

December 2017

**An Analysis of Racial and Ethnic Disparities in Case Dispositions and Sentencing Outcomes for Criminal Cases Presented to and Processed by the Office of the San Francisco District Attorney**

John MacDonald  
Department of Criminology  
University of Pennsylvania  
[johnmm@sas.upenn.edu](mailto:johnmm@sas.upenn.edu)

Steven Raphael  
Goldman School of Public Policy  
University of California, Berkeley  
[stevenraphael@berkeley.edu](mailto:stevenraphael@berkeley.edu)

We are grateful to Yotam Shem Tov for his excellent research assistance on this project and Alissa Skog for helping think through the structure of the administrative datasets. We are especially grateful to Maria McKee and Tara Regan Anderson for the many insights they provided us over the course of this project. This research was supported by a grant from the Frank and Denise Quattrone Foundation.

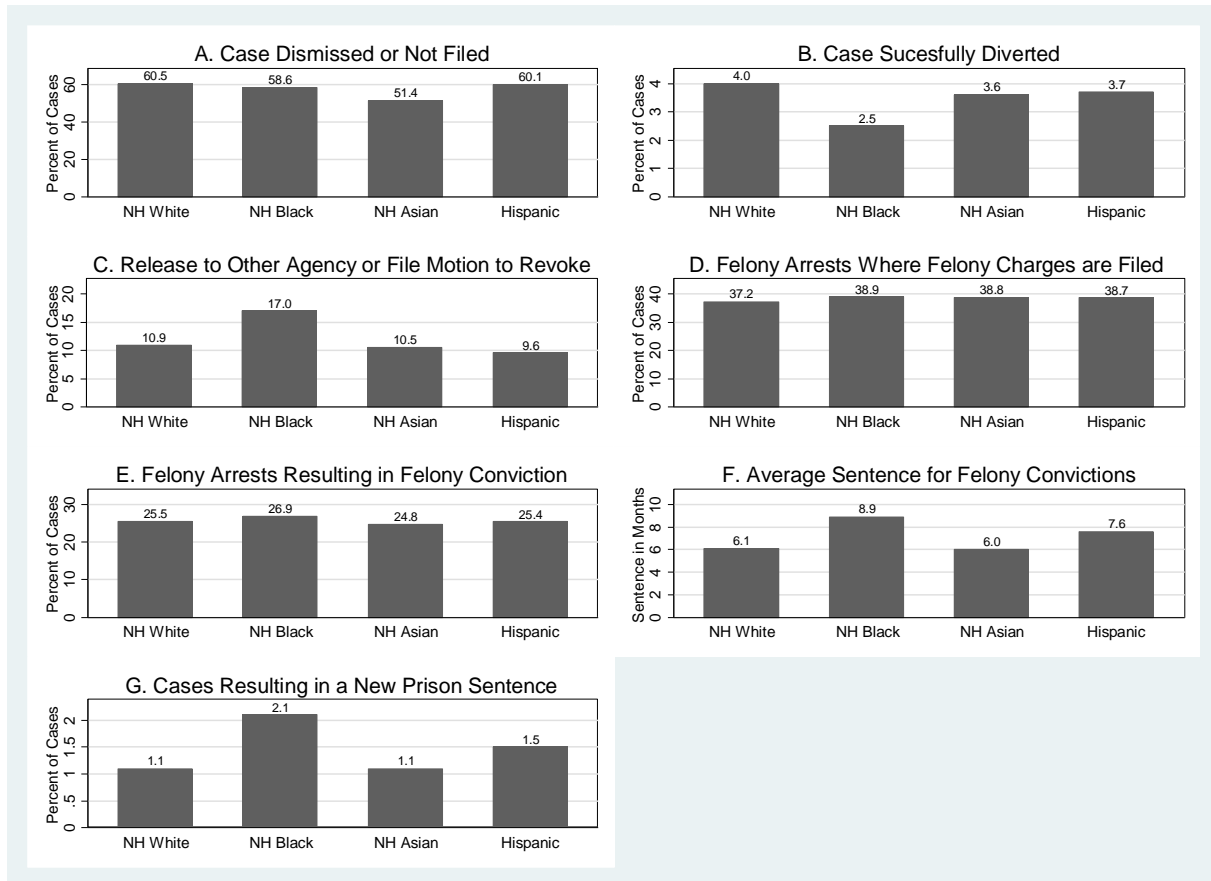
## EXECUTIVE SUMMARY

In this project, we document and explore the sources of racial and ethnic disparities in outcomes for criminal cases that are presented to and prosecuted by the San Francisco District Attorney's Office (SFDA). We assess the degree to which racial and ethnic disparities in case outcomes are attributable to characteristics of the cases that are presented to the SFDA (e.g., seriousness of arrest charges and criminal history) in comparison to aspects of case processing that generate disparate impacts. We also explore the extent to which disparities remain after making statistical adjustments for case characteristics and specific case processing aspects, such as pre-trial detention. The study merges administrative data from the SFDA case management system, data on jail admission and release from the San Francisco Sheriff's Department, and statewide criminal history data from the California Department of Justice.

Our principal conclusions are as follows:

**CONCLUSION #1: Racial and ethnic disparities in case disposition outcomes tend to disfavor African-Americans, Asians, and Hispanics relative to White suspects arrested in City and County of San Francisco.** Figure ES1 displays average values for a select set of case disposition outcomes by race and ethnicity. The figure shows the percent of cases where charges are not filed, where the defendant is successfully diverted, where the defendant is released to another agency or where a motion to revoke probation is filed, where felony charges are filed after a felony arrest, where a felony arrest results in a felony conviction, and the percentage of cases that result in a prison sentence. Figure ES1 also displays the average sentence in months for cases that result in a new conviction. There are several notable patterns in these outcomes.

**Figure ES1: Average Differences in Select Case Outcomes by the Race/Ethnicity of Criminal Defendants Processed by the Office of the San Francisco District Attorney**

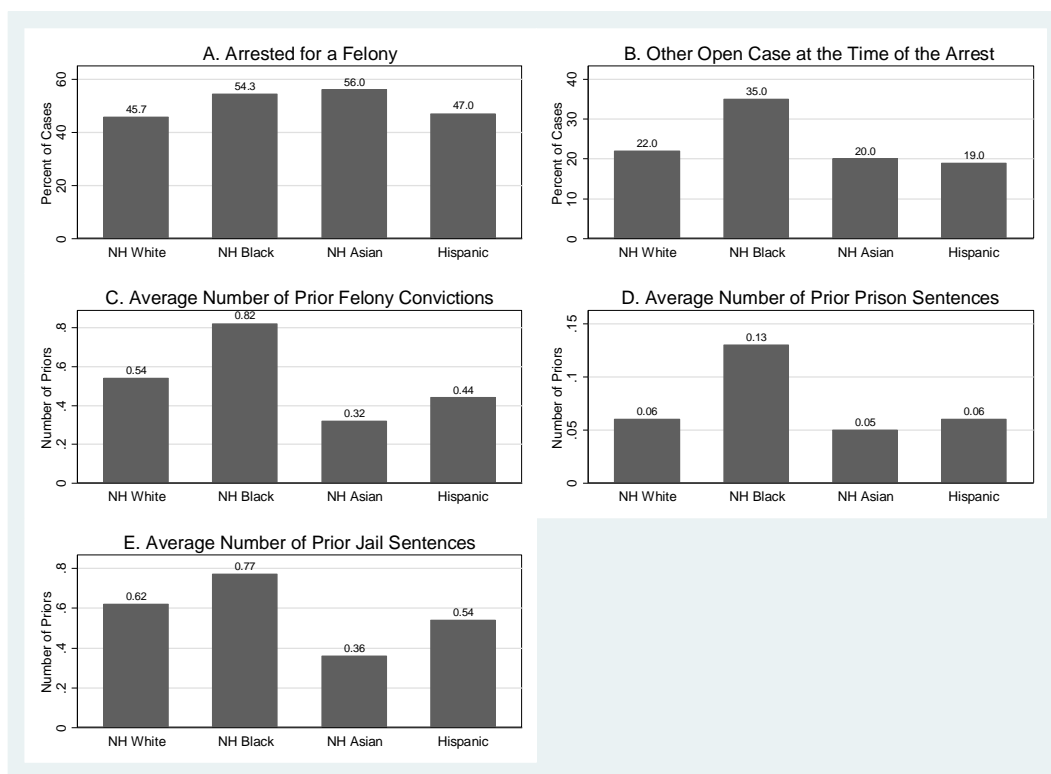


First, Blacks fare poorly relative to Whites for each outcome. Black defendants are less likely to have their cases dropped or dismissed, less likely to be successfully diverted, more likely to be released to another agency or have a motion to revoke filed against them, and when convicted, receive the longest incarceration sentences and are the most likely to receive a prison sentence.

Second, Asian and Hispanic defendants also fare poorly for several outcomes relative to White defendants. Asian suspects face a much lower likelihood that their case is dismissed and a higher likelihood of conviction. Broad disposition outcomes are similar for Hispanic and White

defendants, though Hispanic defendants are slightly less likely to be successfully diverted and slightly more likely to receive a prison sentence.

**Figure ES2: Average Differences in Select Case Characteristics by the Race/Ethnicity of Criminal Defendants Processed by the Office of the San Francisco District Attorney**



**CONCLUSION #2: There are large average differences in case characteristics by race and ethnicity that predict relatively worse disposition outcomes for Black and Asian defendants and to a lesser degree Hispanic defendants relative to Whites.** Figure ES2 displays the percent of cases by race and ethnicity that involve a felony arrest, the percent of cases where the suspect at the time of arrest has another pending cases or is on probation or parole (has another open case at the time of arrest), the average number of prior felony convictions, the average number of prior prison sentences, and the average number of prior jail sentences. Relative to White

defendants, Black defendants are more likely to have been arrested for a felony, are more likely to have an open case at the time of arrest, and have more extensive criminal history records at the time of arrest (more felony convictions and prior incarceration sentences). All of these differences in case characteristics by race and ethnicity tend to increase a defendant’s chance of a more punitive disposition. For example, having an active criminal justice status or an extensive criminal history may legitimately factor into choices regarding whether to pursue a case, what charges to file, and sentencing outcomes.

There are also large racial disparities in the likelihood and extent of pre-trial detention. Table ES1 displays the percent of defendants by race and ethnicity who experience two or more days of pre-trial detention, that experience seven or more days of pre-trial detention, and that experience 30 or more days of pre-trial detention. Asian, White, and Hispanic defendants experience similar levels of pre-trial detention, while Black defendants are detained pre-trial at higher rates at the two, seven, and thirty-day markers. Recent research has established that pre-trial detention often leads to worse disposition outcomes.

	Detained two or more days	Detained seven or more days	Detained thirty or more days
Non-Hispanic White	42.4%	21.3%	11.5%
Non-Hispanic Black	59.9%	34.0%	20.1%
Non-Hispanic Asian	45.5%	23.3%	13.6%
Hispanic	42.0%	20.6%	11.8%

**CONCLUSION #3: Nearly all of the racial and ethnic disparities in case outcomes can be attributed to case characteristics that are determined prior to a case being presented to the**

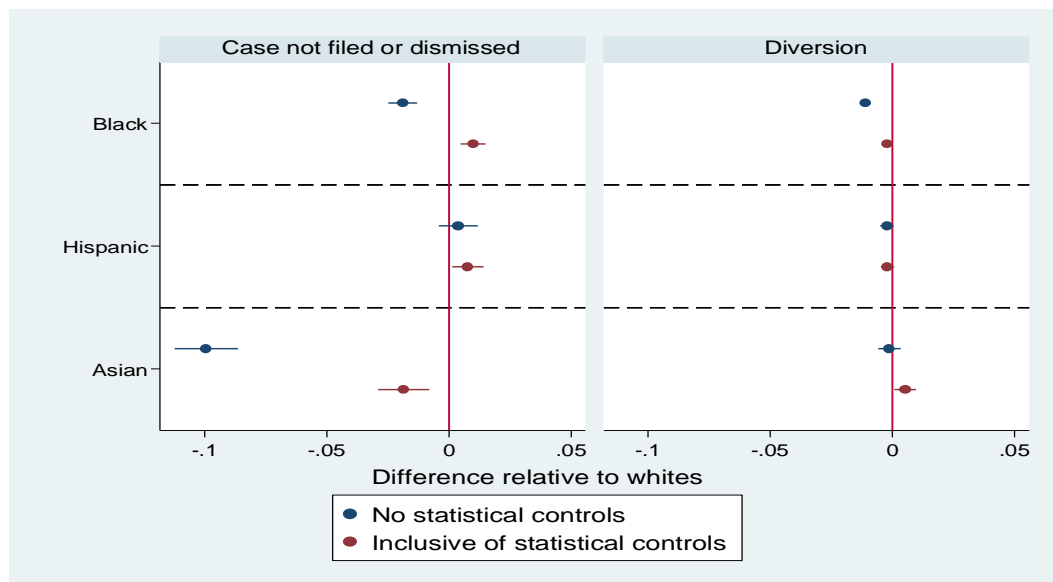
**office of the SFDA.** Figures ES3 through ES5 graphically display the disparities in key disposition outcomes relative to White defendants. The figures display the raw average difference in each outcome and the difference that remains after statistically adjusting for differences in underlying arrest charges, criminal justice status at the time of arrest, the extent of pre-trial detention, and criminal history on the disposition outcome. In most instances the figures reveal that disparities in outcomes can be largely attributed to differences in case characteristics.

Figures ES3 through ES5 are constructed as follows. Using the left side of Figure ES3 as an example and focusing on the highest marker for Black arrestees at the top of the figure, the blue dot in the middle of the blue bar marks the differences in the proportion of cases where charges are not filed or where the case is dismissed between Black and White defendants (with the value measured along the horizontal axis on the bottom of the graph). Hence, the raw difference in this variable for Black defendants relative to White defendants is approximately 0.02 (i.e., Black defendants are roughly 2% points less likely to have a case dismissed or not filed). The horizontal line passing through the dot shows the margin of error within which we are fairly certain that the true value of the differential lies. A shorter line indicates a more precisely measured difference. The vertical line at zero allows one to visibly position the difference given by the dot relative to the no-effect value (i.e., zero). Moreover, if the line indicating zero is outside of the margin of error, we can conclude that the racial disparity is statistically and significantly different from no difference. Within each racial group the figure presents two estimates: (1) the raw difference in the outcome, and (2) the difference that remains after

statistically adjusting for racial differences in arrest charges, active criminal justice status, pre-trial detention, and criminal history.

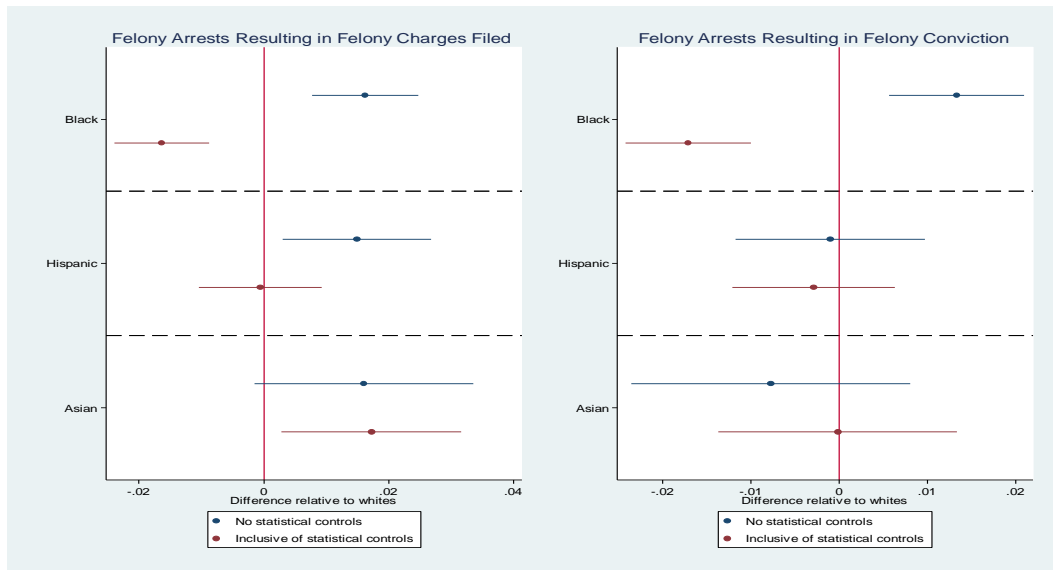
In Figure ES3 we see that once we account for differences in case characteristics, Black defendants are slightly more likely to have their cases dismissed or to not have charges filed relative to White defendants. Similarly, we find no remaining difference in the likelihood of a successful diversion once these case characteristic are taken into account. This general pattern is repeated for each of the disposition outcomes. Raw differences reveal disparities that tend to disfavor non-White defendants. Statistical adjustment for case characteristics explains most of the observable disparity, and in many instance explains all of an observable disparity.

**Figure ES3: Racial Disparities in Case Disposition Outcomes Relative to White Suspects with and without Controls for Arrest Charges, Criminal Justice Status at Arrest, Detention through Arraignment, and San Francisco and Statewide Criminal History**



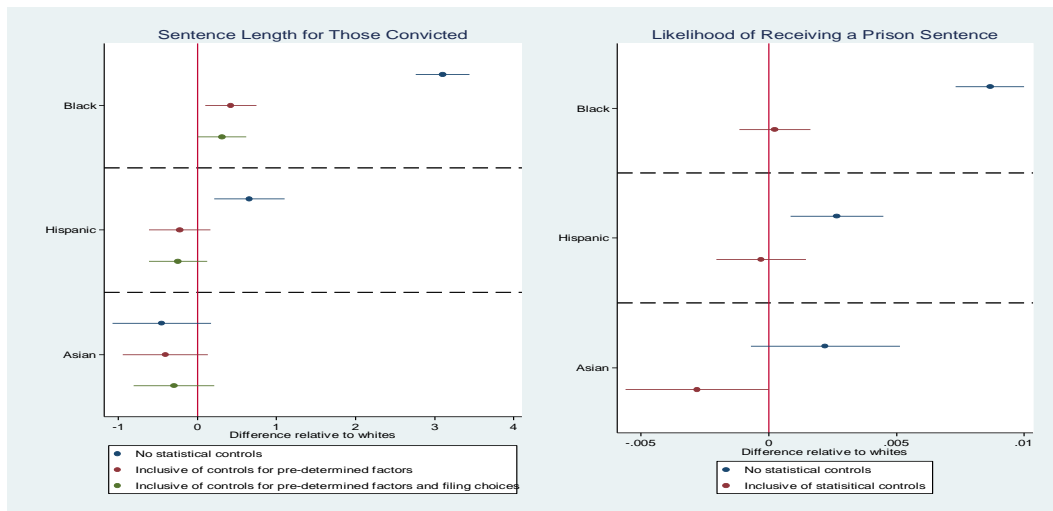
Notes: The dots in the figure represent estimates of the difference in the outcome relative to whites. The line through the dot demarks the 95 percent confidence interval for the estimate.

**Figure ES4: Racial Disparities in the Likelihood that a Felony Arrest Results in the Filing of Felony Charges and a Felony Conviction with and without Controls for Arrest Charges, Criminal Justice Status at Arrest, Detention through Arraignment, and San Francisco and Statewide Criminal History**



Notes: The dots in the figure represent estimates of the difference in the outcome relative to whites. The line through the dot demarks the 95 percent confidence interval for the estimate.

**Figure ES5: Racial Disparities in Average Sentence for Those Convicted and Racial Disparities in the Likelihood that an Arrest Results in a Prison Sentence With and Without Controls for Arrest Charges, Criminal Justice Status at Arrest, Detention through Arraignment, and San Francisco and Statewide Criminal History**



Notes: The dots in the figure represent estimates of the difference in the outcome relative to whites. The line through the dot demarks the 95 percent confidence interval for the estimate.



**CONCLUSION #4: Pre-trial detention, criminal history, and criminal justice status at time of arrest generate relatively worse outcomes for Blacks relative to Whites. Asian-White disparities in outcomes are due almost entirely to differences in arrest charges.** The patterns displayed in Figures ES3 through ES5 suggest that the observed differences in case disposition outcomes between racial and ethnic groups can be explained by observable case characteristics related to criminal history, the seriousness of the alleged offense, and whether the individual is detained pre-trial. The relative contributions of these factors varies across groups and depends on the average difference between groups in a specific factor (such as prior felony conviction) and how those factors impact case outcomes.

Tables ES2 through ES4 qualitatively summarize the role of these factors in explaining differences in outcomes for a given group relative to Whites. For each of the disposition outcomes, the tables first list whether a difference disfavors the non-White group, and then provides information about the contribution of each set of factors on aggravating (marked with an “A”), mitigating (marked with an “M”), or having no measurable effect (marked by “NE”) on the difference relative to Whites. The table also notes whether a difference disfavoring the non-White group remains after adjusting for these factors, and the proportion explained by observable case characteristics.

There are several patterns that emerge from this summary. Criminal history, pre-trial detention, and criminal justice status at the time of arrest tend to aggravate disparities in outcomes between Black and White defendants, while differences in arrest charges have

inconsistent effects across outcomes. Differences in arrest charges tend to aggravate Asian-White disparities while difference in criminal justice status at the time of arrest tend to mitigate Hispanic-White disparities. While there are a few outcomes where observable characteristics do not entirely explain observed differentials, many of the differentials are fully explained by case characteristics.

<b>Table ES2</b>						
<b>Summary of the Effects of Case Characteristics on Black-White Disparities in Case Disposition Outcomes</b>						
	Charges not filed, case dismissed	Successful diversion	Felony charges filed	Felony conviction	Average sentence for those convicted	Likelihood of prison sentence
Differential disfavoring Black defendants?	Yes	Yes	Yes	Yes	Yes	Yes
Contribution of difference in arrest charges	M	M	A	A	A	A
Contribution of difference in CJ status	A	A	M	M	A	A
Contribution of difference in pre-trial detention	A	A	A	A	A	A
Contribution of differences in criminal history	A	A	M	A	A	A
Residual differential favoring white defendants?	Yes	No	No	No	No	Yes
% explained by case characteristics if residual difference remains	82%	-	-	-	-	86%

A – Difference in case characteristics category aggravates the Black-White differential.

M – Difference in case characteristics category mitigates the Black-White differential.

NE – No significant effect of case characteristics category on Black-White differential.

**Table ES3**  
**Summary of the Effects of Case Characteristics on Hispanic-White Disparities in Case Disposition Outcomes**

	Charges not filed, case dismissed	Successful diversion	Felony charges filed	Felony conviction	Average sentence for those convicted	Likelihood of prison sentence
Differential disfavoring Hispanic defendants?	No	No	Yes	No	Yes	Yes
Contribution of difference in arrest charges	A	A	A	M	A	A
Contribution of difference in CJ status	M	M	A	A	M	M
Contribution of difference in pre-trial detention	M	NE	NE	NE	A	A
Contribution of differences in criminal history	M	M	A	NE	A	A
Residual differential favoring white defendants?	No	No	No	No	No	No
% explained by case characteristics if residual difference remains	-	-	-	-	-	-

A – Difference in case characteristics category aggravates the Hispanic-White differential.

M – Difference in case characteristics category mitigates the Hispanic-White differential.

NE – No significant effect of case characteristics category on Hispanic-White differential.

**Table ES4**  
**Summary of the Effects of Case Characteristics on Asian-White Disparities in Case Disposition Outcomes**

	Charges not filed, case dismissed	Successful diversion	Felony charges filed	Felony conviction	Average sentence for those convicted	Likelihood of prison sentence
Differential disfavoring Asian defendants?	Yes	No	Yes	No	No	No
Contribution of difference in arrest charges	A	A	NE	NE	NE	A
Contribution of difference in CJ status	M	M	A	A	M	M
Contribution of difference in pre-trial detention	A	NE	M	M	NE	A
Contribution of differences in criminal history	NE	M	A	M	NE	NE
Residual differential favoring white defendants?	Yes	No	Yes	No	No	No
% explained by case characteristics if residual difference remains	80%	-	0%	-	-	-

A – Difference in case characteristics category aggravates the Asian-White differential.

M – Difference in case characteristics category mitigates the Asian-White differential.

NE – No significant effect of case characteristics category on Asian-White differential.

**CONCLUSION #5: The passage and implementation of California Proposition 47 in November of 2014 narrowed racial disparities in outcomes. This narrowing appears to operate through a diminished effect of pre-trial detention and criminal history in determining case outcomes.**

Proposition 47 redefined several low level felony offenses that may be charged as either a felony or misdemeanor to misdemeanors. The effects of the proposition on the state's prison population and the population of county jails were felt immediately. Given that our study period spans the implementation of proposition 47, we are able to assess how the implementation of this change impacts racial disparities in case outcomes and disproportionality more generally. We observe that the proportion of defendants that are Black declines with the implementation of proposition 47. We also observe declines for all groups in the proportion of arrests that are felony arrests.

For nearly all disposition outcomes, racial disparities narrow with the passage of proposition 47. In addition, the relative contribution of case characteristics that tend to exacerbate racial disparities also diminish. To illustrate, Table ES5 present the overall difference in average sentence length for convicted Black, Hispanic, and Asian defendants relative to White defendants. The table presents the average differences for cases with arrest dates before proposition 47 and after proposition 47. The table also presents the contribution of differences in arrest charges, criminal justice status at time of arrest, pre-trial detention, and criminal history to the overall racial disparity, with the remaining unexplained difference presented at the bottom. Several notable patterns are evident in this table. First, raw racial disparities decline by nearly 50 percent. Second, the factors that tend to be more prevalent in cases involving Black defendants (active criminal justice status, prior criminal convictions and arrests, pre-trial

detention etc.) contribute less to racial disparities after the passage of proposition 47. In other words, the case characteristics that tend to lead to relatively unfavorable outcomes for Blacks, while still operative and present, play a lesser role in the post-47 era. We observe this pattern for all of the disposition outcomes analyzed in this study.

**Table E55**  
**Sources of Racial/Ethnic Disparities in Sentence Length (months) for Cases Resulting in Conviction, Pre- and Post-Proposition 47 Cases**

	Black		Hispanic		Asian	
	Pre- 47	Post-47	Pre-47	Post-47	Pre-47	Post-47
Overall differences	3.405	1.832	0.762	0.296	-0.587	0.050
Due to arrest charges	1.130	1.005	0.614	0.291	0.053	0.170
Due to status at arrest	0.253	0.029	-0.068	-0.031	-0.088	-0.031
Due to pre-trial detention	0.759	0.227	0.329	-0.070	-0.031	0.054
Due to criminal history	0.762	0.274	0.121	-0.016	-0.078	-0.111
Unexplained differential	0.500	0.298	-0.234	0.089	-0.442	-0.032

## 1. Introduction

Racial and ethnic minorities are heavily over-represented among those involved with the criminal justice system in the United States. For example, Blacks account for nearly 27 percent of arrests,<sup>1</sup> 35 percent of the population of local jails (Minton and Zeng 2015), and 35 percent of the prison population (Carson and Anderson 2016). Yet Blacks make up only 13 percent of the general population.<sup>2</sup> Racial disparities in incarceration are particularly large, as Blacks are incarcerated in state or federal prisons at a rate that is nearly seven times that for Whites, and slightly over twice the rate for Hispanics.<sup>3</sup> Yet, simple comparisons of Black-White differences in the ratio of criminal justice contact relative to the population don't adequately address the sources of these disparities or whether they are unjust. After all, the U.S. arrest and prison population is not a random sample of the residential population. These issues have been well known for decades (Blumstein et al. 1983), but disagreement remains on the size and the sources of racial disparities in criminal justice. There are, for example, also large racial disparities in the likelihood of becoming a crime victim. The rate of non-homicide violent victimization for Blacks in 2015 was 130 percent the rate for Whites (Truman and Morgan 2016). In 2015, Blacks comprised 52 percent of homicide victims<sup>4</sup> and were murdered at a rate nearly seven times that of Whites.

---

<sup>1</sup> See <https://ucr.fbi.gov/crime-in-the-u.s/2015/crime-in-the-u.s.-2015/tables/table-43>, accessed on April 10, 2017.

<sup>2</sup> See <https://www.census.gov/quickfacts/table/PST045216/00>, accessed on April 10, 2017

<sup>3</sup> The number of state and federal prisoners per 100,000 U.S. residents was 2,228 for Blacks, 319 for whites, and 1,084 for Hispanics (Carson and Anderson 2016).

<sup>4</sup> See [https://ucr.fbi.gov/crime-in-the-u.s/2015/crime-in-the-u.s.-2015/tables/expanded\\_homicide\\_data\\_table\\_1\\_murder\\_victims\\_by\\_race\\_ethnicity\\_and\\_sex\\_2015.xls](https://ucr.fbi.gov/crime-in-the-u.s/2015/crime-in-the-u.s.-2015/tables/expanded_homicide_data_table_1_murder_victims_by_race_ethnicity_and_sex_2015.xls), accessed on April 10, 2017.

There are similar racial disparities in criminal justice involvement and victimization rates within the City and County of San Francisco. As of the 2010 census, Blacks accounted for roughly 6 percent of the county's population. By contrast, between 2008 and 2014 Blacks accounted for 41 percent of those arrested, 43 percent of those booked into jail, 38 percent of cases filed by the Office of the District Attorney, and 39 percent of new convictions.<sup>5</sup> Similar to the national statistics, Blacks accounted for half of homicide victims for homicides occurring within the City and County of San Francisco.<sup>6</sup>

Differences by race and ethnicity in the extent of involvement with the criminal justice system are the result of differences in offending patterns, differences in treatment by law enforcement and other agents of the criminal justice system, disparate impacts across groups of policies and practices applied in a race-neutral manner, or some combination thereof. Early reviews of racial disparities do document differences in offending levels (Hindelang, 1978; Sampson and Lauritsen 1997, Tonry 1995), with relatively higher rates of offending among Blacks relative to Whites. For example, 36 percent of robbery victims in 2006 report that the offender was Black (Bureau of Justice Statistics, 2008). More recently, O'Flaherty (2015, chapter 11) documents higher offending rates among Blacks for homicide and robbery based on official homicide reports and victimization survey data. Raphael and Rozo (2017) find racial and ethnic disparities in the severity of arrest charges among youth arrested in California, with Black youth more likely to be arrested for felonies relative to White and Latino youth. Evidence regarding

---

<sup>5</sup> This figure for total arrests comes from tabulations by the authors using data from California's Monthly Arrest and Citation Register. The remaining figures are from tabulations of the administrative data used for this study.

<sup>6</sup> This figure comes from our tabulations of the Supplemental Homicide Report Files from the Federal Bureau of Investigation for the years 2008 through 2013.



differences in offending for other ethnic groups is more mixed. Foreign born individuals, for example, offending rates appear to be lower relative to the native born.<sup>7</sup> Such racial and ethnic differences in offending rates and severity translate directly into differences in criminal justice involvement.

