risinger\textsuperscript{17} leveraged the logic of technique absorption to estimate the rate of false convictions for rape-murders in the US by looking exclusively at DNA exonerations. As we have noted, DNA has been “absorbed” by the system. But for convictions in the period Risinger examined, 1982-1989, DNA was not part of the system. Thus, DNA typing provides an external test of truth for some cases in this period. Using this external test, Risinger was able to craft a sound estimate of the minimum factual rate of false convictions for rape-murders in the US, which he found to be 3-5%.

By considering the period 1982-1989, Risinger was able to consider cases that were tried before DNA typing was commonplace, but recent enough that DNA exonerations were possible. By considering only DNA exonerations, Risinger took a very conservative and cautious view of what counts as an “exoneration.” In spite of this and other conservative assumptions built into his analysis, Risinger estimates that the rate of false convictions was 3-5%. His point estimate is 3.3%. Risinger’s estimate might overstate the rate of false convictions in general or even the rate for rape-murders in the 1980s. Given the conservative nature of his estimates, however, it seems more likely that Risinger’s estimate is too low. Risinger gives reasons to fear that the introduction of DNA technology may not have substantially reduced the rate of false convictions in rape-murders.\textsuperscript{18}

Risinger\textsuperscript{19} cautions against extrapolating his estimate to “other crimes and other times”\textsuperscript{20}. He suspects that the rate of false conviction will vary greatly across crime and time such that “few if any of the subsets have distributions near the average”\textsuperscript{21}. He nevertheless considers the “implications of a 3-5% factual wrongful conviction rate” for competing attitudes toward false
convictions and judicial reform.\textsuperscript{22} He thus uses his figure as a benchmark for thinking about false convictions, and we will do the same.

We think Risinger’s benchmark shows that the problem of false convictions is “big,” creating something of a presumption in favor of reform. A general presumption in favor of reform is vague; specific proposals must be evaluated on their merits. Indeed, Koppl\textsuperscript{23} has taken a skeptical view of one important reform proposal in forensic science. But if the problem of false convictions is “big,” then we should urgently seek out ways to improve the system and reduce the rate(s) of false conviction.

It might seem that we should be favorably impressed if 95\textendash{}97\% of convictions are good. As we have noted, however, this high rate of success will nevertheless produce tens of thousands of false convictions when there are over a million felony convictions per year.\textsuperscript{24} Thus, the evidence seems to support the statement of Gross and colleagues that we quoted earlier: “Any plausible guess at the total number of miscarriages of justice in America in the last fifteen years must be in the thousands, perhaps tens of thousands.” The evidence would seem to suggest that Justice Scalia’s confidence in a relatively low error rate was mistaken.

We have other evidence suggesting a relatively high rate of false convictions.\textsuperscript{25} In 1999 a scandal broke over the Community Resources Against Street Hoodlums (CRASH) unit of the Rampart division of the Los Angeles Police Department. A group of “Rampart CRASH officers had routinely lied in arrest reports, shot and killed or wounded unarmed suspects and innocent bystanders, planted guns on suspects after shooting them, fabricated evidence, and framed innocent defendants.” The Rampart scandal led to the exoneration of at least 100 persons who had been wrongly convicted.\textsuperscript{26} One news report suggests a number closer to 150. The number of such exonerations is lower than the number of false convictions in part because some judges
have refused to reverse the convictions of wrongly convicted individuals who have served their time.27

Gross and colleagues report that Governor Perry pardoned 35 persons in Tulia, Texas after it emerged that the “corrupt” undercover narcotics agent responsible for their convictions “had systematically lied about these cases, and charged the defendants with drug sales that had never occurred.” They “were convicted of drug offenses in Tulia, Texas, on the uncorroborated word of a single dishonest undercover narcotics agent.”28

Finally, Gross and colleagues note the 2002 “Dallas Sheetrock Scandal,” wherein “at least eighty defendants in Dallas, Texas, were falsely charged with possession of quantities of ‘cocaine’ that turned out, when finally analyzed, to consist of powered gypsum, the primary constituent of the building product Sheetrock.”29

In May and June 2003 prosecutors in Cole County, Missouri asked for the release of 18 persons convicted in cases brought by a Sheriff’s deputy who seems to have perjured himself by claiming to have witnessed drug transactions at which he was not present.30

For the rest of the paper, we will take it as given that the rate of false convictions is relatively high. This view is consistent with the incentives facing actors in the system. In the next section we will survey some of those incentives. Unfortunately, those incentives lean toward securing convictions without regard to guilt or innocence, thereby creating the risk of false conviction.

When analyzing the criminal justice system, or any human system, it is important to consider the incentives facing each different type of actor. We respect this principle in daily life, though not always consistently. Knowing that the doctor who advises us to get surgery will profit from performing the operation, for example, we seek a second opinion. The doctor’s role
is to provide objective, scientific medical advice. But because doctors are humans they fulfill the role imperfectly, and deviations from the ideal are influenced by incentives. Kopp\textsuperscript{31} reviews evidence that incentives skew even honest errors. Thus, in considering the “incentives” of participants in the criminal justice system we will consider not only how incentives may cause someone to lie, cheat, or otherwise self-consciously deviate from ideal behavior. We will also consider how incentives may induce unconscious bias and cause even honest errors to be skewed toward false convictions.

III. Improper incentives contribute to the problem

A. Incentives matter

Incentives matter. They matter because people tend to do what is in their interest. The tendency to do what is in your interest can be stronger in some individuals, weaker in others. For example, some students will cheat on a test if given the opportunity, others will not. The tendency is stronger in some contexts, weaker in others. For example, students are less likely to cheat in a small school with a respected honor code than in a large anonymous institution with distant and detached faculty. Sometimes what is in my interest may be a good thing for others as in the ideal of a free market. If you build a better mousetrap and sell it, you profit by helping your customers rid their homes of vermin. Finally, we sometimes have an incentive to behave in ways that are not “selfish” in any egoistic or hedonistic sense. Parental love, for example, creates an incentive for self-sacrifice. Adam Smith noted that people often feel sympathy for others beyond friends and family. He said, “How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render
their happiness necessary to him, though he derives nothing from it except the pleasure of seeing it”. Thus, although we sometime have an incentive to do bad things, the term “incentive” should not necessarily invoke negative qualities such as “selfish” or “dishonest.” Sometimes the word “bias” is used to describe or identify incentives. Parents are biased in favor of their own children, which is to say that they have an incentive to favor them.

Incentives matter. Sometimes this humble fact is ignored. We ignore the role of incentives when we neglect to model an actor in the system. If we do not explicitly model the incentives of physicians, for example, we may well adopt in inappropriate model of them as godlike healers. While we may hope and expect that most physicians are conscientious, we should remember that even conscientious physicians may respond to incentives that do not align perfectly with the interests their patients. Anxiety about malpractice, for example, may induce a physician to run diagnostic tests that are not in the patient’s best interest. The test may carry a small health risk that is not adequately rewarded by the remote prospect that it will produce valuable information. As we shall argue, something similar is true for actors in the criminal justice system. If we do not explicitly model their incentives, we may overlook ways in which their choices may be skewed by incentives.

