Ethnicity, Sentencing and 9/11

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Abstract

This paper aims to explain the source of ethnic sentencing differentials in US federal courts by distinguishing between two key explanations for these disparities, namely discrimination and unobserved offence heterogeneity. In order to do so, I consider the terrorist attacks in the US on September 11, 2001 as an exogenous shift to racial and ethnic preferences in US society, and examine the impact of this shift on the change in ethnic sentencing differentials in US federal courts. In order not to conflate this shift with any changes in the types of offences committed, I restrict my attention to the set of individuals who committed their last offence *before* the attacks, and who are sentenced within a 180-day window around the attacks, comparing sentencing outcomes for those sentenced before 9/11 with those sentenced afterwards.

The key result of the paper is that post-9/11, Hispanics experienced a 3.5% conditional sentencing penalty. There was no change in sentencing outcomes for any other ethnic or racial groups over this period. Departures from the sentencing guidelines played a key role in this shift. Although it is not possible to ascertain whether this post-9/11 sentencing penalty was due to sentencing judges or district attorneys, Hispanic defendants with private defence counsels did not experience any differential sentencing outcomes after the attacks. A battery of robustness checks are performed on the data in order to assess the validity of the results. Decomposition analysis highlights the role that shifts in unobservables played in the post-9/11 Hispanic sentencing changes. As discussed in greater detail below, a key explanation for such shifts in unobservables is a change in discrimination.

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1 Introduction

In US federal courts in 2001, 78% of convicted white offenders received a prison sentence. The comparable figures for blacks and Hispanics were 90% and 94% respectively. Of those sentenced, black males received 54% longer sentences than their white counterparts, which translated into an extra 34 months in prison. These figures reflect only the average outcomes for the different racial and ethnic groups, and do not take into account the type and severity of crime committed, individuals' criminal histories and other factors relevant in sentencing. Controlling for such factors, racial differences are mitigated, but still persist.

A large body of legal and criminological literature focuses on such differentials[1], particularly in the US, although no universal pattern has emerged from this body of research. The large degree of heterogeneity in these studies in terms of the sample sizes utilised, the quality and richness of the data, the types of courts (state or federal) considered, whether or not sentencing was subject to determinate rules or based solely on judicial discretion and the statistical tools used to estimate sentencing differentials means that such an inconclusive result is unsurprising[2].

A key issue faced by the literature is how to interpret racial and ethnic sentencing differentials when found. Do these differences highlight discrimination by the courts (or other parts of the criminal justice system), or merely reflect unobservable individual or offence heterogeneity across different ethnic groups? Mustard (2001, page 301) notes of the competing explanations for racial and ethnic differentials that these "two interpretations are difficult to distinguish empirically, because they provide similar testable implications", whilst Spohn (2000, page 429) states that "the findings of more than 40 years of research examining the effect of race on sentencing have not resolved this debate." The inability to determine the *source* of these disparities is a key limitation of the existing literature[3]. Distinguishing between these two explanations in order to better understand the source of ethnic and racial disparities in sentencing is the primary aim of this study.

To do so, I consider the terrorist attacks in the US on September 11, 2001 (hereafter 9/11) as an exogenous shift to racial and ethnic preferences in US society, and examine the impact of this shift on the change in ethnic sentencing differentials in US federal courts. In order not to conflate this shift with any changes in the types of offences committed, I restrict my attention to the set of individuals who committed their last offence *before* the attacks, and who are sentenced within a 180-day window around the attacks, comparing sentencing outcomes for those sentenced before 9/11 with those sentenced afterwards.

I use a particularly rich dataset that allows me to condition upon a wealth of factors that influence sentencing. Using such a "natural experiment" framework, I aim to identify the causal impact of a shift of racial preferences (which we may be able to think of as tastes for discrimination à la Becker (1957)) on ethnic sentencing differentials. To further investigate the source of these disparities I also utilise decomposition techniques, which have been used to investigate gender and racial gaps in

[1] Recent contributions include Schlesinger (2005), Johnson (2003) and Demuth and Steffensmeier (2004) for US state courts and Schanzenbach (2005) and Steffensmeier and Demuth (2000) for US federal courts. Although economics articles on this topic are less common, a recent paper by Mustard (2001) investigates racial, ethnic and gender disparities in sentencing outcomes in federal courts.

[2] See Spohn (2000) for an extensive review of the earlier literature.

[3] A recent exception is a paper by Abrams et al. (2007) who approach the topic from a different angle, using the random assignment of state court cases to judges in a US county in order to assess whether there exist significant differences in the black-white sentencing differential across judges. Using Monte Carlo technique to simulate a no-racial-bias counterfactual, the authors find large and significant inter-judge differences in the incarceration rate, yet not in length of sentence.

earnings (Blau and Kahn, 1997; Juhn et al., 1991). In this analysis, such techniques enable one to separate between several factors that drive ethnic differentials over time, including changes in the penalties to, and quantities of, both observable and unobservable characteristics. This allows a better understanding of the causes of the observed post-9/11 changes in ethnic differentials.

The key result of the paper is that post-9/11, Hispanics experienced a 3.5% conditional sentencing penalty. There was no change in sentencing outcomes for any other ethnic or racial groups over this period. Departures from the sentencing guidelines (detailed below in section 2.1) played a key role in this shift. Although it is not possible to ascertain whether this post-9/11 sentencing penalty was due to sentencing judges or district attorneys (both of whom play critical roles in departure decisions), Hispanic defendants with private defence counsels did not experience any differential sentencing outcomes after the attacks.

A battery of robustness checks are performed on the data in order to assess the validity of the results. The results appear not to be driven by differential ethnic seasonal trends around the time of the attacks, nor by the types of *individuals* sentenced before and after September 11. Although there are some changes in the types of *offences* for which Hispanics are sentenced post-9/11, using duration models I find little evidence to suggest that this is being driven by strategic re-ordering of the sentencing of individuals after 9/11. The decomposition analysis highlights the role that shifts in unobservables played in the post-9/11 Hispanic sentencing changes. As discussed in greater detail below, a key explanation for such shifts in unobservables is a change in discrimination.

Past papers that have looked at the labour market impact of 9/11 for certain ethnic groups (Dávila and Mora, 2005; Kaushal et al., 2007; Åslund and Rooth, 2005) consider the simultaneous interaction between employers and employees to estimate the effect of 9/11 on labour market outcomes. An issue with these papers is that any effect picked up will be a net effect; one that could be driven by either supply- or demand-side changes in post-9/11 labour market behaviour. An advantage of this paper is that, due to the timing structure of the criminal justice procedure, I can hold fixed the key actions and behaviour of the individuals being sentenced (the "supply-side"), and consider only the post-9/11 response of the courts (what could be thought of as the demand-side in this criminal sentencing setting). This enables me to (at least broadly) isolate the source of any resulting changes in ethnic sentencing differentials after 9/11.

Ethnic sentencing differentials have important social and economic implications. Such disparities in both the extensive (receiving a prison sentence) and intensive (sentence length) margin may exacerbate existing economic inequalities through a variety of mechanisms including shocks to household income due to incarceration, the negative impact of parental incarceration on dependants and the scarring effects that arrests and criminal history have on labour market outcomes (see Grogger (1995) and Finlay (2008)). As with labour market discrimination, discrimination in sentencing may lead to self-fulfilling equilibria where those minorities discriminated against change their criminal behaviour as a response to perceived discrimination (see Arrow (1973) and Coate and Loury (1993a,b)).

The paper is organised as follows. Section 2 describes the USSC sentencing guidelines and the data. Section 3 discusses the impact that 9/11 had on racial and ethnic preferences, and the implications that these have for sentencing outcomes. Section 4 presents descriptive statistics, as well as outlining my empirical method. The results are presented in section 5. The implications of the results are discussed in section 6 and section 7 concludes.

2 The USSC sentencing guidelines and data

2.1 The Sentencing Reform Act 1984 and the USSC sentencing guidelines

The data used in this analysis relates to the sentencing of convicted offenders in US federal courts, and was obtained from the United States Sentencing Commission (USSC). Those sentenced within federal courts receive sentences based on a set of guidelines mandated by the Sentencing Reform Act (hereafter SRA) 1984. The SRA proposed a system of sentencing guidelines that would "further the basic purposes of criminal punishment: deterrence, incapacitation, just punishment, and rehabilitation"[4] through enhancing the "ability of the criminal justice system to combat crime through an effective, fair sentencing system"[5]. Underlying the reform were the key aims of reducing "the wide disparity in sentences imposed for similar criminal offences committed by similar offenders"[6] as well as achieving "proportionality in sentencing through a system that imposes appropriately different sentences for criminal conduct of differing severity"[7]. Once passed by Congress, the guidelines took effect from November 1, 1987.

As a result of these guidelines, two key factors determine sentencing in federal courts: i.) the offence level of the crime and ii.) the criminal history of the offender. Table 1 displays the USSC sentencing table which specifies a sentence range, in months, based on the intersection of the offence level and criminal history. So, for instance, a federal judge sentencing an individual with an offence level of 23 and a criminal history category IV must specify a sentence of between 73 and 87 months.

The offence level is composed of several different factors. Each offence type is given a base level. Offence-specific characteristics are then added, and further adjustments made to yield a final offence level. For example, an individual who commits a robbery is allocated a base level of 20. If a gun was involved, 5 further points are added. If the individual was a minimal participant in the robbery 4 points are subtracted. Lastly, if the individual was found to be in obstruction of justice, 2 further points would be added, yielding a final score of 23 points. The criminal history level is constructed to reflect past sentences of imprisonment, offences committed while under the criminal justice system (e.g.parole) as well as other factors such as escape attempts from prison. The level is then collapsed into one of six criminal history categories.

The guidelines do, however, allow for departures to be made from the specified range if the court finds "that there exists an aggravating or mitigating circumstance of a kind, or to a degree, not adequately taken into consideration by the Sentencing Commission in formulating the guidelines that should result in a sentence different from that described"[8]. As shown later, downwards departures occur frequently, whereas upwards departures are rare. Downwards departures can occur for substantial assistance to authorities in the investigation of other individuals or crimes ("Substantial Assistance" in the analysis below) or for other reasons, such as guilt plea negotiations or voluntary disclosure of an offence (denoted by "other" below). It is the District Attorney who files a motion for departure, which is then considered by the sentencing judge. As noted by Albonetti (1997, and see references therein), there is some concern in the legal literature that by allowing departures, the guidelines have merely shifted the pre-guideline discretionary powers that judges once had to prosecuting attorneys. Judges still retain some power, as it is they who decide whether or not to accept the motion for a

[4]United States Sentencing Commission, Guidelines Manual, 3E1.1 (Nov. 2001) (hereafter USSC Manual), Chapter 1.A.2.
[5]USSC Manual, Chapter 1.A.3.
[6]ibid.
[7]ibid.
[8]USSG §5K2.0

departure.

