

# The Obama Effect on Economic Outcomes: Evidence from Event Studies\*

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## Abstract

Racial differences in economic outcomes are wide-spread and persistent. Theories of discrimination and of identity posit that these differences are partly the effect of perceptions—of discrimination and of identity. In this paper, I study the impact of an event that has plausibly changed the perceptions of what African Americans can achieve: Barack Obama’s election. I use an event study methodology and focus on key election events, such as the first primary victory (Jan. ‘08), the convention (Aug. ‘08), the general election (Nov. ‘08) and the inauguration (Jan. ‘09). I consider first the impact on a measure of discrimination, racial bias in traffic stops in Illinois. I find evidence of discrimination against Blacks, but the extent of discrimination does not change with the Obama events. I then consider the impact on crime rates, labor force participation, applications to Law School, contribution to public goods (measured by organ donations), and time spent in investment activities. Across these outcomes, I do not find any evidence that the Obama election events had an immediate impact on these outcomes for Blacks (compared to Whites). While the Obama election could change beliefs over the longer term, in the short-term it does not appear to have changed behavior.

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# 1 Introduction

Racial differences in economic outcomes are wide-spread and persistent, from wage levels (Blinder, 1973; Neal and Johnson, 1996) to call-back rates in interviews (Bertrand and Mullainathan, 2004). The differences extend beyond the workplace to political choices (Washington, 2006) and bargaining outcomes (List, 2004).

Theories of discrimination and of identity posit that these differences are, at least partly, the effect of perceptions—of discrimination and of identity. If Blacks believe that they are discriminated, they will not put as much work effort because they do not believe that it will pay off. A particular version of this explanation is the “acting White” idea (Austen-Smith and Fryer, 2005). In a society where Blacks are a relatively small minority, Blacks are lumped in one low-ability category, giving Blacks limited incentives to work hard to be rewarded for their effort. Blacks may choose to embrace a counter-cultural identity that leads them to reject a “White society” (Akerlof and Kranton, 2000).

In this paper, I study the impact of an event that has plausibly changed the perceptions of what Blacks can achieve: Barack Obama’s candidacy and ultimate election to 44th President of the United States. This salient and successful role model is likely to have altered the perception of discrimination and the perceived identity for Blacks. This change in perceived racial relations, in turn, can plausibly give Blacks more incentives to invest in education, in the workplace, and in public goods, like Obama himself has done. A second, complementary impact of the election is the change in the perceptions of discriminatory behavior by Whites. In most primary elections and in the final election, a large fraction of Whites voted for Barack Obama, to the surprise of many. This political support across racial lines is likely to have reduced the perception of discrimination against Blacks. In turn, this can also plausibly have changed the economic incentives for Blacks to invest.

While it is hard to measure these perceptions, surveys provide suggestive evidence of a change in perceived racial relations in the year of Obama’s election. In a series of Gallup polls (Figure 1), respondents were asked whether they thought that ‘*relations between whites and blacks will always be a problem for the United States, or [...] a solution will eventually be worked out*’. In the surveys for the years 2006 and 2007, the share of optimistic respondents was 54 percent in both years, a share consistent with historical patterns. In June of 2008, this share increases to 58 percent, to further increase to 67 percent on November 5, 2008, right after the election.

Did the Obama election, then, change discriminatory behavior by Whites and economics outcomes for Blacks, as predicted by these models? In this paper, I use an event study methodology to address this question. I focus on key election events, such as the first primary victory (January ‘08), the Democratic convention (August ‘08), the general election (November ‘08), and the inauguration (January ‘09). These events discretely changed the priors about Obama’s

electability, or increased his prominence. To separate the Obama effect from confounding factors, such as the economic crisis, I focus on short-run event studies and examine the impact of the events at the daily or monthly level, attempting to hold constant the underlying economic trends. Also, the focus on differential outcomes for Blacks compared to Whites controls for time factors that are common across races.

First, I focus on the evidence of discriminatory behavior by Whites. As a measure of racial discrimination, I follow Knowles, Persico, and Todd (2001) and use their measure of racial profiling in traffic stops based on comparing the efficacy of searches by race. A race-blind police force that is attempting to detect drug dealers should search drivers up to the point where the marginal probability of detecting drugs or weapons is the same for drivers of different races. For a race-blind police, the probability of finding drugs or weapons conditional on conducting a search should be the same for searches of drivers of different races. A police that discriminates against a racial group, instead, will conduct excess searches of individuals of that group, leading to a *lower* share of drivers with drugs among the searched drivers of that racial group.

Using data for all traffic stops in Illinois, I find substantial evidence of discrimination against Blacks in the year preceding Obama's election, in 2007. In particular, conditional on a search being conducted, Blacks are 20 percent less likely to be found carrying drugs or weapons. Then I consider whether key events in Obama's election affect this measure of discrimination in the days after, or month after, the event. Using either a monthly or daily event study specification, I find no evidence of an effect of the Obama events on the success rate in car stops. To test for the robustness of the results, I replicate the findings using as an alternative measure of discrimination the share of searches as a fraction of the population of that race. Events studies using this alternative specification similarly provide evidence of discrimination in the pre-2008 period, and no change to this discrimination due to the Obama events.

Having examined the impact on the behavior of Whites, I turn to examine the impact of these events on five economic outcomes for Blacks: (i) crime rates; (ii) labor force participation; (iii) application to a professional school (Law School); (iv) contribution to public goods, measured by organ donations; and (v) time spent in investment activities, such as work, as opposed to leisure activities, such as watching television. While it is difficult to collect comprehensive data sets so soon after the election, these five outcomes present a cross-section of labor market, educational, and public good contribution choices. In all of these cases, lowered perception of discrimination and changes in a role model can plausibly lead to improvements in outcomes, i.e., lower crime rates or higher labor force participation.

For all of these outcomes, I use high-frequency daily (monthly in the case of labor force participation) data and consider decision where changes in perceptions due to Obama's candidacy can in principle have an immediate effect: avoiding criminal endeavours, joining the labor force, sending an additional graduate school application, electing to become an organ donor,

or helping more in the household. As above, to address the concerns about alternative factors affecting these variables, such as the recession in 2008, I examine the short-run response to events and use Whites as a control group.

Across these outcomes, I do not find any consistent evidence of an Obama effect. There is no impact on crime rates for Blacks (or for Whites), no evidence of an impact on labor force participation, on Law School applications, on organ donation, or on net time use on investment activities. In most cases, I am able to rule out reasonably small effects. For example, I can rule out with 95 percent confidence that the Obama events lowered crime by more than 1 percent, or that the daily net time spent on investment activities increased by more than 30 minutes.

It is, of course, possible that the Obama effect on perceptions and economic outcomes is small in the short-run but large in the long-run.<sup>1</sup> However, the survey evidence on racial relations suggest that the highest optimism about racial relations occurred around Obama's election. The share of respondents that is optimistic about racial relations reverts to about the baseline levels by October 2009 (Figure 1). The short-lasting impact of the Obama election on racial relations is certainly consistent with survey responses being driven by emotional responses (e.g., pride) which are likely strongest in the short-run. If this is the case, an effect would be most likely identified in the short term.

This paper is related to a small but growing literature in psychology and sociology that attempts to identify the effect of Obama's candidacy on beliefs and behavior. All of the existing studies are laboratory-based and typically use variation in exposure to pictures of Obama to examine the effect on racial attitudes (Aronson et al., 2009; Plant et al., 2009). In contrast, we present field evidence on economic outcomes. One study (Marx, Ko, and Friedman, 2009) considers the Obama effect on test scores by comparing a small sample of respondents that took a (fictitious) test before and after the Democratic convention. This study finds an increase in test score for the Blacks students in the group taking the test after the convention, but the effect only holds for the self-selected group that chose to listen to Obama's acceptance speech.

More generally, this paper relates to the literature on the impact of political role models on behavior. Mullainathan and Washington (2008) examines the lasting impact of voting on political polarization. Beaman et al. (forthcoming) finds that (randomized) exposure to female legislators improves perceptions of female leader effectiveness and ultimately leads to electoral gains for women. It is an important question along which dimensions, and at which horizon, exposure to political role models changes behavior, and when it does not.

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<sup>1</sup>Unfortunately, as in so many other settings, identifying long-run effects is difficult given the confounding time effects. One example is the identification of the effects of exposure to media violence which is possible in the short-run (Dahl and DellaVigna, 2009), but implausible in the long-run.

## 2 Data and Events

In this section we first introduce the various data sets on economic outcomes (summarized in Table 1) and then discuss the Obama events.