Incentives matter. Sometimes this humble fact is denied. Some of the literature on criminal justice includes arguments to the effect that this or that group of professionals does not respond to incentives. We have noted that the tendency to do what is in your interest can be stronger in some individuals, weaker in others. The tendency is not utterly absent from any group of humans, however. Moreover, unless we have a special reason not to, we should presume that the tendency is distributed in a representative manner for any large group of people defined by a profession or similar criterion. Special considerations may suggest that members of
a given group are less responsive to incentives or more responsive. But such special
c onsiderations must be articulated explicitly if we are to deviate from our default assumption that
people in different categories of life, such as different professions, respond to the same
incentives as others and in about the same way.

B. Incentives skew even honest errors

It may seem obviously wrong to say that incentives skew honest errors. And yet a large literature
on “observer effects” establishes the fact unambiguously. We tend to see what we expect to see and what we hope to see. Risinger and colleagues say, “where an observer has strong
motivation to see something, perhaps a motivation springing from hope or anger, reinforced by
role-defined desires, that something has an increased likelihood of being ‘seen.’” Incentives
(“motivation” and “hope”) can skew honest errors because they influence perception. When
scholars speak of “unconscious bias” they generally refer to “observer effects.”

The notion that incentives skew honest error has ancient roots. Julius Caesar said “men
generally believe quite freely that which they want to be true”. More recently, Jeremy
Bentham said, “Passion calculates, more or less, in every man”. If we can believe what we
want to be true and if our passions calculate, then we are at greater risk of honestly believing
self-serving falsehoods than other falsehoods. But then self-serving honest errors are more likely
than other honest errors. In other words, incentives skew even honest errors.

People can make honest mistakes. They may unintentionally make choices that fulfill
certain pre-existing biases. The literature on “observer effects” demonstrates that a person’s
opinion may unknowingly serve his interests in that sometimes what we observe is naturally
skewed by what we expect. Quoting Ulrich Neisser, state that “we cannot perceive unless we anticipate, but we must not see only what we anticipate.” Observer effects are pervasive and enhanced by “desire and motivation”

Pichert & Anderson is a classic study that illustrates nicely how incentives influence errors. They had their subjects read a story about two boys playing in a house. The story contained information about the house such as the presence of a leaky roof and the parents’ rule to keep a side door unlocked at all times. Subjects were instructed to read the story from either the perspective of a burglar or that of a realtor. Subjects had better recall of details relating to their assigned role rather than the opposite role. Two studies found that when subjects were asked to switch roles in a second recall task, their memory improved for details relevant to the new role and degraded for details irrelevant to the new role. This effect was noted whether the second memory task was performed with a delay of 5 or 10 minutes or a delay of about two weeks.

Context can create expectations that help to skew errors in a self-serving direction. Dror and Charlton had experienced fingerprint examiners reexamine evidence from cases they had decided in the past. The evidence was presented in the ordinary course of work as real case evidence. The real case information was stripped away, however, and replaced with either no supporting information or supporting information that suggested a match when the earlier decision had been an exclusion (being told, for example, that the “suspect confessed to the crime”) or an exclusion when the earlier decision had been a match (being told, for example, that the “suspect was in police custody at the time of the crime”). A pair of experienced experts confirmed that the original decision was correct in each case. This determination by experienced experts participating as experimenters creates the presumption that the subject examiners’
original judgments were correct for those pairs of fingerprints used in the study. Dror and Charlton found that from 48 experimental trials, the fingerprint experts changed their past decisions on six pairs of fingerprints. The six inconsistent decisions (12%) included two from the 24 control trials that did not have any contextual manipulation. The fingerprint experts changed four of their past decisions from the 24 experimental trials that included the contextual manipulation. Thus, biasing context seems to have induced inconsistent decisions in 16.6% of the cases with contextual manipulation.

When incentives skew honest error, the erring person knows, presumably, what her incentives are. The error may be “honest,” however, if she does not know that those consciously known incentives have altered her perceptions. Even is she knows it, the error may be “honest” if she underestimates the effect and therefore fails to fully compensate for it. There are many very different perceptions that may be altered by incentives. The fingerprint examiner may not notice dissimilarities between a known and unknown print, for example. A research scientist must search for deviations from experimental protocol before accepting the data generated by an experimental trial. That search may be more diligent or thorough when an experimental trial has produced disappointing results. If the scientist is unaware of this asymmetry in her search efforts, her results will be biased in spite of her conscious desire to be unbiased. Something similar is true for police investigators, who may be more skillful in inventing reasons to doubt the alibis of her preferred suspects. If she does not perceive this asymmetry in her behavior, then her errors will be perfectly honest on the one hand, but biased by incentives on the other hand.

The errors of police officers, forensic scientists, and prosecutors may all be biased by incentives. The number of mechanisms linking incentives to honest errors is indefinitely large, and these mechanisms are diverse and dissimilar. At the same time, of course, there is a risk that
incentives will lead to fraud, falsification, or fabrication. Finally, there is the great middle
ground between perfectly honest error and willful fraud. Human cognition seems to be plastic
enough to create degrees of consciousness regarding the bias in one’s errors. Thus, for the rest of
the paper we will generally ignore the distinction between honest errors on the one hand and
willful fraud and the like on the other hand. We will consider all deviations from correct
outcomes to be “errors.” Incentives tend to produce and to skew “errors” thus defined, whether
such “errors” are willful, honest, or somewhere in between.

C. The multitask problem

Holmstrom and Milgrom identified the multitask problem, which can arise in the context of the
“principal-agent problem” of economic theory.

You are an “agent” when you are commissioned to act in someone else’s interests. That
other person is the “principal.” You are an “agent” for your employer, for example. A tort
lawyer is an “agent” for his or her client; a factory worker is an agent for the factory owner.
Economists have long recognized a “principal-agent problem.” The canonical model is that of
Ross who framed the problem from the perspective of the principal. How do you get the agent
to do what you want when you cannot observe everything about the agent’s choices and actions?
You might “monitor” the agent. The boss, for example, may pop in to see if the employee is
working or napping. But it may be costly or even impossible to observe all the agent’s choices.
Effort is hard to observe. How do you know, for example, whether your tort lawyer really
worked as many hours as you were billed for?

Instead of trying to monitor inputs such as hours worked or intensity of effort, the
principal might monitor outputs such as the number of parts produced or the size of a tort award.
If outcomes are clearly observable, then you might be able to induce the right outcome by giving the agent a cut of the action. That is, you can link the agent’s pay to outcomes. Thus, tort lawyers typically charge a contingent fee; they work on commission. The same solution to the principal-agent problem is applied when factory workers are paid at piece rates. More generally, the principal should often link the agent’s pay or fees to measurable outcomes. Doing so may align the agent’s incentives with the principal’s desires. There are some difficulties even when outcomes are observable, given possibilities such as different risk preferences between agent and principal. Because such issues do not seem to affect our argument, we will ignore them here.