On the other hand, there is ample research documenting disparities in treatment by the criminal justice system that cannot be explained by observable aspects of the underlying criminal incident. For example, Rozo and Raphael (2017) find that Black and Latino youth arrests are considerably more likely to be officially booked relative White youth arrests after accounting for the youth's age, most serious arrest charge, and prior arrest history. Moreover, police agencies that patrol cities with larger minority populations have substantially higher youth booking rates than agencies that patrol cities with relatively smaller minority populations. Starr and Rehavi (2014) find that U.S. Attorneys covering federal districts with larger minority populations prosecute otherwise similar cases more aggressively. They also find that after accounting for differences in the arrest charges recorded by the U.S. Marshal's Service, U.S. Attorneys are more likely to file charges triggering mandatory minimum sentences for cases involving Black defendants, resulting in on average 10 percent longer sentences. Mustard (2001) documents racial disparities in sentences handed down by federal judges that cannot be explained by difference in offense severity and criminal history. Mustard also documents racial disparities in the propensity to downward depart from the sentencing guidelines in exchange for substantial

---

<sup>7</sup> For example, Butcher and Piehl (2008) find that the foreign born are less likely to be incarcerated than the native born and that difference appears to be due to selective migration of the law abiding to the United States and a greater responsiveness to deterrence among immigrants in the U.S. Kneebone and Raphael (2011) document larger declines in crime between 1990 and 2008 in cities where the proportion foreign born increased.

assistance in the prosecution of another. As a final example, Ayres and Waldfogel (1994) present evidence from the early 1990s that judges in New Haven, Connecticut set bail amounts that are excessive relative to the risk of pre-trial misconduct for Black relative to White criminal defendants.

There are many examples of policies that may be applied in a race-neutral manner yet yield racially disparate impacts in criminal justice involvement. Perhaps the most salient example in U.S. federal sentencing policy concerns the higher sentences meted out for crack-cocaine offenses (for which Blacks are more likely to be charged and convicted) relative to powder-cocaine offenses (which are more likely to involve White offenders). A further example comes from the growing body of quasi-experimental research finding that pre-trial detention increases the likelihood of conviction (Dobbie, Golden, and Yang 2016; Heaton, Mayson, and Stevenson 2017; Stevenson 2017) and may even increase the likelihood of future offending (Heaton, Mayson, and Stevenson 2017). To the extent that racial differences in average income lead to racial disparities in the ability to make bail, even a race-neutral process for determining who is and who is not detained pre-trial may result in a racially disparate impact in detention and the likelihood of conviction. In federal sentencing, Fischman and Schanzenbach (2012) find that the greater discretion afforded to federal judges following the 2005 Supreme Court decision in *U.S. vs. Booker* did not moderate sentences for convicted Black relative to White defendants. This differential was due largely to the fact that Black defendants in federal court are more likely to be charged with and convicted of a crime triggering a mandatory minimum sentence that subsequently constrains from below the sentencing options available to judges. In California, MacDonald, Arkes, Nicosia, and Pacula (2014) find that Blacks are nearly twice as likely as Whites

to be sentenced to prison for a drug offense between 1995 and 2005, but that this difference is completely explained by differences in criminal history factors and the seriousness of the arresting offenses. In particular, Blacks were more likely to have prior violent felony arrests and active probation violations. A higher prevalence of prior arrests and convictions for violent offenses among Blacks will by statute increase the chance that they will be sent to prison, even if decisions about prosecution and sentencing are applied in a race-neutral manner.

In this project, we document and explore the sources of racial disparities in outcomes for criminal cases that are presented to and/or prosecuted by the office of the San Francisco District Attorney (SFDA). We assess the degree to which observed racial disparities are attributable to characteristics of the cases that are presented to the SFDA (for example, arrest charges, criminal justice status, criminal history) as opposed to aspects of case processing that generate racially disparate impacts. We also explore the extent to which racial disparities remain after statistically adjusting for case characteristics and specific case processing aspects (for example, the extent of pre-trial detention). The study merges administrative data from the SFDA case management system, data from the San Francisco County Court Management System, data on jail admission and release from the San Francisco Sheriff's Department, and statewide criminal history data from the California Department of Justice.

Our principal findings indicate that racial disparities in criminal case outcomes in San Francisco are driven mostly by the seriousness of the arresting offense, prior criminal history, and pretrial detention. The passage of Proposition 47 appears to have narrowed much of these disparities through minimizing the impact of pretrial detention and criminal history in influencing court dispositions. The following specific list of conclusions can be drawn:

- **There are racial disparities in case disposition outcomes that tend to disfavor Blacks, Asians, and Hispanics relative to White suspects arrested within San Francisco.** Black suspects are less likely than Whites to have their cases dropped, dismissed, or successfully diverted, and more likely to be released to another criminal justice agency or have a motion to revoke filed against them as a result of arrest. When convicted, Blacks are more likely than Whites to receive prison sentences and sentences of longer durations. Asian suspects relative to Whites also face a significantly lower likelihood of having their case dismissed and a higher likelihood of conviction. Broad disposition outcomes, including cases being dropped, dismissed, or diverted, are fairly similar for Hispanic and White suspects.
- **Nearly all of the racial disparities in prosecution and court disposition outcomes can be attributed to average differences in case characteristics that are determined prior to a case being presented to the office of the SFDA as well as differences in the prevalence of pre-trial detention.** There is substantial variation across cases presented to the SFDA in the arrest charges, criminal justice status of individuals at the time of arrest (e.g., whether they have another open case or are on probation), criminal history, and whether the suspect is being detained. These factors are all strongly related to case disposition outcomes. Moreover, there are large racial and ethnic disparities in these factors. For example, Black suspects are considerably more likely relative to White suspects to have an active criminal justice status at the time of arrest, to be in detention, and to have a lengthy criminal history. Asian suspects are more likely relative to White suspects to have

been arrested for a serious felony. Statistical adjustment for these differences in case characteristics explains most if not all of the unadjusted disparities in case outcomes.

- **Pre-trial detention, criminal history, and criminal justice status at time of arrest generate relatively worse outcomes for Black suspects.** Black suspects are more likely to be booked at arrest and more likely to be detained at the time that a case is presented to the SFDA relative to other racial and ethnic groups. This is statistically associated with a lower likelihood that a case is dropped and increases the chance of felony charges being filed, being convicted, and in some instances longer sentences. Differences in criminal history are key contributors to the relatively poor outcomes for Black suspects and defendants.
- **Asian-White disparities in outcomes are due almost entirely to differences in arrest charges.** We observe very large Asian-White differentials in conviction rates. We also observe big difference in the list of charges recorded by police officers between Asian and Whites suspects. We do not observe large disparities however, in criminal history, pre-trial detention, or criminal justice status at the time of arrest. Nearly all, and for many outcomes, all of the Asian-White disparities are driven by average differences in the severity of arrest charges.
- **The passage and implementation of California Proposition 47 in November of 2014 narrowed racial disparities in outcomes. This narrowing appears to operate through a diminished effect of pre-trial detention and criminal history in determining case outcomes.** We document declines in racial disparities in the likelihood that an arrest is booked into jail, that cases are dropped, that a case results in a conviction, and in

sentences for those convicted. It is still the case, post-proposition 47, that pre-trial detention and a prior criminal history works to the disadvantage of criminal suspects. However, the degree to which these factors contribute to sentencing outcomes diminishes. Moreover, the diminished impact of these pre-determined factors favors Blacks and contributes to the narrowing of the gap in case outcomes.

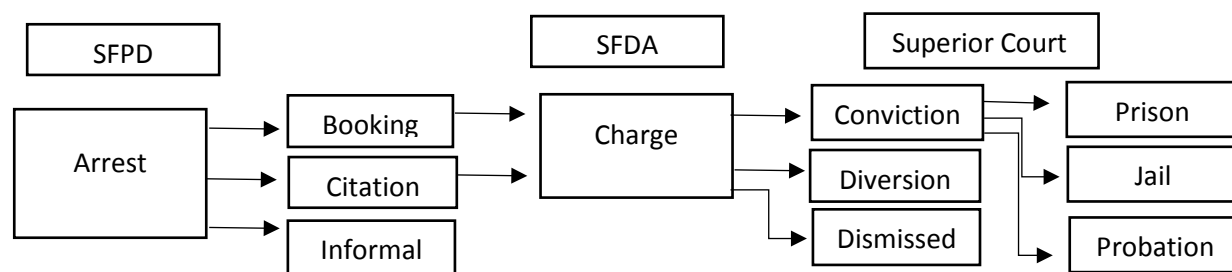
- **After adjusting for differences in pre-determined case characteristics and the extent of pre-trial detention, we find little evidence of racial disparities in the likelihood that a case filed by the SFDA is dismissed by the court.** Research on unwarranted racial disparities in the criminal justice system often tests for differences in outcomes that are suggestive of individuals from a specific group being held to a different standard. We devise the following outcome test for cases filed by the SFDA. To the extent that the SFDA is differentially filing cases in a discriminatory manner, one should observe disparities by the race/ethnicity of the defendant in the likelihood that the case is rejected by the court. After statistically adjusting for pre-determined case characteristics, we find little evidence in support of this hypothesis.

## **2. Description of the Case Processing Flow and the Data Used in This Study**

In the following section we discuss the case process flow and data used in this study. Criminal cases generally begin with an arrest. Arrests may result in either a booking into a county jail, a street citation and release, or an informal release with warning and no further actions. For those cases generating a booking or a street citation the majority are referred to the district attorney (DA), with nearly all felony arrests referred to the DA and a subset of misdemeanor

arrests referred at the discretion of the police. For referred cases, the DA's office may choose to file charges, may release the individual to another agency such as a local probation department, state parole, or another county's district attorney pursuing a separate case, or dismiss the charges altogether. For filed charges, there are many potential outcomes. The defendant's case may be dismissed at a later date either by the court or the DA. The defendant may be referred to a diversion program<sup>8</sup> and, in the event that the program is successfully completed, avoid conviction. The defendant may be convicted of the crime either through a plea agreement or via trial, or the defendant may be found not guilty. For those who are convicted, sentencing outcomes range from fines to a probation term, to jail time coupled with probation, to a state prison sentence. As we will see shortly, the most severe sentencing outcomes tend to be the least likely. Figure 2.1 shows a schematic of the standard flow of criminal case processing and key agencies in determining outcomes.

Figure 2.1 Criminal Case Processing Flow



<sup>8</sup> Many defendants are automatically eligible for pretrial diversion based on their offense charges and prior criminal history. Conversely, many defendants are conditionally eligible based on mitigating circumstances. Of course, there are many defendants for whom the alleged offense, prior criminal history, or current criminal justice status renders them ineligible for pre-trial diversion. Diversion programs in San Francisco operate through the San Francisco Collaborative Court System, comprised of a set of specialty courts devoted to adults (such as the Behavioral Health Court, the Drug Court, and the Intensive Supervision Court), families and juveniles, and devoted to wellness programs in the juvenile justice system.

The manner in which these steps are recorded in official administrative records is complex and involves multiple criminal justice agencies. An arrest generates an incident number that may apply to multiple criminal suspects, but typically involves only one. The actual criminal act as observed and recorded by the police is summarized through a series of arrest charges, where there are often multiple charges per incident. The actual alleged criminal activity associated with an arrest is assigned a court or docket number that uniquely identifies person-specific cases that may be referred to the DA for further action. Single arrest incidents may involve multiple court numbers. For example, someone arrested for shoplifting who is on probation for an earlier offense will pick up new charges on the old case (which is referenced under the court number assigned at the initial arrest date for the earlier offense) and new charges for the current activity. In this example, the arrest incident will list multiple charges nested within the two separate court numbers. Other situations may lead to multiple arrests for a single court case and multiple court numbers per arrest. For example, a failure to appear for a court date may lead to an arrest warrant and a subsequent arrest. An arrest for activities observed by the police that occur while a separate case is being processed may generate charges for the new offense, and new charges on the old offense for pre-trial misconduct. Someone who is arrested with an open case and is on probation for an earlier offense may generate an arrest with new charges accumulating on three separate court numbers. As one can imagine, there are many such instances recorded in San Francisco's administrative data especially for those individuals who are frequently arrested.

The unit of analysis that is most relevant to the workflow and decision-making of the SFDA is the criminal case as indexed by the court-number. While a given defendant may have multiple open cases at any given time, and cases may be combined at sentencing or sometimes dismissed



at intake to focus on more serious charges from a separate incident involving the same defendant, the court number is the most intuitive way to structure our analysis. We construct a data set from administrative case records in the following manner. We identify all of the charges accumulated on a given court number. We use the most serious charge to link the court number to a specific arrest date. This is functionally equivalent to attaching each court number to the earliest arrest date for the case. Next, we identify the seven most serious arrest charges associated with a given court number, regardless of whether all charges are accumulated in one arrest or across multiple arrests, and use these arrest charges to characterize the nature of the alleged offense as recorded by the arresting officer. The overwhelming majority of cases involve seven or fewer arrest charges.

We use the data constructed from arrests where the court number defines the unit of analysis as the scaffolding from which we build out the remainder of the data set. We then merged information on charges filed by the SFDA (if any), the disposition of each charge, and sentencing information when relevant. In addition, we merged information on whether the individual was booked into jail, how long they were detained, and the reason for release for the arrest generating the original court number. We also merged data to each arrest from the individual's California criminal history record as of the date of the arrest and use the San Francisco administrative data to generate a local criminal history for all recorded incidents occurring from 2008 onwards. Our final dataset has one record per court number and includes demographic information, information on pre-trial detention and booking, information on specific arrest charge, information on filed charges, case disposition outcomes, sentencing outcomes, and various measures of the individual's local and statewide criminal history at the time of arrest.

The data for this project comes from several administrative sources. First, we were provided with arrest-level data and data on charges filed from the SFDA's DAMION case management system and San Francisco County's Court Management System. These data cover all arrests and court dispositions occurring between 2008 and July 2016. In addition to complete lists of arrest charges and charges filed, these data also include information pertaining to the disposition of each charge, demographics about the individuals (age, gender, race), personal identifiers that we use to impute Hispanic ethnicity,<sup>9</sup> and sentencing details for those convicted. Second, the San Francisco Sheriff's Department provided us with data on all bookings into county jail from 2010 through 2017. These data included admissions date, admissions reason, the court numbers associated with the incident, the reason for the booking and jail admission, the release date, and finally the release reason. Third, the California Department of Justice provided data on the full criminal histories of each individual in our analysis sample through 2017. The Automated Criminal History record system includes all arrest and criminal dispositions reported to the Department of Justice from criminal justice agencies within California. We use these data to construct complete California criminal histories at the time of arrest for each of the cases in our analysis period.

---

<sup>9</sup> We use a data set constructed by the U.S. Census Bureau that calculates for each surname in the United States for which at least 100 people have the surname the proportion of individuals who self-identify as Hispanic. The names data base covers the surnames of roughly 90 percent of the U.S. resident population. We merge this data set to the administrative data by surname. We identify as Hispanic all individuals with surnames where the proportion who self-identify as Hispanic is 85 percent or higher.

### **3. Basic Patterns in Arrests, Arrest Processing, the SFDA's Caseload, and Case Dispositions**

Our introductory discussion noted that there are important differences in the average characteristics of the cases involving defendants from different racial and ethnic groups, with the defendants in some groups, on average, arrested for more serious offenses and having more extensive criminal histories than others. Of course, there is enormous heterogeneity within racial and ethnic groups in the severity of offenses and criminal history. There certainly are Black defendants arrested for relatively less serious offenses with little to no criminal history as well as White defendants arrested for very serious offenses with lengthy criminal history records and visa-versa. Nonetheless, average differences across groups in case characteristics will translate into average differences in disposition and sentencing outcomes.

Ultimately, we will present a statistical analysis of racial and ethnic disparities in case outcomes that uses multivariate regression methods to statistically adjust for differences in the nature of criminal cases between groups. Here, however, we begin by creating an empirical portrait of the cases presented to the SFDA. The purpose of this section is to provide a baseline characterization of how criminal suspects and defendants of different racial and ethnic groups differ on average in terms of the nature of the alleged offense, criminal history, pre-trial detention outcomes, and ultimate case outcomes. This baseline characterization will demonstrate how cases differ in terms of the case characteristics that are determined prior to presentation to the SFDA, and also provides a benchmark comparison of outcomes disparities against which we will compare the disparities that remain after statistical adjustment for case characteristics.

*A. Difference in offending frequency, offense severity, and criminal history*

Generally speaking, more serious offenses are more likely to be pursued by the SFDA, more likely to result in a conviction, and on average more likely to result in more severe punishment. Moreover, criminal defendants with more extensive criminal histories are more likely to fare poorly. They may be ineligible for diversion, may be less likely to receive the benefit of the doubt at the filing stage, may be eligible for supplemental charges associated with their prior criminal histories, and may be sentenced more harshly when judges have the discretion.

Here we document racial disparities in the nature of arrest offenses and criminal history that we observe in the SFDA caseload. We begin by describing the racial composition of criminal suspects involved in the cases presented to the SFDA by police departments in San Francisco County. The first column of Table 3.1 presents the breakdown of criminal suspects associated with each court number originating between 2008 and July 2016. We define six mutually-exclusive racial/ethnic groups, with four racial groups for non-Hispanic suspects (White, Black, Asian, Other) and a separate category for Hispanic defendants. Non-Hispanic Blacks account for the largest single share of cases (42.3 percent), followed by Whites (32.8 percent), and then Hispanics (14.3 percent), with these three groups accounting for slightly over 90 percent of cases. Black accounted for only six percent of the resident population of San Francisco.<sup>10</sup> The second and third columns present comparable figures for cases with arrest dates preceding the passage

---

<sup>10</sup> Among the roughly two-thirds of cases that are booked following arrest, we are able to observe the addresses of the suspects. These data reveal that over a fifth of those arrested and booked are not San Francisco residents. Hence, if there are racial disparities in the proportion of arrestees who do not reside in the city, the actual over-representation of Blacks may differ from what is implied by Table 3.1. Among the sample for whom we can observe home address the percent who do not live in the city is 78 for Whites, 80 for Blacks, 73 for Asians, and 72 for Hispanics.

of Proposition 47 and cases following the passage of the proposition. The most notable pre-post 47 change is that the percent of cases where the suspect is Black declines from approximately 43 to 38 percent. This five percentage point decline is offset by slight increases in percentages Asian, other, and Hispanic.

The fourth column of figures tabulates the racial distribution of criminal suspects in a slightly different manner. Rather than tabulating the distribution for criminal cases we tabulate the racial distribution for unique suspects, effectively accounting for the fact that many individuals in the data are observed with more than one court number over our observation period. Black defendants account for 31 percent of unique suspects. This lower number relative to the Black percentage of cases reflect the fact that the average Black defendant accumulated more cases relative to other groups (with 2.6 cases per Black defendant, on average). In contrast, the proportion of unique criminal suspects that are Hispanic is higher than the proportion of cases involving a Hispanic suspect, as the average number of cases per Hispanic suspect is relatively low (average cases per suspect are presented in the final column).

Similar to many other jurisdictions, a relatively small share of criminal suspects account for a disproportionate share of cases presented to the SFDA. This is clearly visible in Figure 3.1. The figure presents the relationship between the proportion of cases accounted for by a given proportion of suspects after sorting the data from the most to least active. The vertical axis measures the proportion of all cases while the horizontal axis measures the proportion of all suspects. The coordinates associated with a specific point on the plotted line shows the proportion of cases (read off the vertical axis) that is attributable to a given proportion of the most active suspects (read off the horizontal axis). The figure indicates that the roughly five

percent of suspects with the most cases filed against them between 2008 and mid years 2016 account for slightly more than 30 percent of all cases presented to the SFDA. Similar, the most active 30 percent of suspects account for nearly 65 percent of cases presented to the SFDA. The figures in Table 3.1 suggest that Black and White suspects tend to be over-represented among those who accumulate more than one case and in turn account for a disproportionate share of cases, while Asian and Hispanic suspects tend to be under-represented among the group of suspects with multiple cases.

Tables 3.2 and 3.3 characterize the severity of the cases in terms of the most serious arrest charge. Table 3.2 presents figures for all cases in our observation period while Table 3.3 presents comparable tabulations for the pre and post-Proposition 47 periods. We present the percent of cases by most serious arrest charge for each racial/ethnic group. Here we exclude the small group of cases involving individuals in the “other race” category.<sup>11</sup> In table 3.2 we see some notable differences in offense severity, with Asian and Black suspects most likely to be arrested for a felony, followed by Hispanic and White suspects. Within specific offense categories, Asians are the most likely to be arrested for a violent felony offense (indicated by a person-based offense under the felony category) followed by Hispanic and Black suspects. Black suspects are by far the most likely to be arrested for a felony drug offense.

In table 3.3, we observe declines in the proportion of cases with felony arrest charges among Whites, Black, and Hispanic suspects, but not Asian suspects associated with the passage of proposition 47. The declines in the proportion of felony cases in the SFDA’s workload are driven

---

<sup>11</sup> Given the great heterogeneity in this catchall residual racial category, and the relatively small share of cases coded as such, our formal analysis focuses on White, Black, Asian, and Hispanic suspects and defendants.

primarily by declines in the proportion of cases that involve felony drug arrests. For example, while roughly 23 percent of cases involving Black defendants involved a felony drug arrest charge in the pre-47 period, this figure falls to 9 percent following the proposition's passage. We see similar declines in the relative importance of felony drug arrests for all of the other racial and ethnic groups.

Table 3.4 presents further comparisons of case characteristics by race and ethnicity. Specifically, the table presents information on the average number of arrest charges associated with each court number, whether the individual has an active criminal justice status at the time of arrest, and a summary of past arrests and convictions occurring within the City and County of San Francisco since 2008 (the beginning of our observation period). The local criminal history variables measures prior arrests and convictions within San Francisco at the time of arrest. For these variables, criminal history is calculated for cases commencing in 2010 or later to assure that we have at least two years of data for which to observe local criminal activity.

Table 3.4 reveals several racial/ethnic disparities in other aspects of the cases presented to the DA. While the number of arrest charges associated with a given incident does not vary appreciably across groups, cases involving Blacks are considerably more likely to involve more than one court number, suggesting that they are more likely to have an open case or be on probation in San Francisco at the time of arrest. Fully 35 percent of cases involving Black suspects have more than one court number compared to 22 percent of cases with White suspects, 20 percent of cases involving Asian suspects, and 19 percent of cases involving Hispanic suspects. Black suspects are more likely to have prior convictions, prior jail sentences in San Francisco, and a prior prison sentence handed down by a San Francisco court. Blacks also have more prior

arrests within each of the offense-type categories listed in Tale 3.4. As a final characterization of criminal history within the city, we tabulated the proportion of cases where at the time of the arrest there were no prior arrests or convictions in San Francisco from 2008 on. For White suspects, 48 percent have no prior San Francisco criminal history. The comparable figures for Black, Asian, and Hispanic suspects are 30 percent, 59 percent, and 56 percent respectively.

Our characterization of criminal history using available San Francisco data is by construction incomplete. First, we only observe data from 2008 onwards and thus will miss any arrests or convictions that occur within San Francisco prior to the beginning of our study period. Second, individuals often have criminal histories in several counties, and in many instances several states. To address this issue, we requested and were granted access to the criminal history records of each of the individuals in our data set maintained by the California Department of Justice in the Automated Criminal History System (ACHS). The ACHS data includes information on arrests, convictions, and prison admissions occurring in any of California's 58 counties. The data are structured in cycles, with an incident leading to an arrest opening the cycle and subsequent pertaining actions, inclusive of further arrests, case dispositions, sentences, prison admissions and releases, or actions by an appeals court, being recorded within an open cycle. We use these data to more fully characterize each individual's criminal history at the time of arrest. We do so by tabulating the number of prior arrest cycles by most serious charge, the number of prior convictions by most serious charge, and the number of prior probation, jail, and prison sentences. We also use the data to characterize the degree to which each person's criminal history involved activity within the City and County of San Francisco as opposed to



activity in other California counties. The data do not contain arrests and convictions occurring within other states.<sup>12</sup>

Table 3.5 summarizes prior convictions, arrest cycles, and sentences at the time of arrest using the state ACHS data for criminal suspects in our data set by race/ethnicity. The patterns in table 3.5 largely parallel the patterns observed for local criminal history. Black suspects are the most likely to have a prior felony conviction, followed by White and then Hispanic suspects. Blacks also have the highest average number of prior felony and misdemeanor arrest cycles, again followed by White, Hispanic, and Asian suspects. Similar patterns are observed for prior prison, jail, and probation sentences. Within offense categories, we observe that Black suspects are the most likely to have prior felony person, property, and drug convictions and the highest average number of arrests cycles within these offense categories. Again, White suspects tend to have the second most severe criminal histories on average followed by Hispanic and Asian defendants.

Table 3.6 tabulates the average number of prior convictions and arrest cycles by whether the arrest and prosecution occurred within San Francisco, outside of San Francisco but in another Bay Area county,<sup>13</sup> or within a non-Bay Area California county. For each group, less than half of

---

<sup>12</sup> In our multivariate statistical models we control for variables measuring criminal history from both the San Francisco administrative records as well as the state ACHS. In theory, all of the records in the San Francisco data should be included in the state's database. However the ACHS has many arrest cycles where the ultimate arrest disposition is never reported by local criminal justice agencies and in some instances case dispositions where there are no recorded arrests. Moreover, arrests that are not booked (for example street citations) and that are not pursued by the local DA will often not appear in the ACHS records, as bookings are the incidents that tend to open an arrest cycle. Hence, while most of the incident recorded in the SF data are indeed observed in the state data, there are likely to be many arrests and convictions for lesser offenses that are not.

<sup>13</sup> Other Bay Area counties are defined as Alameda, Contra Costa, Marin, Napa, San Mateo, Santa Clara, Solano and Sonoma counties.

prior convictions occur within the San Francisco, with most non San Francisco convictions occurring within one of the other Bay Area counties. Prior arrest cycles on the other hand, appear to be roughly evenly split between cycles that commence in San Francisco and cycles that commence in other counties.

*B. Differences in the processing of arrests and pre-trial detention*

How an arrest is processed may ultimately impact the disposition of a criminal case. Individuals who are detained and issued a street citation are never admitted to jail and may be better able to mount a criminal defense. Those who are booked into jail and are detained pre-trial may be anxious to settle matters and accept pleas that they may not otherwise accept if they were not in custody. Moreover, people differ in their ability to make bail, due to personal differences in wealth, income, and access to credit as well as differences in these markers of financial security within one's familial and social networks. To the extent that there are racial/ethnic disparities in these financial indicators, this may translate into disparities in pre-trial processing that ultimately impact case disposition and sentencing.

We begin by documenting racial disparities in the proportion of arrests that are booked into jail. Most arrests are booked, especially felony arrests, though booking rates do vary and for wobbler crimes and misdemeanor offenses officers have greater discretion regarding whether to book the arrests or issue a street citation. Table 3.7 presents the proportion of suspects that are booked at arrest by race/ethnicity. Our data on bookings cover the period from 2010 through July 2016. Hence, in this subsection we drop cases with an arrest date in calendar years 2008 and 2009. We present separate tabulations for cases with arrest date prior to November 2014

and those with arrest dates occurring in November 2014 and later. This stratification of the data corresponds with the passage of state proposition 47 that reclassified several lesser felony offenses that can be prosecuted as either a felony or a misdemeanor (wobbler charges) to a misdemeanor. One would expect that this change would lead to a decline in the proportion of arrests that are booked, as the share of felony-eligible offenses declined. The table also presents tabulations for the full sample of arrests and two sub-samples. First, we present booking rates for cases involving a single court number (i.e., no open San Francisco case or San Francisco probation term). In addition, we also present bookings tabulations for cases where the suspect has no observable San Francisco criminal history. Within each of these sub-groups we present separate tabulations for the pre- and post-proposition 47 periods.

Beginning with all cases in the pre-proposition 47 period, there are enormous disparities in the likelihood that suspects are booked at arrest. Asian suspects have the highest booking rate (at 92 percent), followed by Black suspects (83 percent), Hispanic suspects (74 percent), and White suspects (72 percent). The effect of proposition 47 on booking rates for Black and Hispanic suspects is quite large, with a decline of 14 percentage points for Black suspects and 10 percentage points for Hispanic suspects. There is a more modest decline in booking rates for White suspects (6 percentage points) and a slight increase for Asian suspects (an increase of 3 percentage points). Booking rates are generally lower for arrests involving only a single court number (with Asian suspects being the exception) and lower still for suspects with no prior history in San Francisco since 2008.

Table 3.8 presents the average and median number of detention days following an arrest by race and ethnicity. We present tabulations for cases without multiple court numbers at arrest,

and cases where the individual has no prior San Francisco history. The figures for median detention days (the detention day value that is just greater than half for the group) are considerably lower than the averages due largely to a small number of cases where the defendant is detained in jail for a fairly lengthy period. Generally speaking, the racial disparities in bookings rates documented in Table 3.7 translate into racial disparities in pre-trial detention times. Blacks have the highest average and median values followed by Asian, Hispanic, and White defendants. Individuals without multiple court numbers at arrest and who have no prior San Francisco criminal history are detained for much shorter periods for all racial/ethnic groups, though Black still experience the most pre-trial detention.

Table 3.9 presents tabulations for all cases by race for the pre- and post-proposition 47 periods. There is a remarkable narrowing of racial disparities in pre-trial detention days with the implementation of proposition 47. Prior to the proposition's implementation, the average pre-trial detention time for whites and blacks was approximately 17.4 and 33.5 days, respectively. In the post period, average detention days for Whites drops to approximately 12 days and to 18 days for Blacks. There are also notable declines for Hispanics (from approximately 20 to 12 days) and a slight decline for Asians (from 21 to 18 days).

The notable disparities in bookings rates and pre-trial detention days may be due in part to differences in the severity of arrest charges, differences in the criminal history of the suspect, and differences in the criminal justice status of the arrested individual. Indeed, we documented differences by race and ethnicity in the average severity of arrest charges as well as the proportion with open cases at the time of arrest. To explore whether these differences in cases characteristics explain differences in booking and pre-trial detention, here we estimate

disparities in these outcomes relative to White suspects with and without statistical adjustment for these possible explanatory factors. To be specific, we use multivariate regression models to estimate (1) the basic difference in booking rates relative to Whites without statistical adjustments, (2) the comparable differences after accounting for the effect of specific arrest charges and having an active criminal justice status on booking and pre-trial detention, and (3) the differences in booking rates and pre-trial detention days after accounting for the effects of specific arrest charges, criminal justice status at time of arrest, and observed local and statewide criminal history.<sup>14</sup>

Figure 3.2 graphically displays these results for booking rate disparities. The figures are constructed as follows. Focusing on the highest marker for Black arrestees at the top of the figure, the blue dot in the middle of the blue bar marks the differences in the proportion of arrests booked between Whites and Blacks (with the value measured along the horizontal axis on the

---

<sup>14</sup> Specifically, we use linear regression to estimate these statistically adjusted disparities. For example, to estimate differences in bookings rates relative to whites, we first estimate the linear probability model  $Booking_i = \alpha + \beta Black_i + \gamma Asian_i + \varphi Hispanic_i + \varepsilon_i$ , where  $i$  indexes individual arrests,  $Booking_i$  is a dummy variable equal to one if the arrest is booked,  $Black_i$ ,  $Asian_i$ , and  $Hispanic_i$  are dummy variables that take on the value of one for black, Asian, and Hispanic arrestees respectively, and  $\varepsilon_i$  provides the random error term. Estimates of the coefficients  $\beta$ ,  $\gamma$ , and  $\varphi$  measure the difference in the booking rates relative to whites for Blacks, Asians, and Hispanics respectively. After estimating this simple specification, we re-estimate the model including dummy variables for the seven most serious arrest charges (with 69 charge category dummies per charge) as well as an indicator variable measuring whether there are multiple court numbers associated with the single arrest. The estimates of  $\beta$ ,  $\gamma$ , and  $\varphi$  from this alternative specification provide estimates of the racial disparities in booking rates after accounting for differences in arrest charges and differences in having an active criminal justice status at the time of the arrest. Finally, to the second specification we add controls for the number of person, property, drug, other sex, weapons, and other felony arrests, the number of prior person, property, drug and other misdemeanor arrests, the number of local ordinance arrests, the number of prior convictions, the number of prior probation sentences, the number of prior jail sentences, and the number of prior prison sentences occurring in San Francisco. All of these variables are controlled for using dummy variables for the count of each history variable (indicating one, two, three, and four or more incidents) and pertain to criminal history accrued in San Francisco since 2008. We also control for the number of arrest cycles, convictions, prior prison terms, jail terms and probation sentences using a more expansive offense categorization. These variable sets are discussed in detail in section 4. The estimates of  $\beta$ ,  $\gamma$ , and  $\varphi$  from this third model provide the estimates of the racial disparities holding constant arrest charges, current criminal justice status, and local and statewide criminal history. We estimate these models using data for arrests occurring in 2010 or later.

bottom of the graph). Hence, the raw difference in booking rates for Black suspects relative to White suspects is roughly 9 percentage points. The horizontal line passing through the dot shows the 95 percent confidence interval (corresponding to the margin of error) within which we are fairly certain that the true value of the differential lies. A shorter line indicates a more precisely measured differential. The vertical line at zero allows one to visibly position the estimate given by the dot relative to the no-effect value (i.e., zero). Moreover, if the line indicating zero is outside of the demarcated confidence interval, we can conclude that the racial disparity is statistically and significantly different from zero (or no difference). Within each racial group the figure presents three estimates, from top to bottom in the following order: (1) the basic unadjusted booking rate differential relative to Whites, (2) the differential after adjusting for differences in arrest charges and whether the person has an active criminal justice status, and (3) the differential after adjusting for arrest charges, status, and local and statewide criminal history.