**Traffic Stops.** The measure of racial discrimination builds on Knowles, Persico, and Todd (2001). Knowles et al. suggest a novel test of race-based discrimination in vehicle searches. Rather than focusing on the share of a demographic group that is stopped and searched, it tests for differences in the ratio of searches that lead to findings of drugs, weapons, or other illegal elements. A demographic group is discriminated against by the police if the share of searches that are successful is lower for that group than for other groups. That is, the police searches a group too much, given the fact that *ex post* there is a lower success rate in the searches.

The original Knowles et al. (2001) focuses on data on a specific highway in Maryland and does not find any evidence of discrimination against Blacks, though it does find evidence of discrimination against Hispanics. For this paper, we obtained the data on all traffic stops in Illinois from 2005 to 2008. The data contains all stops, whether the stop lead to a search, and in case of a search whether drugs, weapons, or other paraphernalia were found. It also has information on the race of the person searched and the location of the stop, but no information about the identify of the police officer conducting the search. Since the data reports consistently the findings of the searches only from 2007 on, we focus the analysis on the 2007 and 2008 years.<sup>2</sup>

**Crime.** The first economic outcome is the propensity to commit criminal behavior. The crime data is from the Monthly Arrest and Citation Register (MACR) database of the California Department of Justice. The data consists of all incidents of crime covering the years 2006-2008, amounting to 5,741,812 records. It includes information on the race of the offender though not on the race of the victim. We use this data set to construct a monthly and daily time series of crimes.

**Application to Law School.** The record on law school applications are from a highly-ranked school and include all applications submitted for the Classes of 2006, 2007, 2008, and 2009. Applications are rolling and are submitted typically between October and February of the previous academic year, with a small number of applications in September and March. The records contain the exact date in which the application was received, which is the date of application for online submissions (the majority in recent years) and the date of processing for submissions via mail. We include only US applicants, for whom the applications indicate the race of the applicant.

**Organ Donations.** As a measure of public good contribution, for the organ donors that

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<sup>2</sup>The results do not change if we use the older years as well as a control group.

are involved in a fatal accident we observe the cases where the organs are donated. In the case of an accident, the family of the victim is typically contacted for a decision about the organ donation. While in principle assent of the family is not required if the victim had expressed the intention to be an organ donor, in practice in most States the authorities do not proceed with an organ explant if the family objects to it. Hence, we observe a measure of pro-social behavior by the family of the victim. We have records of all organ donations with the date of the donation and the race of the donor from the United Network for Organ Sharing (UNOS) for the years 2006-2008. The average daily number of donations is 14.77 for white donors and 3.55 for black donors.

**Time Use.** The daily diaries from the ATUS data provide information on time spent on different activities from 2006 to 2008. Each respondent in the ATUS data indicates all the activities undertaken in one day in 15 minutes increments. On average, there are 34.62 respondents on a given day, of which 13.25 percent are black. We use this data to construct a measure of time spent in investment activities, net of time spent in leisure activities. The measure of investment activities includes time spent on work (166.71 minutes on average), educational activities (16.71 minutes), sports (17.59 minutes), volunteering (9.77 minutes), help in household (34.51 minutes), and help for other household (8.95 minutes). The time spent on leisure activities includes the time spent on watching television (167.23 minutes), on eating and drinking outside the home (13.92 minutes), gambling (0.8 minute), smoking (0.38 minute) and the time spent partying (6.92 minutes). The final measure of time spent on net investment activities averages to 72.02 minutes (s.d. 2.06) for White respondents and -4.49 minutes (s.d. 5.65) for Black respondents.

**Obama Events.** In order to evaluate the effect of the Obama role model, we analyze the short-run response to a series of events. We first analyze the response at the monthly level, which allows for a delayed response to the events. Then, we analyze the timing more precisely at the daily level.

Panel A of Table 2 lists the most prominent events at the daily level. The first daily event is the unexpected victory in the Iowa Democratic primary on January 3, 2008. This victory loomed large because an almost entirely white State voted for a Black candidate by a significant margin, upsetting the expectations that Hillary Clinton would win. In Figure 2 we plot the price of the Intrade security for whether Obama would become to Democratic primary nominee from the beginning of January 2008 until the end of July 2009. The Iowa victory significantly increases the predicted probability of victory from about 25 percent up to 70 percent.

This electoral victory was quickly followed by a primary lost to Hillary Clinton in New Hampshire on January 8, with Obama coming in as a close second. After the New Hampshire losses the betting price decreases from 70 percent to about 40 percent and it hovers around this price for most of the month. We code this event as the only negative event in the sample.

As the next daily event, we identify the date of the major round of concentrated primaries, the so-called Super Tuesday (2/5/2008). The fact that the count of delegates won on this day was a narrow victory for Obama was overall positive news and drew additional headlines. While the price of the Intrade security briefly declines, it then increases significantly over a 1-week period to over 50 percent.

Following superTuesday, a number of smaller primaries increase the lead of Barack Obama. However, it is hard to point to each individual event as a major individual event. We classify as the next (positive) event the major speech on race that on March 18, 2008 Obama gave in response to the controversy over the Rev. Wright statements about religion and politics. This speech was generally positively received by all sides, largely put the Rev. Wright controversy to rest, and is regarded as one of Obama's best speeches. This event did not have an immediate impact on the security price (Figure 2), but it is followed by an increase in the betting price. In addition, the speech is likely to have had an impact (presumably positive) on perceived racial relations, even aside from affecting Obama's probability of election.

As the next events, we consider the final primary on June 4, 2008 and the Democratic convention on August 28, 2008. The final primary victory as followed by the concession speech by Hillary Clinton which made it near certain that Obama would be the first African American to become the Democratic Party candidate for a Presidential election. The Democratic Convention at the end of August 2008 and in particular Obama's speech on August 28, 2008, was perceived to be successful and a unifying event after the divisions in the primary between supporters of Barack Obama and supporters of Hillary Clinton.

The final two events are Barack Obama's victory in the general election on November 4, 2008 and the official inauguration as 44th President of the United States on January 20, 2009. With the first event, Obama's election, it becomes apparent that whatever the racial barriers are, they did not stop a Black candidate from occupying the highest office in the country. The second event, while of course completely expected, triggered a nation-wide celebration reflecting also in very high liking rating for Obama.

While in the daily event studies we consider all these events, in the monthly event studies we consider only what we deem the most important events (Panel B): the initial primaries (January 2008), the Convention (August 2008), the final election victory (November 2008), and the Inauguration (January 2009). This classification adds to the two most important election victories (the first—Iowa—and the last—the final election) two expected, highly ceremonial events, the Convention and the Inauguration. We consider all of these months positive event months, including January 2008. Despite the New Hampshire and Nevada losses, after the Iowa victory the probability of election for Obama hovers around 30 to 40 percent, significantly higher than the 20 percent pre-primaries probability.

This categorization of events is admittedly subjective and subject to criticism. To address this concern, in the next Sections we report the raw monthly series by race for the outcome

variables to illustrate the identification. The daily event studies results do not depend on any particular event.

### 3 Effect on Racial Profiling

As a measure of racial discrimination, we follow Knowles, Persico, and Todd (2001) and use their measure of racial profiling in traffic stops. Discrimination in traffic stops has long been alleged based on the fact that Blacks are disproportionately stopped and disproportionately searched as a share of the population. Knowles et al. (2001) point out however that disproportionate searches are not direct evidence of discrimination. Blacks may, for example, drive different cars or drive in different areas that statistically are associated with higher incidence of criminal behavior; as such, one would expect a police force that is attempting to control crime to indeed stop them more frequently. If Blacks are stopped more often because they ultimately are more likely to carry drugs, Knowles et al. argue, it is not discrimination by race, but rather effective crime prevention, which should be the purpose of the police.

The alternative measure that Knowles et al. (2001) propose is based on comparing the efficacy of searches by race. A race-blind police force that is attempting to detect drug dealers should search drivers up to the point where the marginal probability of detecting drugs or weapons is the same for drivers of different races. To the extent that the distribution of the marginal drivers is not different from the distribution of the infra-marginal driver, this implies that in the case of a race-blind police the probability of finding drugs or weapons should be the same for searches of drivers of different races. A police that discriminates against a racial group, instead, will search individuals of that group, despite the fact that they are no more likely to carry drugs. Discrimination in the data, hence, will be detected as a *lower* share of drivers with drugs among the searched drivers of that racial group.