The standard solution looks to the principal-agent problem looks for “high-powered incentives” to leverage a good outcome from the self-interest of the agent. Paying the worker per piece will inspire a greater effort. Paying the tort lawyer a contingency fee ensures that he or she has the same desire for a big win as you do. This standard result of the economist’s benchmark principal-agent model -- cut the agent in on the action -- is fine as long as outcomes are observable. The multitask problem arises when outcomes are not fully observable. The multitask problem arises when the principal can observe some outcomes, but not others. In that case, the use of high-powered incentives can backfire. The agent focuses on observable dimensions and ignores the rest of the job. When tenure committees reward “research” in the form of published articles, for example, junior faculty have an incentive to skimp on teaching in order to publish more. If outcomes have measured and unmeasured dimensions and if the measured outcomes are rewarded and unmeasured ignored, then agents will have an incentive to improve measured outcomes and neglect unmeasured outcomes. If the unmeasured dimension matters to the principal, the use of high-powered incentives to motivate performance will backfire. Singers who are paid by the decibel will sing loudly and off key.
Holmstrom and Milgrom provide an example that is still timely today. They note the “current controversy over the issue of incentive pay for teachers based on their students’ test scores.” Proponents hope “these incentives will lead teachers to work harder at teaching and to take greater interest in their students’ success. Opponents counter that . . . teachers would sacrifice such activities as . . . refining students’ oral and written communication skills in order to teach the narrowly defined skills that are tested on standardized exams.” Citing Putka, they note a case in which “a ninth-grade teacher . . . was caught having passed answers . . . to students . . . in order to improve her performance rating”.

More recently, a major cheating scandal in Atlanta has emerged. The scandal is notable for its structural similarity to the NYPD COMPSTAT scandal we discuss below. Atlanta Public Schools (APS) personnel from high levels possibly including the superintendent down to principals and teachers were involved in activities such as erasing and correcting mistakes on student answer sheets. The cheating seems to have been driven by high-powered incentives imposed from without. The federal No Child Left Behind Act, which required states to establish objective outcomes measures, may have added to the pressure. But the cheating began at least as far back as 2001, shortly before the federal Act came into effect.

The schools were under pressure to achieve performance targets as measured by student test results. “Because the targets rose each time a school attained them, the pressure ratcheted up in classrooms each year. Cheating one year created a need for more cheating the next”. By the time the scandal broke in 2011 the cheating had grown into a vigorously enforced system. At least some teachers were afraid to resist the pressure to cheat. “‘APS is run like the mob,’ one teacher told investigators, saying she cheated because she feared retaliation if she didn’t”. According to one state report on the scandal said, “APS became such a ‘data-driven’ system,
with unreasonable and excessive pressure to meet targets, that [the system’s superintendent] Beverly Hall and her senior cabinet lost sight of conducting tests with integrity.”

IV. Criminal Justice Professional Have Improper Incentives

A. Incentives of police

It is relatively easy to observe whether the work of a police officer (or other law-enforcement officer) has led to a case being cleared. It is relatively difficult to observe whether a police officer’s work led to a false arrest or false conviction. Thus, one-sided incentives to clear cases would create a multitask problem in policing. Unfortunately, the police have a strong incentive to clear cases.

It is well-established that the crime clearance is a standard measure of police efficiency, even though some scholars have questioned the legitimacy of using crime clearance rates as an indicator of effective policing. There is also variation in how to effectively measure cleared crimes – should it be arrests made, actual convictions, or some other criteria? Although policing scholars note that the police serve many functions, their performance is often measured by reduction in crime rates, number of arrest, response time and crime clearance rates. In many cases these goals are linked to high-powered incentives, which then creates a multitask problem.

In the context of the FBI, Posner has expressed support for the use of high-powered incentives. The “outputs” of criminal investigation, “number of arrests, prosecutions, convictions, length of sentences, and amount of property recovered” are, Posner says, “relatively hard to manipulate (at least legally)” and can therefore be “feasibly measured. FBI agents can thus be motivated by ‘high-powered’ incentives, that is by basing promotion and other career
benefits on objectively measured, individual performance at the field-office level.” 62 This argument neglects the multitask problem. Posner 63 quickly made a partial concession to this point, saying, “a weakness in the use of arrests, convictions, and sentences as criteria for evaluating the performance of law enforcement personnel is that it is difficult to weight the criteria by the probability that the arrest, conviction, or sentence in a particular case was unlawful and may have imposed heavy costs on an innocent person. This problem amplifies the social costs of the conflict of interest of the crime labs and undermines the objectivity of the performance criteria used by law enforcement agencies.”

When police investigators have high-powered incentives to clear cases, they do not have an incentive to discriminate between the guilty and the innocent. Such skewed incentives create the risk of false arrest and conviction. A vital aspect of the proper function of law enforcement is to discriminate between the guilty and the innocent. But the police can clear cases by arresting persons who are poor, uneducated, or mentally weak. Such persons may be less able to mount a vigorous defense and more likely to make a false confession. (We discuss false confessions below.) It would be comforting to imagine that the problem is only that a few “rogue cops” or “bad apples” may willfully prey on weak victims. As we have noted, however, even honest errors may be skewed by incentives. Thus, high-powered incentives to make arrests and to clear cases create the risk that even the most scrupulous and conscientious law enforcement officers will act in ways that needlessly increase the risk of false arrest and conviction.

The system of computer-driven statistics used by the New York City Police Department, (COMPSTAT), creates high-powered incentives for reducing reported crime rates, as well as arrests and case clearings. Unfortunately, in at least one precinct these high-powered incentives seem to have produced results similar to those we saw earlier with the Atlanta Public Schools.
COMPSTAT, or Compare Statistics, provides up-to-date computerized crime statistics for all precincts in New York City. With the development of COMPSTAT, police managers face extraordinary pressures of accountability for their precinct performance.