The figure reveals that much of the unadjusted Black-White disparity in booking rates can be explained by differences in arrest charge severity and criminal justice status at the time of arrest. Specifically, Blacks are about 9 percentage points more likely to be booked at arrest than whites. However, after adjusting for arrest charges and status the disparity falls to roughly 4 percentage points. Holding constant criminal history reduces the differential further to roughly 2.5 percentage points. These findings suggest that 72% of the observed Black-White disparity in bookings is explained by arrest severity and criminal history. All three estimates for Blacks are statistically significant.

The unadjusted Hispanic-White differential is positive yet not statistically significant (i.e., the zero line lies within the confidence interval of the estimate). Adjusting for arrest charges and criminal history reduces the disparities to zero.

The largest disparities in booking rates are observed for Asian suspects, with an unadjusted differential relative to whites of 23 percentage points. Slightly more than half of the difference can be explained by differences in charge severity and criminal justice status at time of arrest. Adding criminal history variables to the list of controlled-for factors does not narrow the Asian-White difference. All three estimates are statistically significant.

Figure 3.3 reproduces this analysis presenting separate estimates for the periods before and after proposition 47. The estimates for the pre-period largely parallel what we see for the entire period in Figure 3.2. There are sizable and statistically significant disparities for Blacks relative to Whites that are only partially explained by differences in arrest charges and criminal history, similar but larger disparities for Asians, and little evidence of a disparity for Hispanics. With the passage of proposition 47, the unadjusted Black-White disparities drops by half, with the remaining disparity fully explained by differences in arrest charges, status at time of arrest, and criminal history. We observe a slight widening of Hispanic-White disparities that are positive and statistically significant after adjusting for case characteristics and criminal histories. Finally, the Asian-White disparities actually widen with the passage of proposition 47.

Figures 3.4 and 3.5 reproduce this analysis using days of detention following arrest as the explanatory variable. This measure is equal to zero for those who receive a street citation and for those who bail out on the day of arrest. For the entire sample period (figure 3.4) the largest

disparities relative to Whites in pre-trial detention occur for Blacks, with an unadjusted difference of approximately 15 days on average. After including measures of arrest charges and status at time of arrest, the disparity shrinks to 5 days on average. The inclusion of arrest charges, status at time of arrest, and criminal history reduces the Black-White disparity to an average of 2 days. All three estimates are statistically significant.

The raw differential for Hispanics relative to Whites is roughly 2.5 days and statistically significant. Adjusting for criminal history, arrest charges, and status narrows this differential slightly and renders them statistically insignificant.

Finally, in contrast to the high booking rates for Asian suspects relative to all other groups, the differential in pre-trial detention days relative to Whites is modest, with an unadjusted differential of roughly 4.5 days. Statistically adjusting for case characteristics and criminal history reduces the disparity to zero.

Turning to figure 3.5, the main observable effect of proposition 47 is the narrowing of the Black-White and Hispanic-White differentials in pre-trial detention days by nearly two-thirds. Looking at the unadjusted differentials we see the average differences in days detained between Black and White suspects decline from roughly 15 to 5 days with the passage of the proposition. Statistical adjustment for arrest charges, history, and status reduces this differential to zero. For Hispanics the implementation of proposition 47 reduces the unadjusted differential in detention days relative to Whites to zero. For Asian suspects, we see a slight widening of the detention days differentials but statistically adjusted estimates are small and statistically insignificant.

### *C. Disparities in Case Disposition and Sentencing*



The ultimate disposition of an arrest will depend on case characteristics that are pre-determined by the time a case is presented to the district attorney, as well as choices that the office of the SFDA makes pertaining to whether to file charges, what charges to file, and how to negotiate with a defendant. There are several factors that are beyond the SFDA's control that will likely result in racial disparities in case outcomes. For example, Blacks are more likely to have an active criminal justice status at the time of arrest and tend to have relatively more serious charges listed by the arresting officers. Blacks are more likely to be booked and detained while awaiting arraignment and while awaiting the decisions of the DA, a factor that tends to weaken the bargaining position of defendants and increase the likelihood of a conviction. Regarding factors under the DA's control, cases are often dismissed prior to arraignment. This may occur due to weak evidence, probable cause issues at arrest that compromise the ability to pursue the case, or a judgment call that a particular offense is not of sufficient severity to warrant action. Similarly, for certain offenses the DA may file charges that carry less severe penalties relative to the arrest charges, or drop or modify charges in negotiating plea agreements with a defendant's legal counsel.

We will ultimately assess the relative contribution of factors that are pre-determined prior to a case being presented to the DA as well as factors that evolve and are decided upon during the processing of case (such as pre-trial detention and charging decisions) on racial disparities in case disposition. Here, we begin by documenting the broad differences in outcomes as well as intermediate charging actions that may contribute to disparities in outcomes.

Table 3.10 presents a broad characterization of the ultimate disposition of arrests by race and ethnicity. For each arrest, we group dispositions into four mutually exclusive and exhaustive

categories. First, we identify cases where the SFDA does not file charges, or where following filing the case is dismissed by either the DA or a court. Second, we define cases where the individual is diverted to an alternative sanction/treatment alternative and successfully completes the diversion program without a conviction. These two categories of dismissal and diversion represent outcomes where the individual is not convicted or sanctioned for the offense.

Individuals with open cases or who are on parole or probation are frequently released to another agency for further action, or have a motion to revoke filed against them. There are natural reasons for this to occur, including that it avoids the need to allocate DA resources to a case where a punishment can occur for violating an existing court order. In many instances, these individuals will experience an incarceration spell, though usually based upon the action and jurisdictional authority of another agency. These cases do not result in new criminal convictions associated with the arrest. Finally, some subset of arrests results in a new criminal convictions. In table 3.10, we present the percent of each group that fall into these four categories as well as the sub-total percentages where the cases are either successfully diverted or dismissed and cases where there is a release to another agency, the filing of a motion to revoke, or a new conviction.

In panel A of table 3.10, we see that the arrests of Asian suspects are the least likely to result in a diversion or dismissal and the most likely to results in a revocation or conviction. This pattern is driven primarily by a relatively high conviction rate for Asian defendants (approximately 35 percent) relative to other groups of defendants (approximately 27, 25, and 22 percent resulting in new convictions for Hispanic, White, and Black defendants, respectively). Cases involving Black suspects are the most likely to result in a motion to revoke or a release to another agency (approximately 17 percent for Blacks compared with 10 to 11 percent for the

other three groups of suspects). This pattern is consistent with the relatively high proportion of suspects with multiple court numbers at arrest documented in Table 3.4. The case disposition outcomes for arrests involving Hispanic and White suspects are quite similar to one another with a slightly higher conviction rate for Hispanic suspects and a slightly lower diversion rates. The percent of arrests where charges are not filed are nearly identical for White and Hispanic suspects.

Panel B in table 3.10 reproduces these figures for individuals without multiple court numbers at that time of arrest, while panel C produces comparable figures for arrests occurring in 2010 or later for individuals with no observable San Francisco criminal history since 2008. These sub-samples yield similar results though the proportion where a motion to revoke is filed or where the case is released to another agency tend to be lower.

Table 3.11 presents tabulations of disposition outcomes by race and gender. There are a few notable differences between the case outcomes for men and women. The cases against women are somewhat more likely to be dropped or ultimately dismissed. Women are also more likely to be successfully diverted within all racial/ethnic groups. Women are less likely to experience a revocation or be released to another agency and are slightly less likely to be convicted. Within gender, however, the racial disparities are qualitatively similar for men and women.

Table 3.12 presents a somewhat different characterization of case dispositions. For each racial/ethnic group, the table presents the percent of arrests that result in (1) any incarceration sentence, (2) a prison sentence, (3) a jail sentence, and (4) a sentence to probation only. The

table presents figures for all arrests, arrest where the suspect does not have multiple court numbers, and arrests occurring in 2010 or later where the suspect has no criminal history (from 2008 through the date of the arrest) in San Francisco. We should caution in interpreting these figures that we cannot observe the incarceration outcomes for individuals who are released to another agency or who have a motion to revoke filed against them. It is likely the case that many of these cases result in an incarceration spell. However, measuring these outcomes would require information on the agencies to which each case is released as well as case management data from these agencies that would permit tracking the ultimate outcomes. Unfortunately, we do not have access to this additional information.

Before discussing the racial and ethnic disparities, there are some general patterns in Table 3.12 that merit discussion. First, in most cases resulting in a conviction, incarceration is part of the sentence. This can be seen by comparing the figures for “any incarceration” in the first column of Table 3.12 with the figures for the percent convicted in the fifth column of Table 3.10. Within each group, the lion’s share of individuals convicted received some form of incarceration sentences. Second, a prison sentence in San Francisco is a relatively rare outcome, with no more than roughly two percent of any one group receiving a prison sentence. Probation-only sentence are also quite rare. Regarding the patterns by racial/ethnic group, we see that Asian defendants are the most likely to receive an incarceration sentence associated with a new conviction followed by Hispanic suspects, White suspects, and Black suspects. Blacks are the most likely to receive a prison term and the least likely to receive a new jail sentence. This pattern should be interpreted with caution in light of the fact that nearly a fifth of Black suspects are

released to another criminal justice agency or have a motion to revoke filed against them, a path that is likely to generate jail or prison time.

The patterns across groups are roughly similar whether we analyze all cases, arrests without multiple court numbers at the time of arrest, or arrests with no prior history in San Francisco. We do see higher percentages receiving new incarceration sentences for these less active arrestees, a factor likely attributable to the lower rate of release to other agencies.

Figures 3.6 through 3.9 graphically display difference in filing outcomes by race and highlight the link between the initial choices by the SFDA in how to handle a new case and the ultimate outcome of the case. Figure 3.6A shows the proportion of felony arrests that result in the filing of felony charges, the filing of (at worst) misdemeanor charges, and a decision to immediately release the case to another agency or seek a motion to revoke (and, by extension not file any new charges). We see roughly similar rates for the filing of felony charges against Black, Asian, and Hispanic defendants and lower rates (of roughly 1.5 percentage points) for White defendants. Black suspects are the least likely to have the charges downgraded to a misdemeanor while Asian suspects are the most likely. Black suspects are by far the most likely to have their case released to another agency.

Panel B shows key disposition outcomes for these cases including the proportion of arrests resulting in a felony conviction, a misdemeanor conviction, a release to another agency/revocation, and the proportion resulting in a successful diversion. The proportion of arrests ultimately resulting in felony convictions are roughly similar for Asian, White and Hispanic defendants but discretely higher for black defendants (by about 1.3 percentage points relative to

White defendants). The figure reveals a small though non-trivial proportion of cases that result in successful diversion with the highest successful diversion rates for White and Asian arrests and the lowest diversion rates for Hispanic and Black arrests. Again, we see that Black arrestees are most likely to be released to another agency or experience a revocation of their community corrections status. Note the proportion released to other agencies/revoked increases slightly for all groups relative to the proportions in this category at the filing decision. This results from a small proportion of cases where charges are filed where the SFDA ultimately pursues an alternative action.

Figure 3.7 presents a comparable figure for misdemeanor arrests. We rarely see individuals arrested for a misdemeanor who are charged with felonies. Actual misdemeanor charges are most likely to be filed against Asian suspects (occurring in roughly 54 percent of arrests), followed by Hispanic suspects (35 percent), White suspects (34 percent), and Black suspects (28 percent). Again we see the highest percentage of cases released to other agencies for Black suspects (8.1 percent) and relatively comparable percentages for the other three groups (ranging from 4.1 to 4.5 percent). Misdemeanor conviction rates (displayed in figure 3.7B) are lower than misdemeanor charge filing rates, though the inter-group patterns in conviction rates largely parallel the filing pattern. Similar to our findings for felony filings and convictions, we see an increase in the proportion released to other agencies and the highest proportion with a revocation or release to another agency for Black arrestees.

In figure 3.8, we dig deeper into felony arrests and compare the proportion of arrests where felony charges are filed and that result in a felony conviction after stratifying the cases by the most serious arrest offense. Within each charge category we tabulate separate figures for

suspects by race and ethnicity. Looking within specific charge categories reveals patterns that are masked by a more aggregated comparison. For example, for felony person offense charges (generally referred to as a violent crime), felony charges are most likely to be filed against Black suspects (39.5 percent), followed by Hispanic suspects (32.7 percent), Asian suspects (32.6 percent), and White suspects (31.2 percent). While the proportion of these arrests resulting in actually felony convictions are lower relative to felony filings, the differences across racial groups for felony person arrests correspond quite closely to difference in felony filing rates. Filings and felony conviction rates are relatively similar for felony person offenses. Hispanic suspects arrested for a drug felony are the most likely to have felony charges filed against them, and they are the most likely to be convicted of a felony among those arrested for a felony drug offense. Asian suspects are the most likely to have felony charges filed against them for lewd behavior and for other felonies.

Figure 3.9 presents similar comparison for misdemeanor arrest, charges, and convictions. Filing rates tend to be lower as are convictions rates for all offense categories with the exception of misdemeanor property crimes. There are few consistent patterns across the offenses in the rankings of filing and conviction rates by racial/ethnic groupings.

As a final set of descriptive statistics, Table 3.13 presents descriptive statistics for sentencing outcomes for arrests that result in conviction (regardless of whether the sentence reflects credit for time served, a jail sentence requiring time served beyond adjudication or a prison sentence). The table presents figures for the average sentence, the sentence at the 25<sup>th</sup> percentile (the value that exceeds one quarter of all sentences), the median sentence, and the sentence at the 75<sup>th</sup> percentile (the value that exceed 75 percent of all sentences). Panel A

presents results for those convicted of a felony while panel B presents results for misdemeanor convictions. Average sentences are 6 to 9 months with the longest sentences handed down to Blacks followed by Hispanic, White, and Asian defendants. Median sentences are much lower than the average sentence reflecting the small number of cases with long prison sentences.

#### *D. Summary of Basic Patterns Observed in the Data*

The analysis presented in this section revealed several important stylized facts regarding racial disparities in San Francisco criminal justice outcomes. At the risk of oversimplification, we believe the main takeaways from this section are the following.

- There are differences in criminal history records and the degree to which members of different racial and ethnic groups are repeatedly interacting with the criminal justice system in San Francisco. For example, Black suspects are more likely to appear in multiple cases during our observation period and are more likely to have an active criminal justice status at arrest. Black and Asian suspects are more likely to be arrested for a felony relative to White and Hispanic suspects. Black suspects tend to have more extensive criminal histories.
- Black suspects are more likely than Whites to be booked at arrest, and are the most likely of all groups to be detained pre-trial for the longest time periods. The relatively higher booking rates and lengthier pre-trial detention for Blacks is explained in part by differences in arrest charge severity and criminal history, though approximately one fifth of the disparity remain even after accounting for these factors. Asian suspects are also more likely than Whites to be booked at arrest. The disparities in bookings for Asian



suspects relative to Whites are not explained by case characteristics related to charge severity and criminal history. The implementation of proposition 47 greatly narrowed the booking rate and pre-trial detention disparities between Black, Hispanic, and White suspects, but had little impact on these outcomes for Asian suspects.

- The arrests of Blacks are the most likely to result in a release to another agency (such as county probation or state parole) or a motion to revoke and the least likely to result in a successful diversion. The arrests of Asian suspects are the most likely to result in a new criminal conviction.
- For felony arrests and charges significantly more likely to be filed against Black, Hispanic, and Asian defendants compared to White defendants. When we look within broad arrest offense categories, we find a relatively higher propensity to file felony charges against Blacks for felony person offenses, a higher propensity to file felony charges against Hispanic suspects for felony drug offenses, and a higher propensity to file felony charges against Asian suspects for offenses falling into the felony lewd behavior category. Racial disparities in felony conviction rates for these crimes parallel racial disparities in filing rates.
- Among those convicted of felonies, Blacks tend to receive longer sentences.

To be sure, these disparities are interrelated, and interact with one another. Disparities in booking rates are certainly related to disparities in criminal history, which in turn may depend on differential propensities to offend and/or differential prior treatment by the police. Differences in the rate at which individual suspects are released to other agencies will depend on difference in the extent to which other agencies can claim jurisdiction over specific groups of suspects (for

example, probation or other jurisdictions pursuing prosecution). In the next section, we lay out a strategy for disentangling the effects of prior case characteristics from choices in the SFDA's office in determining racial disparities in disposition and sentencing outcomes. We also outline a strategy for an "outcome test" for differential treatment of suspects of different races and ethnicity based on the cumulative decision made by police and prosecutors through the filing decision.

**Table 3.1**  
**Racial/Ethnic Composition of Cases Presented to the SFDA, of Unique Criminal Suspects, and the Average Number of Cases Per Suspect for the Period 2008 through July 2016**

	Percent of All Cases	Percent of Pre-Prop 47 Cases	Percent of Post-Prop 47 Cases	Percent of Suspects	Cases per Suspect
Non-Hispanic					
White	32.8	32.8	32.7	25.9	1.8
Black	42.3	43.2	37.8	31.3	2.6
Asian	3.2	2.9	4.5	4.1	1.5
Other	7.5	7.1	9.2	11.4	1.3
Hispanic	14.3	14.0	15.8	17.4	1.6

The first two column approximately sum to 100. Small deviations from 100 percent are due to rounding.

**Table 3.2**  
**Percent Distributions of Cases by the Most Serious Arrest Charge within Racial/Ethnic Groups, All Cases Presented to the SFDA from 2008 through July 2016**

Case type	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Hispanic
<b>Felony</b>	<b>45.74</b>	<b>54.28</b>	<b>55.98</b>	<b>47.03</b>
Person	12.65	14.81	22.24	16.89
Property	12.99	12.49	16.34	8.75
Drug	14.92	21.23	10.97	15.73
Weapon	0.63	1.29	1.08	1.11
Other sex	0.6	0.63	0.7	0.6
Other	3.95	3.83	4.65	3.95
<b>Misdemeanor</b>	<b>42.74</b>	<b>29.67</b>	<b>36.19</b>	<b>42.91</b>
Person	9.19	7.11	7.73	8.93
Property	4.89	3.01	1.96	3.5
Drug	3.51	4.28	1.46	2.68
Other	25.15	15.27	25.04	27.8
<b>Local Ordinance</b>	<b>11.52</b>	<b>16.04</b>	<b>7.84</b>	<b>10.05</b>

Bolded sub-totals approximately add to 100 within each column. Small deviations from 100 percent are due to rounding errors.

**Table 3.3****Percent Distributions of Cases by the Most Serious Arrest Charge within Racial/Ethnic Groups, Comparison of Arrests Made in the Pre and Post-Proposition 47 Periods**

	Non-Hispanic White		Non-Hispanic Black		Non-Hispanic Asian		Hispanic	
	Pre Prop. 47	Post Prop. 47	Pre Prop. 47	Post Prop. 47	Pre Prop. 47	Post Prop. 47	Pre Prop. 47	Post Prop. 47
<b>Felony</b>	46.82	40.50	55.15	49.48	55.47	57.59	48.30	41.59
Person	12.19	14.87	14.01	19.21	20.45	27.81	16.54	18.36
Property	13.15	12.17	12.18	14.24	16.49	15.87	8.89	8.18
Drug	16.62	6.66	23.48	8.68	12.53	6.03	17.46	8.25
Weapon	0.56	1.00	1.13	2.22	0.92	1.65	0.94	1.81
Other sex	0.60	0.64	0.65	0.56	0.48	1.40	0.64	0.51
Other	3.70	5.16	3.70	4.57	4.60	4.83	3.83	4.48
<b>Misdemeanor</b>	41.39	49.38	27.66	40.96	37.12	33.21	41.21	50.24
Person	8.72	11.48	6.44	10.78	7.33	8.89	8.55	10.54
Property	4.46	7.05	2.61	5.29	1.91	2.16	3.36	4.13
Drug	3.62	3.35	4.32	4.45	1.35	1.78	2.68	2.98
Other	24.59	27.50	14.29	20.44	26.53	20.38	26.62	32.59
<b>Local Ordinance</b>	11.80	10.13	17.21	9.55	7.41	9.21	10.48	8.18

**Table 3.4**  
**Additional Case Characteristics At time of Presentation and Criminal Histories within the City and County of San Francisco by Race**

	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Hispanic
Average arrest charge variables				
# arrest charges	2.34	2.32	2.91	2.46
# felony arrest charges	1.00	1.170	1.55	1.06
# misd. arrest charges	1.11	0.87	1.18	1.19
Proportion with multiple court numbers at arrest	0.22	0.35	0.20	0.19
SF Criminal history variables <sup>1</sup>				
Prior convictions	0.67	0.98	0.58	0.44
Prior probation only	0.00	0.00	0.00	0.00
Prior jail sentence	0.47	0.72	0.43	0.32
Prior prison sentence	0.05	0.10	0.03	0.04
SF Prior Arrests				
Prior felony person	0.22	0.53	0.22	0.26
Prior felony property	0.62	0.71	0.53	0.29
Prior felony drug	0.38	1.04	0.28	0.33
Prior felony lewd beh.	0.01	0.03	0.00	0.01
Prior felony weapons	0.02	0.04	0.01	0.02
Prior felony other	0.13	0.25	0.10	0.11
Prior misd. person	0.17	0.23	0.11	0.13
Prior misd. Property	0.18	0.16	0.12	0.09
Prior misd. Drug	0.11	0.24	0.08	0.08
Prior misd other	0.47	0.60	0.33	0.32
Prior local ordinance	0.50	0.98	0.36	0.33
No prior SF cases	0.48	0.30	0.59	0.56
N	67,566	87,155	6,597	29,493
N 2010 and later	47,604	58,528	6,260	20,432

1. For the criminal history variables we only report values for cases presented 2010 or later. The values represent criminal histories observed for cases filed within the City and County of San Francisco from 2008 onwards.

**Table 3.5**  
**Criminal History From California Department of Justice Automated Criminal History System: Prior Felony and Misdemeanor Convictions and Arrests as of the Event Arrest Date**

	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Hispanic
Felony convictions	0.54	0.82	0.32	0.44
Misd. convictions	0.35	0.29	0.20	0.33
Fel. arrest cycles	1.61	2.77	0.98	1.36
Mis. arrest cycles	1.61	1.67	0.76	1.31
Prior prison	0.06	0.13	0.04	0.05
Prior jail	0.62	0.77	0.36	0.54
Prior probation	0.62	0.74	0.39	0.55
Prior convictions				
Fel. person	0.10	0.20	0.07	0.11
Fel. property	0.23	0.30	0.15	0.14
Fel. drug	0.16	0.28	0.08	0.14
Fel. lewd	0.01	0.01	0.00	0.00
Fel. weapons	0.01	0.02	0.01	0.01
Fel. other	0.03	0.02	0.02	0.03
Mis. person	0.06	0.06	0.02	0.05
Mis. property	0.05	0.05	0.03	0.04
Mis. drug	0.06	0.03	0.02	0.04
Mis. other	0.18	0.15	0.12	0.20
Prior arrest cycles				
Fel. person	0.28	0.63	0.23	0.36
Fel. property	0.64	0.90	0.41	0.39
Fel. drug	0.55	1.06	0.25	0.47
Fel. lewd	0.02	0.03	0.01	0.01
Fel. weapons	0.04	0.06	0.03	0.04
Fel. other	0.09	0.08	0.05	0.08
Mis. person	0.24	0.32	0.11	0.21
Mis. property	0.20	0.23	0.11	0.13
Mis. drug	0.33	0.25	0.10	0.21
Mis. other	0.85	0.87	0.44	0.75

**Table 3.6**  
**Convictions and Arrests from California Department of Justice Automated Criminal History System**  
**Reported by San Francisco, Reported by Another Bay Area County, and Reported by a non-Bay Area**  
**California County: Prior Felony and Misdemeanor Convictions and Arrests as of the Event Arrest**  
**Date**

	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Hispanic
<b>Convictions</b>				
San Francisco	0.28	0.53	0.16	0.27
Other Bay Area	0.38	0.46	0.30	0.36
Rest of CA	0.23	0.13	0.05	0.14
<b>Arrest Cycles</b>				
San Francisco	1.61	2.65	0.86	1.35
Other Bay Area	1.02	1.53	0.72	0.94
Rest of CA	0.60	0.26	0.16	0.38



**Table 3.7**  
**Proportion of Arrests Booked into Jail For All Arrests with Arrest Dates in 2010 or Later by**  
**Race/Ethnicity and By Whether the Arrest Occurred Before or After the Passage of Proposition 47**

	All Cases		Cases without multiple arrest numbers		Cases with no San Francisco history since 2008	
	Before prop 47	After prop 47	Before prop 47	After prop 47	Before prop 47	After prop 47
White	0.72	0.64	0.68	0.59	0.65	0.57
Black	0.83	0.69	0.77	0.63	0.73	0.57
Asian	0.92	0.95	0.91	0.95	0.93	0.97
Hispanic	0.74	0.64	0.69	0.59	0.67	0.54

**Table 3.8**  
**Mean and Median Days Detained in Jail by Race/Ethnicity for Cases Occurring 2010 or Later**

	All Cases		Cases without multiple arrest numbers		Cases with no San Francisco history since 2008	
	Mean Days Detained	Median Days Detained	Mean Days Detained	Median Days Detained	Mean Days Detained	Median Days Detained
White	16.16	1	9.86	0	8.52	0
Black	29.98	3	18.82	1	19.17	1
Asian	20.44	1	14.40	1	12.93	0
Hispanic	18.30	1	11.87	0	11.02	0

**Table 3.9**  
**Mean and Median Days Detained in Jail by Race/Ethnicity Before and After Proposition 47 for Cases Occurring 2010 or Later**

	Before Proposition 47		After Proposition 47	
	Mean	Median	Mean	Median
White	17.47	1	12.01	0
Black	33.47	3	17.86	1
Asian	21.33	1	17.75	1
Hispanic	20.49	1	12.35	0

**Table 3.10**  
**Disposition Outcomes by Race/Ethnicity**

**Panel A: All Cases**

	Case dismissed or not filed	Diverted	Dismissed or diverted	Motion to revoke/release to other agency	Convicted	Revocation or conviction
White	60.46	4.02	<b>64.48</b>	10.91	24.61	<b>35.52</b>
Black	58.59	2.50	<b>61.09</b>	17.02	21.89	<b>38.91</b>
Asian	51.35	3.61	<b>54.96</b>	10.51	34.53	<b>45.04</b>
Hispanic	60.07	3.73	<b>63.80</b>	9.55	26.64	<b>36.19</b>

**Panel B: Cases without multiple court numbers at arrest**

	Case dismissed or not filed	Diverted	Dismissed or diverted	Motion to revoke/release to other agency	Convicted	Revocation or conviction
White	60.03	4.96	<b>64.05</b>	7.10	27.91	<b>35.01</b>
Black	57.36	3.59	<b>60.95</b>	12.10	26.95	<b>39.05</b>
Asian	50.21	4.28	<b>54.49</b>	6.73	38.78	<b>45.51</b>
Hispanic	59.45	4.52	<b>63.97</b>	6.32	29.71	<b>36.03</b>

**Panel C: Cases with no San Francisco history since 2008 (limited to cases presented in 2010 or later)**

	Case dismissed or not filed	Diverted	Dismissed or diverted	Motion to revoke/release to other agency	Convicted	Revocation or conviction
White	65.25	4.78	<b>70.03</b>	4.24	25.73	<b>29.97</b>
Black	65.92	4.31	<b>70.23</b>	8.95	20.82	<b>29.77</b>
Asian	52.94	4.71	<b>57.65</b>	4.37	37.99	<b>42.36</b>
Hispanic	65.15	4.16	<b>69.31</b>	4.26	26.42	<b>30.68</b>

The figures in each cell are percentages. The elements in the first two columns (“Case dismissed or not filed” and “Diverted”) add up to the elements in the third column (“Dismissed or diverted”). The elements in the fourth and fifth columns (“Motion to revoke” and “Conviction”) add to the elements in the sixth column (“Revocation or conviction”). The elements in the third and sixth column add to 100.

**Table 3.11**  
**Disposition Outcomes by Gender and by Race/Ethnicity**

	Case dismissed or not filed	Diverted	Dismissed or diverted	Motion to revoke/release to other agency	Convicted	Revocation or conviction
<b>Males</b>						
White	59.62	3.71	<b>63.33</b>	11.74	24.93	<b>36.67</b>
Black	57.83	1.95	<b>59.78</b>	18.18	22.04	<b>40.22</b>
Asian	50.34	3.05	<b>53.39</b>	11.37	35.24	<b>46.61</b>
Hispanic	59.62	3.71	<b>63.33</b>	9.97	27.19	<b>37.16</b>
<b>Females</b>						
White	64.20	5.40	<b>69.60</b>	7.25	23.15	<b>30.40</b>
Black	61.72	4.78	<b>66.50</b>	12.24	21.26	<b>33.50</b>
Asian	55.39	5.78	<b>61.17</b>	7.16	31.66	<b>38.82</b>
Hispanic	62.87	6.02	<b>68.89</b>	7.26	23.16	<b>30.42</b>

The figures in each cell are percentages. The elements in the first two columns (“Case dismissed or not filed” and “Diverted”) add up to the elements in the third column (“Dismissed or diverted”). The elements in the fourth and fifth columns (“Motion to revoke” and “Conviction”) add to the elements in the sixth column (“Revocation or conviction”). The elements in the third and sixth column add to 100.