We implement this test using a comprehensive data set of all traffic stops in Illinois, a state with a sizeable Black minority. Following Knowles et al. (2001), we compute the share of all car searches that lead to findings of drugs or weapons. As preliminary evidence, Figure 3 shows the evolution at the daily level of this measure, computed separately for Black drivers and White drivers, over the year 2007-2008. The data shows a clear pattern that consistently the share of successful searches is lower for Black searched drivers than for White searched drivers, *prima facie* evidence of discrimination against Blacks. Figures 4a and 4b generate the same data at the monthly level and provide consistent evidence: in each month, the ratio of successful searches is the same for Blacks and Whites. This result differs from the finding of Knowles et al. (2001) who find no statistical difference between the share of successful searches for Black and White drivers.

The focus of this analysis is whether the Obama role model changed patterns of behavior, in this case racial profiling by the police. Given the substantial racial differential in this measure,

it is certainly plausible that key Obama events could partially close this gap if Barack Obama’s rise changes positively the perceptions that Whites have of Blacks. Figure 4a and 4b show that in the key months for the Obama events (January ‘08, August ‘08, and November ‘08) there appears to be no difference in the share of successful searches for Blacks, nor for Whites. Hence, it does not appear that in these months the racial gap in successful searches, the proxy for discrimination, closed.

To provide a statistical test of this hypothesis, we estimate the following regression model using the monthly date. Denote by  $y_{m,r}$  the share of successful searches in month  $m$  for race  $r$  (Black/White). Denote by  $d_m^O$  an indicator variable for the months with positive events regarding Obama’s election, as per Panel B of Table 2. Also denote by  $d_r^B$  an indicator variable for race  $r = \textit{Black}$ . We estimate the OLS regression

$$y_{m,r} = \alpha + \beta d_m^O + \beta^B d_m^O * d_r^B + \gamma d_r^B + \Delta X_m + \varepsilon_{m,r}, \quad (1)$$

where the controls  $X_m$  consist of 12 month-of-year indicators to capture seasonality and year indicators to capture time trends. The standard errors are clustered by month, so as to allow for correlation between the two monthly realizations for White and Blacks. The coefficient  $\gamma$  captures the average difference in outcome  $y_{m,r}$  between Blacks and Whites. The coefficient  $\beta$  captures the increase in outcome  $y$  for Whites in months with positive Obama events, controlling for seasonality. The coefficient  $\beta^B$  captures the differential increase for Blacks relative to Whites in correspondence to the Obama events. We can thus test three hypotheses: (i) the Obama events did not have any effect ( $\beta = \beta^B = 0$ ); (ii) the Obama events had an effect, and this effect does not differ across races ( $\beta = \beta^B \neq 0$ ); (iii) the Obama events had an effect on Blacks, but not on whites ( $\beta = 0 \neq \beta^B$ ).

Column (1) in Table 3 shows estimates of (1). The estimated coefficient  $\hat{\gamma}$  indicates a 5 percent point difference in the success ratio of the searches between Blacks and Whites, consistent with the patterns of Figure 3. We do not find instead any evidence of a change in this pattern in the month associated with salient Obama events. In Column (2) we estimate this same specification using a narrower definition of searches, which includes only findings of drugs, with similar results. The observed discrimination against Blacks does not appear to have changed with key events in the Obama election.

One may, however, be concerned about the Knowles et al. (2001) proxy for discrimination. As an alternative test, we can re-estimate specification (1) using as dependent variable  $y_{m,r}$  the log of the number of drivers of race  $r$  that are searched in month, divided by the population of that race. This specification investigates whether the Obama events changed the extent to which Blacks are searched at all, compared to Whites. Column (3) in Table 3 indicates evidence that Blacks are substantially more likely to be searched, and that this pattern does not change with the Obama events.

Overall, we find consistent evidence of discrimination against Blacks in car stops in Illinois,

but no evidence that key events associated with Obama’s election induced a change in this pattern of discrimination.

## 4 Effect on Outcomes for Blacks

### 4.1 Monthly Event Studies

For each outcome, we first present graphical evidence on the monthly time series separately by race (White versus Black), and then present statistical evidence. We use the same model as in specification (1), where  $y_{m,r}$  will denote the log of the count of occurrences of an outcome (crime, organ donation sign-ups, etc.) in month  $m$  for race  $r$  (Black/White).<sup>3</sup>

**Crime.** Figures 5a and 5b plot the monthly data for crime occurrences with a Black offender (Figure 5a) and a White offender (Figure 5b) for the years 2006-2008. Overall the crime rates in California are remarkably persistent over time, with moderate seasonality. The year 2008 in which the Obama election unfolded is, to a first approximation, associated with a somewhat higher crime rate for Blacks, but not for Whites, the opposite of what one would expect if the Obama election has lowered the propensity to commit crime by Blacks. Obviously, this could also be due to the increased unemployment rate in 2008 that may have affected Blacks differentially. Considering the months with the biggest Obama events in the data—January, August, and November 2008—one does not see a systematic difference in crime relative to other month for either Whites or Blacks. The regression findings in Table indicate a marginally significant decrease in crime for whites ( $\hat{\beta} = -.0422$ ) and an insignificant relative increase in crime for Blacks ( $\hat{\beta} = .033$ ). The evidence therefore does not support the idea that Obama’s election reduced the crime rate among Blacks. This conclusion is not due to a lack of power. Given the precise estimates, we can rule out that, compared to the effect for Whites, that the three Obama events lowered the crime rate in the month by more than 0.7 percent, a very small decrease.

**Labor Force Participation.** Figures 6a and 6b presents the labor force participation for Blacks and Whites over the years 2006-2009. There is no evidence in the data of an increase in labor force participation for Blacks, or for Whites, in the key months for the election. The point estimates in Table 4 indicates that we can reject a differential effect for Whites of 0.6 percentage points, off of a basis of 63 percentage points.

**Application to Law School.** Criminal behavior does not appear to have been responsive to a change in role model induced by the Obama events. However, it is conceivable that the Obama victory may have changed the economic behavior of Blacks in other dimensions that are more closely associated with Obama’s background. A clear example is Obama’s Law School

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<sup>3</sup>For the applications to Law School, the year fixed effects refer to the academic year.

education which was extensively covered by the media. As such, we consider the impact on applications to a top-ranked Law School.<sup>4</sup>

Given the relatively short horizon of the event study, we do not attempt to capture the extensive margin decision—whether to apply to Law School at all. Instead, we focus on the intensive margin decision—how many schools to apply for. Once the LSDAS file is complete, an additional application typically costs between \$50 and \$150, and can be submitted online within a short time frame. To the extent that Obama motivates Blacks to apply to Law Schools, it may induce them to apply to more schools to increase the likelihood of acceptance, and/or to apply to higher-ranked law schools, such as the one in our sample.

Figures 7a and 7b present the data on Law School application for, respectively, Black and Whites applicants. While the applications are made on a rolling basis, the large majority of applications come in between October and February, which are the months we focus on. The Figure for Blacks shows a distinct increase of applications for the 2009 entering class. Interestingly, four of the three largest year-on-year increases in Law School applications coincide with the three Obama event months (January 2008, November 2008, and January 2009). However, it is not easy to separate this from a time-series increase in application in the most recent season due for example to the economic crisis. To the extent that the economic crisis affects Whites and Blacks similarly, we can compare the increase for Blacks to the one for Whites to estimate the differential Obama effect. Figure 7b shows similar increases for application rates by Whites for November 2008 and January 2009, though not in January 2008. Column 3 in Table 4 provides a formal test of the hypothesis. While the point estimates indicate a 4 percent larger increase for Whites than for Blacks in the Obama event months, this difference is not statistically significant. Hence, while there is suggestive evidence of an impact on Law School applications in the time series, if this effect occurred it likely affected both races, and is not easily separated from time series shifts.<sup>5</sup>

**Organ Donations.** Next, we examine the decision (taken by the family) to explant the organs in the case in which a fatal accident occurs. Organ donation is an altruistic decision that benefits an anonymous recipient. Given that the Blacks are a minority in the US, the decision to donate organs quite possibly benefits a non-Black. As such, the disposition to donate the organ by Blacks can be taken as a measure of social preferences of Blacks toward Whites. Figures 8a and 8b report the results. There is no evidence that the Obama event months are associated with a higher willingness to donate organs by either Blacks or Whites, except perhaps for an increase (only for Blacks) in November 2008.

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<sup>4</sup>While we have not (yet) been able to obtain similar data from other Law Schools, this Law School is likely to be representative of other top Law Schools.

<sup>5</sup>We collected data on applications to a Business School in the same campus as the Law School. Unfortunately, the total number of applications is significantly smaller than to the Law School, and hence it is difficult to provide precise evidence in regard.