Implementation of COMPSTAT in its first few years seemed to coincide with a major decline in serious crime, but sometimes the numbers do lie. Numerous press reports have alleged that New York City police officers intentionally “fudge” the numbers to keep the officially recorded serious crime rate low. Reports indicate that police officers manipulate the statistics by intentionally downgrading felonies to misdemeanors, undervaluing property to keep crimes from reaching the felony level, purposely not filing reports, encouraging victims not to file complaints and so on. In New York as recently as 2009, some “precinct bosses threaten street cops if they don't make their quotas of arrests and stop-and-frisks, but also tell them not to take certain robbery reports in order to manipulate crime statistics”. Indeed this was just one of the allegations brought to the surface in the bombshell release of audio recordings made by Adrian Schoolcraft, eight-year veteran of the NYPD at the time, in 2010. Schoolcraft, who made audio recordings of all work-related events occurring at his precinct between June 1, 2008, and October 31, 2009, claimed that he had grown concerned by the quality of police service being delivered to the public. The audio recordings made by Schoolcraft revealed a systematic orientation, stemming from top management the bosses, to keep official crime statistics down. The pressure to keep these numbers down is made clear by one officer, who explains to Schoolcraft how robberies are typically downgraded to lower-level crimes. He says, “A lot of 61s – if it’s a robbery, they’ll make it a petty larceny. I saw a 61, at T/P/O [time and place of occurrence], a civilian punched in the face, menaced with a gun, and his wallet removed, and
they wrote ‘lost property’ “66. This is just one example of the practices used to skew the statistics.

In fact, the 81\textsuperscript{st} Precinct of Bedford-Stuyvesant had adopted a policy, not sanctioned by the NYPD’s official policy, that police officers would not take a complaint from a victim unless the victim would come to the stationhouse in person. If the victim could not come to the stationhouse, then no report was filed and no crime documented. Schoolcraft also recorded his eventual meeting with the QAD (Quality Assurance Division), similar to Internal Affairs. At the end of this meeting, a supervisor explains to Schoolcraft the pressures faced by managers to lower the crime statistics. He states that “the mayor’s looking for it, the police commissioner is looking for it…every commanding officer wants to show it”67. Just three weeks after his meeting with investigators from the QAD division, upper-level police managers had Schoolcraft committed to a mental institution for six days, claiming that he was mentally unstable.68 Committing Schoolcraft to an institution seems an obvious and unsuccessful attempt to both discredit and silence Schoolcraft, who revealed the systematic manipulation of crime statistics in one precinct of the New York City Police Department.

Similar computer-driven policing strategies have been implemented in other cities with comparable reports of statistical manipulation.69 COMPSTAT systems can be found internationally as well. For example, the United Kingdom implemented a numbers-driven accountability approach similar to COMPSTAT. Unsurprisingly, press reports described problems such as undercounting of crime and manipulation of crime category classification, with one report concluding that the police department recording policy “was designed to have the effect of artificially reducing recorded crime to a more politically acceptable level”.70 In sum, the accountability structure inherent in statistics-driven policing creates an incentive for police
departments to keep reported crime levels low, especially for more serious offenses. Although measures of citizen satisfaction and perceptions of safety are also used as performance indicators\textsuperscript{71} reported crime levels have become strong measures of departmental efficiency. These measures certainly fit with the renewed “crime-control orientation” of our current criminal justice system and they are characterized by a focus on accountability. Most of these performance measures are then inexorably linked to the subsequent points in the criminal justice process and more specifically, the prosecution of crime. Prosecutors use evidence obtained by the police to build their own cases, giving police another incentive to obtain the strongest evidence possible.

The pressure to clear cases creates an incentive to under-report crimes. It also creates the risk that the evidence collection process will be skewed in ways that needlessly increase the risk of false arrest and conviction. Eyewitness identification, confession, and forensic evidence all share a common thread – they are typically regarded as the most persuasive types of evidence in a criminal case.\textsuperscript{72} During the last twenty years, forensic evidence, and more specifically, DNA evidence, has become an important part of criminal investigations. In addition to helping police investigators, DNA evidence has come to play an integral role in aiding offenders who raise claims of wrongful convictions. The Innocence Project, founded by Barry C. Scheck and Peter J. Neufeld in 1992, is the lead organization dedicated to exonerating wrongfully convicted individuals through the use of DNA evidence. Prior to forensic evidence, confession and eyewitness identification evidence, when available, typically exerted the most influence in criminal cases. The impact of this type of evidence begins with the police and ultimately prosecutors, to whom this type of evidence represents a solid chance of a conviction.
To illustrate this point, we consider how police treat confessions by individuals suspected of crimes. The police are charged with investigating crimes and making arrests based on the evidence and while confessions are considered evidence, they are often extracted based on the presumption that a suspect is guilty.\textsuperscript{73} To put this concept into the proper context, it is important to understand the concept of “tunnel vision” in the criminal justice process, whereby one suspect becomes the selected focus of an investigation at the exclusion of others. According to Martin, this is the inclination to “focus on a suspect, select and filter the evidence that will 'build a case' for conviction, while ignoring or suppressing evidence that points away from guilt.”\textsuperscript{74}

Tunnel vision begins at early stages of case processing and may involve a hunch or feeling about a suspect\textsuperscript{75}, but it becomes ever more salient when police conduct what is known as the preinterrogation interview, or “Behavioral Analysis Interview,” to determine deception on part of a suspect.\textsuperscript{76} This process involves a focus on behavioral cues that indicate deception. Of course, police are trained to assess various behavioral cues to assist in their determinations.\textsuperscript{77} However, research has shown that various cues police are trained to look for, such as suspect fidgeting and aversion of eye contact by the suspect, are not necessarily reliable cues and may not be correct indicators of deception at all.\textsuperscript{78} Stemming from these assessments is the certainty to which the police feel they are accurate in their assessments. An extant body of literature has addressed this issue, often finding that trained law enforcement personnel are not much better, if any, at detecting deception than the layperson.\textsuperscript{79} Nevertheless, the goal of the preinterrogation is to determine a suspect's guilt.

This fact distinguishes police interviews from interrogations. An interview is designed to obtain information that leads to fact-finding and ultimately the truth whereas an interrogation is designed to elicit a confession of guilt.\textsuperscript{80} The confession, as police are made aware, is one of the
best pieces of evidence used by the prosecutor in the court room\textsuperscript{81}, thereby making the confession an important goal of investigation. Unfortunately, the interrogation, designed as a psychologically coercive and manipulative technique, leads not only the guilty to confess but also the innocent. The existence of false confessions due to psychologically coercive police interrogations is well-documented.\textsuperscript{82} The fallibility of eyewitness identification evidence has also been documented extensively in the field of psychology.\textsuperscript{83} The police conduct eyewitness identification procedures, otherwise known as line-ups. In a simultaneous line-up, traditionally used by police departments, a suspect is placed among other people and shown to a witness all at once.\textsuperscript{84} A variety of factors are linked to mistaken eyewitness identification errors, usually falling under system variables or estimator variables. Estimator variables are those not controlled by our criminal justice system, such as environmental conditions during the criminal event, stress experienced by a witness, and impact of cross-race identification on the witness. System variables are those controlled by the legal system, including the line-up presentation method used with witnesses, line-up instructions provided by the police, and techniques employed by investigators who interview witnesses.\textsuperscript{85} Similar to the confession, the police use the line-up to establish guilt and therefore the procedures used to administer line-ups can influence witnesses. All of these factors lead to a high rate of mistaken eyewitness identifications, and eyewitness testimony is responsible for more wrongful convictions than any other type of evidence.\textsuperscript{86}

The infirmities of eyewitness testimony, then, are well understood.\textsuperscript{87} Police lineups, for example, invite error if not properly structured.\textsuperscript{88} Eyewitnesses are more likely to misidentify a person perceived to have a different “race”.\textsuperscript{89} These infirmities may lead to false convictions when police are consciously or unconsciously motivated to maximize convictions.
The problems associated with confession evidence and eyewitness identification evidence are therefore twofold: that evidence widely thought of as reliable is fallible; and that police investigations are used to confirm suspect guilt rather than obtain the truth.