**Table 3.12**

**The Percentage of Cases Resulting in any Form of Incarceration Sentence, a Prison Sentence, a Jail Sentence or a Probation-Only Sentence by Race Ethnicity**

**Panel A: All Cases**

	Any Incarceration	Prison	Jail	Probation Only
White	20.51%	1.10%	19.41%	0.16%
Black	18.28%	2.14%	16.13%	0.14%
Asian	29.95%	1.17%	28.78%	0.17%
Hispanic	22.63%	1.50%	21.13%	0.13%

**Panel B: Cases without multiple court numbers at arrest**

	Any Incarceration	Prison	Jail	Probation Only
White	23.09%	0.87%	22.21%	0.19%
Black	22.08%	1.94%	20.14%	0.19%
Asian	33.68%	0.90%	32.78%	0.17%
Hispanic	25.11%	1.27%	23.83%	0.13%

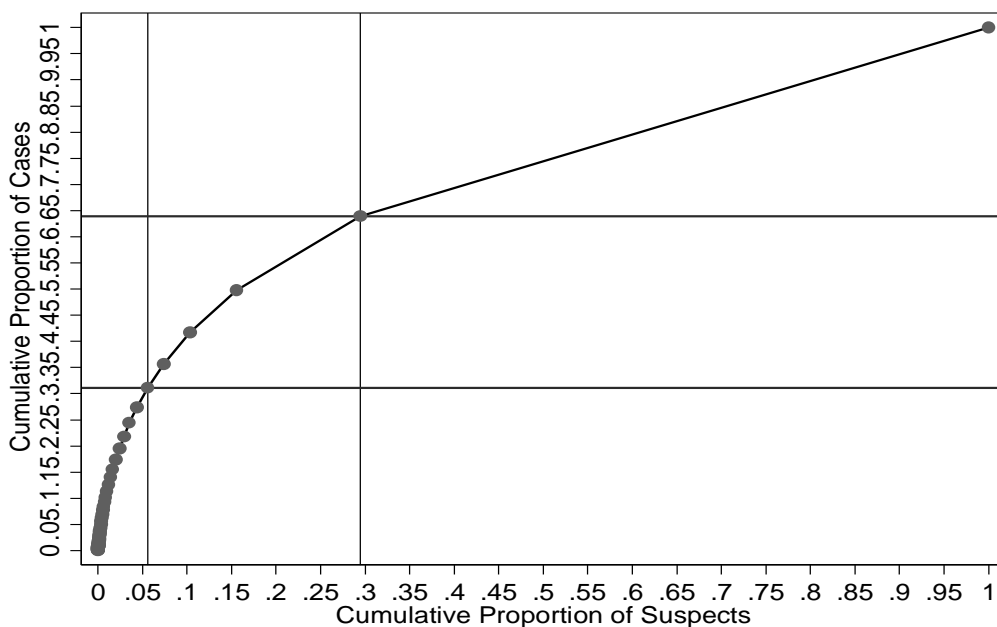
**Panel C: Cases with no San Francisco history since 2008 (limited to cases presented in 2010 or later)**

	Any Incarceration	Prison	Jail	Probation Only
White	22.68%	0.42%	22.26%	0.19%
Black	17.76%	1.32%	16.44%	0.21%
Asian	34.23%	0.65%	33.57%	0.19%
Hispanic	23.57%	0.79%	22.77%	0.11%

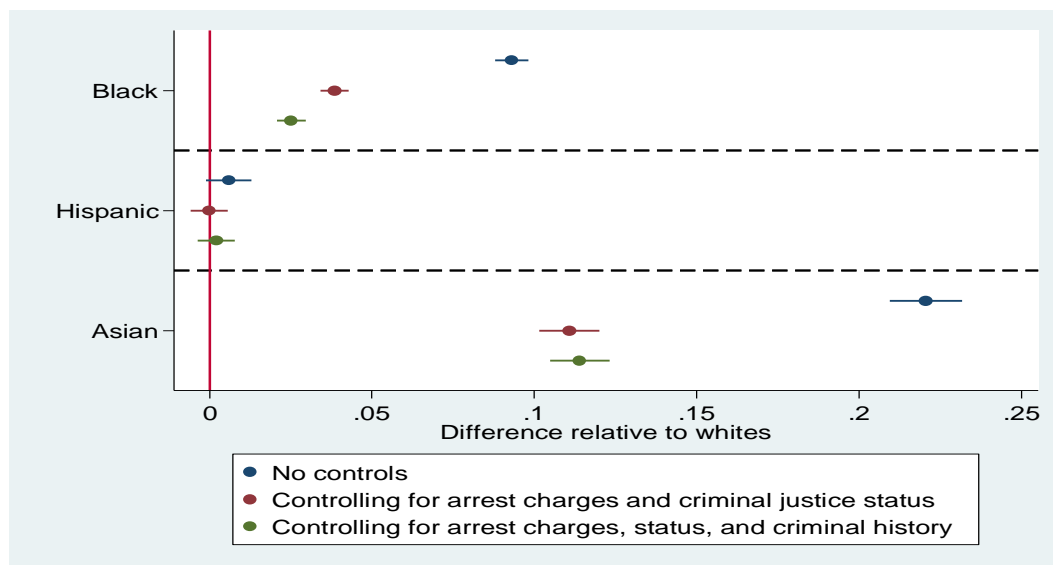
**Table 3.13**  
**Incarceration Sentences (in months) Conditional on Conviction by Race and Ethnicity**

<b>Panel A: Felony Conviction</b>				
	Average	25 <sup>th</sup> Percentile	Median	75 <sup>th</sup> Percentile
White	6.09	0.16	0.99	6
Black	8.94	0.23	1.81	12
Asian	5.96	0.10	1.02	6
Hispanic	7.60	0.33	1.38	6
<b>Panel B: Non-Felony Conviction</b>				
	Average	25 <sup>th</sup> Percentile	Median	75 <sup>th</sup> Percentile
White	0.55	0.03	0.07	0.36
Black	1.00	0	0.10	0.63
Asian	0.69	0.03	0.07	0.33
Hispanic	0.66	0.0	0.10	0.46

**Figure 3.1: The Cumulative Proportion of Cases Presented to the SFDA Plotted Against the Cumulative Proportion of Individual Suspects after Ordering Suspects from Most to Least Active**



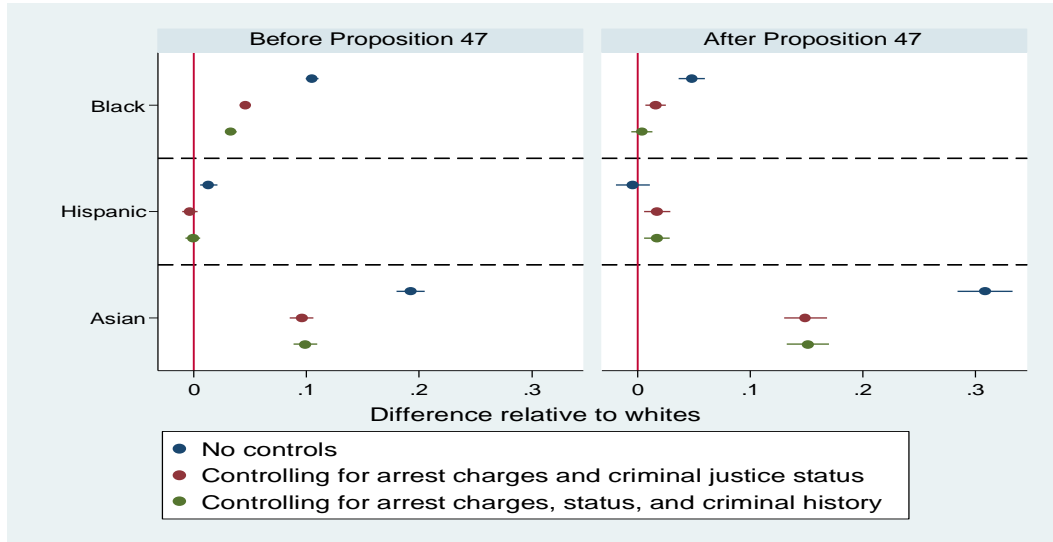
**Figure 3.2: Racial/Ethnic Disparities in Booking Rates with and Without Controlling for Arrest Charges, Criminal Justice Status, and San Francisco and Statewide Criminal History**



Notes: The dots in the figure represent estimates of the difference in the outcome relative to whites. The line through the dot demarks the 95 percent confidence interval for the estimate.

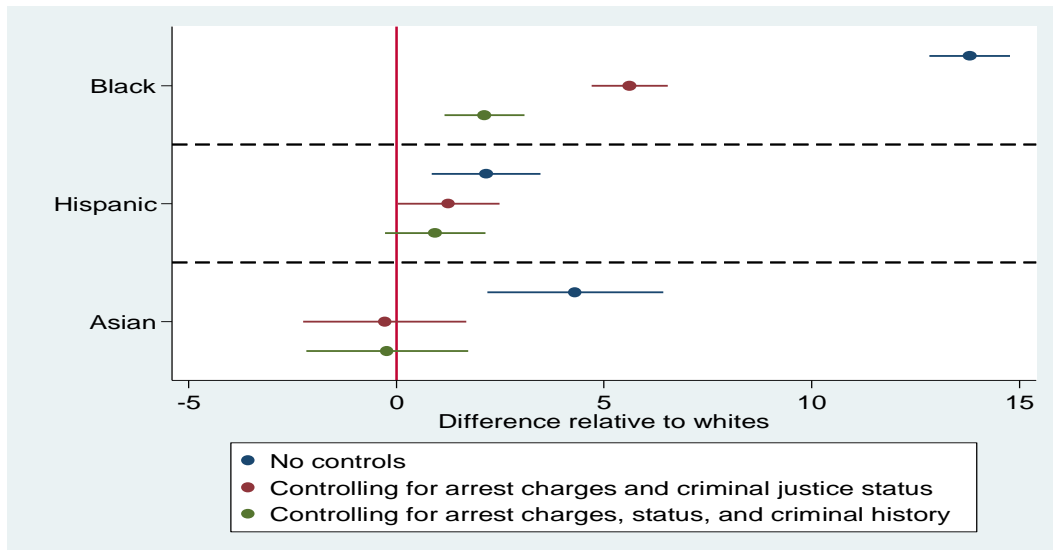


**Figure 3.3: Racial/Ethnic Disparities in Booking Rates Before and After the Passage of Proposition 47, With and Without Controlling for Arrest Charges, Criminal Justice Status, and San Francisco and Statewide Criminal History**



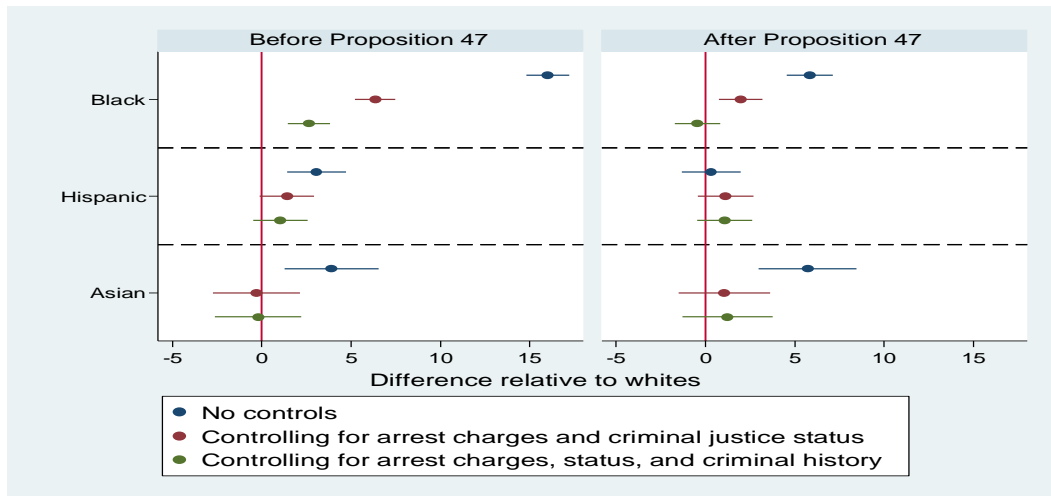
Notes: The dots in the figure represent estimates of the difference in the outcome relative to whites. The line through the dot demarks the 95 percent confidence interval for the estimate.

**Figure 3.4: Racial/Ethnic Disparities in Average Jail Detention Days with and Without Controlling for Arrest Charges, Criminal Justice Status, and San Francisco and Statewide Criminal History**



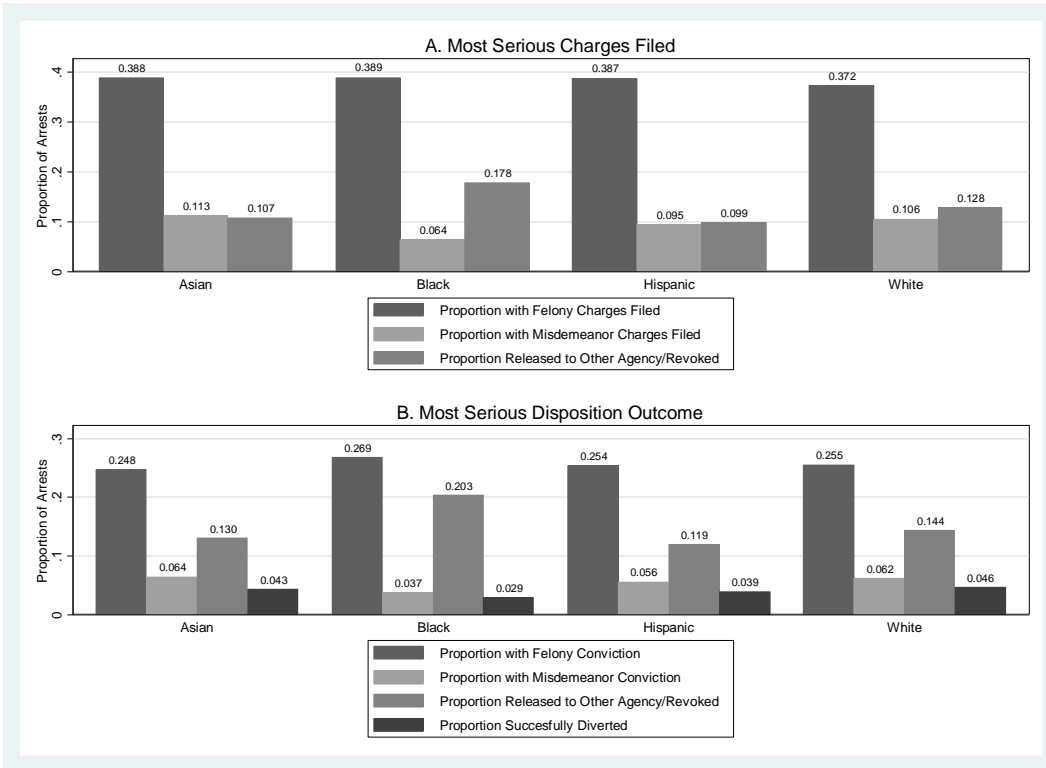
Notes: The dots in the figure represent estimates of the difference in the outcome relative to whites. The line through the dot demarks the 95 percent confidence interval for the estimate.

**Figure 3.5: Racial/Ethnic Disparities in Average Jail Detention Days, Before and After the Passage of Proposition 47, With and Without Controlling for Arrest Charges, Criminal Justice Status, and San Francisco and Statewide Criminal History**

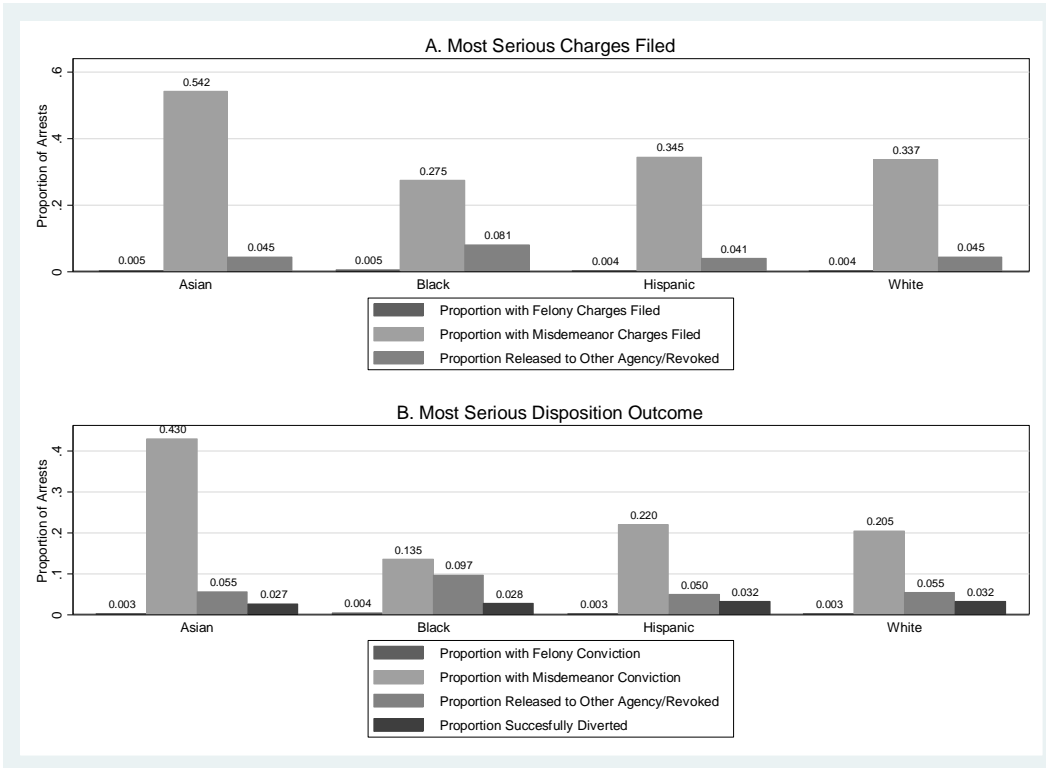


Notes: The dots in the figure represent estimates of the difference in the outcome relative to whites. The line through the dot demarks the 95 percent confidence interval for the estimate.

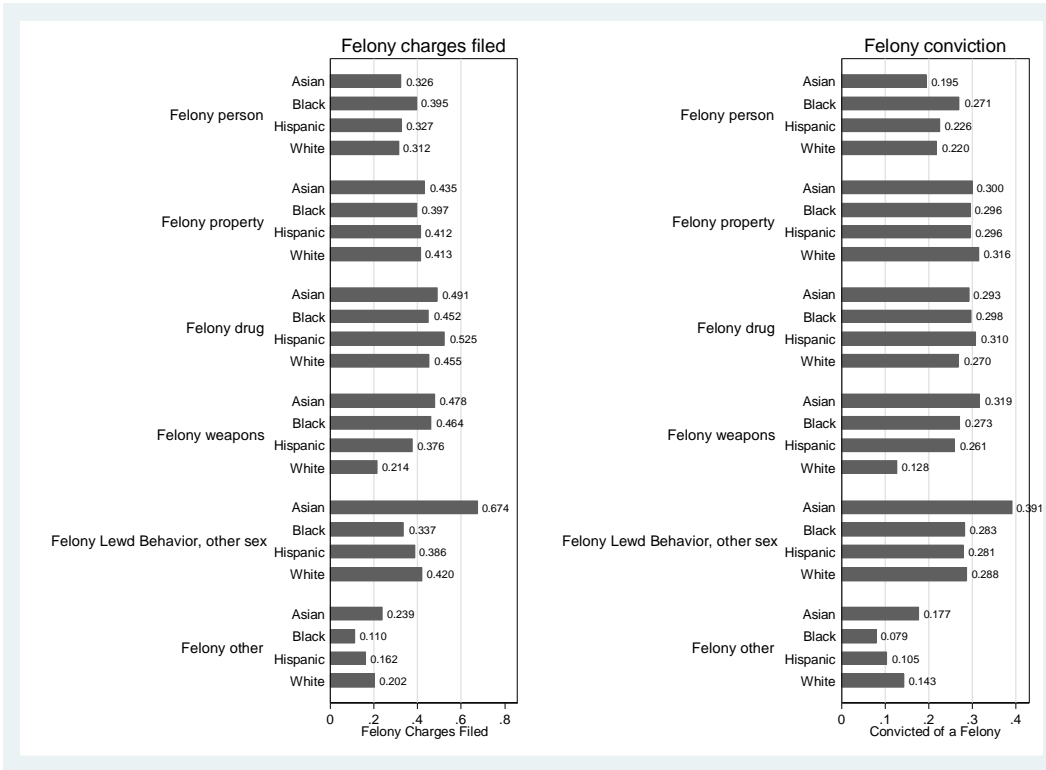
**Figure 3.6: Initial Charge Filing Outcomes and Key Disposition Outcomes for Felony Arrests by Race and Ethnicity**



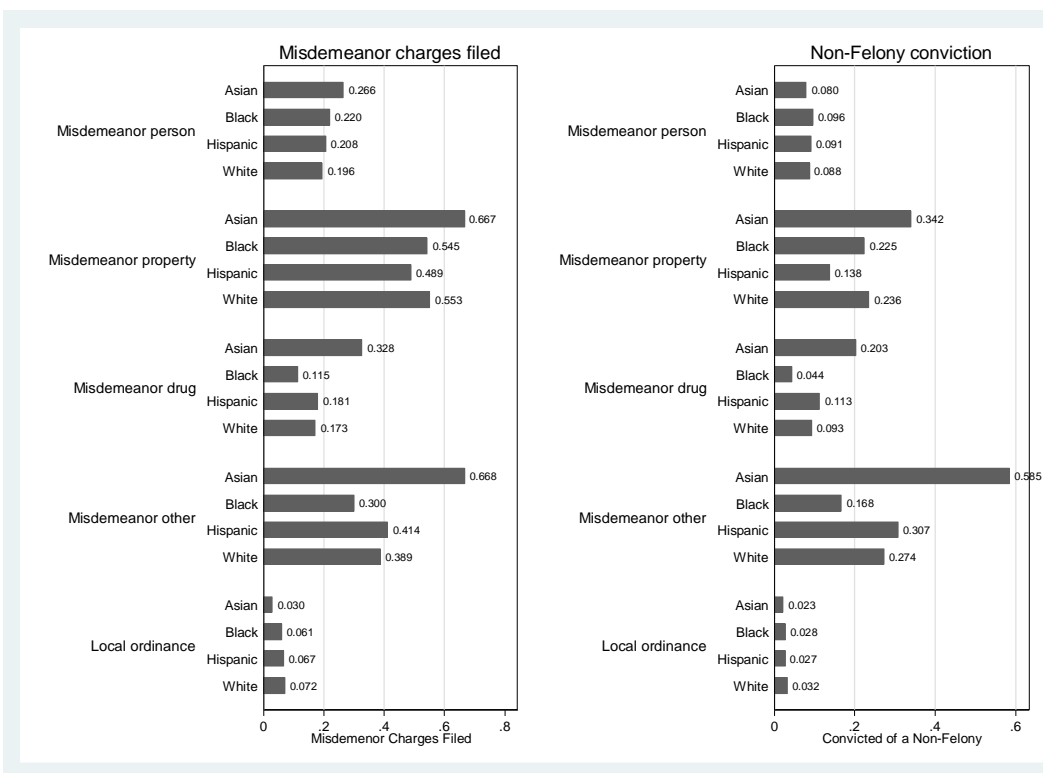
**Figure 3.7: Initial Charge Filing Outcomes and Key Disposition Outcomes for Misdemeanor Arrests by Race and Ethnicity**



**Figure 3.8: Proportion of Felony Arrests by Offense Type Resulting in Felony Charges Filed (figure on the left) and a Felony Conviction (figure on the right)**



**Figure 3.9: Proportion of Misdemeanor Arrests by Offense Type Resulting in Misdemeanor Charges Filed (figure on the left) and a Non-Felony Conviction (figure on the right)**



#### **4. Empirical Strategy for Disentangling the Effects of Prior Case Characteristics vs. SFDA Adjudication Choices in Explaining Racial and Ethnic Disparities in Disposition and Sentencing Outcomes**

The primary focus of this study is how practices and procedures in the SFDA's office contribute to or mitigate racial disparities in case dispositions. With this aim in mind, it is important to distinguish between factors that are likely to impact case outcomes that are determined prior to case submission to the office of the SFDA and factors that are under the control of the SFDA. When a case is referred to the DA, there are many aspects of the case that are determined and beyond the control of the office. First, whether the individual was booked and detained or simply issued a street citation is a product of how the arrest is handled by the police. Moreover, whether an individual who is detained bails out of jail prior to or after arraignment depends on the access the individual has to personal resources needed to post bond. As racial disparities in pre-trial detention may contribute to racial disparities in case outcomes, this factor must be accounted for. Second, each new case comes with a list of criminal charges as recorded by the arresting officer. These charges will reflect the underlying alleged criminal behavior and to some degree the discretion of the arresting officer. Third, the criminal history of the arrestee and whether the individual is on probation or parole or has another open criminal case is predetermined and certainly relevant to how a case is handled.

Regarding factors under the control of the SFDA, the office can choose whether to file charges, whether to release the individual to another agency, whether to levy special allegations such as charges that trigger various sentencing enhancements, and whether to impede pre-trial release. Moreover, the office may file charges that differ from those recorded at arrest, with

these differences usually tending towards lower severity as we documented in the previous section.

Understanding the contribution of pre-determined factors and choices under the control of the SFDA to racial disparities requires that we separately analyze the contributions of these variables. In this section, we layout our empirical methodology for addressing this issue. We begin first by discussing a simple multivariate analysis that sequentially controls for the characteristics of cases presented to the SFDA with the aim of decomposing racial disparities in disposition and sentencing outcomes into their root sources. Next, we discuss an alternative strategy to test for differential treatment of criminal suspects by race and ethnicity that relies on the outcomes of criminal cases filed by the SFDA. The outcome test basically assesses whether there is a racial disparity in the rate at which filed cases are dismissed by the court. Such a disparity may be the result of police holding suspects of certain groups to differential standards, the DA filing weaker cases against suspects from specific groups, or both. Below, we detail the methods used to implement these two analytical strategies.

#### *A. Multivariate Analysis of Disposition Outcomes*

Our primary empirical results employ multivariate regression analysis to assess the degree to which disparities in specific outcomes can be explained by factors that are predetermined from the perspective of the SFDA and factors that are under the control of the SFDA. We begin by estimating a base model that omits all statistical controls. Specifically, let  $i$  index individual arrests and define  $Outcome_i$  as the disposition or sentencing outcome of interest. Define the variables  $Black_i$ ,  $Hispanic_i$ , and  $Asian_i$  as indicator variables that take the value of one



for Black, Hispanic, and Asian arrests, respectively. Restricting the sample to arrests involving suspects that are White, Black, Asian, or Hispanic, we estimate the following model:

$$(1) \quad Outcome_i = \alpha + \beta_1 Black_i + \beta_2 Asian_i + \beta_3 Hispanic_i + \varepsilon_i,$$

where  $\varepsilon_i$  is a random error term, and  $\alpha$ ,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$  are parameters to be estimated. The estimates of  $\beta_1$ ,  $\beta_2$ , and  $\beta_3$  provide baseline estimates of the average disparity in the outcome of analysis for Black, Asian, and Hispanic suspects relative to White suspects arrested within San Francisco and referred to the SFDA. This represents the raw disparity as it does not adjust for any case-related factors.

Next, we estimate a more complex specification that accounts for factors that are pre-determined prior to a case's referral to the SFDA. Specifically, let  $k=(1,\dots,7)$  index the seven most serious charges recorded on a given court number with severity declining as we move from charge 1 to charge 7, and let  $j=(1,\dots,66)$  index the 66 specific offense categories listed in Table 4.1. Define the indicator variable *Arrest Charge*<sub>kji</sub> as equal to one if charge number  $k$  for suspect  $i$ , is for offense  $j$ . Define the variable *Attempt*<sub>ki</sub> as an indicator variable equal to one if the charge  $k$  is recorded as attempt and the variable *Multiple*<sub>i</sub> as an indicator variable indicating that multiple court numbers are recorded at arrest  $i$ . Finally, define the variables *Detain*<sub>mi</sub> where  $m=(0,1,\dots,29)$  as dummy variables indicating zero through 29 days of pre-trial detention (the omitted category being thirty days or more). Using these additional variables plus measures of criminal history (to be discussed shortly), we estimate a modified version of equation (1) given by

(2)

$$\begin{aligned}
Outcome_i = & \alpha + \beta_1 Black_i + \beta_2 Asian_i + \beta_3 Hisapnic_i + \sum_{k=1}^7 \sum_{j=1}^{66} \gamma_{kj} Arrest Charge_{kji} + \sum_{k=1}^7 \delta_k Attempt_{ki} + \\
\phi Multiple_i & + \sum_{m=0}^{29} \kappa_m Detain_{mi} + f(offense history) + \varepsilon_i.
\end{aligned}$$

Estimates of  $\beta_1$ ,  $\beta_2$ , and  $\beta_3$  from equation (2) provide the remaining disparities in the outcomes of interest between Black, Asian, and Hispanic suspects relative to White suspects after accounting for racial differences in arrest charges, whether the charge was attempt, criminal history inclusive of having multiple court numbers associated with an arrest, and the extent of pre-trial detention. Comparing these differentials from estimating equation (2) to the comparable differentials from estimating equation (1) permits assessment of the degree to which pre-determined factors explain the racial disparities that we documented in the previous section. To be specific, to the extent that the residual disparities from equation (2) are smaller than the unadjusted disparities from equation (1), one would conclude that the predetermined factors listed on the right hand side of equation (2) are responsible for the differences.

We can be more specific regarding the contributions of specific factors to racial disparities in outcomes. Gelbach (2016) presents a simple methodology for decomposing the change in a regression coefficient associated with adding control variables to a multivariate model. The methodology is best illustrated with a simple hypothetical example. Suppose that the mean difference between Black and White suspects in the proportion of cases that are released to another agency is 10 percentage points. Suppose further that once one adjusts for whether the arrest was for a felony and whether the suspect has an open case at the time of the arrest the disparity reduces the zero. Clearly controlling for these two factors explains the racial disparity.

However, how much should be attributed to the racial disparity in the likelihood of an open case relative to the racial disparity in the likelihood that it was a felony arrest?

Gelbach shows that the differences between the adjusted and unadjusted differential would be equal to the sum of (1) the racial disparity in the proportion of cases that are open multiplied by the effect of having an open case on the likelihood of being referred to another agency (with the effect measured from the multivariate regression), and (2) the racial disparity in the likelihood that the arrest was a felony arrest multiplied by the effect of a felony arrest on the likelihood of an external referral. In other words, we can use the change in the disparity associated with the multivariate adjustment to apportion relative blame to these two factors in creating the racial disposition disparity. Moreover, this method easily extends to situations where there are many control variables used in the multivariate analysis.<sup>15</sup>

Using this methodology, we decompose racial disparities in disposition and sentencing outcomes into the following underlying sources:

- a component due to racial disparities in the nature of the arrest charge list
- a component due to racial disparities in the likelihood of having an open case (measured by multiple court numbers associated with a single arrest),
- a component associated with racial disparities in the extent of pre-trial detention

---

<sup>15</sup> More formally, suppose we first estimate the bivariate base regression model  $Outcome_i = \alpha_{base} + \beta_{base}Black_i + \varepsilon_i$  where  $Outcome_i$  is the dependent variable of interest,  $Black_i$  is a dummy variable indicating a Black suspect, and  $\varepsilon_i$  is a random error term. In this model the estimate of the coefficient  $\beta_{base}$  provides the unadjusted racial disparity in this outcome. Suppose we then estimate the multivariate model  $Outcome_i = \alpha_{multi} + \beta_{multi}Black_i + \varphi Open Case_i + \gamma Felony arrest_i + \varepsilon_i$  where we have added the additional variables  $Open Case_i$  and  $Felony arrest_i$  which are indicators of having another open case at the time of arrest and that the arrest was for a felony charge. Gelbach (2016) shows that the difference between  $\beta_{base}$  and  $\beta_{multi}$  is given by the following equation:  $\beta_{base} - \beta_{multi} = \varphi \Delta_{open case} + \gamma \Delta_{Felony Arrest}$ , where  $\Delta_{open case}$  and  $\Delta_{Felony Arrest}$  are the black white disparities in the proportion of arrests where the suspect already has an open case and the proportion of arrests that are felony arrests.