2.2 Data

For the main analysis detailed below, I consider the universe of individuals sentenced in US federal courts within a 180 day window around September 11, 2001, subject to certain selection criteria. Firstly, in order to focus solely on ethnic and racial sentencing differentials, I abstract from considering gender disparities[9] in sentencing and omit all females from the full dataset[10].

Next, I only consider males for whom there exists non-missing sentence length, criminal history, offence level, offence type, district and age data. In order to minimise the potential sample selection issues that omission of observations with missing entries entails, I keep observations with missing entries for any other control variables, and include a missing category when constructing dummies of the categorical variables used in this analysis[11].

Lastly I omit any individuals within the 6 month window who commit an offence after 9/11. Given that the crux of my identification strategy (which I detail explicitly below in Section 4.2) involves a comparison of those sentenced prior to 9/11 with those sentenced afterwards, it is imperative that any date-specific selection criteria are balanced across the two groups. For this reason, for the subset of males sentenced before 9/11, I restrict the final offence date to be 180 days before September 11, 2001.

3 9/11 and Preference Shifts

There is evidence that suggests the attacks of September 11th, 2001 shifted preferences along a multitude of dimensions. One such dimension was society's security/civil liberty trade-off. The USA PATRIOT Act, signed on October 26th, 2001 increased the power of law enforcement agencies to perform searches of private records (including e-mail communication and phone histories) of US citizens, as well as extending the powers of enforcement agencies in detaining and deporting immigrants suspected of terrorism-related incidents. This focus on immigration resulted in two further, related Acts being passed in mid- to late-2002 (i.e. both outside of the main time period of focus in this analysis), the Enhanced Border Security Act[12] (14 May, 2002) and the Homeland Security Act (25 November, 2002).

There was also a notable spike in the reports of discrimination violence against Arab and Muslim individuals (as well as those perceived to be either of these groups, for instance South Asians or Sikhs). As Human Rights Watch (2002) noted "Arab and Muslim groups report more than two thousand September 11-related backlash incidents. The Federal Bureau of Investigation reported a seventeen-fold increase in anti-Muslim crimes nationwide during 2001. In Los Angeles County and Chicago, officials reported fifteen times the number of anti-Arab and anti-Muslim crimes in 2001

[9] Mustard (2001) documents both racial and gender differentials in federal courts, finding as large, and at times larger, gender differences (in favour of females) than racial and ethnic differences (in favour of whites) in sentencing.

[10] For the fiscal year of 2001, females comprised 14.5% of the 59 855 individuals sentenced in federal courts

[11] The only variables with a large number of missing entries is the variable defence counsel. For this variable, 48.2% of my main sample have missing entries.

[12] According to Jenks (2002) the most important provisions of this Act included: i.) "A requirement that the Immigration and Naturalization Service (INS) make inter operable all its internal databases, so that all information about a particular alien may be accessed with a single search", ii.) "A requirement that federal law enforcement and intelligence agencies share data on aliens with the INS and the State Department" and iii.) "A requirement that all travel and entry documents, including visas, issued to aliens by the United States be machine-readable and tamper-resistant and include a standard biometric identifier.".

compared to the preceding year". Further reports of discrimination and hate crime victimisation are reported in American-Arab Anti-Discrimination Committee (2003). The report also notes the rise of discriminatory immigration policies, particularly focused on young Arab men.

Several recent studies have considered the impact that this preference shift has had on labour market outcomes for such individuals in the US (Dávila and Mora, 2005; Kaushal et al., 2007) as well as other countries such as Sweden (Åslund and Rooth, 2005). These papers are similar in spirit to this analysis, in that they utilise the attacks of 9/11 to consider the impact on ethnic differentials caused by the exogenous shift of racial and ethnic preferences [13]. Studies focusing on the US have found that 9/11 had a negative effect on the labour market outcomes of Arab and Muslim men (Kaushal et al., 2007) and Middle Eastern Arab males (Dávila and Mora, 2005).

Although it would be interesting to consider the impact of 9/11 on sentencing differentials for Arab and Muslim individuals, these groups are not sufficiently identified in the data, and even if they were, the sample size (presumably a subset of the small group of "other" ethnicities in the data) would be too small to say anything reliable regarding such individuals. At this stage, I consider other ethnic and racial minorities in the US. Is there any evidence for a "spillover" effect from the increased discrimination and victimisation of Arab and Muslim individuals noted above? Such effects could result from an increase in the *salience* of race and ethnicity in post-9/11 US society, or a greater awareness of those perceived in any way to be "outsiders".

3.1 Post-9/11 Survey

Table 2 presents a selection of results from a 2002 survey of 1000 ethnic Californians, who were asked variety of questions related to the ways in which 9/11 had changed certain areas of their lives, as well as their perceptions. Unsurprisingly, Middle Eastern individuals reported some of the largest changes, for instance 58% reporting an increase in discrimination post-9/11 compared to just 3% of African-Americans. Middle Easterns are also the most likely to have reported feeling depressed post-9/11. Albeit "soft" evidence, a point to note here is that of the two largest ethnic minority groups in the US (Hispanics and blacks), the responses of Hispanics were much more aligned with those of Middle Eastern individuals than were African-Americans'. 58% of Hispanics thought the US had too much world influence, compared to 27% of African Americans. When asked if they preferred to be referred to ethnically as "American", the affirmative response for African-Americans was double that of Hispanics.

3.2 Assault Victimisation

Figure 2 displays the 2000-20001 change in the number of monthly assault victimisations for whites, blacks and Hispanics (normalised by the 2000 count - to reflect seasonal differences as well differences in scale - so essentially a growth rate). Given the physically violent backlash against Arabs and Muslims noted above, it is possible that any preference shifts against either blacks or Hispanics could also show up in victimisation results. Victimisation growth rates for the three groups follow broadly similar patterns over the first part of the year. Where the results differ is that just after 9/11 the growth rate of assaults for Hispanics spiked substantially. That of blacks continued to decline, picking

[13] Other studies related in design include Moser (2008) who considers the impact that World War I had on entry to the New York Stock Exchange for German traders, and Miaari et al. (2008) who consider the impact of the second Intifada on the job separation of Arab workers in Israel.

up in December, and white rates increased as well, although less pronounced than the changes for Hispanics.

3.3 Newspaper Coverage

To Be Completed - current work-in-progress

On their own, these pieces of evidence are not particularly strong, but together, they suggest a form of spillover effect from the direct impact of anti-Arab and Muslim sentiment post-9/11 towards Hispanics. Even if such a shift in ethnic preferences did occur, what would be the implications for the sentencing of Hispanics? First, note the sentencing guidelines rule out any discrimination based on "Race, Sex, National Origin, Creed, Religion, and Socio-Economic Status" stating that such factors "are not relevant in the determination of a sentence"[14]. Based on this, it is certain that I am testing the null hypothesis of no discrimination. What is the role of the ethnicity of sentencing judges? One of the findings of Abrams et al. (2007), who used the random allocation of cases to judges to consider how racial sentencing gaps differ across judges, found that racial sentencing differentials were smaller among African-American judges compared to their white counterparts. Of those judges serving during the sample period 84% were white, 9% black and 5% Hispanic.

4 Descriptives and Empirical Method

4.1 Descriptives

Table 3 provides an overview of the key legal variables for this analysis. The average sentence length in the sample is 61.6 months, so just over 5 years. Blacks receive much longer sentences than any other ethnic group, with an average of 90 months compared 55 and 48 for whites and Hispanics respectively. Statistics are also presented for the "other"[15] ethnic group, yet given both the small sample size of this group and the ethnic heterogeneity within this group, I do not focus on these individuals.

Black defendants have higher offence severity as well criminal history scores than any other ethnic group. Whites and Hispanics have similar averages for these two variables. Higher criminal history scores reflect more extensive prior criminal behaviour, but will also reflect the outcome of any past discrimination in the criminal justice system. Such issues, although relevant to this study, are not expanded upon any further. I control for the impact that these variables have on sentencing outcomes in all regressions below, in order to consider *current* disparities, and specifically, conditional disparities.

A similar proportion of defendants are sentenced according to their original guideline range, with 35-40% receiving downwards departures. There is some difference between ethnicities in the type of departure; Hispanics are less likely to receive downwards departures for substantial assistance to authorities, yet more likely to receive departures for other reasons. There is considerable difference too in the pre-sentence status of those from different ethnicities, with whites the least likely to be in custody (57%), Hispanics the most (85%).

Table 4 presents further descriptives based on non-legal individual characteristics, highlighting several differences across the groups. Just over a half of black defendants are single (54%), compared to a third of Hispanics (33%) and whites (34%). Whites are the least likely to cohabit and the most likely to be divorced. Whites have less children and are over five years older than blacks and Hispanics

[14] USSG §3H1.10, p.s.

[15] Comprised of groups including American Indian or Alaskan Native, Asian or Pacific Islander and Multi-Racial.

on average. The modal education category is "less than high school" for Hispanics and blacks, and "high school" for whites. 10% of whites are college graduates compared to 3% of blacks and 2% of Hispanics.

4.2 Empirical Method

My empirical approach is to consider the terrorist attacks of 9/11 as a natural experiment that exogenously shifted tastes for discrimination, and to then examine the effect of this shift on changes in ethnic and racial sentencing differentials. The key element of this identification strategy is to solely consider the sentencing of a set of individuals who committed their last offence *before* 9/11, and compare the outcomes of those sentenced prior to 9/11 with those sentenced afterwards[16]. This rules out any changes in both the supply and the type of offences committed as a response to the post-9/11 environment. Figure 1 presents a schematic overview of my empirical strategy, detailing restrictions on both the sentencing date, and the date of last offence.