**B. Incentives of forensic scientists**

It is relatively easy to observe whether a forensic scientist’s work supports the police or prosecution theory in a case. It is relatively difficult to observe whether a forensic scientist’s work includes errors. Thus, one-sided incentives to help secure convictions would create a multitask problem in forensic science. Unfortunately, forensic scientists do often have an incentive to produce results that support the police or prosecution theory. It might seem hard to act on this incentive without openly cheating by, say, falsifying scientific data. Surprisingly, perhaps, the incentives of forensic scientist can and do influence the content of their scientific analyses. Three underappreciated facts help to explain why.

First, forensic science depends greatly on subjective judgment. Even fingerprint examination and DNA typing often involve subjective judgment. Second, as an important study by the National Academy of Sciences (NAS) notes, “Most forensic science methods, programs, and evidence are within the regulatory province of state and local law enforcement entities or are covered by statutes and rules governing state judicial proceedings” Thus, high-powered incentives for police to the clear cases and secure convictions tend to produce in crime labs a similar incentive to find evidence inculpating police suspects. “Forensic scientists who sit administratively in law enforcement agencies or prosecutors’ offices, or who are hired by those units, are subject to a general risk of bias” Third, forensic evidence is generally examined by
one crime lab only, creating a kind of monopoly on the examination and interpretation of such evidence.

According to the NAS report, in many disciplines, the decision to declare a “match” is subjective in many forensic-science disciplines. These disciplines include “impression evidence” such as shoeprints and tire tracks, tool marks and firearms identification (the later commonly called “ballistics”), traditional hair microscopy, the handwriting comparisons of questioned document examiners, bloodstain pattern analysis, and fingerprint examinations.

Forensic scientists do not challenge the notion that most disciplines are subjective. Nichols, for example, views subjective judgment as a scientific method in firearms and tool mark identification. The standard techniques of his discipline are “rooted in firm scientific foundations” and “critically studied according to the precepts of the scientific method,” he says. And yet “the interpretation of individualization/identification is subjective in nature… and based on the examiner’s training and experience.”

It may be surprising that fingerprint examination is largely a subjective enterprise. The subjective element is modest, perhaps inconsequential, when the two images being compared are both clear and distinct. (Typically, one is a rolled print taken in a police station and the other a latent print lifted from the crime scene.) But most latent prints are not clear and distinct.

Figure 1 illustrates. The clear and distinct image on the left is a rolled print taken from Brandon Mayfield by law enforcement officers. The unclear and indistinct image on the right is latent print taken from the scene of the 2004 Madrid train bombing. In 2004, the FBI declared a “100 percent match” of Mayfield to the latent lifted from the Madrid crime scene. The Spanish authorities objected to this identification. They seem to have been correct as the FBI later
withdrew its identification and released Mayfield.\textsuperscript{98} The Mayfield error is one of a growing list of known false positive fingerprint errors.\textsuperscript{99}

\hspace{1cm}

The NAS excludes “nuclear DNA analysis” from its list of subjective disciplines. But, “DNA tests sometimes produce ambiguous results that are subject to multiple interpretations” and “[w]hen interpreting ambiguous results . . . human analysts rely heavily on subjective judgments to distinguish signal from noise, explain anomalies, and account for discrepancies”.\textsuperscript{100} Subject judgment is more likely to enter when more than one person has contributed to the DNA sample, or the sample is contaminated, degraded, or very small.

Figure 2 illustrates unambiguous DNA evidence. The biological sample is prepared and run through a genetic analyzer, which produces data that is represented as an electropherogram, which is then interpreted by a forensic scientist. As Figure 2 reveals, an electropherogram is a squiggly line. The figure shows only three loci, whereas most standard tests in the US examine 13 loci. Thompson and Cole, from whom Figures 2 & 3 are lifted, explain. “As can be seen, the profile of Suspect 3 corresponds completely to that of the crime scene sample, hence it is a match that indicates Suspect 3 is a possible source of the blood at the crime scene. Suspects 1, 2, and 4 are eliminated as possible sources because one or more of their alleles differs from the crime sample”.\textsuperscript{101}
Figure 3 illustrates some of the ambiguities that can enter DNA profiling when the crime-scene sample is degraded, mixed, or small. The figure, Thompson and Cole explain, “shows a comparison between the DNA profile of a saliva sample from the skin of a sexual assault victim and the profile of a suspect. Experts differed over whether these two profiles match. For example, some experts thought the peak labeled ‘12’ at locus ‘D3S1358’ was a true allele, others thought it was merely noise in the system. The experts,” they continue, “also differed over whether the peak labeled ‘OL allele’ at locus ‘FGA’ was a spurious anomaly that could be safely ignored, or whether it might be hiding another allele. When interpreting ambiguous results like those shown in [Figure 3] human analysts rely heavily on subjective judgments to distinguish signal from noise, explain anomalies, and account for discrepancies”.102

The subjectivism of forensic science matters in part because of the twofold monopoly in forensic science. First, evidence typically examined by one crime lab only.103 In this sense the crime lab receiving a bit of evidence has a monopoly on examination of that evidence. Second, that same lab will normally be the only one to offer an interpretation of the results of the examination it performs. No other experts in forensic science will be asked to judge what the evidence means. Typically, only the prosecution will have expert witnesses testifying on forensic evidence.104 Monopoly in examinations may allow errors and even fraud to go undetected. Monopoly in interpretation may allow false interpretations to go unchallenged and alternative hypotheses to go unexamined. If forensic scientists have any biases or incentives toward conviction, the subjectivism of forensic science and the monopoly status of the forensic scientist
will such incentives scope to operate. Organizing crime labs under law enforcement creates such biases and incentives.