- a component associated with racial disparities in criminal history,
- and the unexplained component that remains after controlling for pre-determined case characteristics.

In the results below, we find that most of the racial disparities in outcomes can be attributable to average racial disparities in these factors. However, for some outcomes small disparities remain. For these outcomes, we estimate a more detailed specification that adds factors under the control of the SFDA. Specifically, define *Filed Charge* $_{kji}$  as a set of indicator variables equal to one if the  $k^{th}$  charge for arrest  $i$  is for offense  $j$ , , and define the variable *Special Allegation* $_i$  as an indicator variable equal to one if special allegation charges are filed by the SFDA beyond the arrest charge list. With these additional variables we estimate the following specification:

(3)

$$\begin{aligned}
 Outcome_i = & \alpha + \beta_1 Black_i + \beta_2 Asian_i + \beta_3 Hisapnic_i + \sum_{k=1}^7 \sum_{j=1}^{66} \gamma_{kj} Arrest\ Charge_{kji} + \sum_{k=1}^7 \delta_k Attempt_{ki} + \\
 & \phi Multiple_i + \sum_{m=0}^{29} \kappa_m Detain_{mi} + f(offense\ history) + \sum_{k=1}^7 \sum_{j=1}^{66} \lambda_{kj} Filed\ Charge_{kji} + \sum_{k=1}^7 \theta_k Filed\ Attempt_{ki} + \\
 & + \varpi Special\ Allegation_i + \varepsilon_i.
 \end{aligned}$$

Comparing estimate of  $\beta_1$ ,  $\beta_2$ , and  $\beta_3$  from estimating equation (3) to those from estimating equation (2) will reveal the extent to which choices made by the DA following presentation of the case by the police explain racial disparities in the outcomes (as we assume that filing and special allegations are at the discretion of the DA).

In addition to estimating these equations for the whole sample of cases pooled, we explore heterogeneity in effect sizes along several dimensions. Specifically, we estimate separate

models for cases where there is only one court number associated with the arrest and where the suspect has no recent San Francisco criminal history. We also explore heterogeneity in the results associated with estimating separate models for the pre- and post-proposition 47 periods.

Before proceeding to the actual results, we must discuss in a bit more detail how some of the variables listed in the model specifications are constructed and measured. The administrative data for this project has fairly complete data on race but does not fully document Hispanic ethnicity. To address this shortcoming, we merge each record by surname to data from the U.S. Census Bureau indicating the percent of people with the same surname in the U.S. who self-identify as Hispanic. The Census Bureau data includes all surnames with at least 100 individual respondents observed in the 2000 census, a database that covers roughly 90 percent of the population. We were able to merge roughly 90 percent of our cases to this data base and impute Hispanic ethnicity for anyone with a surname where 85 percent or more of respondents self-identify as Hispanic.

Arrest charges and filed charges are recorded by penal codes in the administrative data. We use a penal code crosswalk maintained by the California Department of Justice to map each penal code into one of 66 specific offense categories. Table 4.1 presents the distribution of cases across these offense categories (with bolded figures providing sub totals that sum to 100 percent within columns) for suspects from each racial and ethnic group. The offenses are listed from most to least severe, with the ordering relying on a charge severity hierarchy developed for the purposes of classifying offenses in the Federal Bureau of Investigation's Uniform Crime Reporting Program. We identify the seven most serious arrest charges for each case and create dummy variables indicating whether each of the seven charges is described by the 66 categories. Note,

for cases that have fewer than seven arrest charges, all of the dummy variables for the higher order charges (for example, charges 5, 6, or 7) will be zero. We also use the classification schema to identify the seven most serious filed charges and create sets of dummy variables consistent with the model specification in equation (3).

We received from the SFDA a list of supplement charges deemed special allegations that are filed by the DA in cases that are eligible for specific enhancements, such as enhancements for gang affiliation or specific weapons charges. We use this information to flag cases where special allegations are levied and control for this variable in model (3).

As the reader will note, in model (2) we control for whether the defendant is detained for up to 29 days pre-trial, with a dummy variables specification that permits a flexible functional form relationship between the outcomes of analysis and pre-trial detention. To be sure, factors other than the actions of the DA such as wealth and access to social networks may impact pre-trial detention after arraignment independently of the actions of the SFDA. Moreover, there are enormous racial disparities in the averages of these control variables, and the manner in which they are included may influence the conclusions we draw from the analysis. Beyond arraignment, however, further pre-trial detention may certainly be influenced by the DA's office, and thus pre-trial detention is not entirely a pre-determined factors. It is likely impossible to disentangle the effects of defendant indigence from the actions of the ADA in charge of a case in determining the extent of pre-trial detention. To assess the maximal contribution of pre-trial detention to racial disparity (that is to say, an upper bound estimate) we control for the extent of pre-trial detention both pre and post arraignment.

Finally, we employ two sets of variables to measure the individual's criminal history at the time of arrest. Using the San Francisco administrative records, we measure prior arrests, prior convictions, and prior prison, jail, and probation sentences since 2008. We use the offense categories deployed in table 3.4 and for each category and create three dummy variables measuring one, two, or three or more of each arrest, conviction or sentencing outcome occurring within San Francisco. We use the state criminal history record data to calculate similar criminal history variables for arrest cycles, convictions, and prison, jail, and probation sentences. For the arrest cycles we use a somewhat more expansive/disaggregated set of offense categories, with felony offenses being classified into murder, rape, robbery, assault, kidnapping, burglary, larceny theft/fraud, drugs, other sex, weapons, and other felony. Misdemeanor arrests and convictions are classified as person, property, drug, theft, or other. To classify each offense observed in the in state criminal history records, we identify the most serious arrest and conviction charges and the most serious sentence. Again for each criminal history element (e.g., murder arrests, burglary convictions, prison sentences) we created dummy variables indicating one, two, or three or more of each and fully control for these variables in model specifications (2) and (3).

### *B. An Outcome Test for Differential Treatment*

The methodology discussed above essentially tests whether observed disparities can be completely explained by observable case factors, and then attempts to attribute responsibility to factors that are predetermined from the DA's perspective as opposed to factors that are under the DA's control. Residual disparities that remain after statistical adjustment may be due to differential treatment or legitimate differences in case factors that are not observed with administrative data. The inherent ambiguity of remaining disparities have led researchers to

seek alternative tests for discriminatory behavior that rely on very specific outcome tests intended to identify situations where members of different groups are held to differential standard. Early examples of this methodology appear in debates during the 1990s surrounding discrimination in home mortgage markets. An influential study by economists at the Boston Federal Research Bank documented that Black and Hispanic loan applicants were considerably more likely to be denied after adjusting for credit history, property characteristics, and a host of other factors usually considered by lenders when evaluating a potential borrower (Munnell et. al. 1996). The methodology employed was quite similar in nature to what we proposed in the previous section. Critics of the results of this study argued that a better gauge of differential treatment would be to test whether Black and Hispanic applicants with approved loans were less likely to default on their loans relative to white applicants, the argument being that if minority borrowers are being held to a higher underwriting standard they should exhibit better outcomes than White applicants. Hence testing for a racial or ethnic difference in this particular outcome amounts to testing for a difference in treatment in the evaluation of applicants from different groups.

A drawback of this method concerns a subtle technical assumption that must be met for the results of this particular test to be definitive. Namely, such tests often rely on the assumption that the underlying distributions of whatever factor is being used to separate those who are approved from those who are denied is the same across racial groups. In the context of the mortgage example, suppose that Black and White loan applicants are held to the same standard (for example, must have a credit score that exceeds a given minimum), and thus that there is no discrimination. Assume further that among those who meet the standard Black applicants have



lower average credit scores than White applicants. Hence, a fair process will result in higher default rates among approved Black applicants relative to approved White applicants given the differences in credit scores among the approved. In fact, in this example holding Black applicants to a higher standard (that is to say, introducing discrimination) would tend to equalize default rates. Hence, a test of outcomes that shows equal default rates may be consistent with differential treatment if this subtle assumption is violated.

Despite this caveat, outcome tests have been applied to several criminal justice outcomes to test for differential treatment of racial and ethnic minorities. For example, Ayres and Waldfogel (1994) provide an outcome test for racial discrimination in bail setting based on the fees charges by bail bond dealers. The authors argue that competition among bail bond servicers should drive the price of a bond (usually the non-refundable fee that an arrestee must pay the bondsman) to the average cost of posting bail (equal to the likelihood that the individual flees multiplied by the forfeited bail). They show that in New Haven, Connecticut during the early 1990s, bail amounts for Black defendants exceeded on average the bail amounts set for White defendants. However, the ratio of the fee to the bail amount for Black pre-trial defendants was lower than the comparable ratio for White defendants, suggesting that bail bond services were revealing the belief through their pricing that courts were setting unreasonably high bail amounts for Black suspects.

Outcome tests have been applied widely in empirical assessments of whether specific police departments are engaging in racial profiling. The basic form of the test involves assessing whether searches of members of different racial groups yield differential outcomes in terms of contraband discovery. For example, if White searches generate a drug discovery 20 percent of

the time while Black searches generate discovery 10 percent of the time, the data suggest that the police may be differentially targeting black suspects and in a manner that cannot be justified by a differential propensity to carry.<sup>16</sup> Hence, differences in “hit rates” are often used as a potential indicator of racial profiling or, on an individual officer basis, of a potential problematic officer. Key studies of racial profiling by the police that rely on tests for differential hit rates include Anwar and Fang (2006), Antonovics and Knight (2009), Ayres and Borowsky (2008), Knowles, Persico and Todd (2001), and Sanga (2009).

Here we propose a version of the outcome test adapted to cases filed by the SFDA’s office. To be specific, we restrict the sample to cases where charges are filed by the SFDA and test for whether the rate at which cases are dismissed by the court differs across racial/ethnic groups. To the extent that the dismissal rate is higher for one group relative to another holding all pre-determined factors constant, one would infer that judges are more likely to find problems in the cases filed against member of a specific group. To be sure, such an outcome may reflect differential treatment by the police not checked by the filing decision of the SFDA or implicit differential evidentiary and severity thresholds used to determine whether to file. Moreover,

---

<sup>16</sup> This of course raises a more fundamental question regarding the actual objectives that police are pursuing or should be pursuing. If police are seeking to maximize contraband discovery, then the evidence from the outcome test would be consistent with racial profiling. However, one might contend that discovering contraband should be pursued only as a means toward minimizing the social costs of crime and punishment. Manski (2006) offers a more general framework for analyzing optimal enforcement strategies where the social costs of completed offenses, punishment, and searches are considered in allocating enforcement resources and determining the optimal rates to stop and search individuals from different demographic groups. Optimal enforcement strategies depend on the degree to which the criminal behavior of individuals can be deterred and the degree to which deterrence effects vary across individuals. Social costs are minimized by concentrating enforcement on groups whose offending is more responsive to changes in the search probability. In the face of such heterogeneity, an optimal strategy may certainly result in differential ex-post offending (i.e. hit rates) among members of difference groups. With this alternative framing of society’s objectives, there are no clear predictions regarding how hit rates should vary in the presence of discriminatory treatment targeted at one demographic group.

judges may themselves exhibit bias in deciding which cases to dismiss. Hence, interpreting these differentials requires care and caveating, issues we will discuss in greater detail with the presentation of the results below.

Figure 4.1 presents comparisons of the proportion of filed cases that are dismissed by the court by race and ethnicity. The figure presents separate estimates for all cases pooled, for cases where the arrest is not associated with multiple court numbers, and for arrests where the individual has no observable criminal history in San Francisco. We do see the highest dismissal rates for cases filed against Black defendants and lowest rates for cases filed against Asian defendants. Below we will assess whether these disparities can be explained by differential cases characteristics using multivariate regression analysis.

**Table 4.1**  
**Distribution of Cases Presented to the District Attorney by Most Serious Arrest Charge Using Detailed Charge Categories and by Race ( bolded sub-totals sum to 100 percent within columns)**

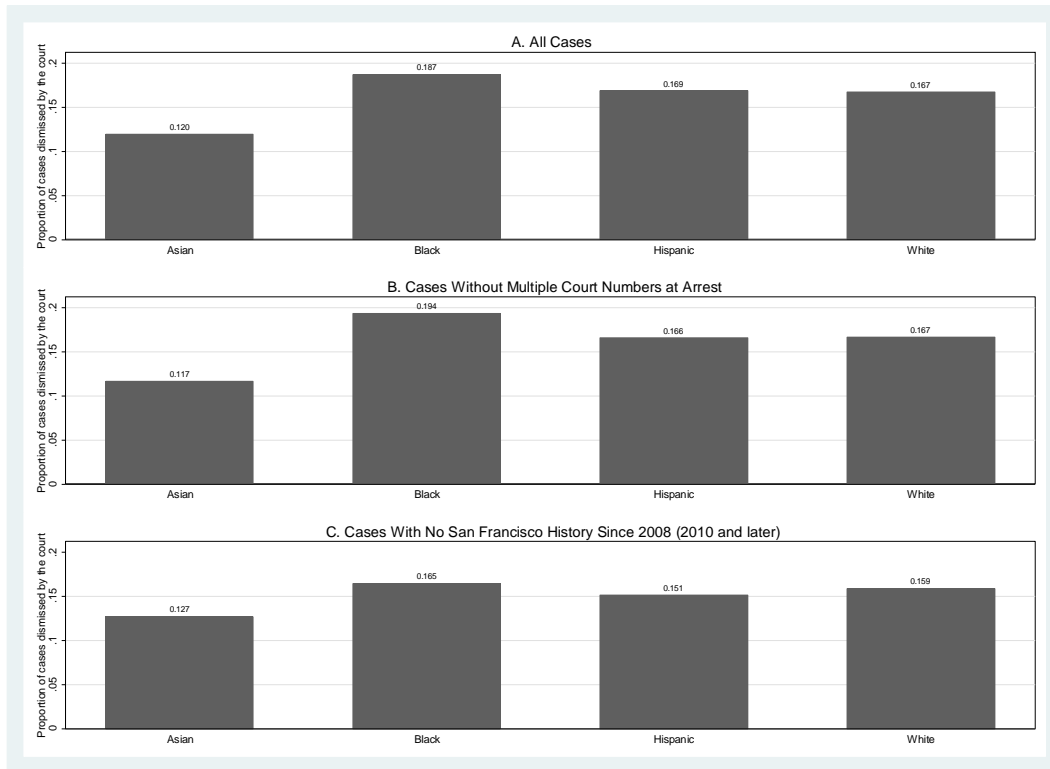
	White	Black	Asian	Hispanic
<b>Felony Person</b>	<b>12.65</b>	<b>14.8</b>	<b>22.21</b>	<b>16.88</b>
Willful Homicide	0.5	0.85	1.47	1.07
Manslaughter - Non Vehicular	0.01	0	0.05	0.01
Manslaughter -Vehicular	0.03	0.01	0.03	0.03
Forcible Rape	0.16	0.22	0.44	0.32
Robbery	1.9	4.53	3.14	3.17
Assault	10.03	9.12	16.93	12.25
Kidnapping	0.02	0.07	0.15	0.03
<b>Felony Property</b>	<b>12.98</b>	<b>12.5</b>	<b>16.34</b>	<b>8.76</b>
Burglary	5.77	5.85	6.16	3.46
Theft	6.29	5.73	8.85	4.49
Motor Vehicle Theft	0.59	0.56	0.8	0.55
Forgery, Checks, Access Cards	0.33	0.36	0.53	0.26
<b>Felony Drugs</b>	<b>14.93</b>	<b>21.24</b>	<b>10.99</b>	<b>15.74</b>
Narcotics	7.71	16.93	4.28	11.32
Marijuana	3.11	2.32	2.52	1.79
Dangerous Drugs	4.06	1.89	4.14	2.59
Other Drug Law Violations	0.05	0.1	0.05	0.04
<b>Felony Lewd Behavior, Other Sex</b>	<b>0.61</b>	<b>0.64</b>	<b>0.7</b>	<b>0.62</b>
Lewd and Lascivious Unlawful Sexual Intercourse	0.06	0.03	0.09	0.15
Other Sex Law Violations	0.02	0.01	0	0.02
<b>Weapons</b>	<b>0.53</b>	<b>0.6</b>	<b>0.61</b>	<b>0.45</b>
<b>Felony Other</b>	<b>0.63</b>	<b>1.29</b>	<b>1.09</b>	<b>1.11</b>
Drive Under the Influence	0.53	0.16	0.94	0.78
Hit and Run	0.11	0.04	0.14	0.14
Escape	0.02	0.01	0.02	0.01
Bookmaking	0	0	0	0
Arson	0.22	0.08	0.38	0.07
Felony Traffic, Accessory, Treason, Abortion, Bigamy, Bribery, Extortion, Neglect, Perjury, Malicious Mischief, Gambling, Other Felony	2.14	1.36	2.35	2.09

**Table 4.1**  
**Distribution of Cases Presented to the District Attorney by Most Serious Arrest Charge Using Detailed Charge Categories and by Race ( bolded sub-totals sum to 100 percent within columns)**

	White	Black	Asian	Hispanic
Federal Offense	0.02	0.01	0.03	0.02
Probation/Parole –Felony	0.92	2.16	0.8	0.84
<b>Misdemeanor Person</b>	<b>13.61</b>	<b>9.77</b>	<b>9.42</b>	<b>11.98</b>
Vehicular Manslaughter	0.01	0.01	0.08	0
Assault and Battery	9.17	7.09	7.63	8.92
Petty Theft	4.43	2.67	1.71	3.06
<b>Misdemeanor Property</b>	<b>0.47</b>	<b>0.34</b>	<b>0.26</b>	<b>0.45</b>
Other Theft	0.44	0.32	0.24	0.43
Checks, Access Cards	0.03	0.02	0.02	0.02
<b>Misdemeanor Drug</b>	<b>3.57</b>	<b>4.34</b>	<b>1.45</b>	<b>2.73</b>
Marijuana	0.9	0.92	0.39	0.79
Dangerous Drugs	0.77	0.45	0.26	0.74
Other Drug Law Violations	1.9	2.97	0.8	1.2
<b>Misdemeanor Other</b>	<b>25.23</b>	<b>15.32</b>	<b>25.21</b>	<b>27.86</b>
Indecent Exposure	0.14	0.08	0.05	0.09
Annoying Children	0.17	0.12	0.02	0.31
Obscene Matter	0.01	0	0	0
Lewd Conduct	0.04	0.01	0.03	0.02
Prostitution	1.86	1.41	0.77	3.04
Contributing Delinquency of Minor	0.01	0.01	0.02	0.04
Liquor Laws	0.89	0.53	0.97	1.27
Disorderly Conduct	2.95	1.78	0.41	0.99
Disturbing Peace	0.3	0.16	0.11	0.19
Vandalism	1.17	0.4	0.35	0.82
Malicious Mischief	0.08	0.06	0.08	0.07
Trespassing	3.24	1.57	0.7	1.63
Weapons	0.17	0.12	0.14	0.2
Drive Under the Influence	7.04	1.68	16.96	8.41
Hit and Run	0.19	0.09	0.09	0.33
Selected Traffic	0.09	0.08	0.12	0.18
Joy Riding	0.01	0.01	0.02	0.01
Gambling	0.01	0.03	0.02	0.04
Non-Support	0	0	0	0
Glue Sniffing	0.01	0	0	0.01
Cl/CO Ordinances	0.31	0.17	0	0.17
Failure to Appear/Non-Traffic	0.02	0	0	0
Other Misdemeanors	2.9	3.99	3	2.95

**Table 4.1**  
**Distribution of Cases Presented to the District Attorney by Most Serious Arrest Charge Using Detailed Charge Categories and by Race ( bolded sub-totals sum to 100 percent within columns)**

	White	Black	Asian	Hispanic
Burglary tools	0.31	0.19	0.21	0.14
Other Sex Offenses	0.01	0.01	0.02	0.05
Arson-Misdemeanor	0	0	0	0
Probation-Parole				
Misdemeanor	0	0.01	0	0
Truancy	0	0	0	0
Miscellaneous Traffic	3.15	2.7	1	6.78
Burglary Misdemeanor	0.15	0.11	0.12	0.12
<b>Local Ordinance, Other</b>	<b>10.32</b>	<b>15.23</b>	<b>7.55</b>	<b>8.59</b>
<b>Unknown</b>	<b>1.05</b>	<b>0.7</b>	<b>0.17</b>	<b>1.35</b>

**Figure 4.1: Proportion of Filed Cases Dismissed by the Court by Race/Ethnicity**

## 5. Empirical Results Part I: Multivariate Analysis of Disposition Outcomes

In this section, we present the main analysis of racial/ethnic disparities in case disposition outcomes. We begin with an analysis of broad disposition outcomes (whether a case is filed, results in a successful diversion, an alternative action, or a conviction), followed by an analysis of the filing choices made by the SFDA. We then analyze racial disparities in felony conviction for felony arrests and any conviction for misdemeanor arrests. Finally, we analyze the determinants of disparities in the likelihood of receiving an incarceration sentence, the likelihood of receiving a prison sentence, and sentence length conditional on conviction.

For each outcome, we begin by graphically displaying the unadjusted disparities relative to White suspects for Black, Hispanic, and Asian suspects. We then compare these unadjusted differentials to those that statistically adjust for arrest charges, criminal justice status at the time of arrest, post-arrest pre-arraignment detention, and criminal history. We focus on arrests occurring in 2010 or later for the purpose of having at least two years of prior data from which to construct the local criminal history and since our data on pre-trial detention begins in 2010. For some outcomes, we present separate analysis for all cases and for cases where there are not multiple court numbers associated with the arrest and where the individual has no recent San Francisco criminal history. The latter analysis is intended to identify a sub-sample that are more comparable across race in terms of recent criminal history and criminal justice involvement. For several outcomes, we also present separate analysis for cases occurring prior to the passage of proposition 47 and after the passage of the proposition.



Following the comparison of the unadjusted and statistically adjusted disparities, we decompose the sources of the differences in these disparities. To be specific, we assess the degree to which the difference between the raw disparity in felony conviction rates between say Black and White felony-arrest suspects and the statistically adjusted disparity is explained by differences in arrest charges, criminal justice status, pre-trial detention, and criminal history. This analysis employs the Gelbach (2016) decomposition method discussed in the previous section, and takes into account the racial disparities in these explanatory factors and the impact of the explanatory factor in question on the outcome being analyzed.

Note, as we discussed in the previous section the list of factors used to statistically adjust the observable disparities are factors that are for the most part pre-determined from the viewpoint of the SFDA –i.e., arrest charges, early detention, criminal history – and hence are not influenced by choices made by the office. In some of the models, we find that there are disparities in outcomes that are not fully explained by this list of factors. In these instances, we explore whether adding additional case characteristics under the control of the SFDA further explains the disparities. In particular, we add detailed controls for the actual filed charges as well as control for whether special allegation charges are added to the charge list by the SFDA.

#### *A. Broad Case Disposition Outcomes*

Figure 5.1 graphically displays racial/ethnic disparities in (1) the likelihood that a case is not filed or is dismissed, (2) the likelihood that a case results in a successful diversion, (3) the likelihood that a case is released to another agency or a motion to revoke is filed (labeled an alternative action is taken), and (4) the likelihood that the case results in any sort of conviction.

Disparities are measured relative to White suspects. For each racial/ethnic group, the figure first displays the raw differential followed by the statistically adjusted differential. For each estimate, the dot marks the differential relative to Whites while the bar through the dot shows the margin of error of the estimate.<sup>17</sup> A vertical line is inserted at the differential value of zero. Estimates where the margin of error does not cross this vertical zero line represent statistically significant differences while estimates where zero lies within the margin of error are not statistically significant.

Black suspects are slightly less likely to simply have a case dropped or dismissed (by about two percentage points) relative to Whites, while Asian suspects are considerably less likely to have a case dropped or dismissed (a difference of approximately 10 percentage points). The Hispanic-White differential for this outcome is not significantly different from zero. Statistically adjusting for case characteristics explains all of the disparity in this outcome for Blacks relative to Whites. In fact, after adjusting for observable case characteristics, Black suspects are slightly more likely to have their cases dropped relative to White suspects. Nearly all of the Asian-White disparity can be attributed to average differences in cases characteristics, with the residual disparity of roughly two percentage point much lower than the unadjusted disparity of over ten percentage point. For Hispanic suspects, we see that once we account for differences relative to Whites in arrest charges, criminal justice status, pre-trial detention, and criminal history, Hispanic suspects are slightly more likely to have cases dropped or dismissed. Racial and ethnic disparities in the likelihood that a case results in a successful diversion are generally quite small (never

---

<sup>17</sup> To be more precise, the bar shows the 95 percent confidence interval for each estimate.

greater than one percentage point). Statistically adjusting for case characteristics eliminates the disparity in this outcome between Black and White suspects and leads to a slight positive differential between Asian and White suspects. The Hispanic-White differentials in this outcome are statistically insignificant.

The largest Black-White disparity occurs for the likelihood that an alternative action is taken. The arrest of a Black suspect is roughly 6 percentage points more likely to result in being released to another agency or to end in a motion to revoke. Hispanic suspects are slightly less likely to experience this outcome (1.4 percentage points less likely relative to Whites), while the difference between Asian and White suspects is small and statistically insignificant. Most of the Black-White disparity in this outcome can be explained by observable case characteristics (the statistically adjusted disparity is roughly one percentage points). Note, we cannot observe whether the individual has an active criminal justice status in another jurisdiction. Hence, the observed remaining disparity may be attributable to being on parole at the time of arrest, being on probation in another county, or having an outstanding warrant from outside of San Francisco. Finally, we observe the largest raw disparities in conviction rates for Asian suspects relative to White suspects (on the order of 10 percentage points). This disparity is fully explained by pre-determined case characteristics. Arrests of Blacks are significantly less likely to result in a new conviction (with a raw difference of roughly three percentage points and a statistically adjusted difference of 2 percentage points). Hispanic suspects are significantly more likely to be convicted, with a raw differential of one percentage point. Observable case characteristics explain the entire differential. In fact, once these characteristics are taken into account, we see that Hispanic

suspects are significantly less likely to be convicted, though this adjusted difference is quite small (less than one percentage point).

Tables 5.1 and 5.2 present decompositions of the racial disparities in the broad disposition outcomes based on the raw and adjusted differentials presented in Figure 5.1. To facilitate the interpretation of these results, here we discuss in detail the decomposition of the Black-White differential in the likelihood that a case is dropped or dismissed. These results are presented in the first column of figures in panel A of Table 5.1. The figure in the first row presents the unadjusted differential in this outcome (corresponding to the blue dot in Figure 5.1). Hence, the difference in the likelihood that a case is dropped or dismissed between Black and White suspects is -0.019 (or 1.9 percentage points). Standard errors are reported in parentheses below the estimate. The figure in the last row of the panel presents the statistically adjusted difference in the outcome, and is labeled as the “unexplained differential” or the differential that remains after statistical adjustment for case characteristics. In this example, the remaining disparity is 0.010 (corresponding to the red dot in Figure 5.1).

The figures in the rows between display our estimates of the contributions of racial disparities in arrest charges, in status at time of the arrest, in differences in pre-trial detention, and in difference in criminal history to the difference between the unadjusted (figure in the first row) and adjusted racial disparity in this outcome. Positive numbers indicate that the averages for this set of factors tend to increase the likelihood that a case is dismissed or dropped for Blacks relative to Whites, while negative values indicate that racial disparities in the averages of these factors tend to decrease the relative likelihood for Blacks. In the context of this outcome, positive values would tend to work to the relative advantage of the average Black suspect while negative

values work to their disadvantage. Starting from the statistically adjusted differential in the last row, consecutively adding the contribution of each of these sets of case characteristics in the rows above eventually yields the overall differential at the top of the table. Hence, the figures in the second through fifth row provide an accounting of how each of these sets of case characteristics explain the change between the adjusted and unadjusted differential.

For example, consider the value of -0.015 in the row labeled “Due to difference in criminal history.” This figure indicates that given the average difference in criminal history between Black and White suspects and the effect of criminal history on the likelihood that a case is dropped or dismissed, the differences in criminal history would independently reduce the relative likelihood that a case against an Black suspect is dropped by 1.5 percentage points. Similarly, difference in pre-trial detention reduce this relative likelihood by 4.8 percentage points, while differences in criminal justice status reduce this relative likelihood by 0.9 percentage points. On the other hand, difference in arrest charges would increase the likelihood by 4.3 percentage points. In other words, Black suspects are more likely relative to White suspects to be arrested for charges that are often dropped or dismissed. Hence, for this outcome and for the Black-White differential, average differences in status at arrest, pre-trial detention, and criminal history tend to reduce the likelihood that cases are dropped against Black suspects while differences in arrest charges tend to increase the likelihood. Collectively, these factors account for all of the raw racial disparity in these outcomes.

Rather than walk through each decomposition individually, here we will highlight key patterns that appear throughout all four outcomes. For African-American suspects, differences in criminal history tend to work to their relative disadvantage, significantly decreasing the

likelihood that a case is dropped and that the case results in a successful diversion, while increasing the likelihood that a case is released to another agency, that a motion to revoke is filed, and that the case results in a new conviction. Average differences in arrest charges seem to mitigate the negative outcomes (new conviction or case being released to another agency) while increasing the likelihood a positive outcome (case being dismissed or a successful diversion). This is particularly interesting since in section 3 we documented that Black suspects are more likely to be arrested for a felony charge. Together these two sets of findings suggest that African-Americans are arrested for less serious felonies that tend to result in dismissal or diversion.

Black suspects are clearly disadvantaged by pre-trial detention. This factor alone decreases the likelihood (relative to Whites) that a case is dropped or dismissed by 4.8 percentage points, increases the likelihood of being turned over to another agency by 2.0 percentage points, and increases the likelihood of a new conviction by 2.8 percentage points (all estimates statistically significant at the one percent level of confidence).<sup>18</sup> In terms of magnitudes, the relative contributions of differences in pre-trial detention to racial disparities in disposition outcomes are as large, or larger than, racial differences in criminal history. Finally, racial disparities in the likelihood of having an active criminal justice status at the time of the

---

<sup>18</sup> We also estimated these models with a more restrictive set of controls for pre-trial detention. Specifically, we estimated models with controls for no pre-trial detention, one day of detention, and two days of detention (with two or more days being the omitted group). This alternative specification is akin to controlling for pre-arrestment detention only. The contribution of pre-arrestment detention in these alternative specifications to the black-white disparities in these broad case disposition outcomes was 3.6 percentage points for the likelihood that the case is dropped, 1.7 percentage points for the likelihood that the case is referred to another agency, and two percentage points for the likelihood of a new conviction. These values are fairly close to the larger values reported above when we control for up to thirty days of pre-trial detention, suggesting that most of the effects of pre-trial detention are operating through early pre-arrestment detention.

arrest (gauged here as multiple court numbers associated with the arrest) generally works to the disadvantage of Black suspects.

Turning to the relative disparities between Asian and White suspects, the main raw differences we observe are for cases being dropped or dismissed (occurs roughly 10 percentage points less frequently for Asian suspects) and convictions (occurs roughly 10 percentage points more frequently for Asian suspects). In both instances, differences in the severity of arrest charges between Asian and White suspects explains nearly all if not all of these disparities. Differences in criminal history tend to work to the advantage of Asian suspects as do differences in criminal justice status at the time of the arrest. These factors however are minor contributors. Differences in arrest-charge severity are the main set of case characteristics driving Asian-White disparities in disposition outcomes.