In order to consider the impact of the 9/11 terrorist attacks on ethnic sentencing differentials, I use the following specification:

$$\begin{aligned} s_{iet} &= \alpha + \sum_e \delta_e Ethnic_e + \rho Post_t + \sum_e \phi_e (Ethnic_e \times Post_t) \\ &+ X_i'\beta + \sum_g \gamma_g G_{ig} + \sum_f \omega_f OFF_{if} + \sum_d \lambda_d D_{id} + \epsilon_{iet} \end{aligned} \tag{1}$$

where s_{iet} denotes the log of the sentence length for individual i of ethnicity e sentenced on date t. The richness of this data is exploited by controlling for criminal history and offence severity in a very flexible way, by explicitly accounting for the USSC guideline table displayed in Table 1. A set of 257 dummies G_{ig} (for all bar one of the cells of Table 1) are included, each corresponding to a different combination of offence severity and criminal history group. Thus the specification in equation 1 essentially considers the within-guideline cell variation in sentencing length. A set of offence dummies OFF_{if} control for differences in sentencing penalties for different types of crimes. X_i is a vector of individual and individual-case characteristics including marital status, dummies for the age decile of the individual, number of dependants, highest education level, the type of defence counsel and pre-sentence status. District dummies D_{id} capture time-invariant differences across districts, which will include district attorney and average judge effects.

$Ethnic_e$ dummies control for sentencing differences across ethnic groups (where white is the reference category) and a dummy $Post_t$ that equals 1 for sentencing dates after September 11, 2001 allows for differences in sentencing after the terror attacks. Furthermore, the set of interactions $Ethnic_e \times Post_t$ allows for heterogeneous sentencing effects of 9/11 across ethnic groups. Of particular interest in this study are the set of ϕ_e parameters related to these interaction terms, which reflect any difference in the sentencing of ethnic minorities post-9/11.

Ideally these parameters would solely reflect changes in the discriminatory nature of the judicial system post-9/11. However these will also pick up any other ethnic group specific changes. For instance, were defence lawyers to respond to the terrorist attacks by implementing differential levels

[16]For this analysis I consider those sentenced within a 180-day window around 9/11. I investigated a number of other windows-lengths around September 11, with results robust to local changes in window length. There are two countervailing issues related to specifying the length of window around 9/11. Windows too small do not yield a large enough sample size, whereas longer windows reduce the variety of offences, as only those cases with a long distance from last offence to sentence date are considered, which may introduce sample selection issues.

of effort for clients of different ethnicities, this too would be captured by the ϕ_e parameters. Although this would now cloud the interpretation of the key parameters, it could be that this defence counsel response is a relevant facet of discrimination in the criminal justice system. The main point here is that it is necessary to carefully consider all other factors that may cause the ϕ_e coefficients to be non-zero in order that such changes are not spuriously linked to discriminatory shifts. Lastly, the error term ϵ_{iet} is clustered at the ethnicity-district level, allowing for shocks to specific ethnic groups to be correlated at the district level.

Equation 1 takes the form of a repeated cross-section, regression-adjusted difference-in-differences (DD) model. It is thus important to consider the identifying assumptions of such an approach. To do so, it is useful to decompose the error term ϵ_{iet} in equation 1 into three terms:

$$\epsilon_{iet} \quad = \quad (\phi_i + \psi_t + u_{iet}) \tag{2}$$

an unobservable individual fixed effect ϕ_i, a common macro shock ψ_t and an idiosyncratic transitory shock u_{iet}.

The first assumption underlying the DD approach is that selection into treatment is not based on the individual transitory term u_{iet}. This assumption is called in to question in certain program evaluation studies where treatment selection is determined by the outcome variable, and transitory shocks in this variable alter the likelihood of treatment[17].

There is no direct analogue to this issue in my analysis, although this assumption may not be satisfied due to other reasons. For instance, one concern may be that if the courts were perceived as being harsher on ethnic-minority individuals post-9/11, that these individuals may change their attitude towards the criminal justice system, which in turn could drive differential behaviour during the sentencing procedure. To the extent that such attitudes (unobservable to the econometrician) are observable to the sentencing judge, this would lead to changes in sentencing and thereby conflate the 9/11 effect of the courts with an additional defendant response. With poorer quality data, this could be an issue. However, the sentencing guidelines documented in section 2.1 explicitly account for (at least some of the main) factors related to defendant attitude during sentencing, and incorporate offence level reductions for the acceptance of responsibility[18] and increases for obstructing or impeding the administration of justice[19] during several stages of the criminal justice procedure, including sentencing.

The next assumption, and key to identification of the treatment effect, is that the treatment and control groups (ethnic minority groups and white respectively in my analysis) share a common macro shock ψ_t. Were macro shocks to differ across groups, it would not be possible to disentangle these shocks from the impact of treatment. Although not directly testable, it is possible to perform certain robustness checks to ascertain whether this is likely to be upheld in the data. I detail some of these in section 5.4 below. Finally, as I am using repeat cross-sectional data, it is essential that the composition of the groups does not change systematically over time, that is:

$$E\left[\phi_i | Ethnic_e = E, Post_t = 0\right] \quad = \quad E\left[\phi_i | Ethnic_e = E, Post_t = 1\right] \qquad \text{for all} \;\; E \tag{3}$$

[17] A classic example of this is "Ashenfelter's Dip" (Ashenfelter, 1978), where those who experience transitory "dips" in earnings prior to a training scheme commencing are more likely to participate in the scheme as a consequence of the dip. This group would likely experience a subsequent rise in earnings from the dip, even in absence of the programme, therefore leading to an over-estimate of the effect of the treatment.

[18] USSG §3E1.1

[19] USSG §3C1.1

If equation 3 is not satisfied, it would lead me to spuriously attribute shifts in the composition of the groups to treatment effects. Again, several robustness checks performed in section 5.4 relate to testing the empirical validity of this assumption. If the assumptions discussed above are satisfied, then by using variation in access to treatment across both time and groups, the DD approach identifies the average treatment effect of the treated (ATT), where "treatment" corresponds to ethnic minority status post-9/11.

5 Results

5.1 Baseline Results

Table 5 presents the first set of results. The first column reports estimated parameters from what is essentially an unconditional DD regression for log sentencing. Without any control variables, there is no significant effect of the 9/11 terrorist attacks for sentencing outcomes of any of the ethnic groups, including white defendants, who are the ethnic base category here. Moving along the columns, sets of extra regressors are sequentially included in the DD regressions. The final column, where all regressors outlined in equation 1 are included is my baseline equation for the proceeding analysis. There are several points to note.

Firstly, although 9/11 did not significantly change conditional sentencing outcomes for whites (the coefficient on $Post_t$, $\hat{\rho}$, is not significantly different from zero) or blacks, it did for Hispanics. As the dependant variable is log sentencing, the coefficient of 0.035 can be interpreted as a 3.5% increase in the conditional Hispanic sentencing differential (with respect to whites) compared to before 9/11. Such a result is striking, as prior to 9/11, the estimate $\hat{\delta}_{Hispanic}$ reflected a complete absence of a conditional sentencing penalty for Hispanics. Secondly, the results reflect the importance of controlling sufficiently for variables relevant in sentencing. For instance, unconditionally, black defendants receive 53% longer sentences than their white counterpart pre-9/11, yet once all regressors are included, this sentencing penalty declines to 5.5%. Although discrimination could play a role in generating this penalty, it is not possible to identify the extent to which it does so. This is problem generally faced by the existing literature. What the results do show for black defendants is that there was no change in the sentencing penalty post-9/11. This is very much in line with the evidence discussed in section 3.

To better understand this result, Table 6 presents evidence on the role that guideline departures play in generating the post-9/11 Hispanic sentencing penalty. The first column is a replication of the last column of Table 5 as a reference point. The next column, estimates from a Linear Probability Model regression of the likelihood of not departing from the initial allocation of guideline cell, shows that Hispanics again differ from the other ethnic groups. Post-9/11, non-Hispanics are 2.2% more likely to receive a departure, which, given that only 1% of the sample receive upwards departures, means moving to a cell with a lower guideline sentencing ranges. Hispanics on the other hand, are more likely to stay within their initial cell. The third and fourth columns show the implications that these differential departures have on sentencing. The pattern that emerges here is not entirely straightforward. Pre-9/11, Hispanics receiving departures were sentenced relatively harshly in their new cells, generating the conditional sentencing penalty of 3.5% seen in column 4. Hispanics not receiving departures were sentenced relatively leniently, which is reflected by the -0.029 point estimate in column 3. These two countervailing differentials cancel out on average, to produce the estimate of the pre-9/11 conditional sentencing differential found in column 1. What happened after 9/11 is that sentencing outcomes for Hispanics receiving departures did not change significantly ($\hat{\phi}_{Hispanic}$=0.02

with a standard error of 0.024), but the outcomes for those not receiving departures *did*, almost perfectly cancelling out the initial leniency experienced pre-9/11 with a penalty of 0.03. It appears that this change is what is driving the main result of an increased Hispanic sentencing penalty.

5.2 Quantile regression

Extending the focus of the analysis, I consider estimates of the post-9/11 changes in sentencing differentials for ethnic minorities for a large range of conditional quantiles of the sentencing distribution. For the τth conditional quantile, I use the model:

$$\begin{aligned} Quant_\tau\left(s_{iet}|.\right) &= \alpha_\tau + \sum_e \delta_{e,\tau} Ethnic_e + \rho_\tau Post_t + \sum_e \phi_{e,\tau}(Ethnic_e \times Post_t) + Z_i'\pi_\tau \\ \text{where } Z_i' &= \left[X_i' \;\; G_{ig}' \;\; OFF_{if}' \;\; D_{id}'\right]' \end{aligned} \tag{4}$$

and all individual terms are as described in section 4.2. The additional τ subscripts denote the different parameter values for each conditional quantile τ of s_{iet}. Figure 3 displays the results of point estimates on the $Ethnic_{Hispanic} \times Post_t$ term from 91 separate quantile regressions based on the 10th to the 90th conditional sentencing quantile. The figure illustrates a larger (although not statistically significantly different) post-11 effect for lower conditional quantiles, which then declines (non-monotonically) across the conditional sentencing distribution. How to interpret this? This pattern may be reflecting the increase in sentencing differentials for those Hispanics not receiving guideline departures. Recall from Table 6 that this group received lower conditional sentences than their white counterparts prior to 9/11.