We noted above that most crime labs are organized under the police, creating a risk of bias. Such bias may come through several channels, including the forensic scientist’s feeling of sympathy or identification with the law enforcement agency. Giannelli provides several examples of crime labs or individual forensic scientists who seem to have been led into error in part because of a feeling of identification with the police.105

Funding crime labs through court-assessed fees creates another channel for bias to enter crime lab analyses. In jurisdictions with this practice the crime lab receives a sum of money for each conviction of a given type. Wickenheiser says, “Collection of court costs is the only stable source of funding for the Acadiana Crime Lab. $10 is received for each guilty plea or verdict from each speeding ticket, and $50 from each DWI (Driving While Impaired) and drug offense.”106 In Broward County, “Monies deposited in the Trust Fund are principally court costs assessed upon conviction of driving or boating under the influence ($50) or selling, manufacturing, delivery, or possession of a controlled substance ($100)”107

Several state statutory schemes require crime laboratory fees upon conviction. North Carolina General Statutes require, “[f]or the services of” the state or local crime lab, that judges in criminal cases assess a $600 fee to be charged “upon conviction” and remitted to the law enforcement agency containing the lab whenever that lab “performed DNA analysis of the crime, tests of bodily fluids of the defendant for the presence of alcohol or controlled substances, or analysis of any controlled substance possessed by the defendant or the defendant's agent”.108 Illinois crime labs receive fees upon convictions for sex offenses, controlled substance offenses and those involving driving under the influence.109 Mississippi Statues require crime laboratory
fees for various conviction types, including arson, aiding suicide and driving while intoxicated.\textsuperscript{110} Similar provisions exist in Alabama, New Mexico, Kentucky, New Jersey, Virginia, and, until recently, Michigan.\textsuperscript{111}

Other states have broadened the scope even further. Washington Statutes require a $100 crime lab fee for any conviction that involves lab analysis.\textsuperscript{112} Kansas Statutes require offenders “to pay a separate court cost of $400 for every individual offense if forensic science or laboratory services or forensic computer examination services are provided in connection with the investigation”.\textsuperscript{113} In addition to those already listed, the following states also require crime lab fees in connection with various conviction types: Arizona\textsuperscript{114}; California\textsuperscript{115}; Missouri\textsuperscript{116}; Tennessee\textsuperscript{117}; and Wisconsin.\textsuperscript{118}

Whitman and Koppl point out that “the very choice to submit a suspect’s sample to the lab makes the lab more inclined (than it would be otherwise) to announce a match, indicating that the suspect is guilty.”\textsuperscript{119} The forensic scientist must evaluate ambiguous evidence, but give, generally, a binary judgment that the evidence does or does not match. (The explain why the probabilities given in DNA testimony are not usually an exception to this binary nature of forensic-science testimony.) In this situation, even the most “rational” scientist must choose what to say. The choice will usually be influenced by scientific analysis done in the crime lab. But if the evidence is ambiguous, as it often is, then two other factors matter even for perfectly “rational” forensic scientists. The scientist is more likely to inculpate the defendant 1) the higher the forensic scientist’s “prior” probability of guilt, which is the probability before the forensic evidence is examined, and 2) the weaker is the scientist’s desire is to avoid convicting the innocent relative to his or her desire to convict the guilty.
C. Incentives of prosecutors

It is relatively easy to observe whether a prosecutor’s work produced a conviction. It is relatively difficult to observe whether a prosecutor’s work produced a false conviction. Thus, one-sided incentives to convict would create a multitask problem in the prosecution of crimes. Unfortunately, prosecutors have a strong incentive to produce convictions.

Police incentives are clear in that they are held to performance measures of efficiency and also held accountable to the prosecutors who must build their cases based on the evidence provided by the police. Prosecutors face even stronger incentives when it comes to clearing cases. The prosecutor should act as the “minister of justice,” ensuring that justice is ultimately served. As the American Bar Association (ABA) notes, “A prosecutor has the responsibility of a minister of justice and not simply that of an advocate.” The prosecutor has a constitutional duty to act as “neutral and detached magistrate”. Much like the police, however, prosecutors are often measured by their conviction rates.

The strong value placed on convictions and the pressures faced by prosecutors to secure confessions is linked to a concept known as “conviction psychology,” whereby the goal of obtaining convictions outweighs the goal of obtaining justice. Tunnel vision also plays an important part in this process. Tunnel vision is evident in the various stages of a police investigation but it also extends to the prosecution of a case. Prosecutors receive evidence from police supporting a suspect's guilt but they don't always see all of the evidence, at times missing refuting evidence or information about other suspects. Convinced of a suspect's guilt, the prosecutor uses this evidence to secure a conviction against the presumably guilty defendant, whether via a guilty plea or in rare cases, trial. The conviction therefore always represents justice.
Addressing this issue in a larger context, retired Supreme Court Justice John Paul Stevens recently discussed the skewed incentive structure of the prosecutor’s office. In his May 2, 2011, speech to the Equal Justice Initiative, an organization that provides representation for indigent offenders who have been treated unjustly by the criminal justice system, Justice Stevens criticized the Court for their recent decision to overturn a jury’s $14 million award to a man who spent fourteen years on death row because prosecutors repeatedly failed to turn over evidence that would have exonerated him. Stevens stated that the problem is inherent in a criminal justice system where judges and prosecutors are elected on tough-on-crime platforms. The pressure to obtain convictions becomes paramount in the crime control platform that originated with Richard Nixon and “creates a problem of imbalanced incentives that ought to be addressed on the state and national level.” Indeed researchers on this topic have come to similar conclusions. In addition to these political pressures, financial incentives exacerbate the problem.

Some notable research has described the importance of convictions in determining promotions for prosecutors. Indeed, according to Medwed, although prosecutors do not receive money per conviction, “inducements are implicit in a system where promotions are contingent on one's ability to garner convictions.” However, it isn't completely true that prosecutors aren't rewarded financially per conviction. In 2010, one district attorney in Colorado decided to award bonuses to prosecutors based on their number of convictions. More specifically, District Attorney Carol Chambers implemented a system of financial rewards whereby prosecutors who take at least five cases per year to trial and secure a 70% felony conviction rate are rewarded with monetary bonuses. A financial-based incentive structure such as this one provides an even stronger impetus for prosecutors to win cases.
D. Incentives of Defense Counsel

The resources and incentives of public defenders do not provide sufficient counterweight to the pro-conviction incentives of police, forensic scientists, and prosecutors.

There is a sharp asymmetry between the duties of prosecutors in criminal cases and those of defense counsel. As we have noted, a prosecutor has a constitutional duty to act as “neutral and detached magistrate.” The Supreme Court has said,

The United States Attorney is the representative not of an ordinary party to a controversy, but of a sovereignty whose obligation to govern impartially is as compelling as its obligation to govern at all; and whose interest, therefore, in a criminal prosecution is not that it shall win a case, but that justice shall be done. As such, he is in a peculiar and very definite sense the servant of the law, the twofold aim of which is that guilt shall not escape or innocence suffer”131

The constitutional duty of defense counsel, by contrast, is entirely one sided. Defense counsel has a constitutional duty of “vigorous and effective advocacy” for its client.132 Thus, any public defender has a duty to mount a vigorous defense for each of his or her clients. Far from supporting this goal, however, the incentives of public defenders tend to encourage a plea bargaining and a less than vigorous defense.