**Time Use.** A final set of outcomes that could be impacted by the Obama role model is the allocation of time. The Obama role model represents a case in which the time spent on ‘investment’ activities such as work and education paid off, and individuals, inspired by his example, may also decide to spend more time on work and education as opposed to watching television and going out. Using the ATUS time diaries, we thus compute a measure of minutes spent on investment activities, net of the time spent on leisure activities (see Section 2). Notice that this measure can be negative if the time spent on leisure activities is larger than the time spend on investment activities. The monthly average of this daily measure is quite volatile for Blacks (Figure 9a), with no evidence of increases of the time spent on investment activities in the Obama event months. The evidence form the time use of Whites (Figure 9b) similarly reveals no systematic change. The lack of a systematic pattern is confirmed when we consider the individual components, such as television usage and time spent helping in the household.

The regression results (Column 5 in Table 4) confirms to graphical findings: there is no systematic pattern in the effect of the Obama events on time use. In particular, we can reject that the Obama events increased the time spent in net investment activities (for example, through less TV watching) for Blacks by more than 33 minutes per day.

## 4.2 Daily Event Studies

The monthly event studies, while showing transparently the time-series variation in the outcomes, are not designed to capture a possible dynamic Obama effect. For example, they treat events occurring at the beginning of a month and events occurring at the end of a month in a similar fashion, and they would not adequately capture an Obama effect that appears immediately after the event, but disappears, say, within a week.

To better capture these events, we perform here daily event study regressions. Denote by  $y_{t,r}$  the daily count of occurrences of an outcome (crime, organ donation sign-ups, etc.) on day  $t$  for race  $r$  (Black/White). Calling  $t_{EV}$  the date of an event, we denote by  $d_{t,[s,S]}^O$  a variable that is one (respectively, -1) for days  $[t_{EV} + s, t_{EV} + S]$  of a positive (negative) event, and zero otherwise. For example,  $d_{t,[0,6]}^O = 1$  indicates days within the first week right after a positive event, and  $d_{t,[-7,-1]}^O = -1$  indicate days in the week before a negative event. We estimate the Poisson count model

$$\begin{aligned} \log(y_{t,r}) = & \alpha + \beta_{[-7,-1]} d_{t,[-7,-1]}^O + \beta_{[0,6]} d_{t,[0,6]}^O + \beta_{[7,13]} d_{t,[7,13]}^O + \\ & + \gamma_{[-7,-1]} d_{t,[-7,-1]}^O d_r^B + \gamma_{[0,6]} d_{t,[0,6]}^O d_r^B + \gamma_{[7,13]} d_{t,[7,13]}^O d_r^B + \gamma d_r^B + \Delta X_t + \varepsilon_{t,r}. \end{aligned} \quad (2)$$

The controls  $X_m$  consist of 365 day-of-year indicators to capture time-invariant seasonality, 7 day-of-week indicators to capture within-week variation, and year indicators to capture time trends. The standard errors are clustered at the month level to capture any autocorrelation within a month as well as correlation across races.

This methodology allows to test for immediate (that is, one-week) effects of the Obama events ( $\beta_{[0,6]}$  and  $\gamma_{[0,6]}$ ), as well as effects delayed by one week ( $\beta_{[7,13]}$  and  $\gamma_{[7,13]}$ ). In addition, it presents ‘placebo’ results of the events in the previous week ( $\beta_{[-7,-1]}$  and  $\gamma_{[-7,-1]}$ ). In order to increase power, this specification makes the restriction that a negative event has the same effect of opposite sign as a positive event.

Overall, the findings using the daily event studies (Table 5) are similar to the findings using the monthly event studies. This similarity is not obvious, given that the daily event studies not only consider a different horizon but also focus on additional events, such as the super-Tuesday primaries and the speech on race. The estimate of the effect of a positive Obama event on crime for White offenders is to lower crime by 3.2 percent the first week after the event, and by 1.4 percent the week after. Compared to that, the effect for crimes committed by Black offenders is a 2.9 percent *increase* in crime in the first week and a 3.2 percent the second week, this second increase being statistically significant. The direction of these effects is consistent with the monthly event study estimate of Table 3.

This correspondence holds also for the effect of law school applications which is positive, but not significantly different, for Blacks compared to Whites. The effect on donations for fatal accidents for Blacks is insignificantly positive. Also the effect for the time use is similar to the effect with a monthly event study. The daily event studies, therefore, confirm the findings of the monthly events studies that there is little evidence, if at all, of an Obama effect in the short-run.

Finally, we provide graphical evidence of the event study estimates at the daily level in Figure 10a-d by plotting the residuals of log OLS regressions as in (2). We renormalize all the dates in event time and average the residuals across all the events, changing the sign of the one negative event. This graphical evidence shows no indication of a change in the behaviors following the event.

## 5 Conclusion

In this paper, we have used an event study methodology to provide evidence on whether Obama’s election has affected discrimination by Whites and economic outcomes for Blacks by changing perceptions. We examine the effect on a range of outcomes, from criminal behavior to time use. We do not find any evidence of a differential change in outcomes due to the events for Blacks relative to Whites. In fact, we can reject even fairly small effects, for example on crime.

This raises the question of whether the epochal election of Barack Obama has changed only beliefs about racial relations, but not actual outcomes. A possibility is that the election has induced changes, but these changes are limited to the political realm where the Obama example resides. For example, it is possible that the extremely heavy Black turnout of the

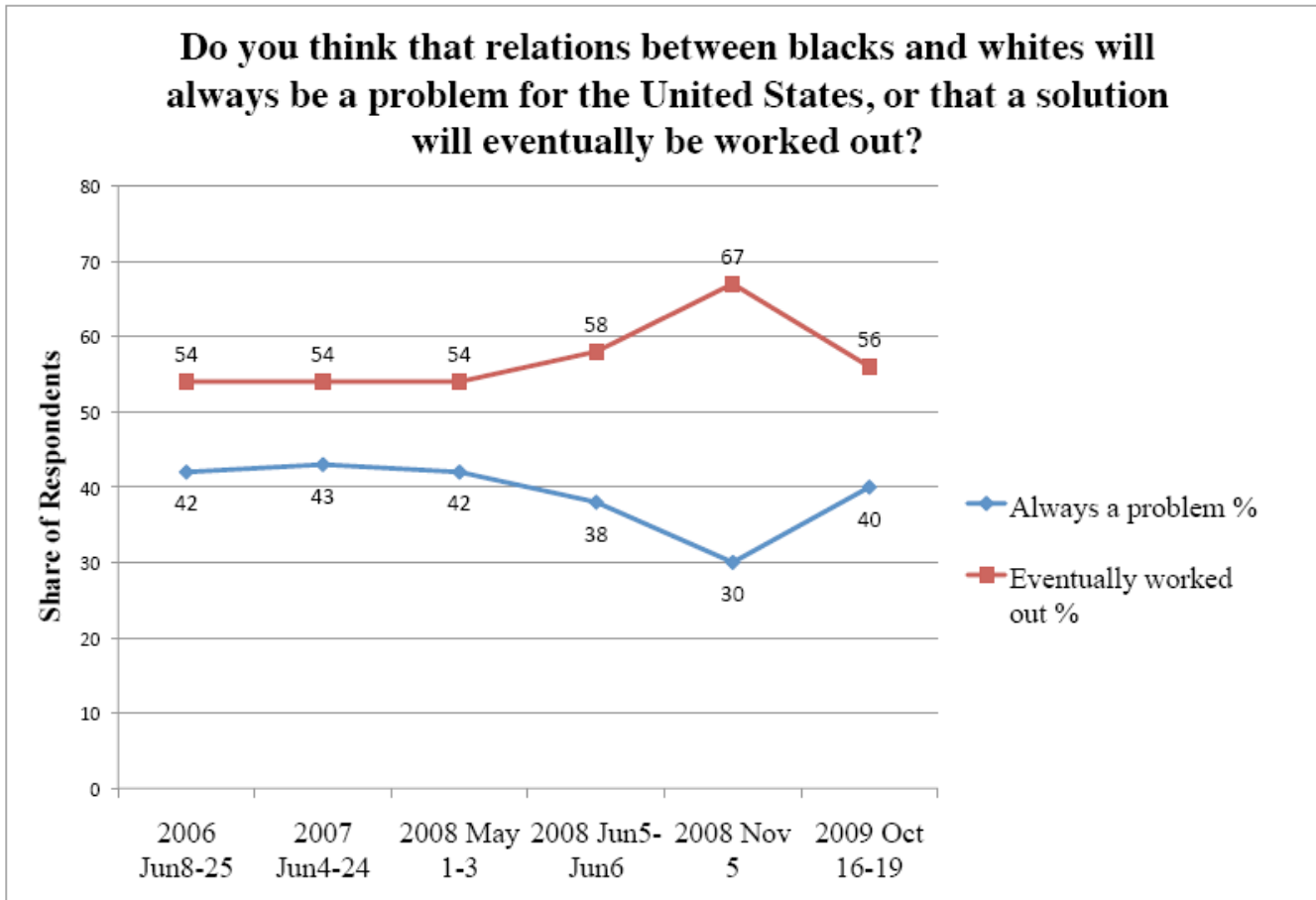
2008 Presidential election will persist and apply to future elections as well. A new generation of Black voters may also be motivated to participate in politics. We leave these conjectures to future research.