5.3 The Role of Defence Counsel

Another dimension to consider here is the role played by the defence counsel. Table 7 presents the DD estimates separately based on type of defence counsel[20]. Hispanics represented by private defence counsels are insulated from any post-9/11 sentencing increases, and in fact receive 6% lower sentences than their white counterparts. The post-9/11 sentencing differentials are much more pronounced for those represented by either Court Appointed (CA) or Federal Public Defenders (FPD), with differentials of 6.2% and 4.5% respectively, both significantly different from zero. The outcomes differ when considering solely those who do not receive a departure. For these individuals, those represented by FPDs still experience an increased post-9/11 differential,whereas those with CA counsels do not[21]. At this point, it is not clear if the different sentencing penalties experienced by Hispanics represented by the different counsel reflect selection effects due to defendants[22] or whether different defence counsels responded differentially to 9/11. Data that I am currently collecting should hopefully shed light on this issue considering several previous stages of the criminal justice system in conjunction with sentencing, in order to separate out defence counsel responses with judicial responses.

[20] It should be noted that this sub-group analysis is limited by the poor recording of defence counsel type in this data, thus the sample sizes are small. Furthermore, if non-recording of defence counsel information (this is done by the USSC, not the defendant) is correlated with unobservables driving sentencing, then the samples will also yield biased point estimates.

[21] Iyengar (2007) provides a very thorough analysis of the different characteristics of, and incentive structures faced by, these different defence counsels.

[22] Although defendants should be randomly allocated a defence lawyer, Iyengar (2007) finds that this is not always the case, so although there should not be, there may be selection effects here

5.4 Robustness Checks

In this section I present a set of analyses that checks the validity and robustness of the results discussed above. In the first of these, Table 8, results are shown for a set of regressions investigating the stability of the sample composition (based on observables) between the pre- and post-9/11 periods. The purpose of this check is related to the third assumption discussed in section 4.2. Although the fixed effect is unobservable, considering the stability of many observable characteristics may help to ascertain whether such an assumption is likely to be valid. Each variable of interest was regressed upon all other variables conditioned upon in the main analysis. So for instance a dummy for highest education being High School was regressed upon all other individuals characteristics, guideline cell dummies, offence type dummies and district dummies.

There were no significant Hispanic (or any other ethnic group) changes post-9/11 in any of the individual characteristics of defendants. These include age, educational attainments, number of dependants, pre-sentence status and criminal history score. Thus I am comparing very similar individuals before and after the attacks. The only differences between the pre- and post-9/11 time periods are in the types of offences for which Hispanics are sentenced. This can be seen in the last 3 columns. After 9/11 Hispanics were less likely to be sentenced for drug trafficking offences, and more likely to be tried for immigration offences. The fact that offence severity also declines is due to the fact that drug trafficking carries a higher baseline severity score than does an immigration offence (mean offence severity scores are 24 and 16 respectively). This change in offence type and severity is controlled for in all regressions, so the remaining concern is that other unobservables, related to offence characteristics, shifted too.

I further consider this issue by investigating whether or not the duration between the date of last of offence and sentencing date changed for Hispanics after 9/11 compared to before. The purpose of this section of analysis is to consider whether the changes in offence types observed in Table 8 could be due to a re-ordering of individuals post-9/11. One concern is that individuals who committed certain offences particularly salient after 9/11, such as immigration or terrorism-related offences, may have been processed particularly rapidly after the attacks as a signal of the courts' resolve to punish such offences. A related issue is that the worst, or most chronic, offenders may have been rushed through the system in order to be made examples of post-9/11. If either of these concerns meant that Hispanics were over-sampled in the courts post-9/11 response, then the main results from above could be due to Hispanics being incidentally sentenced more harshly due to the types of crimes they commit, rather than explicit discrimination per se. Such responses of the courts would shift the composition of the sample after 9/11, and could also invalidate the first assumption listed in section 4.2 that stated that treatment may not depend on the individual transitory term u_{iet}.

The duration analysis presented in Table 9 relates to both of these concerns, considering the full sample, and then specific offences individually. Two different duration models are utilised; a Weibull Proportional Hazard Model with Gamma distributed unobserved heterogeneity and a Cox semi-parametric Proportional Hazard model. In this duration analysis, all control variables used in the main analysis above are conditioned upon here too. It should be noted that the regression coefficients presented relate to the hazard rate, thus a negative coefficient indicates a lower hazard rate, which in turn means a longer duration. The converse also applies.

The first two columns of Table 9 present results based on the full sample, and show that there was no significant post-9/11 change in the duration from date of last offence to sentencing date for any group. This is true for both models. Given that there were shifts in the likelihood that Hispanics

were sentenced for both immigration and drugs trafficking offences, the next four columns consider the last offence to sentencing durations for these two offence types separately. Columns 3 and 4 present results based on the Weibull model. The first point to be noted is that there is no significant change for any group in duration for immigration offences, one of the most pertinent offences after 9/11. There was, however, a significant (at the 5% level) increase in the duration for Hispanics charged with drug trafficking offences. This could indicate that cases involving Hispanic drug traffickers were better prepared (and thus took longer to bring to trial) after 9/11, but it is not at all clear why this would be the case. The results from the Cox model are presented in columns 5 and 6 and differ from the Weibull model results, in that there are no significant shifts in Hispanic durations for either drugs trafficking or immigrations offences after the attacks. Thus there is at best rather weak evidence of any strategic changes in the re-ordering of defendants after 9/11.

Another key issue to consider is whether the key results discussed in section 5.1 are really due to a 9/11 response of the federal courts, rather than just picking up differential ethnic time trends in sentencing, which could reflect differential ethnic trends in committing offences. An example of such would be seasonal trends in the types of crimes committed that differ across ethnic groups, with Hispanics being sentenced more harshly in the winter months. This would invalidate the common time trend assumption discussed above, and would lead to a spurious attribution of differential time trends to a post-9/11 shift in ethnic discrimination in sentencing. To consider this issue, I utilise several years of sentencing data prior to the attacks, and run a set of placebo regressions. That is, instead of using September 11, 2001 as the reference date, I use a series of relevant dates at six month intervals from March 11, 1999 to March 11, 2001. If the results were driven solely by an annual cycle, then I should observe the same patterns for September 11, 1999 and September 11, 2000, and the opposite patterns for the March 11 placebo regressions.

Table 10 presents placebo analogues to my baseline regression (column 5 of Table 5). Outcomes are considered in a six month window around the placebo date, with restrictions on the last offence date as detailed above and represented in figure 1, and all key covariates are controlled for as before. The main point to note here is that there is no consistent, recurrent pattern in ethnic sentencing outcomes in the years prior to 9/11, thus at a minimum, the results above were not driven by a seasonal ethnic sentencing cycle. For both prior September 11ths, significant shifts in whites' sentencing outcomes in the post period were essentially offset for both blacks and Hispanics. For instance, when mean white sentencing outcomes declined by 5.4% after September 11, 1999, black and Hispanic sentencing rose by 4.9% and 4.7% respectively, indicating stability in the ethnic minority sentencing differentials before and after this placebo date.

5.5 Decomposition Analysis

In order to better understand the causes of the changes in sentencing differentials post-9/11, I follow Juhn et al. (1993) in decomposing the sentencing differentials into components based on ethnic differences in the penalties associated to, and quantities of, observable and unobservable characteristics. Such techniques are commonly used in labour economics to better understand the driving forces behind wage differentials, for example gender wage differentials (Blau and Kahn, 1997) and the Black-White wage gap (Juhn et al., 1991). The primary focus in this section is the Hispanic-white sentencing differential, but all analysis is run on the black-white differential as well. First consider a

separate sentencing equation for white individual i in year t:

$$s_{it} = X'_{it}\beta_t^W + \sigma_t^W \theta_{it} \tag{5}$$

where s_{it} is the log of sentence length, X_{it} a vector of all covariates, β_t^W the coefficients from the white sentencing equation, σ_t^W the standard deviation of sentencing for whites in period t and θ_{it} is the standardised residual.

The sentencing differential between Hispanics and whites for period t can be written as:

$$\Delta s_t = s_t^H - s_t^W = \Delta X_t \beta_t^W + \sigma_t^W \Delta\theta_t \tag{6}$$

where Δ denotes the average Hispanic-white difference in the variable directly proceeding it. Equation 6 thus splits the Hispanic-white sentencing into two components: the first based on differences in average observable characteristics weighted by the *white* sentencing penalties[23] to these characteristics,$\Delta X_t \beta_t^W$, and a second term based on the differences between the two groups' average position in the *white* residual sentencing distribution, $\sigma_t^W \Delta\theta_t$.

The final step is to consider how the ethnic sentencing gap changed from before 9/11 (t=0) to after (t=1). To do so subtract equation 6 for t=0 from the corresponding equation for t=1, add and subtract 2 further terms, i.) $\left(\Delta X_0 \beta_1^W - \Delta X_0 \beta_1^W\right)$ and ii.) $\left(\sigma_1^W \Delta\theta_0 - \sigma_1^W \Delta\theta_0\right)$, and then re-arrange. This yields :

$$\begin{aligned} \Delta s_1 - \Delta s_0 &= (\Delta X_1 - \Delta X_0)\beta_1^W + \Delta X_0(\beta_1^W - \beta_0^W) \\ &+ (\Delta\theta_1 - \Delta\theta_0)\sigma_1^W + \Delta\theta_0(\sigma_1^W - \sigma_0^W) \end{aligned} \tag{7}$$

where the change in the Hispanic-white sentencing differential $(\Delta s_1 - \Delta s_0)$ is decomposed into four terms. The first term, the X-effect, measures the contribution to the change in the sentencing gap due to changes in observable characteristics between the two groups, such as offence severity or type of defence counsel. The second, the β-effect reflects the role of changes in the sentencing penalties attributed to these characteristics. For instance, given that Hispanics are more likely to commit immigration offences, if 9/11 led to judges imposing harsher penalties on these offences, then the immigration offence difference would be weighted more heavily, leading to a larger sentencing gap. The third element, θ-effect, documents the effect of changes in the sentencing differential once all explanatory variables have been conditioned upon, i.e. the change in Hispanics position within the white residual sentencing distribution. For example, shifts in discrimination against Hispanics post-9/11 would lead to an increase in Hispanic's average position in the white residual distribution, thus leading to an increase in the Hispanic sentencing penalty. The fourth term, the σ-effect, reflects the role that changes in the spread of the white residual sentencing distribution has, holding fixed the pre-9/11 ethnic residual gap.