The indigent defendant has a constitutional right to free representation in criminal proceedings.133 However, methods of providing this fundamental representation to indigent clients vary by jurisdiction. Three systems are currently used: public defender programs, contract defense programs and assigned counsel programs. Lacking in all three systems is an incentive to provide the best defense possible for the indigent defendant and present in all three is a strong incentive to plea bargain. However, the remaining incentives vary. We will examine the incentive structure of all three systems.
Public defender programs provide free lawyers to defendants in their jurisdictions who cannot afford representation in criminal proceedings. Prefacing any further argument, we assume that most criminal defendants want to be exonerated or at best, to be faced with the least punitive criminal sanction. We also believe, as Schulhofer and Friedman\textsuperscript{134} posit, that most defenders are philosophically concerned with protecting the rights of indigent criminal defendants. However, this seemingly simple notion isn't really simple at all when we consider the conflict between individual and institutional incentives for public defenders. To place this argument in the proper context, we should first consider where public defender resources come from.

The layperson might find it ironic that most public defender organizations are funded by their adversaries – the state. Therefore, Chief Defenders must often prioritize their resources to accommodate the concerns of the court and the government, which provides the funding to run public defender organizations. Perhaps this clarifies the tension between individual and institutional incentives. For example, as Schulhofer and Friedman\textsuperscript{135} point out, the public defender who wishes to distinguish herself by building a strong reputation, possibly to pave the way to another career, is often met with systemic resistance to spending time and resources on cases. Institutional concerns create an incentive to move cases through the system expeditiously and conserve resources – not an incentive to carry out justice. Indeed, the effects of high caseloads coupled with budgetary considerations were documented long ago in a notable study of the Legal Aid Society of New York. McConville and Mirsky\textsuperscript{136} found that increasing workloads of the 1970s and reduced staff led to a strong emphasis on moving cases through the system quickly through guilty pleas. Schulhofer and Friedman\textsuperscript{137} point out those public defenders that exercise their adversarial role and put forth full efforts are even met at times with
punishment, as was the case with an Atlanta public defender who was demoted because she filed a motion requesting the Court to assign her no more than six cases daily. Skewed incentives are problematic as well within a contract defense program.

Contract defense programs, less commonly used, are comprised of lawyers and law firms who handle indigent criminal cases in exchange for a fee. To further clarify, these attorneys are paid either a global fee, which is an annual payment for handling all cases of a specific class, or an individual fee, which is a fee per each case. In this system, lawyers and law firms have a seemingly strong incentive to avoid a defense that requires anything beyond the minimum service. As Schulhofer and Friedman state, the system of global and individual fees creates a “powerful disincentive to invest time and resources in his indigent cases.” This is a for-profit business, meaning that any money saved by cutting corners is money in the pockets of the attorneys. In his analysis of legal disparities in capital punishment in Texas, Philips also describes the conflict caused by a flat fee payment system. Citing the American Bar Association, Philips notes that “the possible effect of such rates is to discourage lawyers from doing more than what is minimally necessary to qualify for the flat payment.” Monetary incentives are also problematic in assigned counsel programs.

In an assigned counsel program, the judge presiding over a criminal case appoints a lawyer to handle an indigent client's defense on a case-by-case basis. Almost all members admitted to the State's Bar are required to participate in the assigned counsel system, with certain exceptions of course. Hence, the problem though – many attorneys don't want to serve as assigned counsel in indigent cases. They are paid flat fees, which usually have very low caps on fee maximums, or hourly wages, which are often quite low and historically have not been enough to meet the demands of the public defenders. The improper financial incentive
produced by this system is therefore two-fold: low rates and fee caps disincentivize maximum case efforts by attorneys assigned to these cases and less commonly, higher hourly rates and jurisdictions with no fee caps will incentivize just the opposite – unnecessary efforts to protract the length of a case.\textsuperscript{142}

Philip\textsuperscript{s143} directs attention to an additional financial conflict inherent to the appointed counsel system. According to Philips\textsuperscript{144}, the defense has to balance the goal of providing a vigorous defense with their economic needs. However, he is referring to defense counsel’s relationship with judges, who make the ultimate decisions on who to appoint to a criminal case. Concerned about insuring steady work, defense attorneys in this system have to stay in the good graces of criminal court judges. One defense attorney stated that “An attorney who files a lot of motions and asks a lot of questions creates a problem for the judges. You tick off the judge and don’t get any more appointments”.\textsuperscript{145}

The present system of indigent defense types provides few incentives for defense attorneys to fully advocate for the best interests of their clients. In their discussion of the benefits of a free market approach to defense lawyering for indigent criminal defendants, Schulhofer and Friedman\textsuperscript{146} suggest that better incentives are needed to align the interests of the indigent defendant and his client. In the wider context, it appears that flawed incentives exist systemically in our existing criminal justice system so that the goal of “justice” has somehow gotten lost.

Our experience in discussing these issues seems to suggest that “good lawyering” is often thought of a cure-all for the sort of the sort of problems we have been discussing. Unfortunately, the incentives of public defenders do not always encourage them to mount a vigorous defense.
Weak incentives often combine with thin resources to make it even less likely that “good lawyering” can compensate for infirmities elsewhere in the system.

V. We need structural change

We have identified misaligned incentives in the criminal justice system. As we noted in our introduction, our survey is not complete or comprehensive. We have not examined, for example, the “evidence filtering” discussed in Cowan and Koppl.\textsuperscript{147} We may have shown, however, that the problem is real, systemic, and important. It is a structural problem. Structural problems require structural solutions. Many changes have been proposed including taping suspect interviews\textsuperscript{148}, a voucher system for indigent defense\textsuperscript{149}, enhancing the defense right to expertise\textsuperscript{150}, separating crime labs from law enforcement\textsuperscript{151}, eliminating the snitch system\textsuperscript{152}, “sequential unmasking” in forensic testing\textsuperscript{153}, redundant forensic-science testing\textsuperscript{154}, and privatization of crime labs.\textsuperscript{155} Suggestions for reform in policing include changing the perception of the police as a branch of criminal justice to an agency of the municipal government, similar to the innovation in Charlotte-Mecklenburg\textsuperscript{156} and broadening measures of police performance to account for all dimensions of policing.\textsuperscript{157} To counter the strong emphasis placed on convictions, Medwed suggests the implementation of prosecutorial innocence units to facilitate the exoneration and release of those wrongfully convicted.\textsuperscript{158}

These proposals and others should be considered. It seems fair to say, however, that there has been inadequate research on the topic. We do not fully understand what structural changes would best align the incentives of criminal justice professionals with the overarching goal of justice. More research is required.
In crafting proposals for structural change, we should bear in mind the political catechism of James Madison:

The interest of the man must be connected with the constitutional rights of the place. It may be a reflection on human nature, that such devices should be necessary to control the abuses of government. But what is government itself, but the greatest of all reflections on human nature? If men were angels, no government would be necessary. If angels were to govern men, neither external nor internal controls on government would be necessary.