The raw differences in outcomes between Hispanic and White defendants are generally quite small and often statistically insignificant. Hispanic suspects are significantly more likely to be convicted (by roughly one percentage points) and less likely to be released to another agency (by 1.4 percentage points). For the former outcomes, differences in arrest charge increase the likelihood a new conviction for Hispanics (by 1.9 percentage points) though this is mitigated to some degree by a lower likelihood pre-trial detention and less serious criminal histories among Hispanic suspects relative to White suspects. The lower likelihood of being released to another agency for Hispanics relative to Whites is explained entirely by a lower likelihood of having an active criminal justice status and a less serious criminal history among Hispanic suspects.

Our comparison of average case characteristics by race and ethnicity reveals quite large disparities in offense and criminal history characteristics. One might be concerned that the differences across groups are too large along many dimensions to be adequately addressed using multivariate regression techniques. To address this concern, Tables 5.3 and 5.4 reproduce the analysis after restricting the sample of cases to those where there is only one court number associated with the arrest (our proxy for an active criminal justice status) and where the individual has no recent San Francisco criminal history. By necessity, the tables omits the contributions of differences in criminal justice status at arrest as the sample has been restricted to eliminate racial differences in this factor. However, we still allow for a contribution of criminal history that predates 2008 for incidents occurring in San Francisco or that occur elsewhere in the state.

Black suspects are no more or less likely to have a case dropped or dismissed relative to White suspects for this sample of “first timers.” Similarly, the Black-White difference in the likelihood of a successful diversion is small and statistically insignificant. We still see that Black suspects are significantly more likely to be released to another agency (by 3.1 percentage points) and less likely to be convicted (by 4.1 percentage points). Behind the raw differences however, there are distinct compositional effect associated with case characteristics. Again, we see that arrest charge disparities tend to work towards increasing the likelihood that cases against Black suspects are dropped and decrease the likelihood that cases result in a new conviction. Pre-trial detention reduces the likelihood that a case is dropped, increases the likelihood of release to another agency, and increases the likelihood of a new conviction for Blacks suspects.



We still see large disparities between Asian and White suspects in the likelihood that a case is dropped (12 percentage points lower for Asian suspects) and the likelihood of conviction (12 percentage points higher for Asian suspects). These disparities are for the most part attributable to differences between White and Asian suspects in the composition of arrest charges and statewide criminal history. Hispanic-White differences for all outcomes are generally quite small (less than one percentage point for all raw disparities).

The results thus far suggest that racial and ethnic disparities in cases disposition outcomes can for the most part be attributed to differences in case characteristics. The results also suggest that outcomes depend on factors beyond the charges recorded at arrest, including criminal history, criminal justice status at time of arrest, and whether one is detained prior to arraignment. One might expect that the passage and implementation of proposition 47 in November 2014 may have impacted the effects of these case characteristics on disposition outcomes, and by extension, overall racial disparities in outcomes. Proposition 47 redefined a set of drug and property crimes that could be charged either as a felony or misdemeanor as straight misdemeanors. The proposition led to an immediate decline in arrests for drug felonies and a somewhat smaller decline in drug arrests overall. The proposition also resulted in a decline in property offense arrests and declines in bookings for drug and property offenses.

A decline in bookings and an increase in street citations should reduce the likelihood of pre-trial detention for many crimes. In section 3, we saw that proposition 47 narrowed pre-trial detention disparities, a factor that may translate into smaller disposition outcomes differences and a lesser effect of pre-trial detention. Similarly, criminal history and status at time of arrest likely matters more for felony arrests relative to misdemeanor arrest. Given racial disparities in

these background factors, the impact of proposition 47 may vary by racial groups, and in a manner that is likely to narrow racial disparities by reducing the discretion in what can be charged as a felony offense.

To investigate this possibility, Tables 5.5 and 5.6 reproduce the analysis of broad case disposition outcomes for the time period prior to proposition 47 (all arrests made before November 2014) and for the time period following the passage and implementation of proposition 47 (all arrests made in November 2014 and later). The structure and interpretation of the tables are similar to that of tables 5.1 and 5.2. Here, however, for each racial disparity group we include two sets of estimates in two separate columns; one set analyzing the pre-proposition 47 period and one set analyzing the post proposition 47 periods.

Beginning with the Black-White comparisons, we see substantial narrowing of the unadjusted disparities relative to Whites. The overall Black-White differences narrows for cases being dropped (from -2 to -1.2 percentage points), diverted (from -1.3 to 0.4 percentage points), alternative actions taken (from 6.9 to 3.7 percentage points), and convictions (from -3 to -2.2 percentage points). We observe narrowing in the contributions of arrest charges, criminal history, current criminal justice status, and pre-trial detention for all outcomes. We see similar evidence of narrowing differentials for Asian-White disparities. While the raw disparity in the likelihood that a case is dropped or dismissed remains the same (with Asian suspects 10 percentage points less likely relative to White to have cases dropped), we observe a substantial narrowing in conviction rates. Hispanic-White differentials tend to the smaller side during both the pre and post-proposition 47.

### *B. Differences in the propensity to file felony charges*

Figure 5.2 presents estimates of racial/ethnic disparities in the likelihood that felony charges are filed by the SFDA. The figure is structured in the same manner as that for the analysis of disposition outcomes. For each racial/ethnic group, we present estimates of the difference relative to Whites and present estimates of raw differences (labeled “no statistical controls”) and differentials statistically adjusted for the list of pre-determined case characteristics used to analyze disposition outcomes. We restrict the sample to felony arrests. Thus a positive differential is indicative of a higher propensity to downgrade the offense to misdemeanor or to not file charges at all for whites, while a negative differential indicates the opposite.

While we observe a positive and statistically significant unadjusted differential for Black suspects relative to Whites, the difference is negative after adjusting for case characteristics. In other words, once we hold constant arrest charges, criminal justice status at arrest, pre-trial detention, and criminal history, felony charges are filed less frequently for African-American suspects arrested for a felony offense. Similarly, we find a significantly higher rate of felony filings against Hispanic suspects. However, adjusting for case characteristics reduces the differential and renders the remaining difference statistically insignificant. The Asian-White differential is relatively insensitive to controls for case characteristics and is marginally significant after statistical adjustment. In all comparisons, the difference in the propensity to file felony charges are relatively small (never more than 1.5 percentage points).

Table 5.7 presents a decomposition of the difference between the unadjusted and adjusted racial disparities. For black suspects, differences in the composition of arrest charges

increase the likelihood of the filing of felony charges by 1.7 percentage points. The higher likelihood of pre-trial detention also tends to increase the likelihood that felony charges are filed. These two factors alone explain all of the unadjusted differential in this outcome. For Asian suspects, controlling for observable case characteristics does not explain the 1.6 percentage point difference in the likelihood that felony charges are filed.

### *C. Felony Conviction and Convictions Resulting from Misdemeanor Arrests*

We have already analyzed racial disparities in the likelihood of conviction following arrest. Here we focus more specifically on the likelihood of a felony conviction following a felony arrest and the likelihood of any conviction following a misdemeanor arrest. We analyze these more specific outcomes for the following reasons. Certainly the sentencing and collateral consequences of felony convictions are the most severe. Felony convictions are the most likely to result in an incarceration sentence and the necessary condition for a new prison term. Moreover, a felony conviction often carries long-lasting consequences for employment prospects, the ability to procure housing, and in some instance being able to participate in fairly routine activities such as participating at a child's school.

Cases resulting from misdemeanor arrests are the most likely to be dropped and may be offenses for which effective counsel, being able to bail out of jail, etc. may have bigger impacts on ultimate outcomes. We have already documented racial disparities in the contribution of factors such as pre-trial detention. Such disparities may load more onto disparities in the outcomes of misdemeanor cases to the extent that suspects of specific groups have differential access to resources that may help in mitigating the consequences of the arrest.

Figure 5.3 displays raw disparities in the likelihood that a felony arrest results in a felony conviction as well disparities that statistically adjust for pre-determined case characteristics. Again, all disparities are measured relative to White suspects. We observe a statistically significant and positive disparity between Black and White suspects (on the order of 1.3 percentage points). Adjusting for differences in pre-determined characteristics results in a negative and statistically significant differential of 1.7 percentage points. In other words, after adjusting for pre-determined case characteristics, Black suspects arrested on felony charges are less likely to be convicted of a felony. For Hispanic and Asian suspects, we find statistically insignificant differentials relative to White suspects for both the unadjusted and statistically adjusted comparisons.

Table 5.8 presents the decompositions of the differences between the two differential estimates apportioning relative culpability for the observed changes among the various sets of pre-determined case characteristics. For Black suspects, we see that differences in arrest charges relative to Whites alone would predict a 0.7 percentage point higher likelihood of a felony conviction, equal in magnitude to the raw differential in this outcome. In addition, the results indicate that the higher likelihood of pre-trial detention among Black suspects would increase the likelihood of a felony conviction relative to White suspects by 2.9 percentage points. Note this effect operates independently of all of the other sets of case characteristics controlled for in the model (i.e., arrest charges, status at time of arrest, criminal history). Differences in criminal history also significantly contribute to racial disparities in this outcome, though the magnitude of the contribution of differences in criminal history is smaller than the impact of pre-trial detention. The significant negative unexplained differential is consistent with the conjecture that to some

degree the disadvantages faced by Black suspects associated with factors such as pre-trial detention are being partially offset in practice by how cases are handled within the SFDA office.

The unadjusted differential in felony conviction rates between Asian and White suspects is small and statistically significant. Nonetheless, we see significant and largely offsetting contributions of case characteristics to the Asian-White disparity. Status at arrest tends to increase the likelihood (relative to whites) of a felony conviction for Asian suspects. However, differences in criminal history and pre-trial detention reduce the felony conviction rates relative to whites by a more than offsetting magnitude. The adjusted and unadjusted differentials are the smallest for the Hispanic-White differential. Moreover, differences in average pre-determined case characteristics do not independently contribute beyond small magnitudes to these differentials.

Figure 5.4 displays the unadjusted and adjusted differentials in the likelihood that a misdemeanor arrest results in a conviction. Most notably, we observe a sizable negative Black-White difference in this outcome (of nearly seven percentage points) that declines to approximately one percentage point after adjusting for observable case characteristics. We also observe a very large and positive Asian-White differential of approximately 22 percentage points that is completely explained by controlling for case characteristics. There is a very small yet statistically significant and positive Hispanic-White disparity in this outcome that becomes slightly negative and significant after adjusting for observable characteristics.

Table 5.9 presents the accompanying decompositions. For the Black-White decomposition, we see that differences in arrest charges alone reduce the likelihood of a

conviction following a misdemeanor arrest by 6.5 percentage points for Black suspects relative to White suspects. This magnitude is nearly equal to the overall unadjusted disparity in this outcome. Again, we see that pre-trial detention works to the relative disadvantage of Black suspects, increasing the conviction rate differential holding all else constant by 1.2 percentage points. For the Asian-White differential, differences in arrest charges almost entirely explain the differential. For the Hispanic-White differential, we see that Hispanic suspects are arrested for charges that are more likely to result in conviction relative to white suspects.

#### *D. Incarceration, Prison Sentences, and Overall Sentence Length*

The final outcomes analyzed in this section pertain to incarceration sentences. We analyze three outcomes: the likelihood that the arrest results in an incarceration sentence of any kind (whether prison or jail), the likelihood that the arrest results in a new prison commitment, and sentence length in months (regardless of whether it is a prison or jail sentence) for those convicted of an offense. We present both analytical results for the entire observation period as well as separate results for the pre- and post-proposition 47 time periods. For one outcome (sentence length), we observe a Black-White disparity that cannot be fully explained by pre-determined case characteristics. We explore the extent to which the remaining differential can be explained by adding further controls for variables under the control of the SFDA. Specifically, we include results in our graphical analysis of an additional model that controls for the specific filed charges (in addition to arrest charges) as well as a control for whether special allegations are added by the SFDA when filing a case with the court.

Figure 5.5 graphically presents estimates of racial/ethnic disparities in the likelihood that an arrest results in an incarceration sentence of any kind. We see that Blacks are less likely relative to White suspects to receive a new incarceration sentence, both in the raw differential as well as the adjusted differential. Any conclusions from this result should be qualified by the fact that Black suspects are more likely to be released to another agency, a pathway that may increase the likelihood of jail or prison time that we cannot observe in the data. To address this issue in the decomposition analysis to follow, we also present separate estimates for cases without multiple court numbers at arrest and where there is no recent San Francisco criminal history.

Figure 5.5 reveals a small, positive, yet statistically significant Hispanic-White differential that turns negative and insignificant once case characteristics are controlled for. There is a large Asian-White disparity in the likelihood that the arrest results in an incarceration sentence, on the order of 10 percentage points. Controlling for case characteristics reduces this disparity to a small, negative, and marginally significant value.

Figure 5.6 presents results from models of racial disparities in the likelihood that a case results in a state prison sentence. We should note from the outset that prison sentences are quite rare in San Francisco (with White suspects sentenced to prison in roughly one percent of the cases that we observe in the data). Nonetheless, we do observe disparities for this outcome that merit careful analysis and study. The unadjusted disparity between Black and White suspects is approximately one percentage point and is statistically significant. Adjusting for pre-determined case characteristics eliminates the disparity yielding a small and statistically insignificant residual difference. The Hispanic-White differential in the likelihood of receiving a



prison sentence is positive and significant but disappears once we control for pre-determined case characteristics. The unadjusted Asian-White differential is positive yet not statistically significant and becomes negative and marginally significant after statistical adjustment for case characteristics.

Figure 5.7 presents our final graphical display for this section. The figure displays unadjusted and adjusted racial disparities (relative to Whites) in sentence lengths measured in months. Sentence length is calculated only for those who are convicted of some charge and is set to zero for those who receive a non-incarceration sentence. Black defendants who are convicted receive a sentence that is approximately 3 months longer on average than sentences received by convicted White defendants. Controlling for predetermined case characteristics explains most of this disparity, with an unexplained disparity remaining of roughly 0.4 months. The additional estimate in green marks the differential after adjusting for the specific charges filed by the SFDA inclusive of whether special allegations are added. Controlling for these additional variables narrows the disparity slightly. These results suggest that the specifics of filing choices explain only a small fraction of the disparity in this outcome beyond what is explained by predetermined case characteristics. We also see a statistically significant longer average sentence for convicted Hispanic defendants relative to convicted White defendants of approximately one month. Differences in predetermined characteristics explain all of the differences between Hispanic and White defendants in sentence length. The Asian-White differentials in sentence length are slightly negative and are all statistically insignificant.

Having documented the basic differentials in these sentencing outcomes, we now take a deeper dive into understanding the sources of these differentials and how they may vary for

different groups of suspects and defendants. Specifically, we present decomposition analyses of the contribution of the various sets of pre-determined characteristics to the sentencing outcomes for convicted defendants (similar to our previous analysis of the other disposition outcomes). In addition, we present separate analysis for each of these outcomes for all cases, for cases where there is only a single court number associated with the arrest and no recent San Francisco criminal history, for cases with incident dates occurring during the pre-proposition 47 period, and cases with incident dates occurring during the post-proposition 47 period.

Tables 5.10 and 5.11 present decompositions for racial disparities in whether there is any incarceration sentence. Panel A of table 5.10 present results for all cases while panel B of table 5.10 presents analysis for those with no criminal justice status and limited criminal history. Regarding the Black-White differentials, differences in criminal history and differences in pre-trial detention tend to increase this differential (i.e., increase the relative likelihood of an incarceration sentence for Blacks) while differences in arrest charges greatly reduce the differential. The magnitude of the contribution of arrest charges is as large as the overall differential and largely explains the lower likelihood of some incarceration for Black defendants. For the Hispanic-White differential, differences in arrest charge more than explain the relatively higher likelihood of an incarceration sentence for Hispanic defendants. Similarly, differences in arrest charges explain almost all of the large Asian-White disparity in receiving some incarceration as part of the sentence. The results for the sub-sample without multiple court numbers and no recent San Francisco criminal history largely accord with the results for all cases. Here however, we see no raw difference in incarceration sentences between White and Black

defendants, differences in pre-trial detention disadvantaging Blacks, and significant and negative unexplained differential favoring Blacks.

In Table 5.11, we see a narrowing in the raw differentials relative to White defendants for all groups with the passage and implementation of proposition 47, with a very large reduction in the incarceration differential between Asian and White defendants. For the most part, racial differences in arrest charge contribute less to disparity in this outcome for all groups and pre-trial detention contributes less to the Black-White disparity in this outcome. Tables 5.12 and 5.13 provide a comparable analysis of racial disparities in the likelihood that convicted defendants receive a prison sentence. Controlling for pre-determined characteristics reduces the Black-White disparity in this outcome from just under 1 to approximately 0.02 percentage points. Racial disparities in arrest charges, criminal history, and criminal justice status at time of arrest, and pre-trial detention all increase the relative likelihood of a prison sentence for Blacks. Together these factors explain all of the disparity. The small yet statistically significant difference between Hispanic and White defendants in the likelihood of receiving a prison sentence is entirely explained by differences in arrest charges. There are few notable patterns in the Asian-White differential, as both the adjusted and unadjusted differentials are statistically insignificant. For the most part, the results in panel B for less criminal involved defendants parallel the results in Panel A.

In Table 5.13, we find a substantial narrowing of the Black-White differential in the likelihood of receiving a prison sentence with the passage of proposition 47 (from one percentage point to four-tenths of a percentage point). Differences in arrest charges and differences in criminal history contribute less to this differential. Moreover, once pre-determined

characteristics are controlled for in the post-proposition 47 period the Black-White differential in this outcome becomes very small and statistically insignificant. The passage of proposition 47 reduces the Hispanic-White differential to zero and slightly widens the Asian-White differential in this outcome.

Finally, Tables 5.14 and 5.15 present decomposition analyses of racial disparities in sentence length conditional on having been convicted. The structure of the tables is similar to those for the other two incarceration outcomes that we have already discussed. Beginning with the results for all cases in Panel A of Table 5.14, we see that predetermined case characteristics accounts for roughly 2.6 months of the three-month difference in sentence length between Black and White defendants. Roughly 1.1 months of the differential is due to difference in arrest charges, a fifth of a month is due to differences in criminal justice status at arrest, two thirds of a month is due to differences in pre-trial detention, while two thirds of a month is due to differences in criminal history. The Hispanic-White differential of 0.660 months is fully explained by differences in arrest charges. There are no significant differences between Asian and White defendants. The patterns in panel B for defendants without multiple court numbers at arrest and without a recent criminal history are similar to the results in panel A.

Table 5.15 again reveals a sizable impact of proposition 47 on this particular sentencing outcome. The raw Black-White differential declines by roughly one half from 3.4 months to 1.8 months with the passage of proposition 47. The contributions of criminal history, criminal justice status at arrest, and pre-trial detention to the Black-White differential diminish in parallel. In addition, we see that the unexplained differential (that which remains after adjusting for predetermined characteristics) declines from 0.5 months to 0.3 months. The passage of

proposition 47 eliminates the raw disparity between Hispanic and White defendants. There is little evidence of significant differentials between Asian and White defendants either pre- or post-proposition 47.

#### *E. Summary of Findings from this Section*

We have analyzed a broad array of outcomes and have presented a large number of results. While the results are detailed and nuanced, there are several salient patterns that can be summarized. In particular, we believe the analysis reveals the following key findings.

- There are sizable unadjusted racial and ethnic disparities relative to Whites in case disposition and sentencing outcomes that disfavor Black and Asian defendants. Outcomes for White and Hispanic defendants are largely similar, and when differences exist they tend to disfavor Hispanics.
- For all of the outcomes, racial disparities are either entirely or mostly explained by predetermined case characteristics.
- Black suspects are relatively disadvantaged on average by pre-trial detention, having an active criminal justices status at the time of arrest, and their more extensive criminal history. These factors alone account for nearly all of the differential outcomes (relative to Whites) that we observe for Black defendants relative to White defendants in unadjusted comparisons.
- Proposition 47 narrowed inter-racial disparities in outcomes. This narrowing operated through a diminishing of the effects of pre-trial detention, status at arrest, and criminal history on case disposition and sentencing outcomes in the post-proposition 47 period.

**Table 5.1**  
**Sources of Racial/Ethnic Disparities in the Likelihood that a Case is Not Filed or that the Case Results in a Successful Diversion**

Panel A: Decomposition of the difference relative to White suspects in the likelihood that the case is not filed or dismissed by the District Attorney

	Black	Hispanic	Asian
Overall differences	-0.019 <sup>a</sup> (0.003)	0.004 (0.004)	-0.099 <sup>a</sup> (0.007)
Due to differences in arrest charges	0.043 <sup>a</sup> (0.002)	-0.018 <sup>a</sup> (0.002)	-0.080 <sup>a</sup> (0.004)
Due to differences in status at arrest	-0.009 <sup>a</sup> (0.001)	0.002 <sup>a</sup> (0.001)	0.001 <sup>a</sup> (0.001)
Due to differences in pre-trial detention	-0.048 <sup>a</sup> (0.001)	0.004 <sup>a</sup> (0.001)	-0.006 <sup>a</sup> (0.001)
Due to differences in criminal history	-0.015 <sup>a</sup> (0.001)	0.007 <sup>a</sup> (0.001)	-0.0001 (0.001)
Unexplained differential	0.010 <sup>a</sup> (0.003)	0.008 <sup>a</sup> (0.003)	-0.019 <sup>a</sup> (0.005)

Panel B: Decomposition of the difference relative to White suspects in the likelihood that the case results in a successful diversion

	Black	Hispanic	Asian
Overall differences	-0.011 <sup>a</sup> (0.001)	-0.002 (0.001)	-0.001 (0.002)
Due to differences in arrest charges	0.002 <sup>a</sup> (0.0004)	-0.004 <sup>a</sup> (0.0004)	-0.010 <sup>a</sup> (0.001)
Due to differences in status at arrest	-0.002 <sup>a</sup> (0.0002)	0.001 <sup>a</sup> (0.0001)	0.0003 <sup>a</sup> (0.0001)
Due to differences in pre-trial detention	-0.0006 <sup>b</sup> (0.0002)	-0.000 (0.000)	0.0001 (0.0001)
Due to differences in criminal history	-0.009 <sup>a</sup> (0.0004)	0.003 <sup>a</sup> (0.0002)	0.002 <sup>a</sup> (0.0002)
Unexplained differential	-0.002 <sup>c</sup> (0.001)	-0.0002 (0.001)	0.005 <sup>b</sup> (0.002)

Standard errors are in parentheses.

- a. Statistically significant at the one percent level of confidence.
- b. Statistically significant at the five percent level of confidence.
- c. Statistically significant at the 10 percent level of confidence.

**Table 5.2**  
**Sources of Racial/Ethnic Disparities in the Likelihood that a Case is Transferred to Another Agency (Alternative Action Taken) or that the Case Results in a Conviction**

Panel A: Decomposition of the difference relative to White suspects in the likelihood that an alternative action is taken

	Black	Hispanic	Asian
Overall differences	0.062 <sup>a</sup> (0.002)	-0.014 <sup>a</sup> (0.003)	-0.003 <sup>c</sup> (0.002)
Due to differences in arrest charges	-0.018 <sup>a</sup> (0.001)	0.004 <sup>a</sup> (0.001)	-0.004 <sup>a</sup> (0.001)
Due to differences in status at arrest	0.022 <sup>a</sup> (0.001)	-0.006 <sup>a</sup> (0.001)	-0.004 <sup>a</sup> (0.001)
Due to differences in pre-trial detention	0.020 <sup>a</sup> (0.001)	-0.003 <sup>a</sup> (0.0004)	0.002 <sup>b</sup> (0.001)
Due to differences in criminal history	0.025 <sup>a</sup> (0.001)	-0.008 <sup>a</sup> (0.0004)	-0.008 <sup>a</sup> (0.001)
Unexplained differential	0.013 <sup>a</sup> (0.002)	-0.0004 (0.003)	0.010 <sup>b</sup> (0.004)

Panel B: Decomposition of the difference relative to White suspects in the likelihood that the case results in conviction

	Black	Hispanic	Asian
Overall differences	-0.028 <sup>a</sup> (0.003)	0.009 <sup>b</sup> (0.004)	0.098 <sup>a</sup> (0.006)
Due to differences in arrest charges	-0.026 <sup>a</sup> (0.002)	0.019 <sup>a</sup> (0.002)	0.089 <sup>a</sup> (0.003)
Due to differences in status at arrest	-0.011 <sup>a</sup> (0.0003)	0.003 <sup>a</sup> (0.0004)	0.002 <sup>a</sup> (0.0005)
Due to differences in pre-trial detention	0.028 <sup>a</sup> (0.001)	-0.001 (0.0008)	0.004 <sup>a</sup> (0.001)
Due to differences in criminal history	0.003 <sup>a</sup> (0.001)	-0.005 <sup>a</sup> (0.0008)	0.008 <sup>a</sup> (0.001)
Unexplained differential	-0.021 <sup>a</sup> (0.002)	-0.008 <sup>a</sup> (0.003)	-0.004 (0.004)

Standard errors are in parentheses.

- a. Statistically significant at the one percent level of confidence.
- b. Statistically significant at the five percent level of confidence.
- c. Statistically significant at the 10 percent level of confidence.

**Table 5.3****Sources of Racial/Ethnic Disparities in the Likelihood that a Case is Not Filed or that the Case Results in a Successful Diversion for Cases Without Multiple Court Numbers and Where the Individual has no San Francisco Criminal History**

Panel A: Decomposition of the difference relative to White suspects in the likelihood that the case is not filed or dismissed by the District Attorney

	Black	Hispanic	Asian
Overall differences	0.008 (0.005)	0.003 (0.006)	-0.122 <sup>a</sup> (0.008)
Due to differences in arrest charges	0.030 <sup>a</sup> (0.003)	-0.0007 (0.003)	-0.084 <sup>a</sup> (0.005)
Due to differences in pre-trial detention	-0.028 <sup>a</sup> (0.001)	-0.009 <sup>a</sup> (0.001)	-0.004 <sup>c</sup> (0.002)
Due to differences in criminal history	-0.003 (0.002)	0.0002 (0.001)	-0.016 <sup>a</sup> (0.002)
Unexplained differential	0.011 <sup>a</sup> (0.004)	0.013 <sup>a</sup> (0.004)	-0.018 <sup>a</sup> (0.007)

Panel B: Decomposition of the difference relative to White suspects in the likelihood that the case results in a successful diversion

	Black	Hispanic	Asian
Overall differences	-0.001 (0.002)	-0.008 <sup>a</sup> (0.003)	-0.001 (0.004)
Due to differences in arrest charges	0.007 <sup>a</sup> (0.001)	-0.003 (0.001) <sup>a</sup>	-0.013 <sup>a</sup> (0.001)
Due to differences in pre-trial detention	0.0001 (0.0004)	-0.0006 <sup>a</sup> (0.0002)	0.0007 <sup>c</sup> (0.0003)
Due to differences in criminal history	-0.007 <sup>a</sup> (0.001)	0.0008 <sup>a</sup> (0.0003)	-0.0001 (0.0005)
Unexplained differential	-0.001 (0.002)	-0.005 <sup>b</sup> (0.002)	0.011 <sup>a</sup> (0.004)

Standard errors are in parentheses.

- a. Statistically significant at the one percent level of confidence.
- b. Statistically significant at the five percent level of confidence.
- c. Statistically significant at the 10 percent level of confidence.



**Table 5.4**  
**Sources of Racial/Ethnic Disparities in the Likelihood that a Case is Transferred to Another Agency (Alternative Action Taken) or that the Case Results in a Conviction for Cases Without Multiple Court Numbers and Where the Individual has no San Francisco Criminal History**

Panel A: Decomposition of the difference relative to White suspects in the likelihood that an alternative action is taken			
	Black	Hispanic	Asian
Overall differences	0.031 <sup>a</sup> (0.002)	0.0004 (0.002)	0.001 (0.003)
Due to differences in arrest charges	0.003 <sup>a</sup> (0.0006)	0.0004 (0.0005)	-0.006 <sup>a</sup> (0.001)
Due to differences in pre-trial detention	0.008 <sup>a</sup> (0.0004)	0.002 <sup>a</sup> (0.0003)	0.002 <sup>a</sup> (0.0004)
Due to differences in criminal history	0.008 <sup>a</sup> (0.001)	-0.0001 (0.0003)	-0.002 <sup>a</sup> (0.0006)
Unexplained differential	0.012 <sup>a</sup> (0.002)	-0.002 (0.002)	0.008 <sup>b</sup> (0.003)
Panel B: Decomposition of the difference relative to White suspects in the likelihood that the case results in conviction			
	Black	Hispanic	Asian
Overall differences	-0.041 <sup>a</sup> (0.005)	0.005 (0.005)	0.121 <sup>a</sup> (0.008)
Due to differences in arrest charges	-0.041 <sup>a</sup> (0.003)	0.005 <sup>b</sup> (0.003)	0.104 <sup>a</sup> (0.004)
Due to differences in pre-trial detention	0.022 <sup>a</sup> (0.001)	0.007 <sup>a</sup> (0.001)	0.002 <sup>a</sup> (0.001)
Due to differences in criminal history	0.002 (0.001)	-0.001 (0.001)	0.023 <sup>a</sup> (0.002)
Unexplained differential	-0.024 <sup>a</sup> (0.003)	-0.007 <sup>b</sup> (0.004)	-0.008 (0.006)

Standard errors are in parentheses.

- a. Statistically significant at the one percent level of confidence.
- b. Statistically significant at the five percent level of confidence.
- c. Statistically significant at the 10 percent level of confidence.