The third and fourth terms, based on the residual sentencing gap, will reflect both discrimination and unobservable offence and defendant characteristics. Given both the richness of the data, and the identification strategy employed in this study, where only individuals who committed their last crime prior to 9/11 are considered, the θ- and σ-effect terms should predominantly reflect shifts in

[23]The terms in equation 6 are based on the white sentencing equation, thus simulating a "non-discriminatory" environment, where all individuals are sentenced as if white. As white individuals are the reference category in the DD analysis above, this is the natural way to write the equation, although it could be written in terms of the Hispanic sentencing equation, or a pooled equation.

discrimination.

Table 11 displays the results from the JMP decompositions, for changes in both the black-white and Hispanic-white sentencing differential. The first 2 rows of both columns reflect the raw differential in sentencing also shown in column 1, Table 5. Focusing on Hispanics, the change in differential of -4.2% shows that after 9/11, without conditioning on any relevant variables, average sentencing outcomes were improved with respect to whites. The next 2 lines expand on this, highlighting a more complex story. Based on all observable characteristics, this relative sentencing improvement should have been double of what it was, with a change of -8.3%. The reason that this did not occur is due to a countervailing increase of 4.1% in the gap due to unobservables. This increase is primarily due to changes in the unobservable quantities - the θ-effect. As noted above, a key candidate for such a change is a shift in discrimination, particularly in this case given the richness of the observables. The pattern for the black-white differential is very different. This differential rose by 1.65% post-9/11, yet the full extent of this change could be attributed to changes in observables.

Part B of the table documents the roles of specific observables in the sentencing differential changes. In terms of observable characteristics, the main variable leading to a sentencing improvement for Hispanics was the guideline cell in which individuals were sentenced. As seen in Table 8, this was due to a decrease in the average offence severity for which Hispanics were tried. The minimal contribution of the overall β-effect hides several changes that offset each other in aggregate. The penalties related to individual characteristics and the court district dummies led to a combined improvement of average Hispanic sentencing outcomes post-9/11 of 5.1%. However, the penalties associated with the types of crimes committed led to 4.7% increase in the Hispanic penalty. This was due predominantly to an increase in the penalty for immigration offences (3.7%).

6 Discussion

To be completed.

7 Conclusion

By considering 9/11 as an exogenous shift to tastes for discrimination in the US, and linking this change in discrimination to changes in ethnic sentencing differentials, this paper aims to address the crucial issue of the source of racial and ethnic disparities in criminal sentencing outcomes. It is necessary to understand the underlying causes of such disparities in order to best assess what can be done to address the issue; each of the explanations implies a very different policy response. The main result is that post-9/11, Hispanics experienced a 3.5% conditional sentencing penalty relative to their white counterparts. There was no change in sentencing outcomes for any other ethnic or racial groups over this period. Decomposition analysis highlights the role that changes in unobservables played in driving the observed change in conditional sentencing outcomes for Hispanics. The results are subjected to a set of robustness checks in order to ascertain whether other factors, such as differential ethnic seasonal trends in sentencing or strategic re-ordering of *when* individuals are sentenced post-9/11, could be driving this results. It appears that this is not the case.

An issue with the results presented in the paper concerns how to interpret the coefficients on the post-9/11 terms. What I claim to identify in this paper is the impact on sentencing differentials of a *change* in the taste for discrimination. Interpretation is not straightforward, as this change does

not have any obviously quantifiable units, thus I don't know how *much* tastes changed (Note that the evidence in section 3 suggests that firstly such a shift did occur, and secondly that this shift was particularly focussed on Hispanics.). It is thus helpful to benchmark the findings, both internally (by comparing the impact of 9/11 on sentencing outcomes to the impact of other covariates on the same outcomes) and externally (by considering how the results here compare to the wider set of natural experiment papers that consider the labour market impact of preference shifts due to certain events such as 9/11, World War 1, the second Intifada etc.).

There is still much to do in this research area. At this point, I am unable to discern whether the main results are driven by the district attorney or the sentencing judge. Data that I have collected on previous stages of the criminal justice procedure, in which sentencing judges and district attorneys play different roles, may help to identify the key player(s) driving the increased sentencing penalties for Hispanics after 9/11. In order to assess the external validity of my findings, I am currently performing further analysis on data from state courts in the US. These courts consider a different set of crimes to those seen in federal courts, and thus a different set of defendants. I am also in the process of obtaining data on sentencing outcomes in Crown Courts in England around both 9/11, as well as the time of the London bombings (July 7, 2005).

Figure 1: Identification Strategy Overview

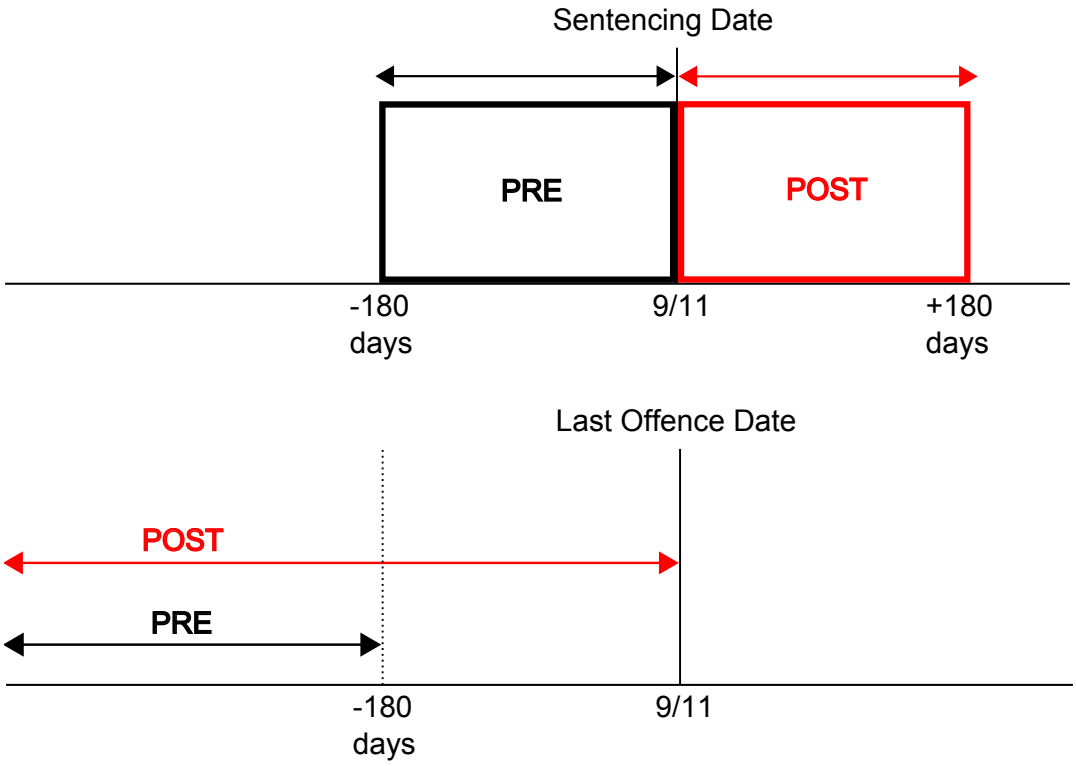
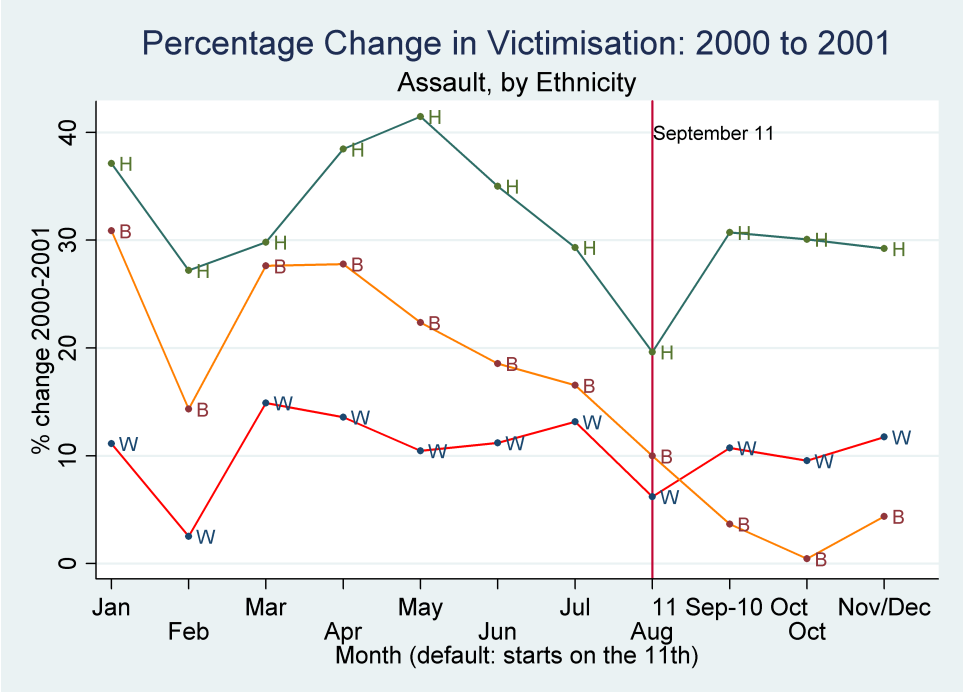
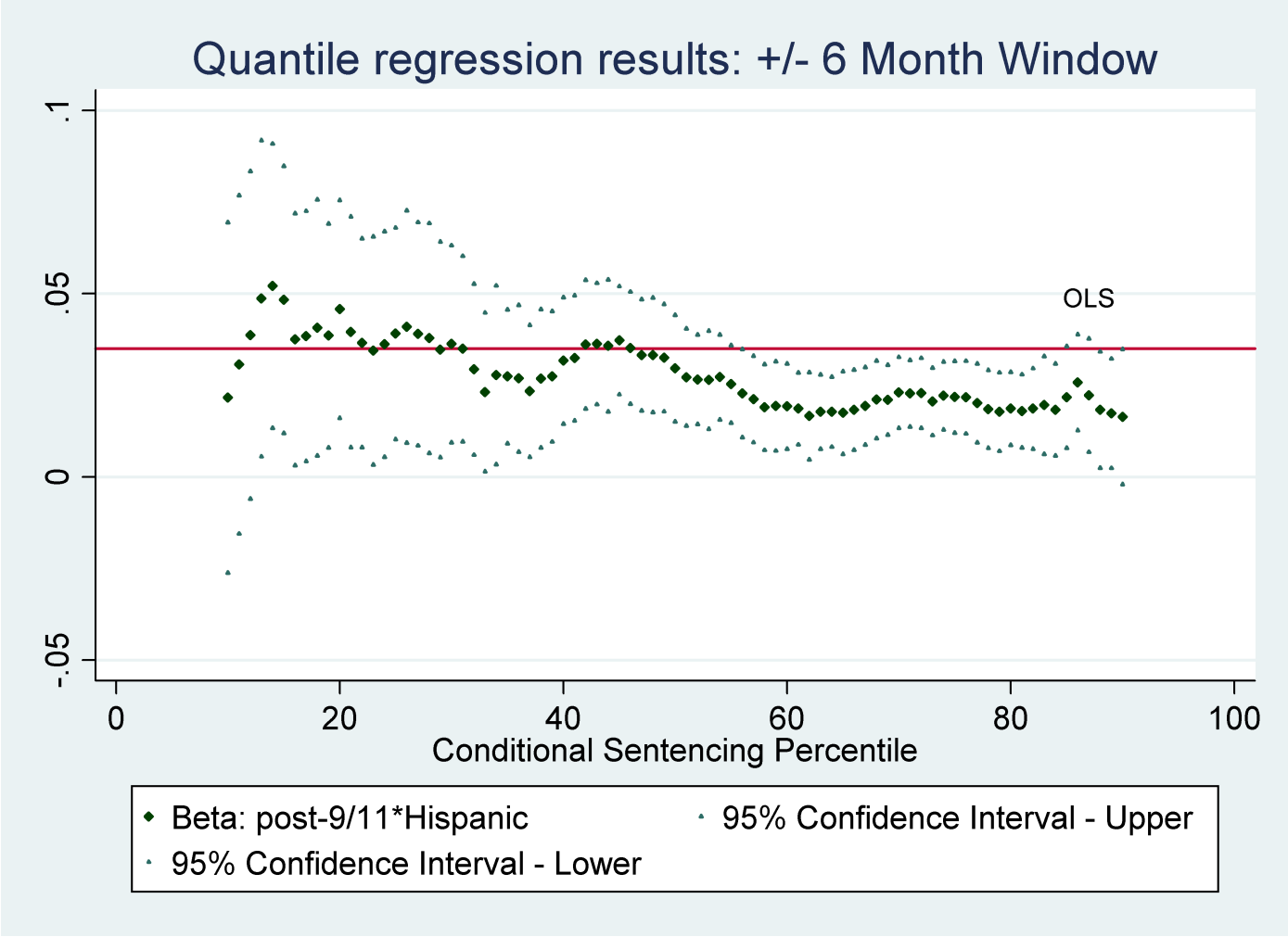