## References

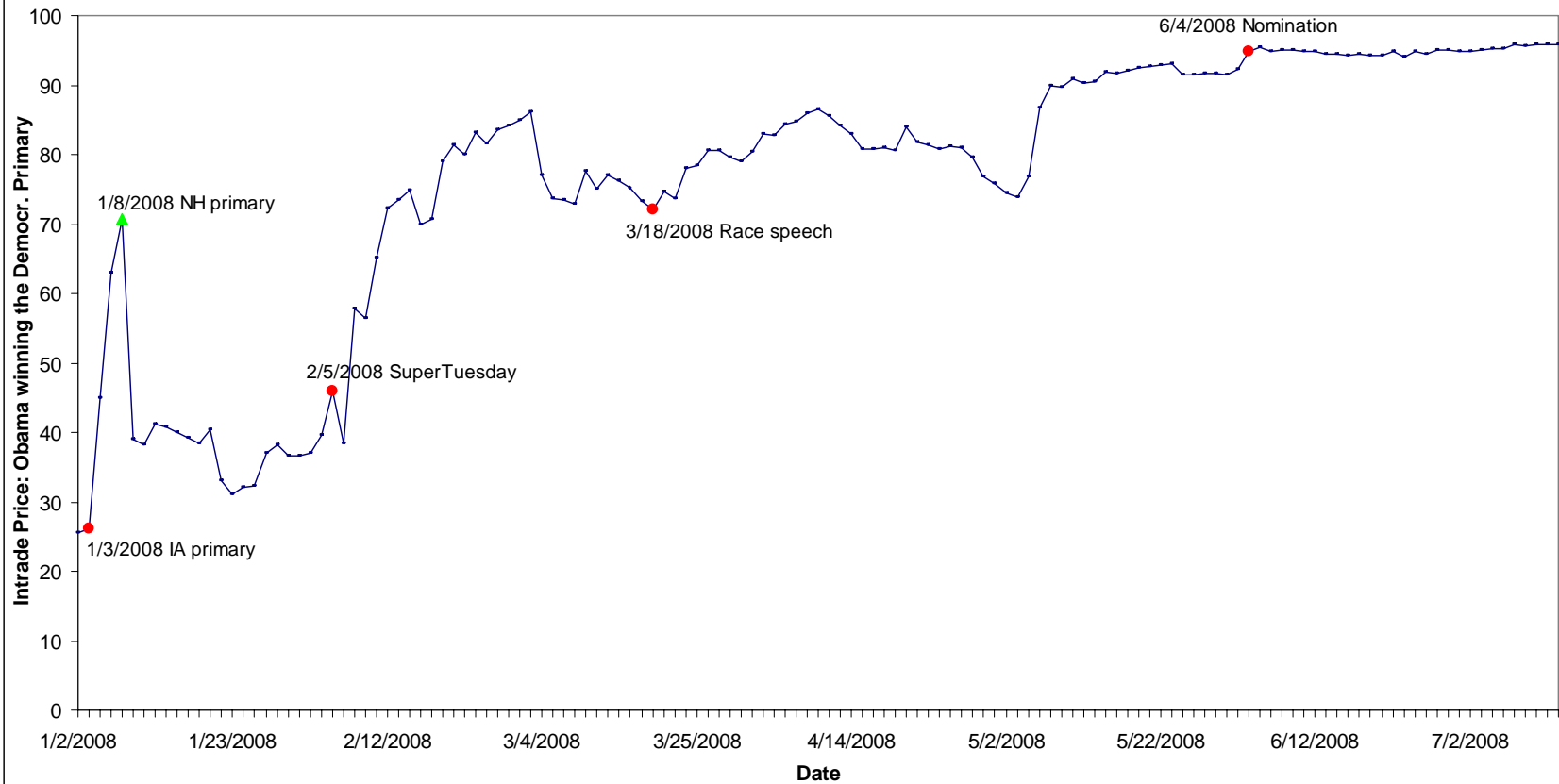
- [1] Akerlof, George A. and Rachel E. Kranton. "Economics and Identity", *Quarterly Journal of Economics*. August 2000, Vol. 115, pp. 715-753.
- [2] Aronson, Joshua, Sheana Jannone, Matthew McGlone, Tanisha Johnson-Campbell. "The Obama effect: An experimental test" *Journal of Experimental Social Psychology*, July 2009, Vol. 45, pp. 957-960.
- [3] Austen-Smith, David and Roland G. Fryer Jr. "An Economic Analysis of 'Acting White'" *Quarterly Journal of Economics*, May 2005, Vol. 120, pp. 551-583.
- [4] Beaman, Lori, Raghavendra Chattopadhyay, Esther Duflo, Rohini Pande, and Petia Topalova. "Powerful Women: Does Exposure Reduce Prejudice?" *Quarterly Journal of Economics*, forthcoming.
- [5] Bertrand, Marianne and Sendhil Mullainathan. "Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination", *The American Economic Review*, Sep. 2004, Vol. 94, pp. 991-1013
- [6] Blinder, Alan S.. "Wage Discrimination: Reduced Form and Structural Estimates" *The Journal of Human Resources*, Vol. 8, No. 4 (Autumn, 1973), pp. 436-455.
- [7] Dahl, Gordon and Stefano DellaVigna "Does Movie Violence Increase Violent Crime?" *Quarterly Journal of Economics*, May 2009, Vol. 124, pp. 677-734.
- [8] Knowles, John, Nicola Persico, and Petra Todd. "Racial Bias in Motor-Vehicle Searches: Theory and Evidence" *Journal of Political Economy*. February 2001, Vol. 109(1), pp. 203-29.
- [9] List, John. "The Nature and Extent of Discrimination in the Marketplace: Evidence From the Field" *Quarterly Journal of Economics*, February 2004, Vol. 119, pp. 49-89.
- [10] Marx, David M., Sei Jin Ko and Ray A. Friedman. "The 'Obama Effect': How a salient role model reduces race-based performance differences" *Journal of Experimental Social Psychology*, July 2009, Vol. 45, pp. 953-956.
- [11] Mullainathan, Sendhil and Ebonya Washington. "Sticking with Your Vote: Cognitive Dissonance and Political Attitudes", *American Economic Journal: Applied Economics*, January 2009, Vol. 1, pp. 86-111
- [12] Neal, Derek A. and William R. Johnson. "The Role of Premarket Factors in Black-White Wage Differences", *The Journal of Political Economy*, Oct. 1996, Vol. 104, pp. 869-895.

- [13] Plant, E. Ashby Patricia G. Devine, William T.L. Cox, Corey Columb, Saul L. Miller, Joanna Goplen, B. Michelle Peruche. “The Obama effect: Decreasing implicit prejudice and stereotyping” *Journal of Experimental Social Psychology*, July 2009, Vol. 45, pp. 961-964.
- [14] Washington, Ebonya. “How Black Candidates Affect Voter Turnout”, *Quarterly Journal of Economics* August 2006, Vol. 121, Pages 973-998.