Many structural features of the American criminal justice system today seem to have been designed for divine creatures, not humans. We need to design a system that can be run by human beings for human beings. We need a criminal justice system for humans, not angels.

In *McNabb v. United States*\(^\text{159}\), the Supreme Court recognized the necessity of structural safeguards against error in the criminal justice system.

A democratic society, in which respect for the dignity of all men is central, naturally guards against the misuse of the law enforcement process. Zeal in tracking down crime is not in itself an assurance of sobriety of judgment. Disinterestedness in law enforcement does not alone prevent disregard of cherished liberties. Experience has therefore counseled that safeguards must be provided against the dangers of the overzealous as well as the despotic. The awful instruments of the criminal law cannot be entrusted to a single functionary. The complicated process of criminal justice is therefore divided into different parts, responsibility for which is separately vested in the various participants upon whom the criminal law relies for its vindication.

In this statement Justice Frankfurter recognizes that criminal-justice personnel are human beings and not divine creatures. Even the most conscientious actor may be led into error by “zeal.” To reduce the risk of injustice, the system is “divided into different parts” with responsibility for distinct pieces resting with distinct persons. We have studied how, in effect, poorly designed incentives may misdirect the human zeal of criminal-justice personnel and create injustices in
spite of the divisions within the system. We must study these incentives scientifically and revise them judiciously if the criminal law is to have its vindication.

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Figure 1: Ambiguous and Unambiguous Fingerprint Images

The clear and distinct image on the left is a rolled print taken from a suspect by law enforcement officers. The unclear and indistinct image on the right is latent print taken from a crime scene by law enforcement officers. FBI examiners declared a “100 percent match” between them.
Figure 2: Unambiguous DNA Evidence

The electropherogram of the crime scene evidence is clear and distinct. It matches suspect 3, who is included as a possible source. Suspects 1, 2, & 4 are clearly excluded.
Figure 3: Ambiguous DNA Evidence
The electropherogram of the crime scene evidence is not clear and distinct. It is not clear whether the suspect should be included or excluded as a possible source.

1Bruce Weber, As They See 'Em: A Fan's Travels in the Land of Umpires, at 26 (2009).


3Id. at 551 (“Any plausible guess at the total number of miscarriages of justice in America in the last fifteen years must be in the thousands, perhaps tens of thousands”).


5Id. (“During that same 15 years, there were more than 15 million felony convictions across the country. That would make the error rate .027 percent -- or, to put it another way, a success rate of 99.973 percent”).


7Marsh, 548 U.S. at 198.
8 Marsh, 548 U.S. at 193.

9 Edwin M. Borchard, Convicting the Innocent: Errors of Criminal Justice (1932).


12 Marsh, 548 U.S. at 199.

13 Mills and Possley, supra note 11.


16 Id. Rankin.

17 Risinger, supra note 1.

18 Id. at 785.

19 Id. at 782-788.

20 Id. at 783.

21 Id. at 784.

22 Id. at 780-782.


24 See William J. Stuntz, The Collapse of American Criminal Justice, at 317, n. 2 (2011) (“If the same error rate exists in noncapital cases as in the cases Risinger studied, the justice system wrongfully convicts somewhere between 30,000 and 60,000 ‘felons’ per year”).

45
25 See Gross, supra note 3, for example, list three examples of “mass exoneration.”

26 Id. at 534.


28 Gross supra note 3, at 534.

29 Id. at 534-535.


31 See Roger Kopp, Experts and information choice, Advances in Austrian Economics, forthcoming.

32 Adam Smith, The Theory of Moral Sentiments, at 9 (1790 [1984]).

33 Bruce Budowle, Maureen C. Bottrell, Stephen G. Bunch, Robert Fram, Diana Harrison, Stephen Meagher, Cary T Oien, Peter Peterson, Daniella P. Seiger, Michael B. Smith, Melissa Smrz, Greg L. Solts and Robert B. Stacey, A Perspective on Errors, Bias, and Interpretation in the Forensic Sciences and Direction for Continuing Advancement, 54 J. FORENSIC SCIENCES 798 (2009) (For example, in spite of a large literature on the universality of observer effects, Budowle and colleagues say, “we believe that bias is not a serious pervasive concern” in forensic science).

34 Much of the discussion in this section uses language found also in Koppl (2012).


36 Id. Risinger at 24-26.

37 Id at 24.


39 Risinger supra note 36, at 6 (as translated from Caesar’s Commentaries on the Gallic War).


41 See Risinger supra note 36.

42 Risinger supra note36, at 13.

43 See Risinger supra note 36, at 22-26.


Anderson, Pichert & Shirley *supra* note 46, at 274-275.


Holmstrom and Milgrom *supra* note 49, at 25.


Holmstrom and Milgrom *supra* note 49, at 25.


Id.

Id.

Id.


Id.


Id.

Id.

Id.


Nick Davies, *Watching the detectives: how the police cheat in fight against crime*, at 3 The Guardian (Mar. 8, 1999).


See Kassin and Gudjonsson *supra* note 74.


See Ofshe & Leo *supra* note 76.


See Wells and Olson supra note 84.


A few passages in this section borrowed Roger Koppl, Organization Economics Explains Many Forensic Science Errors, 8 J. INST. ECON. 71 (2010).

See Roger Koppl, How to Improve Forensic Science, 20 EUROPEAN J. L. & ECON. 20 (2005); NAS, Committee on Identifying the Needs of the Forensic Science Community, Strengthening Forensic Science in the United States: A Path Forward (2009); Risinger supra note 36.


NAS supra note 92, at S-9.

Id. at 6-2.

Id. at S-15 (The NAS report discusses the variety of terms used to describe what is commonly thought of as “matching.”)

Id.


Thompson and Cole supra note 93, at 34.

Id.

Id.

See Koppl 2005.


Ill. Comp. Stat. §§§ 5/5-4-3, 5/5-9-1.4, 5/5-9-1.9.

Miss. Code Ann. §§§ 97-3-49, 97-17-13, 879-3-49.


Wash. Rev. Code § 43.43.690.


Wis. Code, § 973.05.


124 Id.

125 Connick v. Thompson, No. 09-571 (March 29, 2011).


127 See Jane C. Moriarity, ‘Misconvictions’, Science, and the Minister of Justice, at 23, 86 NEB. L. R. 1 (2008), (“protecting the innocent from conviction does not stand on equal footing with convicting the guilty – it is doubtful that any elected prosecutor campaigned on the notion of cases he did not prosecute”).


129 Medwed supra note 123 (2004), at 135.


135 Id.


137 Schulhofer & Friedman supra note 135.


See Schulhofer and Friedman supra note 135.

Philips supra note 140.

Id.

Texas Appleseed Fair Defense Project supra note 11, at 22.

Schulhofer and Friedman supra note 135 (1993).


See Giannelli supra note 105.

See NAS supra note 92.


See Moore and Poethig supra note 61.


Medwed supra note 123 (2009).

318 US 332 (1943).