**Table 5.5**  
**Sources of Racial/Ethnic Disparities in the Likelihood that a Case is Not Filed or that the Case Results in a Successful Diversion, Pre and Post Proposition 47 Cases**

Panel A: Decomposition of the difference relative to White suspects in the likelihood that the case is not filed or dismissed by the District Attorney

	Black		Hispanic		Asian	
	Pre- 47	Post-47	Pre-47	Post-47	Pre-47	Post-47
Overall differences	-0.020 <sup>a</sup> (0.003)	-0.012 <sup>b</sup> (0.006)	-0.005 (0.005)	0.025 <sup>a</sup> (0.008)	-0.100 <sup>a</sup> (0.008)	-0.100 <sup>a</sup> (0.013)
Due to arrest charges	0.050 <sup>a</sup> (0.002)	0.014 <sup>a</sup> (0.004)	-0.021 <sup>a</sup> (0.003)	-0.006 (0.005)	-0.082 <sup>a</sup> (0.004)	-0.058 <sup>a</sup> (0.007)
Due to status at arrest	-0.008 <sup>a</sup> (0.001)	-0.005 <sup>a</sup> (0.001)	0.002 <sup>a</sup> (0.001)	0.005 <sup>a</sup> (0.001)	0.001 <sup>a</sup> (0.0003)	-0.001 (0.002)
Due to pre-trial detention	-0.049 <sup>a</sup> (0.001)	-0.030 <sup>a</sup> (0.001)	0.001 (0.001)	0.012 <sup>a</sup> (0.002)	-0.0002 (0.002)	-0.032 <sup>a</sup> (0.004)
Due to criminal history	-0.018 <sup>a</sup> (0.001)	-0.010 <sup>a</sup> (0.002)	0.006 <sup>a</sup> (0.001)	0.008 <sup>a</sup> (0.001)	0.0002 <sup>a</sup> (0.001)	-0.002 (0.001)
Unexplained differential	0.004 (0.003)	0.018 <sup>a</sup> (0.005)	0.007 <sup>c</sup> (0.004)	0.005 (0.006)	-0.019 <sup>a</sup> (0.006)	-0.007 (0.010)

Panel B: Decomposition of the difference relative to White suspects in the likelihood that the case results in a successful diversion

	Black		Hispanic		Asian	
	Pre- 47	Post-47	Pre-47	Post-47	Pre-47	Post-47
Overall differences	-0.013 <sup>a</sup> (0.001)	-0.004 <sup>a</sup> (0.001)	-0.0002 (0.001)	-0.005 <sup>a</sup> (0.002)	-0.002 (0.003)	0.003 (0.003)
Due to arrest charges	0.003 <sup>a</sup> (0.001)	-0.0000 (0.0005)	-0.004 <sup>a</sup> (0.001)	-0.003 <sup>a</sup> (0.001)	-0.011 <sup>a</sup> (0.001)	-0.001 (0.001)
Due to status at arrest	-0.003 <sup>a</sup> (0.0002)	-0.0002 <sup>a</sup> (0.0001)	0.001 <sup>a</sup> (0.0001)	0.0003 <sup>a</sup> (0.0001)	0.0004 <sup>a</sup> (0.0001)	-0.0000 (0.0001)
Due to pre-trial detention	-0.001 <sup>a</sup> (0.0003)	-0.0003 (0.0002)	-0.0002 <sup>c</sup> (0.0001)	0.000 (0.001)	-0.0002 (0.0002)	0.0005 (0.0004)
Due to criminal history	-0.011 <sup>a</sup> (0.0005)	-0.003 <sup>a</sup> (0.001)	0.004 <sup>a</sup> (0.0003)	0.001 <sup>a</sup> (0.0003)	0.002 <sup>a</sup> (0.0005)	0.0000 (0.0005)
Unexplained differential	-0.002 (0.001)	-0.0005 (0.002)	-0.001 (0.002)	-0.003 <sup>c</sup> (0.002)	0.006 <sup>b</sup> (0.003)	0.003 (0.003)

Standard errors in parentheses. a. Statistically significant at the one percent level of confidence. b. Statistically significant at the five percent level of confidence. c. Statistically significant at the ten percent level of confidence.

**Table 5.6**  
**Sources of Racial/Ethnic Disparities in the Likelihood that a Case is Transferred to Another Agency (Alternative Action Taken) or that the Case Results in a Conviction, Pre and Post Proposition 47 Cases**

Panel A: Decomposition of the difference relative to White suspects in the likelihood that an alternative action is taken

	Black		Hispanic		Asian	
	Pre- 47	Post-47	Pre-47	Post-47	Pre-47	Post-47
Overall differences	0.069 <sup>a</sup> (0.002)	0.037 <sup>a</sup> (0.004)	-0.015 <sup>a</sup> (0.003)	-0.008 <sup>c</sup> (0.005)	-0.005 (0.005)	0.007 (0.008)
Due to arrest charges	-0.023 <sup>a</sup> (0.001)	-0.003 <sup>c</sup> (0.002)	0.003 <sup>c</sup> (0.001)	0.007 <sup>a</sup> (0.002)	-0.001 (0.002)	-0.008 <sup>a</sup> (0.004)
Due to status at arrest	0.025 <sup>a</sup> (0.001)	0.008 <sup>a</sup> (0.001)	-0.005 <sup>a</sup> (0.001)	-0.009 <sup>a</sup> (0.002)	-0.005 <sup>a</sup> (0.001)	0.001 (0.002)
Due to pre-trial detention	0.033 <sup>a</sup> (0.001)	0.012 <sup>a</sup> (0.001)	-0.002 <sup>a</sup> (0.0007)	-0.005 <sup>b</sup> (0.001)	-0.001 (0.001)	0.012 <sup>a</sup> (0.002)
Due to criminal history	0.029 <sup>a</sup> (0.001)	0.017 <sup>a</sup> (0.001)	-0.009 <sup>a</sup> (0.0007)	-0.005 <sup>a</sup> (0.001)	-0.010 <sup>a</sup> (0.001)	-0.003 <sup>b</sup> (0.0015)
Unexplained differential	0.017 <sup>a</sup> (0.002)	0.003 (0.004)	-0.001 (0.003)	0.003 (0.005)	0.011 <sup>b</sup> (0.005)	0.005 (0.008)

Panel B: Decomposition of the difference relative to White suspects in the likelihood that the case results in conviction

	Black		Hispanic		Asian	
	Pre- 47	Post-47	Pre-47	Post-47	Pre-47	Post-47
Overall differences	-0.030 <sup>a</sup> (0.003)	-0.022 <sup>a</sup> (0.005)	0.019 <sup>a</sup> (0.004)	-0.014 <sup>b</sup> (0.007)	0.113 <sup>a</sup> (0.007)	0.054 <sup>a</sup> (0.010)
Due to arrest charges	-0.030 <sup>a</sup> (0.002)	-0.012 <sup>a</sup> (0.003)	0.024 <sup>a</sup> (0.002)	0.007 <sup>b</sup> (0.003)	0.099 <sup>a</sup> (0.003)	0.060 <sup>a</sup> (0.006)
Due to status at arrest	-0.013 <sup>a</sup> (0.001)	-0.003 <sup>a</sup> (0.0005)	0.003 <sup>a</sup> (0.0004)	0.003 <sup>a</sup> (0.0006)	0.003 <sup>a</sup> (0.001)	-0.0003 (0.0005)
Due to pre-trial detention	0.029 <sup>a</sup> (0.001)	0.015 <sup>a</sup> (0.001)	0.001 (0.001)	-0.007 <sup>b</sup> (0.002)	0.001 (0.001)	0.015 <sup>a</sup> (0.002)
Due to criminal history	0.005 <sup>a</sup> (0.001)	-0.0006 (0.002)	-0.003 <sup>a</sup> (0.0009)	-0.007 <sup>a</sup> (0.002)	0.007 <sup>a</sup> (0.001)	0.008 <sup>a</sup> (0.003)
Unexplained differential	-0.019 <sup>a</sup> (0.003)	-0.022 <sup>a</sup> (0.004)	-0.006 <sup>c</sup> (0.003)	-0.010 <sup>a</sup> (0.005)	0.003 (0.005)	-0.029 <sup>a</sup> (0.008)

Standard errors in parentheses. a. Statistically significant at the one percent level of confidence. b. Statistically significant at the five percent level of confidence. c. Statistically significant at the ten percent level of confidence.

**Table 5.7**  
**Sources of Racial/Ethnic Disparities in the Likelihood that a Felony Arrest Results in Filing of Felony Charges**

	Black	Hispanic	Asian
Overall differences	0.016 <sup>a</sup> (0.004)	0.015 <sup>a</sup> (0.006)	0.016 <sup>c</sup> (0.009)
Due to differences in arrest charges	0.017 <sup>a</sup> (0.002)	0.003 <sup>b</sup> (0.003)	0.001 (0.004)
Due to differences in status at arrest	-0.010 <sup>a</sup> (0.005)	0.003 <sup>a</sup> (0.0006)	0.005 <sup>a</sup> (0.001)
Due to differences in pre-trial detention	0.034 <sup>a</sup> (0.001)	0.002 (0.002)	-0.010 <sup>a</sup> (0.003)
Due to differences in criminal history	-0.009 <sup>a</sup> (0.001)	0.007 <sup>a</sup> (0.001)	0.003 <sup>b</sup> (0.001)
Unexplained differential	-0.016 <sup>b</sup> (0.004)	-0.0006 (0.004)	0.017 <sup>b</sup> (0.007)

Standard errors are in parentheses.

- a. Statistically significant at the one percent level of confidence.
- b. Statistically significant at the five percent level of confidence.
- c. Statistically significant at the 10 percent level of confidence.

**Table 5.8**  
**Sources of Racial/Ethnic Disparities in the Likelihood that a Felony Arrest Results in a Felony Conviction**

	Black	Hispanic	Asian
Overall differences	0.013 <sup>a</sup> (0.004)	-0.001 (0.005)	-0.008 (0.008)
Due to differences in arrest charges	0.007 <sup>a</sup> (0.002)	-0.002 <sup>a</sup> (0.0002)	0.003 (0.003)
Due to differences in status at arrest	-0.009 <sup>a</sup> (0.001)	0.003 <sup>a</sup> (0.001)	0.004 <sup>a</sup> (0.001)
Due to differences in pre-trial detention	0.029 <sup>a</sup> (0.001)	0.002 (0.002)	-0.008 <sup>a</sup> (0.003)
Due to differences in criminal history	0.004 <sup>a</sup> (0.001)	-0.002 (0.001)	-0.006 <sup>a</sup> (0.002)
Unexplained differential	-0.017 <sup>b</sup> (0.004)	-0.003 (0.005)	-0.0002 (0.007)

Standard errors are in parentheses.

- a. Statistically significant at the one percent level of confidence.
- b. Statistically significant at the five percent level of confidence.
- c. Statistically significant at the 10 percent level of confidence.

**Table 5.9**  
**Sources of Racial/Ethnic Disparities in the Likelihood that a Misdemeanor Arrest Results in Any Conviction**

	Black	Hispanic	Asian
Overall differences	-0.069 <sup>a</sup> (0.004)	0.015 <sup>a</sup> (0.005)	0.224 <sup>a</sup> (0.009)
Due to differences in arrest charges	-0.065 <sup>a</sup> (0.003)	0.032 <sup>a</sup> (0.003)	0.199 <sup>a</sup> (0.006)
Due to differences in status at arrest	-0.002 <sup>a</sup> (0.0002)	0.0004 (0.0003)	-0.002 <sup>a</sup> (0.0005)
Due to differences in pre-trial detention	0.012 <sup>a</sup> (0.0007)	-0.004 <sup>a</sup> (0.001)	0.008 <sup>a</sup> (0.001)
Due to differences in criminal history	-0.002 <sup>a</sup> (0.001)	-0.004 <sup>a</sup> (0.001)	0.028 <sup>a</sup> (0.001)
Unexplained differential	-0.012 <sup>a</sup> (0.003)	-0.009 <sup>a</sup> (0.003)	-0.009 (0.006)

Standard errors are in parentheses.

- a. Statistically significant at the one percent level of confidence.
- b. Statistically significant at the five percent level of confidence.
- c. Statistically significant at the 10 percent level of confidence.

**Table 5.10**  
**Sources of Racial/Ethnic Disparities in the Likelihood that a Case Results in an Incarceration Sentence**

Panel A: All Cases			
	Black	Hispanic	Asian
Overall differences	-0.025 <sup>a</sup> (0.002)	0.015 <sup>a</sup> (0.003)	0.097 <sup>a</sup> (0.005)
Due to differences in arrest charges	-0.024 <sup>a</sup> (0.001)	0.020 <sup>a</sup> (0.002)	0.094 <sup>a</sup> (0.003)
Due to differences in status at arrest	-0.009 <sup>a</sup> (0.0003)	0.003 <sup>a</sup> (0.0002)	0.001 <sup>a</sup> (0.0004)
Due to differences in pre-trial detention	0.024 <sup>a</sup> (0.0005)	-0.0007 (0.0007)	0.003 <sup>a</sup> (0.001)
Due to differences in criminal history	0.003 <sup>a</sup> (0.0009)	-0.003 <sup>a</sup> (0.0003)	0.007 <sup>a</sup> (0.001)
Unexplained differential	-0.019 <sup>a</sup> (0.002)	-0.004 (0.003)	-0.008 <sup>c</sup> (0.004)
Panel B: Arrests Without Multiple Court Numbers and With No San Francisco Criminal History			
	Black	Hispanic	Asian
Overall differences	0.003 (0.004)	0.022 <sup>a</sup> (0.006)	0.082 <sup>a</sup> (0.011)
Due to differences in arrest charges	0.013 <sup>a</sup> (0.002)	0.029 <sup>a</sup> (0.003)	0.066 <sup>a</sup> (0.005)
Due to differences in pre-trial detention	0.014 <sup>a</sup> (0.001)	-0.0004 (0.001)	0.021 <sup>a</sup> (0.002)
Due to differences in criminal history	-0.0009 (0.001)	-0.0006 (0.0009)	0.009 <sup>a</sup> (0.002)
Unexplained differential	-0.024 <sup>a</sup> (0.004)	-0.006 (0.005)	-0.013 (0.009)

Standard errors are in parentheses.

- a. Statistically significant at the one percent level of confidence.
- b. Statistically significant at the five percent level of confidence.
- c. Statistically significant at the 10 percent level of confidence.

**Table 5.11**  
**Sources of Racial/Ethnic Disparities in the Likelihood that a Case Results in an Incarceration Sentence, Pre- and Post-Proposition 47 Cases**

	Black		Hispanic		Asian	
	Pre- 47	Post-47	Pre-47	Post-47	Pre-47	Post-47
Overall differences	-0.027 <sup>a</sup> (0.003)	-0.022 <sup>a</sup> (0.005)	0.026 <sup>a</sup> (0.004)	-0.012 <sup>b</sup> (0.006)	0.114 <sup>a</sup> (0.006)	0.048 <sup>a</sup> (0.010)
Due to arrest charges	-0.027 <sup>a</sup> (0.002)	-0.010 <sup>a</sup> (0.002)	0.025 <sup>a</sup> (0.002)	0.009 <sup>a</sup> (0.003)	0.104 <sup>a</sup> (0.004)	0.063 <sup>a</sup> (0.005)
Due to status at arrest	-0.011 <sup>a</sup> (0.0005)	-0.002 <sup>a</sup> (0.0004)	0.002 <sup>a</sup> (0.0004)	0.003 <sup>a</sup> (0.0005)	0.002 <sup>a</sup> (0.0005)	-0.0003 (0.0007)
Due to pre-trial detention	0.026 <sup>a</sup> (0.001)	0.012 <sup>a</sup> (0.001)	0.001 (0.0008)	-0.006 <sup>a</sup> (0.001)	0.0008 (0.001)	0.011 <sup>a</sup> (0.002)
Due to criminal history	0.004 <sup>a</sup> (0.001)	0.0005 <sup>b</sup> (0.002)	-0.001 <sup>c</sup> (0.0008)	-0.006 <sup>a</sup> (0.002)	0.006 <sup>a</sup> (0.001)	0.007 <sup>a</sup> (0.002)
Unexplained differential	-0.018 <sup>a</sup> (0.002)	-0.022 <sup>a</sup> (0.004)	-0.001 (0.003)	-0.013 <sup>a</sup> (0.005)	-0.001 (0.005)	-0.032 <sup>a</sup> (0.009)

Standard errors are in parentheses.

- a. Statistically significant at the one percent level of confidence.
- b. Statistically significant at the five percent level of confidence.
- c. Statistically significant at the 10 percent level of confidence.



**Table 5.12**  
**Sources of Racial/Ethnic Disparities in the Likelihood that a Case Results in a Prison Sentence**

Panel A: All Cases			
	Black	Hispanic	Asian
Overall differences	0.009 <sup>a</sup> (0.001)	0.003 <sup>a</sup> (0.001)	0.002 (0.001)
Due to differences in arrest charges	0.003 <sup>a</sup> (0.0003)	0.003 <sup>a</sup> (0.0003)	0.005 <sup>a</sup> (0.0005)
Due to differences in status at arrest	0.001 <sup>a</sup> (0.0001)	-0.0003 <sup>a</sup> (0.00005)	-0.0002 <sup>a</sup> (0.00005)
Due to differences in pre-trial detention	0.002 <sup>a</sup> (0.0002)	0.0003 <sup>b</sup> (0.0001)	0.0004 <sup>c</sup> (0.0002)
Due to differences in criminal history	0.002 <sup>a</sup> (0.0003)	0.0003 <sup>c</sup> (0.001)	0.0001 (0.0001)
Unexplained differential	0.0002 (0.0007)	-0.0003 (0.0009)	-0.0028 <sup>c</sup> (0.0014)
Panel B: Arrests Without Multiple Court Numbers and With No San Francisco Criminal History			
	Black	Hispanic	Asian
Overall differences	0.007 <sup>a</sup> (0.001)	0.003 (0.002)	0.002 (0.003)
Due to differences in arrest charges	0.004 <sup>a</sup> (0.0004)	0.003 <sup>a</sup> (0.0005)	0.005 <sup>a</sup> (0.0009)
Due to differences in pre-trial detention	0.002 <sup>a</sup> (0.0002)	0.0008 <sup>a</sup> (0.0003)	0.002 <sup>a</sup> (0.0005)
Due to differences in criminal history	0.001 <sup>a</sup> (0.0002)	0.0000 (0.0002)	0.0004 (0.0003)
Unexplained differential	-0.0003 (0.001)	-0.0009 (0.001)	-0.005 <sup>c</sup> (0.003)

Standard errors are in parentheses.

- a. Statistically significant at the one percent level of confidence.
- b. Statistically significant at the five percent level of confidence.
- c. Statistically significant at the 10 percent level of confidence.

**Table 5.13**  
**Sources of Racial/Ethnic Disparities in the Likelihood that a Case Results in a Prison Sentence, Pre- and Post-Proposition 47 Cases**

	Black		Hispanic		Asian	
	Pre- 47	Post-47	Pre-47	Post-47	Pre-47	Post-47
Overall differences	0.010 <sup>a</sup> (0.001)	0.004 <sup>a</sup> (0.001)	0.004 <sup>a</sup> (0.001)	0.0004 (0.001)	0.002 (0.002)	0.004 <sup>c</sup> (0.002)
Due to arrest charges	0.003 <sup>a</sup> (0.0004)	0.002 <sup>a</sup> (0.0003)	0.003 <sup>a</sup> (0.0004)	0.0009 <sup>b</sup> (0.0004)	0.005 <sup>a</sup> (0.0006)	0.003 <sup>a</sup> (0.001)
Due to status at arrest	0.001 <sup>a</sup> (0.0002)	0.0002 <sup>a</sup> (0.0001)	-0.0003 <sup>a</sup> (0.00005)	-0.0002 <sup>a</sup> (0.0001)	-0.0003 <sup>a</sup> (0.0001)	0.00002 (0.00006)
Due to pre-trial detention	0.003 <sup>a</sup> (0.0002)	0.0004 <sup>b</sup> (0.0002)	0.0005 <sup>a</sup> (0.0001)	-0.00002 (0.0002)	0.0003 (0.0003)	0.0002 (0.0003)
Due to criminal history	0.003 <sup>a</sup> (0.0002)	0.0006 (0.0004)	0.0002 (0.0002)	0.00002 (0.0002)	0.00003 (0.0002)	0.00008 (0.0003)
Unexplained differential	0.0001 (0.0008)	0.0007 (0.001)	-0.0000 (0.001)	-0.0003 (0.001)	-0.003 (0.002)	0.0008 (0.002)

Standard errors are in parentheses.

- a. Statistically significant at the one percent level of confidence.
- b. Statistically significant at the five percent level of confidence.
- c. Statistically significant at the 10 percent level of confidence.

**Table 5.14**  
**Sources of Racial/Ethnic Disparities in Sentence Length (months) for Cases Resulting in Conviction**

Panel A: All Cases			
	Black	Hispanic	Asian
Overall differences	3.099 <sup>a</sup> (0.174)	0.660 <sup>a</sup> (0.227)	-0.448 (0.317)
Due to differences in arrest charges	1.114 <sup>a</sup> (0.096)	0.591 <sup>a</sup> (0.103)	0.080 (0.143)
Due to differences in status at arrest	0.202 <sup>a</sup> (0.020)	-0.065 <sup>a</sup> (0.016)	-0.081 <sup>a</sup> (0.022)
Due to differences in pre-trial detention	0.674 <sup>a</sup> (0.056)	0.230 <sup>a</sup> (0.050)	-0.013 (0.072)
Due to differences in criminal history	0.685 <sup>a</sup> (0.068)	0.127 <sup>a</sup> (0.048)	-0.032 (0.059)
Unexplained differential	0.424 <sup>a</sup> (0.165)	-0.222 (0.197)	-0.402 (0.274)
Panel B: Arrests Without Multiple Court Numbers and With No San Francisco Criminal History			
	Black	Hispanic	Asian
Overall differences	2.052 <sup>a</sup> (0.219)	0.655 <sup>b</sup> (0.317)	-0.304 (0.492)
Due to differences in arrest charges	0.764 <sup>a</sup> (0.104)	0.398 <sup>a</sup> (0.144)	0.522 <sup>b</sup> (0.204)
Due to differences in pre-trial detention	0.494 <sup>b</sup> (0.062)	0.286 <sup>a</sup> (0.087)	0.143 (0.129)
Due to differences in criminal history	0.371 <sup>a</sup> (0.060)	0.099 <sup>c</sup> (0.059)	0.064 (0.085)
Unexplained differential	0.423 <sup>b</sup> (0.207)	-0.128 (0.290)	-1.032 <sup>b</sup> (0.441)

Standard errors are in parentheses.

- a. Statistically significant at the one percent level of confidence.
- b. Statistically significant at the five percent level of confidence.
- c. Statistically significant at the 10 percent level of confidence.

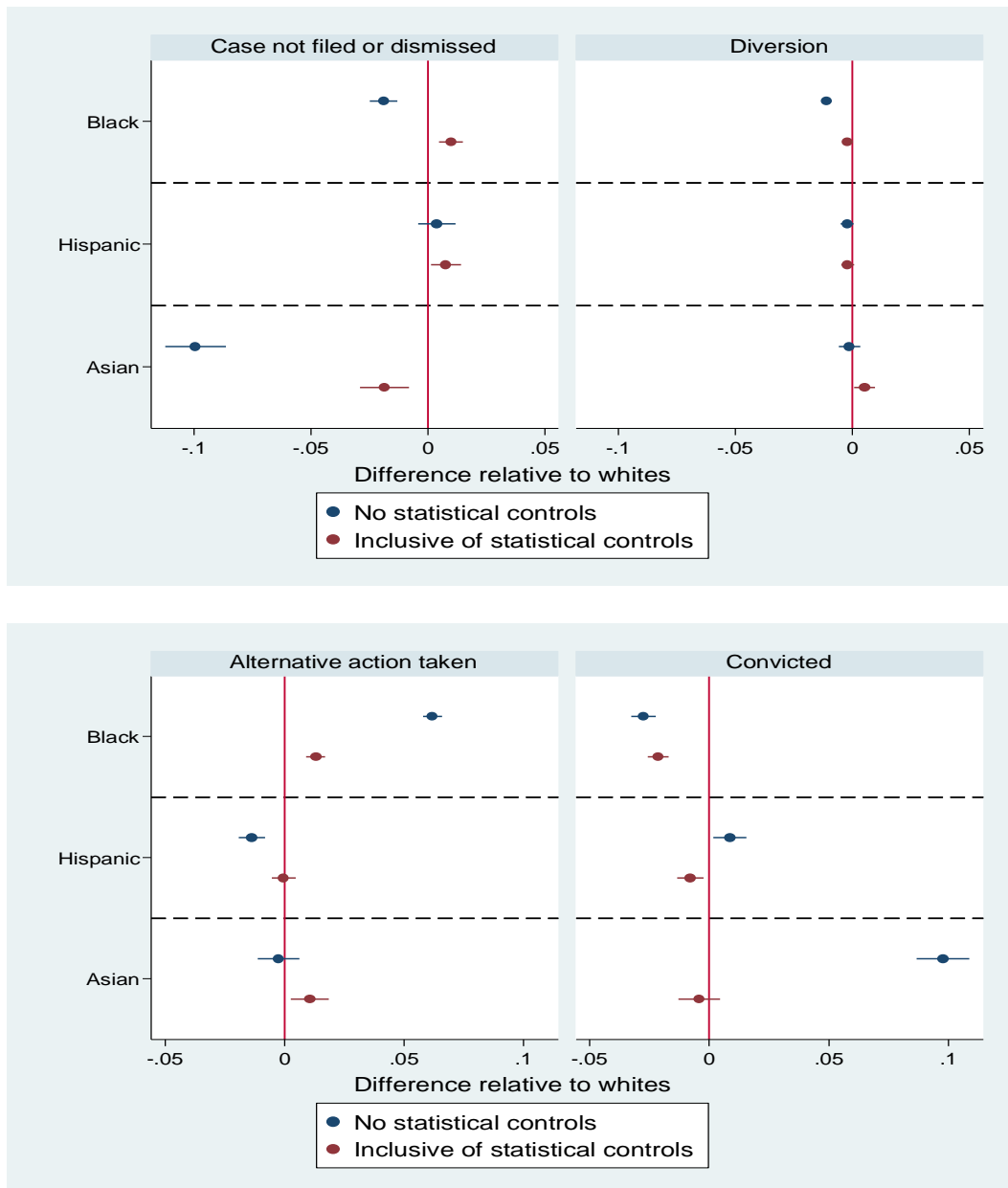
**Table 5.15**  
**Sources of Racial/Ethnic Disparities in Sentence Length (months) for Cases Resulting in Conviction, Pre- and Post-Proposition 47 Cases**

	Black		Hispanic		Asian	
	Pre- 47	Post-47	Pre-47	Post-47	Pre-47	Post-47
Overall differences	3.405 <sup>a</sup> (0.209)	1.832 <sup>a</sup> (0.244)	0.762 <sup>a</sup> (0.274)	0.296 (0.312)	-0.587 (0.380)	0.050 (0.448)
Due to arrest charges	1.130 <sup>a</sup> (0.122)	1.005 <sup>a</sup> (0.143)	0.614 <sup>a</sup> (0.133)	0.291 <sup>b</sup> (0.169)	0.053 (0.183)	0.170 (0.232)
Due to status at arrest	0.253 <sup>a</sup> (0.026)	0.029 <sup>a</sup> (0.013)	-0.068 <sup>a</sup> (0.019)	-0.031 <sup>c</sup> (0.016)	-0.088 <sup>a</sup> (0.027)	-0.031 (0.020)
Due to pre-trial detention	0.759 <sup>a</sup> (0.069)	0.227 <sup>a</sup> (0.076)	0.329 <sup>a</sup> (0.059)	-0.070 (0.077)	-0.031 (0.087)	0.054 (0.107)
Due to criminal history	0.762 <sup>a</sup> (0.083)	0.274 <sup>a</sup> (0.112)	0.121 <sup>b</sup> (0.059)	-0.016 (0.95)	-0.078 (0.075)	-0.111 (0.120)
Unexplained differential	0.500 <sup>a</sup> (0.196)	0.298 (0.241)	-0.234 (0.241)	0.089 (0.288)	-0.442 (0.333)	-0.032 (0.405)

Standard errors are in parentheses.

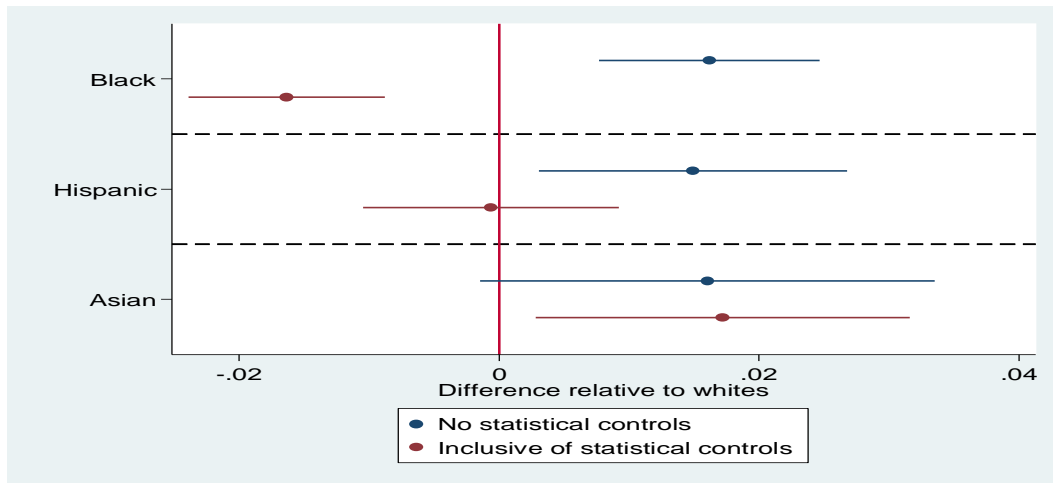
- a. Statistically significant at the one percent level of confidence.
- b. Statistically significant at the five percent level of confidence.
- c. Statistically significant at the 10 percent level of confidence.

**Figure 5.1: Racial Disparities in Case Disposition Outcomes Relative to White Suspects with and without Controls for Arrest Charges, Criminal Justice Status at Arrest, Detention through Arraignment, and San Francisco and Statewide Criminal History**



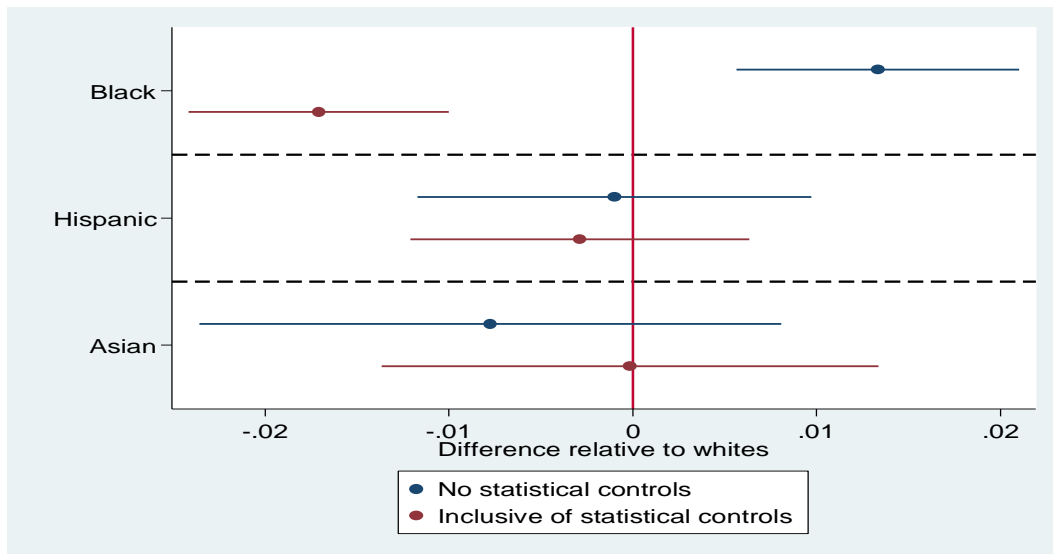
Notes: The dots in the figure represent estimates of the difference in the outcome relative to whites. The line through the dot demarks the 95 percent confidence interval for the estimate.