**Figure 1. Survey Question about Race Relations (Gallup Polls)**

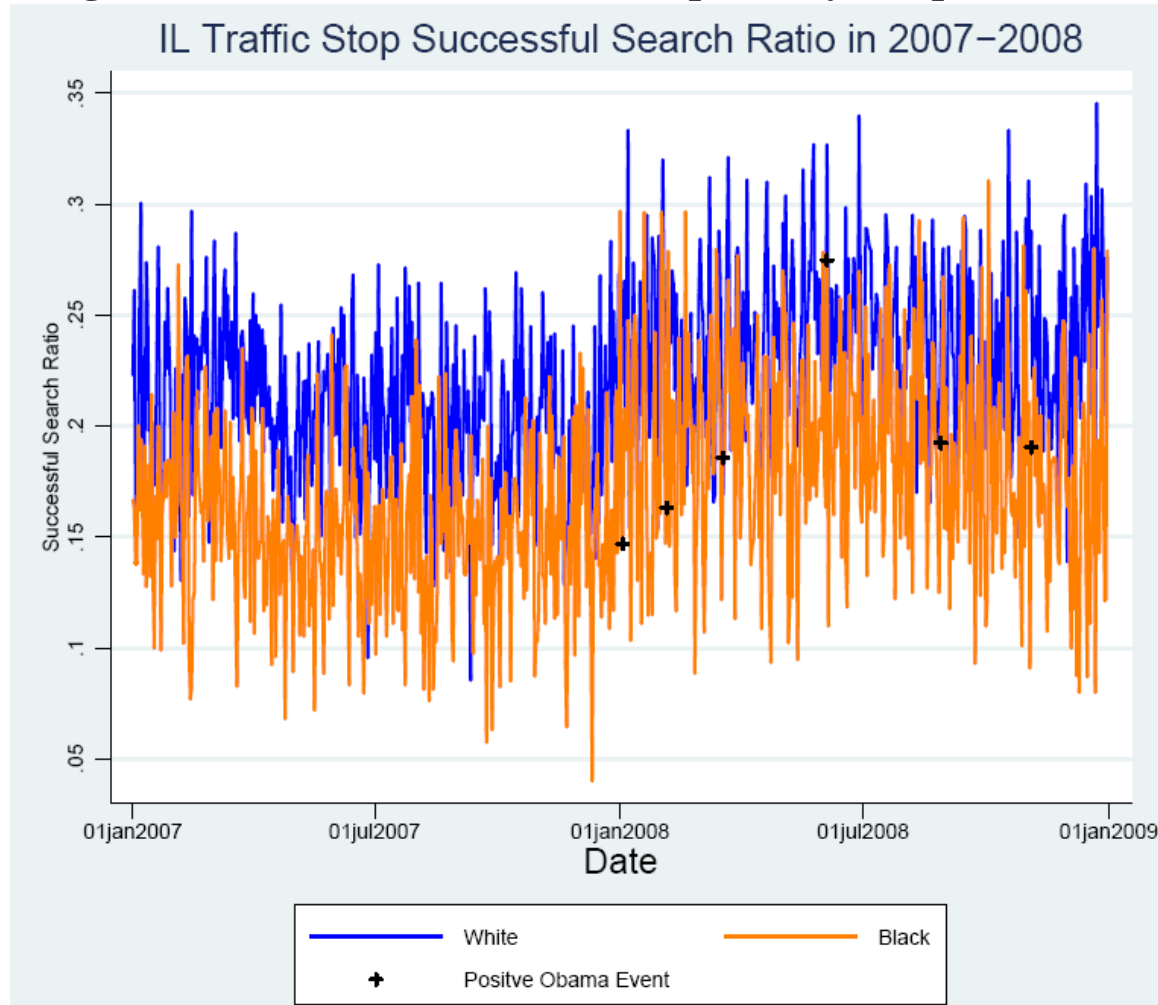


**Figure 2. InTrade Security on Obama Primary Win and Events**

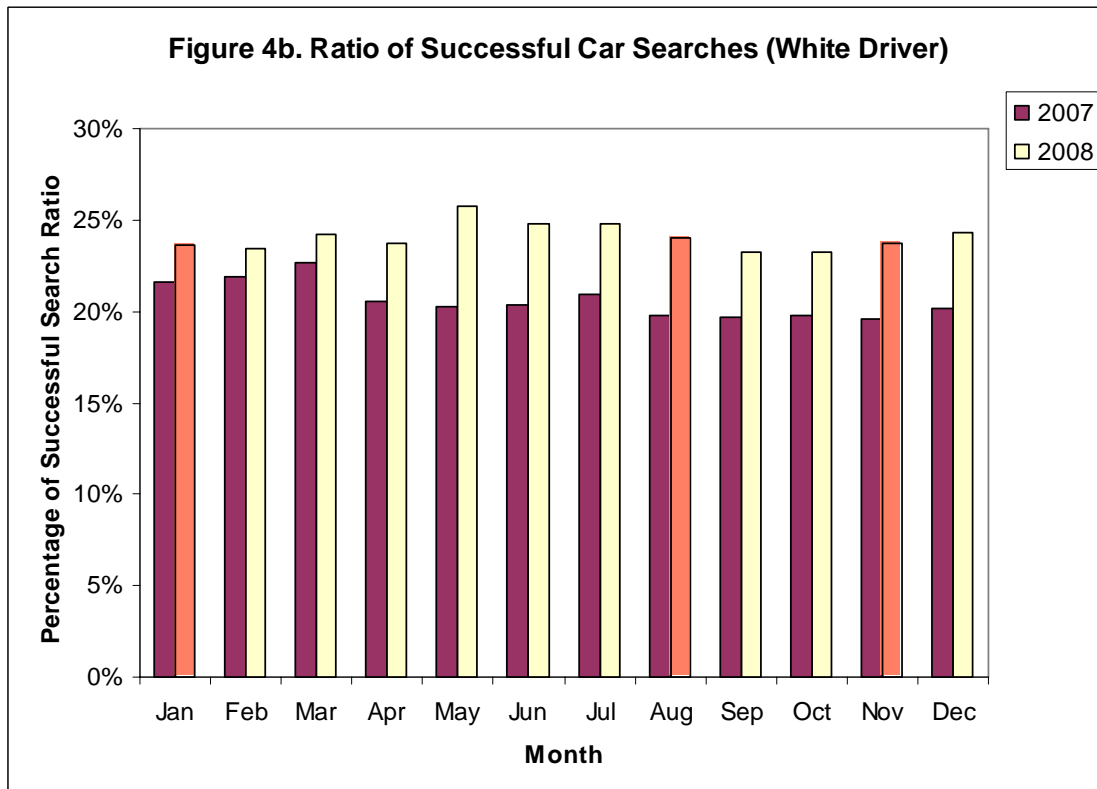
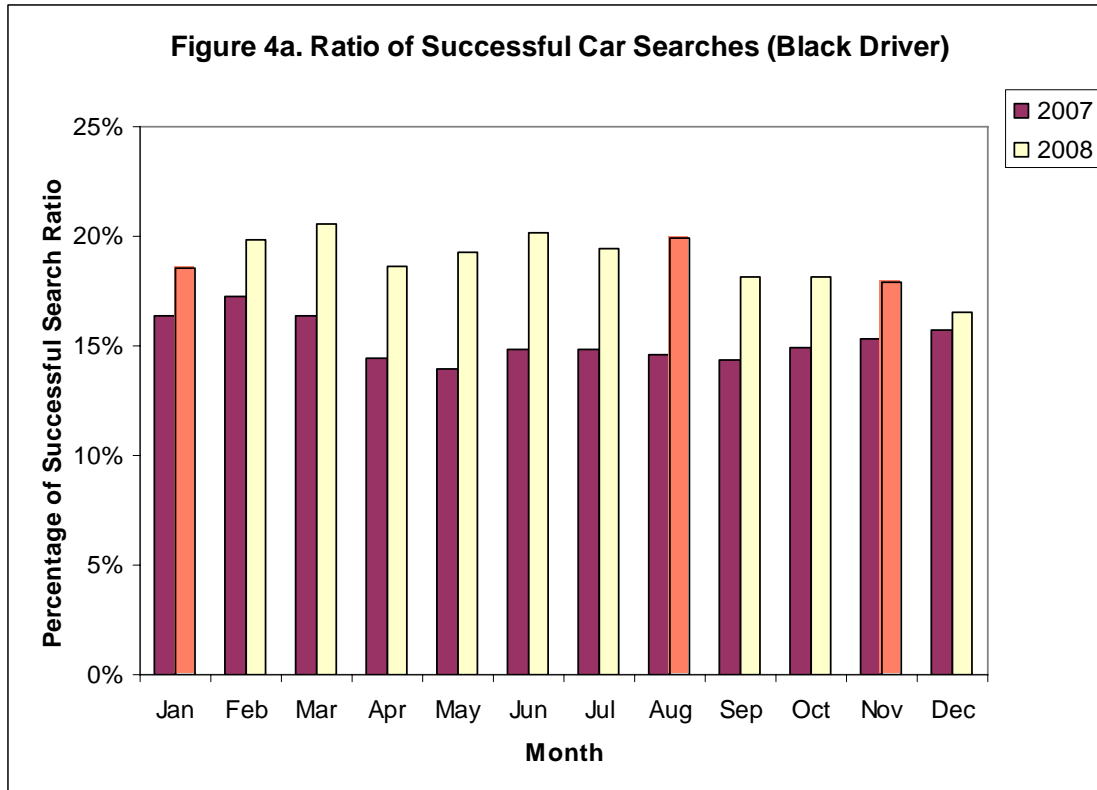


**Note:** Figure 2 plots the price of the InTrade security for the event that Obama will secure the Democratic Primary at different dates. Emphasized in the figure are five events that we use in the event study. A red square indicates events favorable to Obama, while a green triangle indicates unfavorable events. See Table 2 for a list of all the events.