Figure 2: Change In Assault Victimisation Rates 2000-2001, by Race



Source: National Incident-Based Reporting System, 2000 and 2001: Extract Files
Dependant Variable: $\frac{Victimisation_{2001}^{Month,Race} - Victimisation_{2000}^{Month,Race}}{Victimisation_{2000}^{Month,Race}}$
Notes: H denotes Hispanic, W denotes white and B denotes black individuals.

Figure 3: Quantile Regression Estimates



Notes: Each main point represents the coefficient on post-9/11*Hispanic from a separate quantile regression of the type in equation 4. 91 Quantile regressions were run for the 10th to the 90th conditional percentile. The regression sample was the same sample of 39597 males used in all other analysis. Controls included the set of ethnicity and post-9/11 dummies, Individual Characteristics, Guideline cell, Offence Type and District variables (detailed in Table 5 Notes).
Confidence intervals based on regular standard errors, not block-bootstrapped ones. I still need to do this.

Table 1: United Sates Sentencing Commission Sentencing Table, 2001

		Criminal History Category (Criminal History Points)					
Offence Level		I (0 or 1)	II (2 or 3)	III (4, 5, 6)	IV (7, 8, 9)	V (10, 11, 12)	VI (13+)
	1	***0-6***	***0-6***	***0-6***	***0-6***	***0-6***	***0-6***
	2	***0-6***	***0-6***	***0-6***	***0-6***	***0-6***	1-7
	3	***0-6***	***0-6***	***0-6***	***0-6***	2-8	3-9
	4	***0-6***	***0-6***	***0-6***	2-8	4-10	6-12
Zone A	5	***0-6***	***0-6***	1-7	4-10	6-12	***9-15***
	6	***0-6***	1-7	2-8	6-12	***9-15***	12-18
	7	***0-6***	2-8	4-10	***8-14***	12-18	15-21
	8	***0-6***	4-10	6-12	***10-16***	15-21	18-24
Zone B	9	4-10	6-12	***8-14***	12-18	18-24	21-27
	10	6-12	***8-14***	***10-16***	15-21	21-27	24-30
Zone C	11	***8-14***	***10-16***	12-18	18-24	24-30	27-33
	12	***10-16***	12-18	15-21	21-27	27-33	30-37
	13	12-18	15-21	18-24	24-30	30-37	33-41
	14	15-21	18-24	21-27	27-33	33-41	37-46
	15	18-24	21-27	24-30	30-37	37-46	41-51
	16	21-27	24-30	27-33	33-41	41-51	46-57
	17	24-30	27-33	30-37	37-46	46-57	51-63
	18	27-33	30-37	33-41	41-51	51-63	57-71
	19	30-37	33-41	37-46	46-57	57-71	63-78
	20	33-41	37-46	41-51	51-63	63-78	70-87
	21	37-46	41-51	46-57	57-71	70-87	77-96
	22	41-51	46-57	51-63	63-78	77-96	84-105
	23	46-57	51-63	57-71	70-87	84-105	92-115
	24	51-63	57-71	63-78	77-96	92-115	100-125
	25	57-71	63-78	70-87	84-105	100-125	110-137
	26	63-78	70-87	78-97	92-115	110-137	120-150
	27	70-87	78-97	87-108	100-125	120-150	130-162
Zone D	28	78-97	87-108	97-121	110-137	130-162	140-175
	29	87-108	97-121	108-135	121-151	140-175	151-188
	30	97-121	108-135	121-151	135-168	151-188	168-210
	31	108-135	121-151	135-168	151-188	168-210	188-235
	32	121-151	135-168	151-188	168-210	188-235	210-262
	33	135-168	151-188	168-210	188-235	210-262	235-293
	34	151-188	168-210	188-235	210-262	235-293	262-327
	35	168-210	188-235	210-262	235-293	262-327	292-365
	36	188-235	210-262	235-293	262-327	292-365	324-405
	37	210-262	235-293	262-327	292-365	324-405	360-life
	38	235-293	262-327	292-365	324-405	360-life	360-life
	39	262-327	292-365	324-405	360-life	360-life	360-life
	40	292-365	324-405	360-life	360-life	360-life	360-life
	41	324-405	360-life	360-life	360-life	360-life	360-life
	42	360-life	360-life	360-life	360-life	360-life	360-life
	43	life	life	life	life	life	life

Source: United States Sentencing Commission, Guidelines Manual, §3E1.1 (Nov. 2001)
Notes: Each cell represents the guideline range for the sentence length (in months) based on offence level and Criminal History category.

Table 2: Post-9/11 Survey, selected responses

	Ethnicity			
Affirmative response to:	Middle Eastern	Hispanic	Asian	African-American
US World Influence: Too much	57%	58%	56%	27%
Ethnicity: Prefer to be called "American"	19%	11%	11%	38%
Money Making post-9/11: Less Money	29%	37%	36%	18%
Less Money reason: September 11th	75%	72%	75%	54%
Victim of Discrimination: More often	58%	13%	16%	3%
More depressed Post-9/11: Agree	56%	50%	45%	26%
Sample Size	300	200	300	200

Source: "Post 9/11 Survey," USC Annenberg Institute for Justice and Journalism, July/August 2002
Sample: 1000 "Ethnic" Californians

Table 3: Descriptive Statistics - Legal Variables

Mean, standard deviation in parentheses

	Ethnicity:				
Variable	White	Black	Hispanic	Other	Total
Sentence Length	55.15	89.76	48.47	50.56	61.60
	(66.67)	(91.93)	(56.59)	(68.02)	(72.94)
Offence Severity	20.28	23.43	19.88	19.21	20.93
	(7.73)	(8.49)	(7.76)	(8.34)	(8.12)
Criminal History Score	2.45	3.23	2.43	2.02	2.64
	(1.75)	(1.83)	(1.68)	(1.50)	(1.77)
Departure Status:					
None	0.62	0.66	0.59	0.63	0.62
	(0.49)	(0.47)	(0.49)	(0.48)	(0.49)
Upwards	0.01	0.01	0.00	0.03	0.01
	(0.10)	(0.08)	(0.06)	(0.16)	(0.09)
Downwards	0.12	0.07	0.26	0.13	0.16
(Other)	(0.32)	(0.26)	(0.44)	(0.33)	(0.37)
Downwards	0.20	0.20	0.10	0.14	0.16
(Substantial Assistance)	(0.40)	(0.40)	(0.30)	(0.34)	(0.36)
Pre-sentence Status:					
In Custody	0.57	0.73	0.85	0.66	0.73
	(0.50)	(0.45)	(0.36)	(0.47)	(0.44)
Out on bail/bond	0.31	0.21	0.11	0.21	0.19
	(0.46)	(0.40)	(0.31)	(0.41)	(0.40)
Own recognizance	0.10	0.05	0.01	0.10	0.05
	(0.30)	(0.22)	(0.11)	(0.30)	(0.22)
Other	0.01	0.01	0.00	0.02	0.01
	(0.12)	(0.10)	(0.06)	(0.14)	(0.09)
Defence Counsel:					
Privately Retained	0.14	0.08	0.08	0.14	0.10
	(0.35)	(0.27)	(0.27)	(0.35)	(0.30)
Court Appointed	0.18	0.16	0.28	0.25	0.22
	(0.39)	(0.36)	(0.45)	(0.43)	(0.41)
Federal Public Defender	0.14	0.15	0.26	0.19	0.19
	(0.34)	(0.36)	(0.44)	(0.39)	(0.40)
Self Represented	0.00	0.00	0.00	0.00	0.00
	(0.04)	(0.04)	(0.02)	(0.03)	(0.03)
Waived Rights	0.00	0.00	0.00	0.00	0.00
	(0.03)	(0.04)	(0.03)	(0.05)	(0.03)
Other	0.00	0.00	0.00	0.00	0.00
	(0.01)	(0.02)	(0.00)	(0.00)	(0.01)
Sample Size	10962	10758	16626	1251	39597

Notes: Figures based on full regression sample of those individuals sentenced within a six month window of 9/11, and i.) if sentenced after September 11, 2001, committed their final offence prior to September 11, 2001 ii.) if sentenced before September 11, 2001, committed their final offence six months prior to September 11, 2001.