**Figure 5.2: Racial Disparities in the Likelihood that a Felony Arrest Results in the Filing of Felony Charges with and without Controls for Arrest Charges, Criminal Justice Status at Arrest, Detention through Arraignment, and San Francisco and Statewide Criminal History**



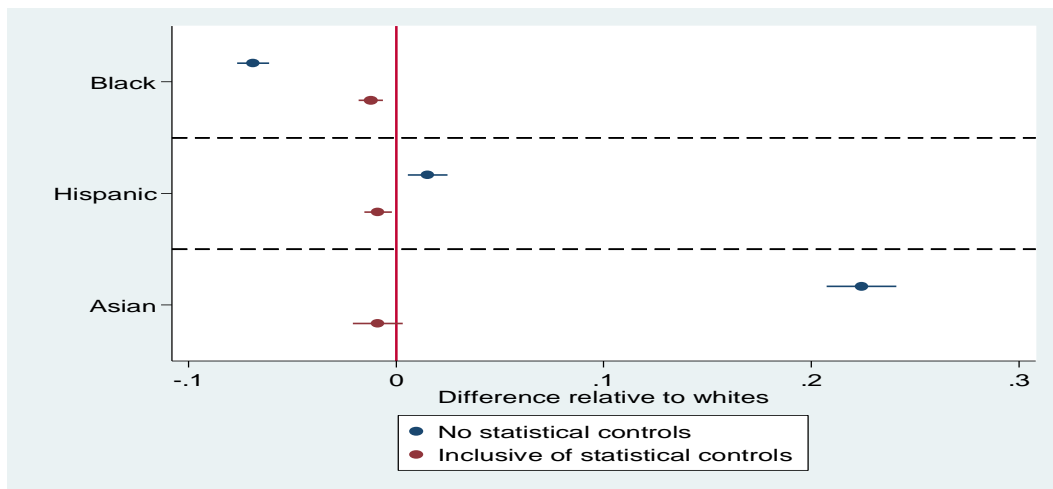
Notes: The dots in the figure represent estimates of the difference in the outcome relative to whites. The line through the dot demarks the 95 percent confidence interval for the estimate.

**Figure 5.3: Racial Disparities in the Likelihood that a Felony Arrest Results in a Felony Conviction With and without Controls for Arrest Charges, Criminal Justice Status at Arrest, Detention through Arraignment, and San Francisco and Statewide Criminal History**



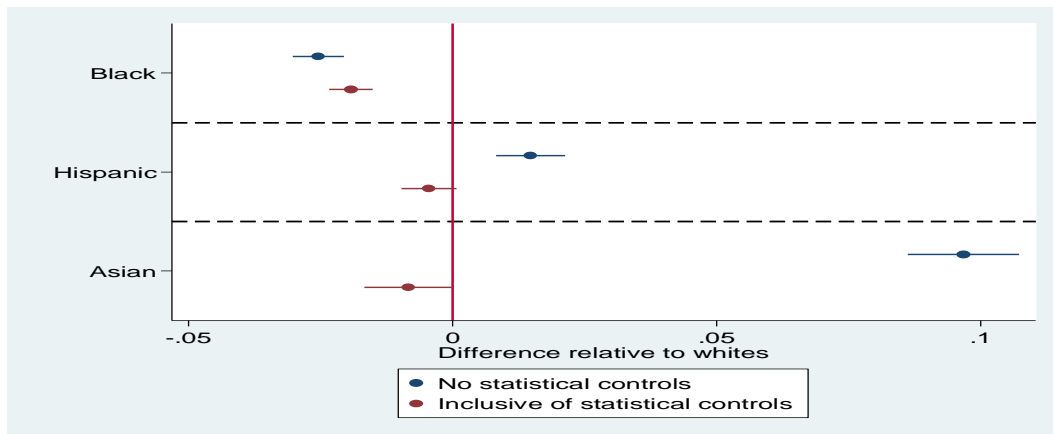
Notes: The dots in the figure represent estimates of the difference in the outcome relative to whites. The line through the dot demarks the 95 percent confidence interval for the estimate.

**Figure 5.4: Racial Disparities in the Likelihood that a Misdemeanor Arrest Results in Any Conviction With and without Controls for Arrest Charges, Criminal Justice Status at Arrest, Detention through Arraignment, and San Francisco and Statewide Criminal History**



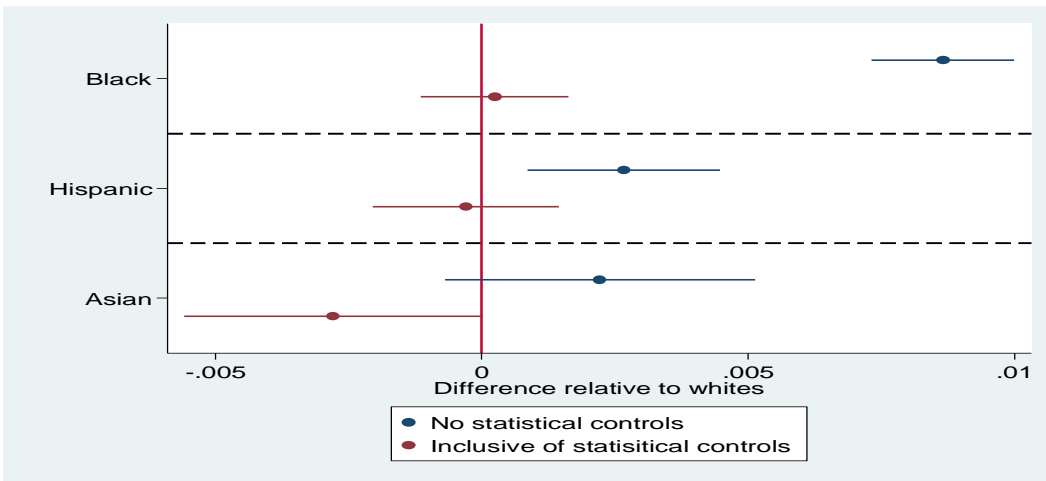
Notes: The dots in the figure represent estimates of the difference in the outcome relative to whites. The line through the dot demarks the 95 percent confidence interval for the estimate.

**Figure 5.5: Racial Disparities in the Likelihood that an Arrest Results in an Incarceration Sentence With and Without Controls for Arrest Charges, Criminal Justice Status at Arrest, Detention through Arraignment, and San Francisco and Statewide Criminal History**



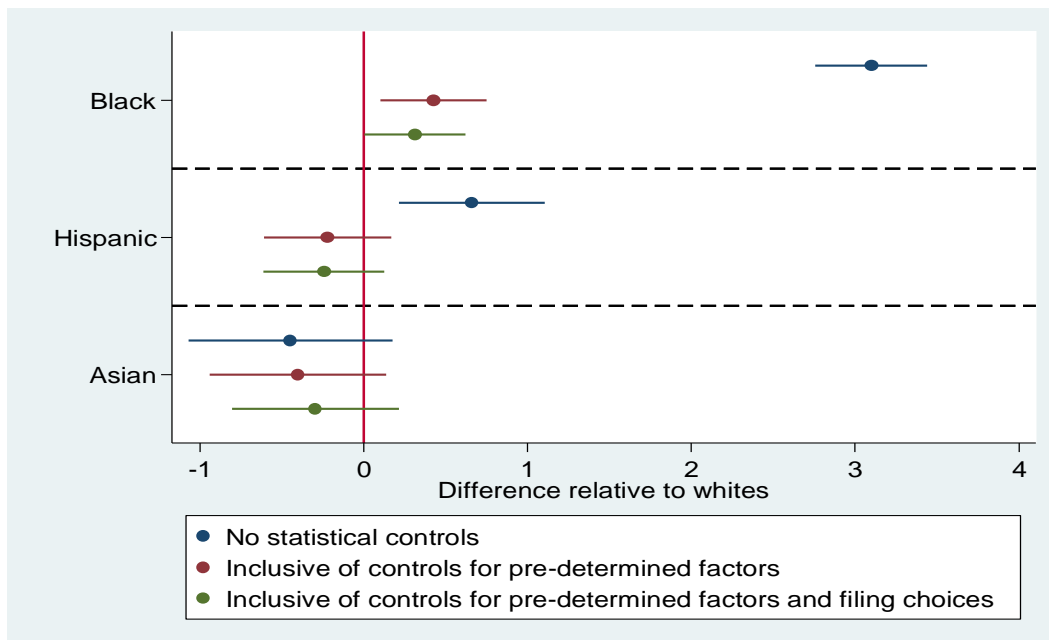
Notes: The dots in the figure represent estimates of the difference in the outcome relative to whites. The line through the dot demarks the 95 percent confidence interval for the estimate.

**Figure 5.6: Racial Disparities in the Likelihood that an Arrest Results in a Prison Sentence Without Controls for Arrest Charges, Criminal Justice Status at Arrest, Detention through Arraignment, and San Francisco and Statewide Criminal History**



Notes: The dots in the figure represent estimates of the difference in the outcome relative to whites. The line through the dot demarks the 95 percent confidence interval for the estimate.

**Figure 5.7: Racial Disparities in Sentence Length (in months) for Cases Resulting in a Conviction, With and Without Controls for Arrest Charges, Criminal Justice Status at Arrest, Detention through Arraignment, Criminal History, and Charge Filing Choices**



Notes: The dots in the figure represent estimates of the difference in the outcome relative to whites. The line through the dot demarks the 95 percent confidence interval for the estimate.



## 6. Testing for Differential Rejection Rates among Filed Cases

Our final set of analytical results assesses whether there are racial disparities in the likelihood that cases filed by the SFDA are more likely to be dismissed by the court. To reiterate the discussion from section 4, an analysis of rejection rates is intended to assess whether cases that are filed against members of a given group are more likely to be deemed problematic and rejected by the court. To the extent that this were true, one might conclude that the SFDA is more likely to bring problematic cases against members of one group and thus are holding these suspects to a lower standard in filing formal charges.

Of course, there are alternative interpretations of such outcome tests. Given that the decision being analyzed is made by the court, one might contend that a higher likelihood that (for example) cases against Asian defendants are dismissed by the court is evidence that the court is discriminating in a manner that favors Asians. Moreover, the quality of the case presented to the SFDA may vary differentially across groups even for cases that meet the threshold for filing, a fact that may reflect earlier discrimination by the police. For example, if the police tend to submit more marginal cases against Asian suspects, yet cases that meet some minimum threshold for filing charges, these cases may be differentially rejected once reviewed by a judge. Hence, the outcome test here presents an omnibus test for differential treatment for cases that make it past the filing stage, where the differential treatment may reflect biased policing, biased processing by the SFDA, or biased evaluation by judges.

With these caveats in mind, we proceed to the estimation results. Figure 6.1 graphically displays racial disparities in the likelihood that a filed case is rejected by the court. Again we

present unadjusted differences as well as differences that statistically adjust for predetermined case characteristics. The top graph in figure 6.1 presents results for all cases. We do see a significantly higher rejection rate for Black defendants of roughly 2.1 percentage points. Statistical adjustment reduces the disparity to under one percentage point. Though considerably smaller in magnitude, the differential is still statistically significant. For the Hispanic-White differential in this outcome, both the raw and adjusted differentials are statistically insignificant and very small. For Asian defendants, we see a lower rejection rate relative to White defendants (of roughly 3.3 percentage points) that declines to zero and becomes statistically insignificant once we control for predetermined case characteristics.

The bottom graph in Figure 6.1 presents comparable analysis for individuals with only one court number associated with an arrest and with no recent criminal history. The results with and without statistical adjustment basically parallel the results for all cases. Here, however, even the unadjusted difference between Black and White defendants is relatively small (less than one percentage point).

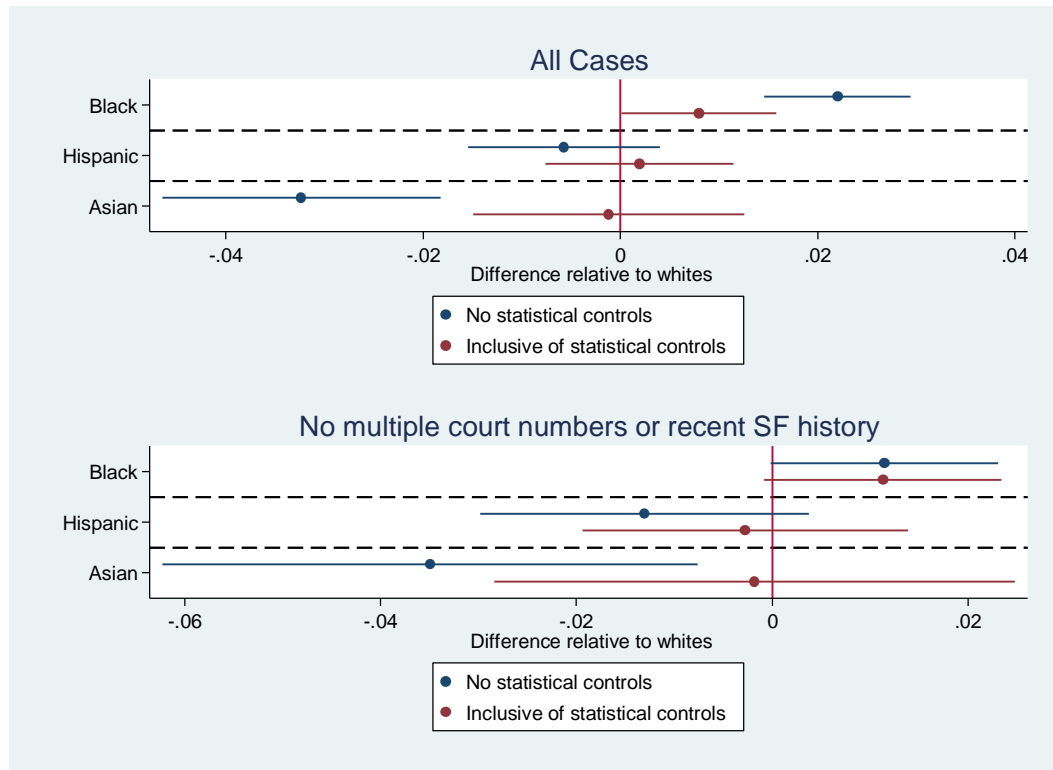
Figure 6.2 presents an analysis for the pre-proposition 47 period (top graph) and the post-proposition 47 period (bottom graph). Interestingly, we see a higher rejection rate (marginally significant both with and without statistical adjustment) for Black defendants relative to White defendants in the pre-proposition 47 period of roughly two percentage points. This differential narrows with the passage of proposition 47 and becomes statistically insignificant. For Asian and Hispanic defendants, statistical adjustment for predetermined characteristics yields insignificant differentials relative to white defendants in both the pre and post-proposition 47 periods.

Figure 6.3 presents separate estimates for felony cases by broad offense category (where the most serious arrest charge is used to classify cases). In all cases the differentials relative to White defendants are small and nearly all are statistically insignificant with and without adjusting for pre-determined characteristics. We do see significantly higher rejection rates for offenses that fall in the “other felony” category and significantly lower rejection rates for offenses that fall in the “felony lewd” category for Black and Hispanic defendants relative to White defendants.

Finally figure 6.4 presents a similar analysis for specific misdemeanors offenses. Here there are no statistically significant differentials once predetermined case characteristics are statistically accounted for.

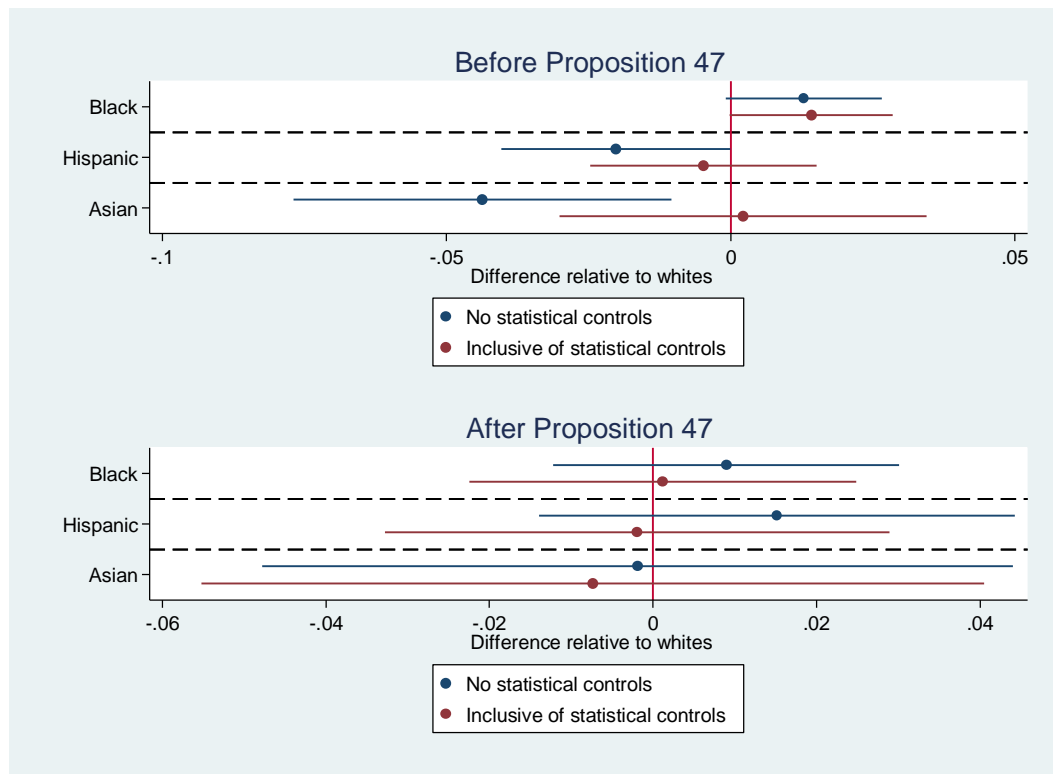
To summarize, the results presented in this section display little evidence of differential case rejection by courts, with some evidence of small statistically significant differentials in the pre-prop 47 era, but uniformly insignificant differentials in the post period.

**Figure 6.1: Racial Disparities in the Likelihood that a Filed Case is Rejected by the Court, With and Without Controls for Arrest Charges, Criminal Justice Status at Arrest, Detention through Arraignment, and Criminal History: All Cases (top graph) and Cases without Multiple Court Numbers at Arrest and No Recent San Francisco Criminal history (bottom graph)**



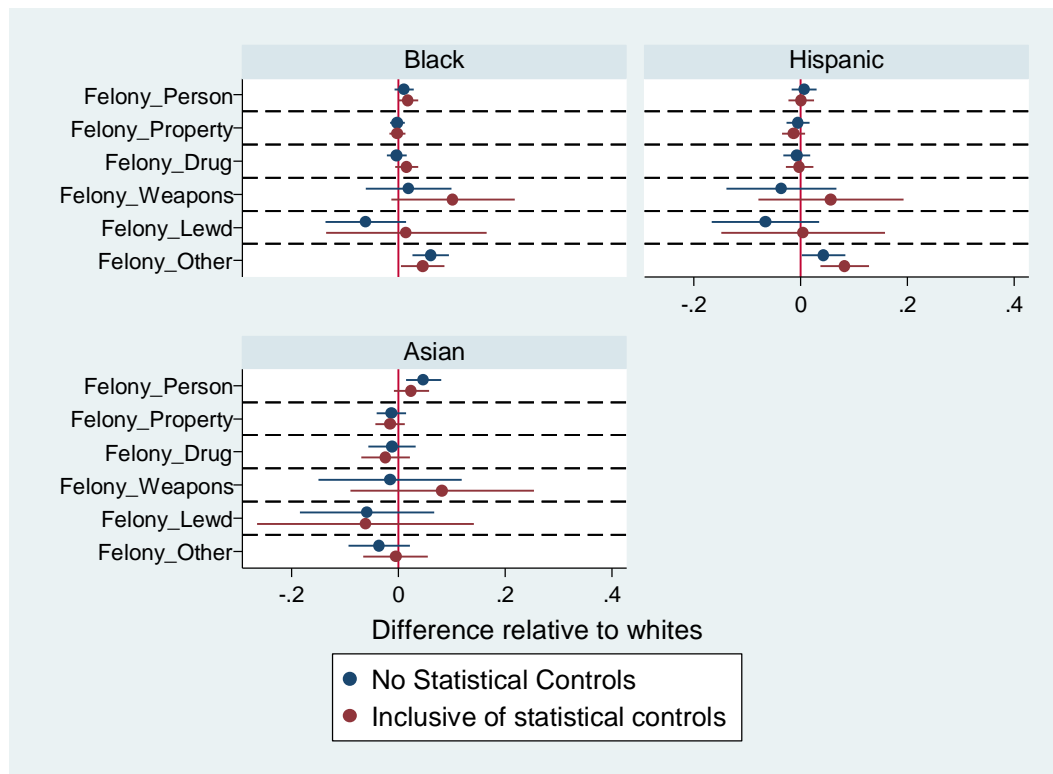
Notes: The dots in the figure represent estimates of the difference in the outcome relative to whites. The line through the dot demarks the 95 percent confidence interval for the estimate.

**Figure 6.2: Racial Disparities in the Likelihood that a Filed Case is Rejected by the Court, With and Without Controls for Arrest Charges, Criminal Justice Status at Arrest, Detention through Arraignment, and Criminal History: Pre-Proposition 47 (top graph) and Post-Proposition 47 (bottom graph)**



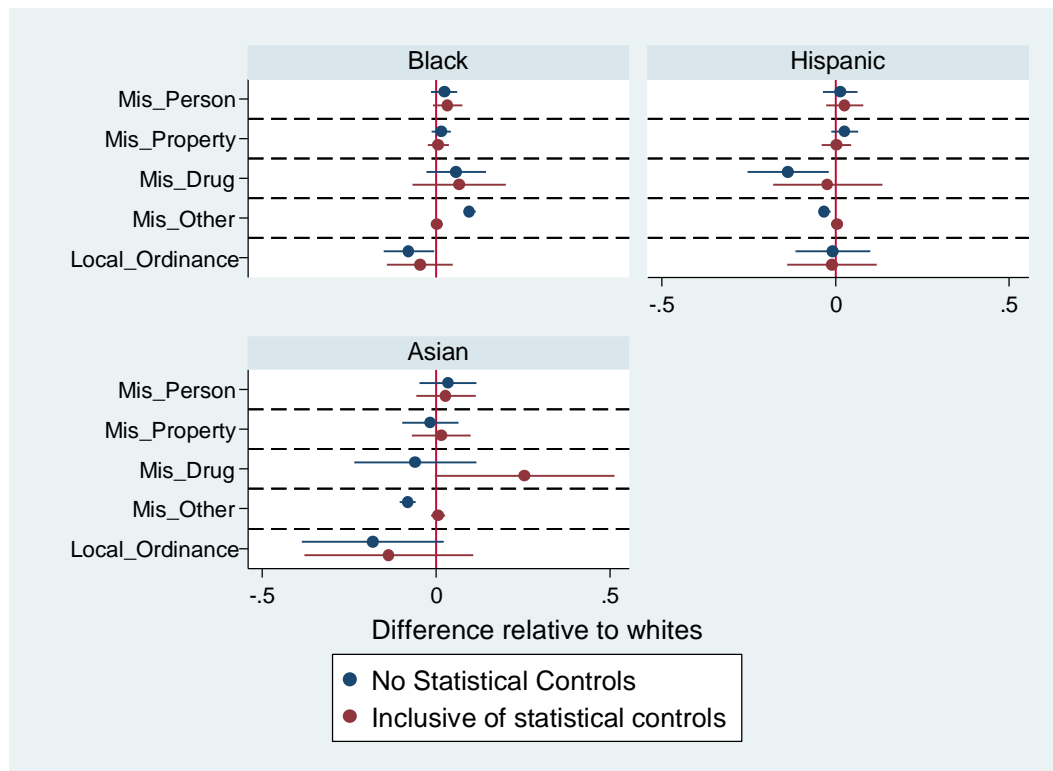
Notes: The dots in the figure represent estimates of the difference in the outcome relative to whites. The line through the dot demarks the 95 percent confidence interval for the estimate.

**Figure 6.3 Racial Disparities in the Likelihood that a Filed Felony Case is Rejected by the Court by Broad Offenses Type, With and Without Controls for Arrest Charges, Criminal Justice Status at Arrest, Detention through Arraignment, and Criminal History**



Notes: The dots in the figure represent estimates of the difference in the outcome relative to whites. The line through the dot demarks the 95 percent confidence interval for the estimate.

**Figure 6.4: Racial Disparities in the Likelihood that a Filed Misdemeanor Case is Rejected by the Court by Broad Offenses Type, With and Without Controls for Arrest Charges, Criminal Justice Status at Arrest, Detention through Arraignment, and Criminal History**



Notes: The dots in the figure represent estimates of the difference in the outcome relative to whites. The line through the dot demarks the 95 percent confidence interval for the estimate.

## 7. Conclusion

In summary, this study finds substantial racial and ethnic disparities in criminal justice outcomes that tend to disfavor minority defendants, and Blacks in particular. For the most part, these disparities can be attributed to average differences across racial and ethnic groups in case characteristics related to arrest charges, pre-trial detention, and criminal history. Disparities in disposition and sentencing outcomes narrow considerably with the passage of proposition 47. Proposition 47 reclassified relatively low level felony offenses as misdemeanors. This study demonstrates that this change had a disproportionate impact on Black defendants on disposition and sentencing outcomes and helped narrow the racial gap associated with a criminal history and being detained pre-trial.

We find little evidence of overt bias against any one race or ethnic group in the processing of criminal offenses. For nearly all of the outcomes we study, simple statistical controls for predetermined case characteristics can fully or mostly account for observed disparities, and in some instances they over-explain disparities. Moreover, we find little evidence that courts reject the cases brought by the SFDA against Black, Hispanic, and Asian defendants at a rate higher than that of White defendants.

That being said, the results indicate that factors associated with poverty that may have nothing to do with the actual underlying offense bear upon disposition and sentencing outcomes in a manner that disfavors Black defendants in particular. Prime among these factors is the observed impact of pre-trial detention. Moreover, prior criminal history statistically predicts relatively poorer outcomes. While the importance of these factors have diminished, they still predict worse outcomes even after accounting for the characteristics of the underlying offense.



Moreover, the disparate impacts of these factors may accumulate over the course of a particular defendant's life, and in a manner that may appear to be statistically explainable by their official criminal history record. While we do not address the cumulative effects of these disparities, it is possible to think through how small differences in the conditions of one's case can carry over into to future cases and lead to larger disparities over time that may systematically vary by race. Consider for example, two defendants who are arrested for the first time for the same offense. Suppose that one of the defendants is from a poor family and a poor community and the other comes from a family with greater access to financial resources. The first defendant is detained pre-trial and ultimately agrees to a plea deal with a sentence of time served. The second defendant posts bail, mounts a defense from stronger bargaining positions (i.e., the defendant's immediate freedom is not a bargaining chip), and ultimately has the case dropped. Now suppose that both defendants are arrested for a second offense. The first defendant will have a prior conviction, a factor that may further increase the likelihood of pre-trial detention, lead to additional charges associated with the prior, and perhaps result in a worse disposition outcome from the viewpoint of the defendant. Moreover, the differences in outcomes for the second offense between defendant one and two may be "explainable" by differences in their official criminal history.

## References

Ayres, Ian and Joel Waldfogel (1994), "A Market Test for Race Discrimination in Bail Setting," *Stanford Law Review*, 46: 987-1047.

Anwar, Shamena and Hanming Fang (2006), "An Alternative Test of Racial Prejudice in Motor Vehicle Searches: Theory and Evidence," *American Economic Review*, 96(1): 127-151.

Antonovics, Kate and Brian G. Knight (2009), "A New Look at Racial Profiling: Evidence from the Boston Police Department," *Review of Economics and Statistics*, 91(1): 163-177.

Ayres, Ian and Jonathan Borowsky (2008), *A Study of Racially Disparate Outcomes in the Los Angeles Police Departments*, report prepared for the ACLU of Southern California.

Ayres, Ian and Joel Waldfogel (1994), "A Market Test for Race Discrimination in Bail Setting," *Stanford Law Review*, 46: 987-1047.

Blumstein, A., Cohen, J., Martin, S., and Tonry, M. (1983). *Research on Sentencing: The Search for Reform, Volume I*. Washington D.C.: The National Academies Press.

Butcher, Kristin and Anne Morrison Piehl (2008) "Crime, Corrections, and California: What Does Immigration Have to Do with It?," California Counts, Public Policy Institute of California, San Francisco, California.

Bureau of Justice Statistics (2008), *Criminal Victimization in the United States, 2006 Statistical Tables*, U.S. Department of Justice Office of Justice Programs, Bureau of Justice Statistics, Washington D.C., NCJ223436.

Carson, Ann E. and Elizabeth Anderson (2016), *Prisoners in 2015*, U.S. Department of Justice Office of Justice Programs, Bureau of Justice Statistics, Washington D.C., NCJ 250229.

Dobbie, Will; Golden, Jacob and Crystal Yang, "The Effect of Pre-trial Detention on Conviction, Future Crime, and Employment: Evidence from Randomly Assigned Judges," forthcoming *American Economic Review*.

Fischman, Joshua B. and Max M. Schanzenbach (2012), "Racial Disparities Under the Federal Sentencing Guidelines: The Role of Judicial Discretion and Mandatory Minimums," *Journal of Empirical Legal Studies*, 9(4): 729-764.

Gelbach, Jonah B. (2016), "When do Covariates Matter? And Which Ones and How Much?" *Journal of Labor Economics*, 34: 509-543.

Heaton, Paul; Mayson, Sandra and Megan Stevenson (2017), "The Downstream Consequences of Misdemeanor Pre-trial Detention," *Stanford Law Review*, 69: 711.

Hindelang, M. J. (1978). Race and Involvement in Common Law Personal Crimes. *American Sociological Review*, 43(1), 93.

Kneebone, Elizabeth and Steven Raphael (2011), *City and Suburban Crime Trends in Metropolitan America*, The Brookings Institution.

Knowles, John; Persico, Nicola and Petra Todd (2001), "Racial Bias in Motor Vehicle Searches: Theory and Evidence," *Journal of Political Economy*, 109(1): 203-229.

MacDonald, J., Arkes, J., Nicosia, N., and Pacula, R. L. (2014). Decomposing Racial Disparities in Prison and Drug Treatment Commitments for Criminal Offenders in California. *The Journal of Legal Studies*, 43(1), 155–187.

Manski, Charles F. (2006), "Search Profiling with Partial Knowledge of Deterrence," *The Economic Journal*, 116: 385-401.

Minton, Todd D. and Zhen Zeng (2015), *Jail Inmates at Midyear 2014*, U.S. Department of Justice Office of Justice Programs, Bureau of Justice Statistics, Washington D.C., NCJ 248629.

Munnell, Alicia H.; Tootell, Geoffrey M.B.; Browne, Lynne E. and James McEneaney (1996), "Mortgage Lending in Boston: Interpreting the HMDA Data," *American Economic Review*, 86(1): 25-53.

Mustard, David B. (2001), "Racial, Ethnic and Gender Disparities in Sentencing: Evidence from the U.S. Federal Courts," *Journal of Law and Economics*, 44(1): 285-314.

O'Flaherty, Brendan (2015), *The Economics of Race in the United States*, Harvard University Press, Cambridge, MA.

Raphael, Steven and Sandra Rozo (2017), "Racial Disparities in the Acquisition of Juvenile Arrest Records," Goldman School of Public Policy Working Paper, UC Berkeley.

Samson, Robert J. and Janet L. Lauritsen (1997), "Racial and Ethnic Disparities in Crime and Criminal Justice in the United States," *Crime and Policy*, 21 311-374.

Sanga, Sarath (2009), "Reconsidering Racial Bias in Motor Vehicle Searches: Theory and Evidence," *Journal of Political Economy*, 117(6): 1155-1159.

Starr, Sonja B. and M. Marit Rehavi (2014), "Racial Disparity in Federal Criminal Sentences," *Journal of Political Economy*, 122(6): 1320-1354.

Stevenson, Megan (2017), "Distortion of Justice: How the Inability to Pay Bail Affects Case Outcomes," unpublished manuscript.

Tonry, Michael (1995), *Malign Neglect: Race, Crime, and Punishment in America*, Oxford University Press: New York.

Truman, Jennifer L. and Rachel E. Morgan (2016), *Criminal Victimization*, U.S. Department of Justice Office of Justice Programs, Bureau of Justice Statistics, Washington D.C., NCJ 250180.