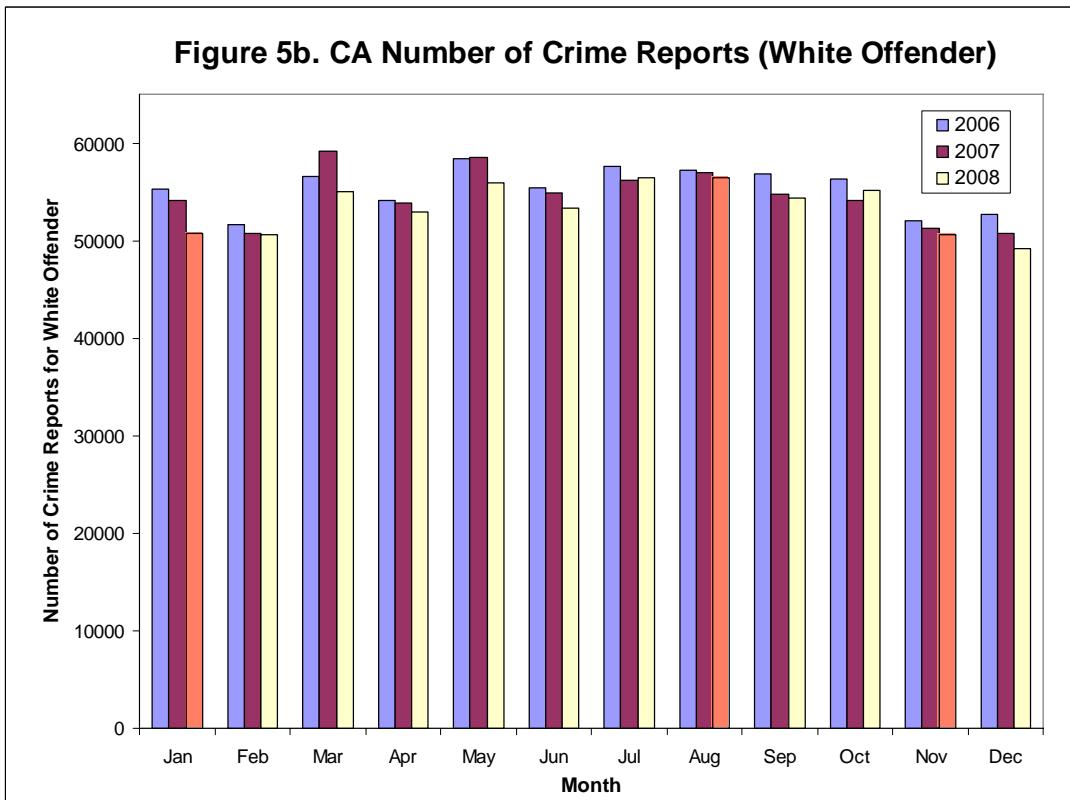
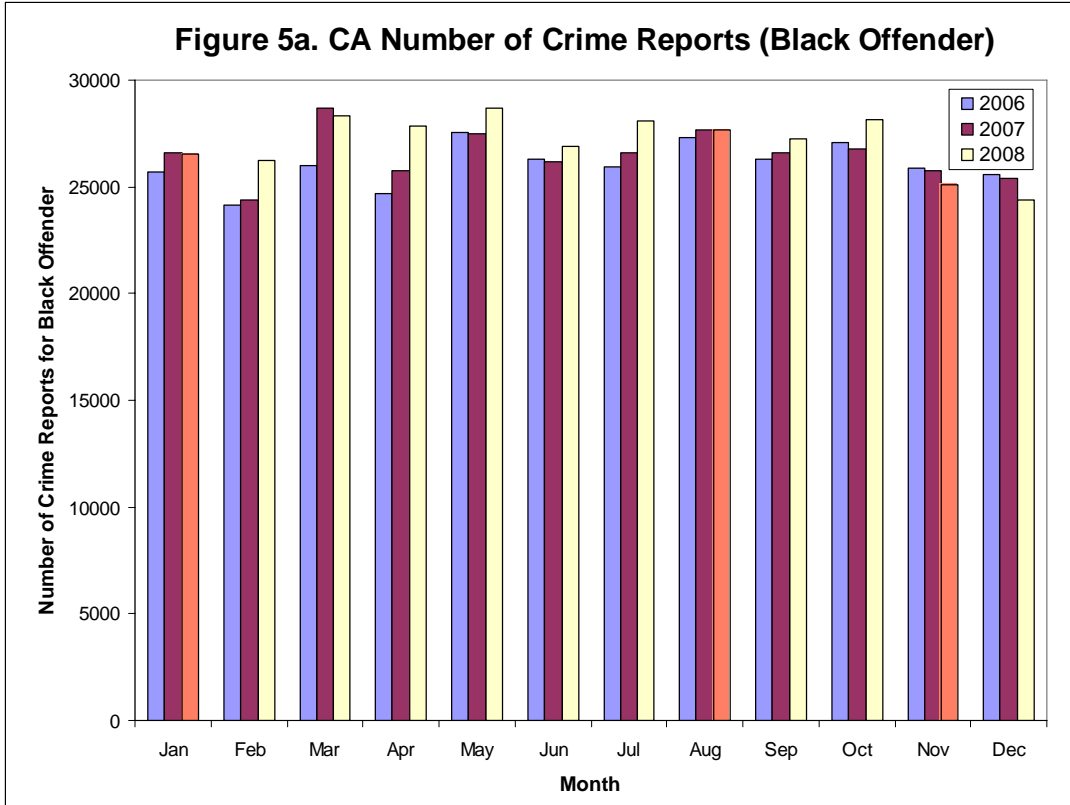
**Figure 3. Discrimination in Car Stops, Daily Graph, IL data**



**Note:** Figure 3 reports the ratio of searches leading to discovery of drugs or weapons as a fraction of all searches undertaken on day  $t$  for race  $j$ . A lower value of this ratio for a demographic group is evidence of discrimination (Knowles et al., 2001)

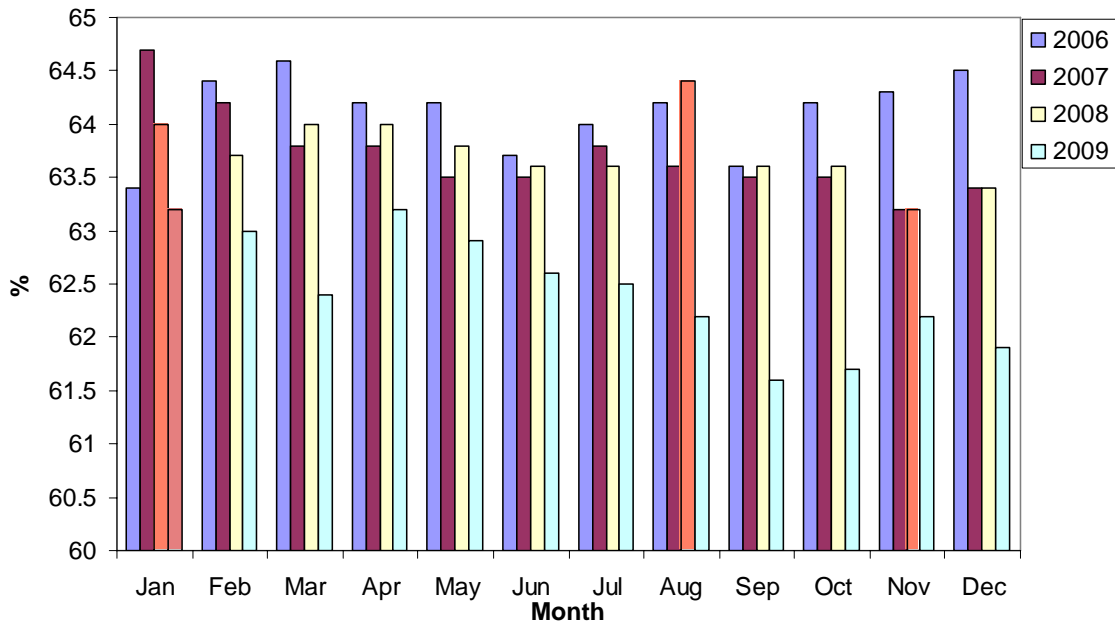


**Note:** Figures 4a and 4b report the ratio of searches leading to discovery of drugs or weapons as a fraction of all searches undertaken in month  $t$  for race  $j$ . A lower value of this ratio for a demographic group is evidence of discrimination (Knowles et al., 2001)