Table 4: Descriptive Statistics: Non-Legal Variables

Mean, standard deviation in parentheses

	Ethnicity:				
Variable	White	Black	Hispanic	Other	Total
Marital Status:					
Married	0.33	0.20	0.35	0.31	0.30
	(0.47)	(0.40)	(0.48)	(0.46)	(0.46)
Single	0.34	0.54	0.33	0.42	0.39
	(0.48)	(0.50)	(0.47)	(0.49)	(0.49)
Cohabiting	0.08	0.13	0.16	0.11	0.13
	(0.28)	(0.34)	(0.37)	(0.31)	(0.34)
Divorced	0.17	0.06	0.05	0.09	0.09
	(0.38)	(0.24)	(0.23)	(0.29)	(0.28)
Widow	0.00	0.00	0.00	0.00	0.00
	(0.06)	(0.05)	(0.04)	(0.05)	(0.05)
Separated	0.05	0.05	0.05	0.04	0.05
	(0.22)	(0.21)	(0.22)	(0.20)	(0.22)
Number Dependants	1.08	1.71	1.87	1.43	1.59
	(1.42)	(1.83)	(1.80)	(1.73)	(1.74)
Highest Education:					
Less than High School	0.29	0.42	0.65	0.37	0.48
	(0.45)	(0.49)	(0.48)	(0.48)	(0.50)
High School	0.39	0.37	0.18	0.35	0.30
	(0.49)	(0.48)	(0.39)	(0.48)	(0.46)
Some College	0.21	0.17	0.07	0.18	0.14
	(0.41)	(0.38)	(0.26)	(0.38)	(0.35)
College Graduate	0.10	0.03	0.02	0.10	0.05
	(0.30)	(0.17)	(0.14)	(0.29)	(0.21)
Age	37.76	31.52	32.16	33.90	33.59
	(11.63)	(8.96)	(9.09)	(10.95)	(10.23)
Sample Size	10962	10758	16626	1251	39597

Notes: Figures based on full regression sample of those individuals sentenced within a six month window of 9/11, and i.) if sentenced after September 11, 2001, committed their final offence prior to September 11, 2001 ii.) if sentenced before September 11, 2001, committed their final offence six months prior to September 11, 2001.

Table 5: Baseline Regression with Varying Regressors

Dependant Variable:	**log(sentence length in months)**				
	OLS				
Black	0.534***	0.387***	0.319***	0.258***	0.055***
	(0.043)	(0.042)	(0.044)	(0.024)	(0.011)
Hispanic	-0.055	-0.159**	-0.176*	-0.078***	0.010
	(0.092)	(0.076)	(0.094)	(0.028)	(0.014)
Other	-0.193**	-0.191**	-0.128*	-0.090	0.025
	(0.090)	(0.093)	(0.069)	(0.063)	(0.023)
Post 9/11	-0.006	-0.006	-0.014	-0.012	-0.004
	(0.022)	(0.020)	(0.022)	(0.020)	(0.009)
Black*Post 9/11	0.016	0.007	0.016	0.009	0.006
	(0.033)	(0.029)	(0.028)	(0.026)	(0.014)
Hispanic*Post 9/11	-0.042	-0.051*	0.002	0.000	0.035**
	(0.030)	(0.028)	(0.026)	(0.023)	(0.014)
Other*Post 9/11	0.018	-0.003	-0.053	-0.033	-0.032
	(0.079)	(0.084)	(0.058)	(0.058)	(0.033)
Observations	39597	39597	39597	39597	39597
R^2	0.06	0.18	0.34	0.39	0.83
Individual Characteristics	No	Yes	Yes	Yes	Yes
Offence Type	No	No	Yes	Yes	Yes
District	No	No	No	Yes	Yes
Guideline Cell	No	No	No	No	Yes

Notes: $***$ denotes significance at 1%, $**$ at 5%, and $*$ at 10%. Standard errors clustered at race-district level.
Figures based on full regression sample of those individuals sentenced within a six month window of 9/11, and i.) if sentenced after September 11, 2001, committed their final offence prior to September 11, 2001 ii.) if sentenced before September 11, 2001, committed their final offence six months prior to September 11, 2001.
White defendants are the ethnic base category in the table above, so estimated ethnic effects reflect differences in ethnic-minority outcomes relative to the corresponding white outcomes.
Individual Characteristics include dummies for education level (high School, part-college, college, missing), marital status (single, cohabiting,divorced, widowed,separated, missing), age decile(23-25,26-27,28-29,30-32,33-35,36-38,39-43,44-49,50-87), pre-sentence status(bail,own recognizance, other,missing), number of dependants(1,2-3,4+,missing) and defence counsel(private, federal,self,waived,other,missing). Guideline cell dummies comprise of dummies for all but one combinations of sentence severity and criminal history, totalling 257 dummies. Offence Type includes a dummy for all but one of the 41 Offence Types. District contains 93 dummies for all but one Sentencing District.

Table 6: Sentencing and Departures

Dependant Variable:	**log(sentence)**	**1(No Departure=1)**	**log(sentence)**	
Sample:		Full	No Departure	Downwards Departure
	OLS	**LPM**	**OLS**	
Black	0.055***	0.050***	0.005	0.054***
	(0.011)	(0.013)	(0.009)	(0.019)
Hispanic	0.010	0.037***	-0.029***	0.035*
	(0.014)	(0.013)	(0.010)	(0.021)
Other	0.025	0.013	0.034*	-0.014
	(0.023)	(0.029)	(0.020)	(0.055)
Post 9/11	-0.004	-0.022**	0.000	0.007
	(0.009)	(0.011)	(0.009)	(0.020)
Black*Post 9/11	0.006	0.006	0.015	-0.014
	(0.014)	(0.016)	(0.012)	(0.027)
Hispanic*Post 9/11	0.035**	0.030**	0.030***	0.020
	(0.014)	(0.015)	(0.011)	(0.024)
Other*Post 9/11	-0.032	0.007	-0.026	0.013
	(0.033)	(0.032)	(0.021)	(0.083)
Observations	39597	39597	24492	12657
R^2	0.83	0.18	0.92	0.8

Notes: $***$ denotes significance at 1%, $**$ at 5%, and $*$ at 10%. Standard errors clustered at race-district level.
Figures based on full regression sample of those individuals sentenced within a six month window of 9/11, and i.) if sentenced after September 11, 2001, committed their final offence prior to September 11, 2001 ii.) if sentenced before September 11, 2001, committed their final offence six months prior to September 11, 2001.
White defendants are the ethnic base category in the table above, so estimated ethnic effects reflect differences in ethnic-minority outcomes relative to the corresponding white outcomes.
1(.=1) denotes an indicator function (equalling 1 if the statement insides the parentheses is true, and 0 otherwise), and represents binary regressors. Marginal effects and the corresponding standard errors from the Linear Probability Models (LPM) were similar in sign and magnitude to the corresponding Probit estimates. LPM estimation was used in order to minimise the assumptions required in this analysis.
In addition to the set of ethnicity and post-9/11 dummies, Individual Characteristics, Guideline cell, Offence Type and District variables (detailed in Table 5 Notes) are controlled for in all regressions.

Table 7: Sentencing and Departures, by Defence Counsel

Dependant Variable:	**log(sentence)**					
Defence Counsel:	Private		Court Appointed		Federal PD	
Sample:	All	No Departure	All	No Departure	All	No Departure
	OLS					
Black	0.106***	-0.013	0.045*	-0.013	0.028	0.010
	(0.036)	(0.030)	(0.027)	(0.016)	(0.024)	(0.020)
Hispanic	0.034	-0.061***	0.001	-0.025	-0.026	-0.047**
	(0.033)	(0.023)	(0.024)	(0.018)	(0.020)	(0.021)
Other	-0.056	-0.062	-0.023	0.063	0.000	0.005
	(0.055)	(0.070)	(0.048)	(0.042)	(0.063)	(0.046)
Post 9/11	0.006	0.006	0.001	0.014	-0.015	-0.043*
	(0.027)	(0.021)	(0.022)	(0.025)	(0.022)	(0.023)
Black*Post 9/11	-0.003	0.026	-0.003	0.013	0.013	0.058**
	(0.043)	(0.038)	(0.035)	(0.032)	(0.030)	(0.029)
Hispanic*Post 9/11	-0.027	0.016	0.062**	0.034	0.045*	0.082***
	(0.042)	(0.033)	(0.029)	(0.029)	(0.024)	(0.025)
Other*Post 9/11	0.086	0.058	0.068	-0.090*	0.084	0.086*
	(0.085)	(0.080)	(0.068)	(0.047)	(0.072)	(0.046)
Observations	3911	2099	8694	4370	7699	5170
R^2	0.79	0.94	0.84	0.94	0.84	0.92

Notes: $***$ denotes significance at 1%, $**$ at 5%, and $*$ at 10%. Standard errors clustered at race-district level.
Figures based on those individuals sentenced within a six month window of 9/11, and i.) if sentenced after September 11, 2001, committed their final offence prior to September 11, 2001 ii.) if sentenced before September 11, 2001, committed their final offence six months prior to September 11, 2001.
White defendants are the ethnic base category in the table above, so estimated ethnic effects reflect differences in ethnic-minority outcomes relative to the corresponding white outcomes.
In addition to the set of ethnicity and post-9/11 dummies, Individual Characteristics (excluding defence counsel dummies), Guideline cell, Offence Type and District variables (detailed in Table 5 Notes) are controlled for in all regressions.

Table 8: Sample Composition

Dependant Variable:	**Age**	**1(High School=1)**	**Number Dependants**	**1(In Custody Pre-Sentence=1)**	**Criminal History**	**Offence Severity**	**1(Drug Trafficking=1)**	**1(Immigration=1)**
	OLS	**LPM**	**OLS**	**LPM**	**OLS**		**LPM**	
Black	-3.605***	-0.051***	0.761***	0.056***	0.428***	1.175***	0.043***	-0.001
	(0.270)	(0.011)	(0.044)	(0.013)	(0.039)	(0.173)	(0.013)	(0.008)
Hispanic	-3.389***	-0.142***	0.511***	0.168***	-0.523***	0.191	0.100***	0.136***
	(0.269)	(0.013)	(0.037)	(0.011)	(0.041)	(0.215)	(0.017)	(0.013)
Other	-2.065***	-0.034	0.368***	0.052**	-0.454***	0.009	-0.149***	0.011
	(0.434)	(0.022)	(0.075)	(0.021)	(0.091)	(0.441)	(0.030)	(0.021)
Post 9/11	0.221	-0.006	0.006	-0.004	-0.026	-0.026	-0.009	0.005
	(0.216)	(0.009)	(0.026)	(0.009)	(0.030)	(0.128)	(0.010)	(0.004)
Black*Post 9/11	0.337	0.014	0.003	-0.003	0.021	0.045	-0.011	-0.003
	(0.279)	(0.014)	(0.046)	(0.014)	(0.044)	(0.176)	(0.012)	(0.005)
Hispanic*Post 9/11	0.241	0.016	0.025	0.001	0.049	-0.367*	-0.037***	0.051***
	(0.250)	(0.012)	(0.040)	(0.010)	(0.039)	(0.195)	(0.013)	(0.008)
Other*Post 9/11	-0.624	0.011	0.018	0.020	0.003	-0.162	0.042*	-0.006
	(0.643)	(0.022)	(0.078)	(0.023)	(0.086)	(0.357)	(0.023)	(0.016)
Observations	39597	39597	38447	39597	39597	39597	39597	39597
R^2	0.31	0.09	0.27	0.28	0.33	0.44	0.47	0.56

Notes: $***$ denotes significance at 1%, $**$ at 5%, and $*$ at 10%. Standard errors clustered at race-district level.
Figures based on full regression sample of those individuals sentenced within a six month window of 9/11, and i.) if sentenced after September 11, 2001, committed their final offence prior to September 11, 2001 ii.) if sentenced before September 11, 2001, committed their final offence six months prior to September 11, 2001.
White defendants are the ethnic base category in the table above, so estimated ethnic effects reflect differences in ethnic-minority outcomes relative to the corresponding white outcomes.
1(.=1) denotes an indicator function (equalling 1 if the statement insides the parentheses is true, and 0 otherwise), and represents binary regressors. Marginal effects and the corresponding standard errors from the Linear Probability Models (LPM) were similar in sign and magnitude to the corresponding Probit estimates. LPM estimation was used in order to minimise the assumptions required in this analysis.
Here one of the regular regressors is the dependant variable.Individual Characteristics, Guideline cell, Offence Type and District variables (detailed in Table 5 Notes) controlled for in all regressions, apart from those relevant to the dependant variable itself. For instance, if 1(Offence=drug trafficking) is the dependant variable, then Individual Characteristics, Guideline cell and District variables also controlled for in this regression.

Table 9: Duration Analysis

Dependant Variable:	**(sentence date-last offence date)**					
Sample:	Full		Drugs Trafficking	Immigration	Drugs Trafficking	Immigration
	Weibull PH, Gamma Frailty	**Cox semi-parametric PH**	**Weibull PH, Gamma Frailty**		**Cox semi-parametric PH**	
Black	0.093	0.025	-0.176	0.645	-0.021	0.105
	(0.071)	(0.028)	(0.118)	(0.425)	(0.039)	(0.193)
Hispanic	0.421	0.150	0.405	0.246	0.191	0.158
	(0.099)**	(0.036)**	(0.110)**	(0.221)	(0.038)**	(0.078)*
Other	-0.238	-0.123	-0.565	0.364	-0.067	-0.107
	(0.203)	(0.066)	(0.477)	(0.839)	(0.114)	(0.256)
Post 9/11	-0.045	-0.028	0.055	0.062	-0.023	0.118
	(0.061)	(0.018)	(0.111)	(0.363)	(0.041)	(0.097)
Black*Post 9/11	-0.059	-0.022	-0.074	-0.458	-0.013	-0.141
	(0.078)	(0.027)	(0.138)	(0.618)	(0.049)	(0.191)
Hispanic*Post 9/11	-0.145	-0.038	-0.284	-0.365	-0.090	-0.152
	(0.084)	(0.030)	(0.130)*	(0.396)	(0.050)	(0.104)
Other*Post 9/11	0.012	-0.021	0.217	-0.852	-0.034	-0.102
	(0.159)	(0.055)	(0.498)	(0.637)	(0.129)	(0.185)
Observations	45128	45128	19911	7031	19911	7031

Notes: ** denotes significance at 1%, * at 5%. Standard errors clustered at race-district level.
Figures based on full regression sample of those individuals sentenced within a six month window of 9/11, and i.) if sentenced after September 11, 2001, committed their final offence prior to September 11, 2001 ii.) if sentenced before September 11, 2001, committed their final offence six months prior to September 11, 2001.
White defendants are the ethnic base category in the table above, so estimated ethnic effects reflect differences in ethnic-minority outcomes relative to the corresponding white outcomes.
In addition to the set of ethnicity and post-9/11 dummies, Individual Characteristics, Guideline cell, Offence Type and District variables (detailed in Table 5 Notes) are controlled for in the first 2 columns, Individual Characteristics, Guideline cell and District variables in the last 4 columns.
Regression coefficients reported. A lower coefficient means a lower hazard rate, which in turn means a longer duration.
Weibull PH, Gamma Frailty denotes a Weibull Proportional Hazard model, with Gamma-distributed unobserved heterogeneity or "frailty". Cox semi-parametric PH denotes a Cox semi-parametric Proportional Hazard model.

Table 10: Placebo Regressions

Dependant Variable:	**log(sentence length in months)**				
Placebo Date:	11/03/99	11/09/99	11/03/00	11/09/00	11/03/01
			OLS		
Black	0.045***	0.032**	0.068***	0.093***	0.045***
	(0.012)	(0.013)	(0.014)	(0.016)	(0.013)
Hispanic	0.051***	0.000	0.037**	0.057***	0.032**
	(0.015)	(0.016)	(0.015)	(0.019)	(0.013)
Other	0.036	0.012	0.062*	0.042	0.041
	(0.030)	(0.029)	(0.035)	(0.044)	(0.029)
Post-Placebo	0.023**	-0.054***	-0.013	0.069***	0.009
	(0.011)	(0.014)	(0.014)	(0.017)	(0.009)
Black*Post-Placebo	0.001	0.049***	0.017	-0.053***	0.006
	(0.015)	(0.017)	(0.018)	(0.018)	(0.013)
Hispanic*Post-Placebo	-0.035**	0.047***	0.004	-0.053**	-0.026*
	(0.016)	(0.016)	(0.018)	(0.024)	(0.014)
Other*Post-Placebo	-0.012	0.045	-0.007	0.000	-0.013
	(0.034)	(0.033)	(0.038)	(0.038)	(0.026)
Observations	32521	36426	37894	38626	36024
R^2	0.83	0.79	0.76	0.78	0.82

Notes: $***$ denotes significance at 1%, $**$ at 5%, and $*$ at 10%. Standard errors clustered at race-district level.
Figures based on full regression sample of those individuals sentenced within a six month window of placebo date, and i.) if sentenced after placebo date, committed their final offence prior to placebo date ii.) if sentenced before placebo date, committed their final offence six months prior to placebo date.
White defendants are the ethnic base category in the table above, so estimated ethnic effects reflect differences in ethnic-minority outcomes relative to the corresponding white outcomes.
In addition to the set of ethnicity and post-placebo date dummies, Individual Characteristics, Guideline cell, Offence Type and District variables (detailed in Table 5 Notes) are controlled for in all regressions.

Table 11: JMP Decomposition of pre- to post-9/11 changes in ethnic sentencing differentials

Dependant Variable:	**log(sentence length in months)**	
Sentencing differential:	Black-White	Hispanic-White
Part A: Main results		
Pre-9/11 (raw) differential	0.5341	-0.0550
Post-9/11 (raw) differential	0.5506	-0.0969
Change in differential	0.0165	-0.0419
due to observables	0.0165	-0.0828
due to unobservables	0.0000	0.0409
Observable quantity: X-effect	0.0098	-0.0855
Observable penalties: β-effect	0.0090	-0.0030
Observable interaction	-0.0023	0.0057
Unobservable quantities: θ-effect	-0.0057	0.0378
Unobservable penalties: σ-effect	-0.0045	-0.0005
Unobservable interaction	0.0102	0.0036
Part B: Further decomposition of observables		
Observable quantity:		
All Xs	0.0098	-0.0855
- Individual Characteristics	0.0017	0.0041
- District Variables	0.0015	0.0029
- Guideline Group Cells	0.0062	-0.0887
- Offence Variables	0.0005	-0.0038
- Offence=Drug Trafficking	0.0008	0.0027
- Offence=Immigration	-0.0004	-0.0060
Observable penalties:		
All βs	0.0090	-0.0030
- Individual Characteristics	-0.0036	-0.0251
- District Variables	0.0118	-0.0257
- Guideline Group Cells	-0.0039	0.0011
- Offence Variables	0.0048	0.0467
- Offence=Drug Trafficking	0.0072	0.0063
- Offence=Immigration	-0.0010	0.0368

Notes: The differentials above are noted to be "raw" or unconditional sentencing differentials: group average differentials that do not account for any legal or non-legal controls. These correspond most closely to the first column of results in 5.
Figures based on full regression sample of those individuals sentenced within a six month window of 9/11, and i.) if sentenced after September 11, 2001, committed their final offence prior to September 11, 2001 ii.) if sentenced before September 11, 2001, committed their final offence six months prior to September 11, 2001.
Individual Characteristics, Guideline cell, Offence Type and District variables (detailed in Table 5 Notes) are controlled for in both decompositions.

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