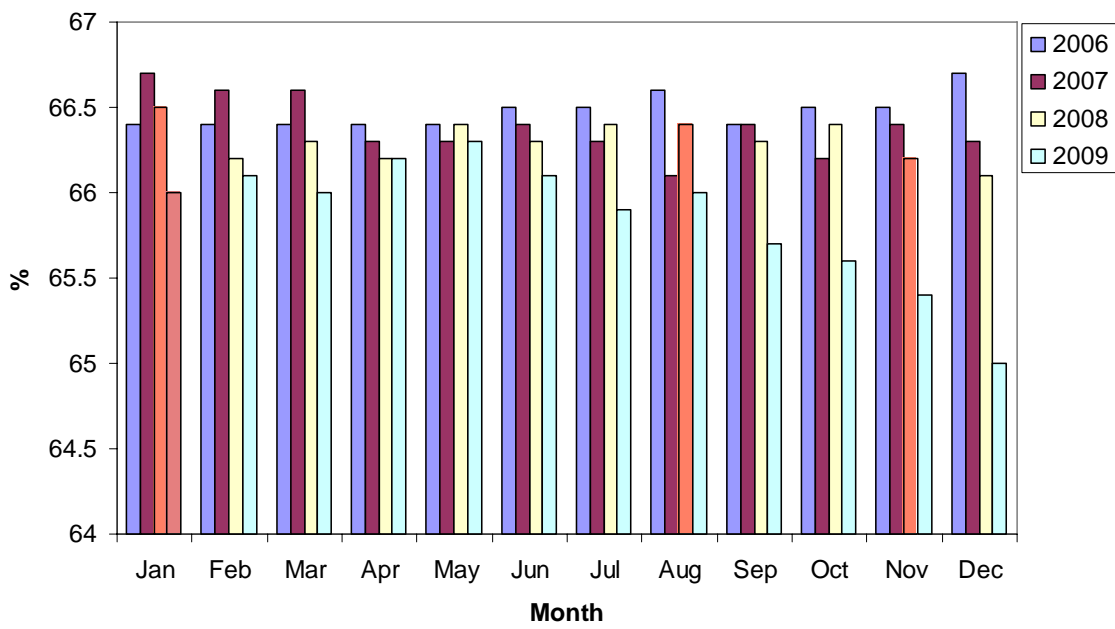


**Note:** Figures 5a and 5b report counts of crime from the MACR data set of the California Department of Justice.

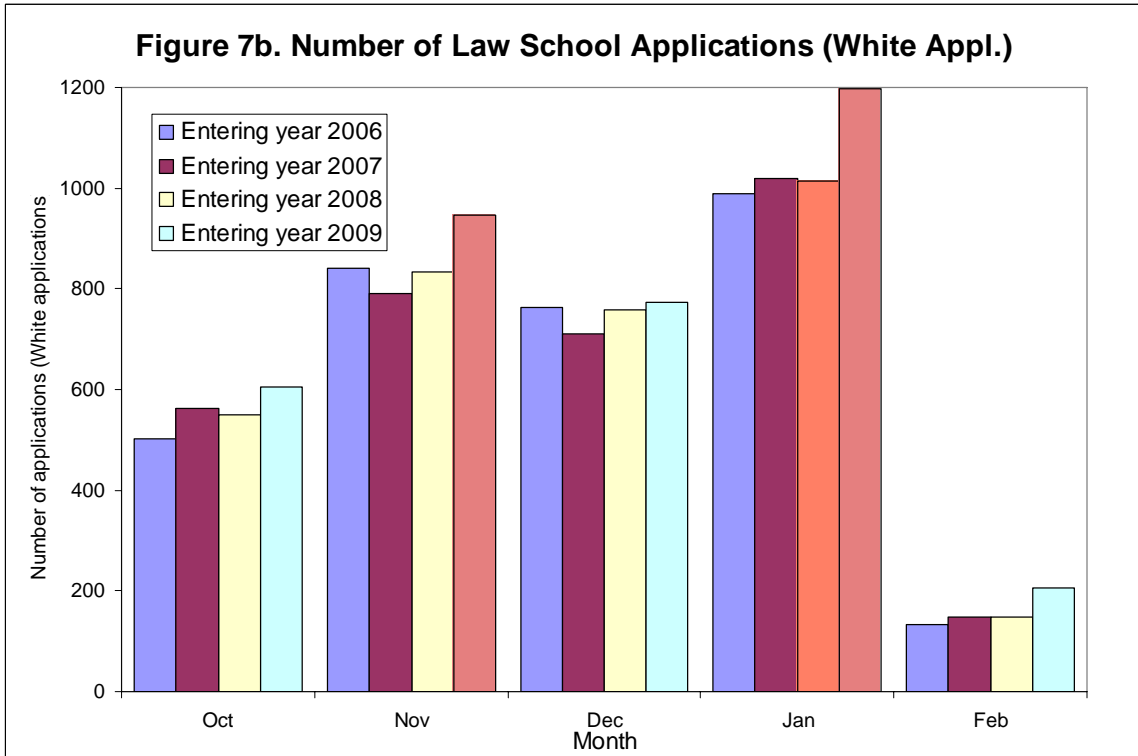
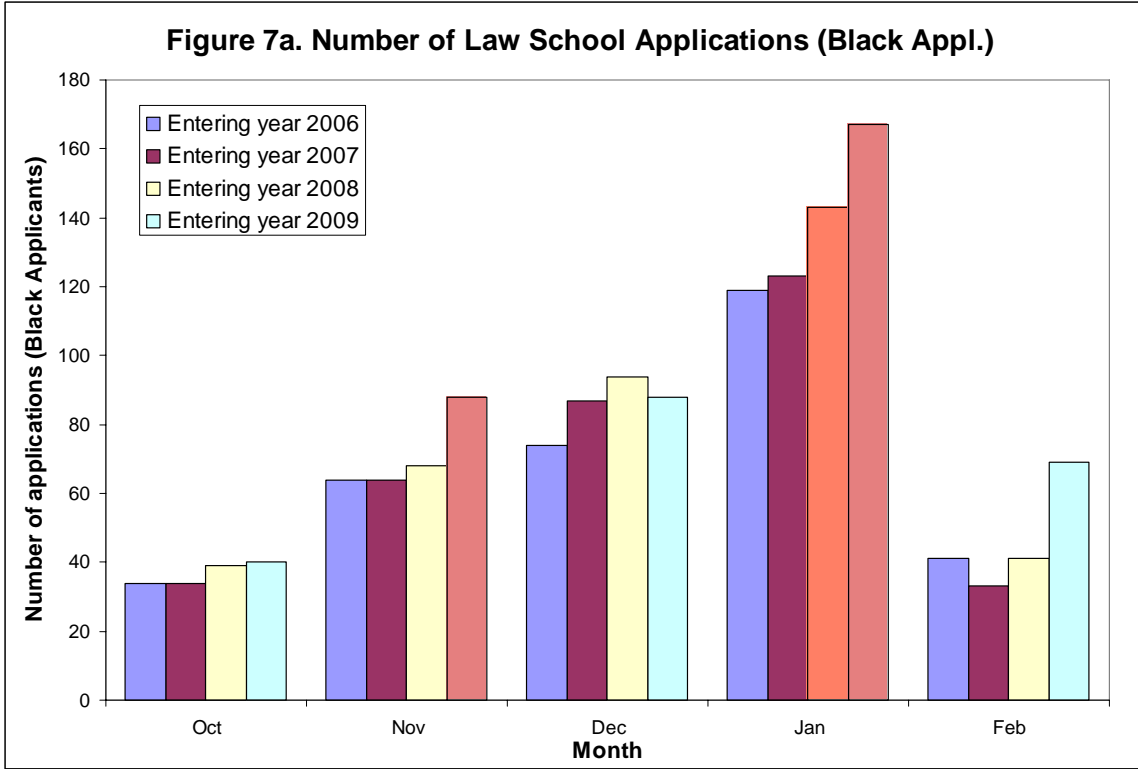
**Figure 6a. Labor Force Participation Rate (Black)**



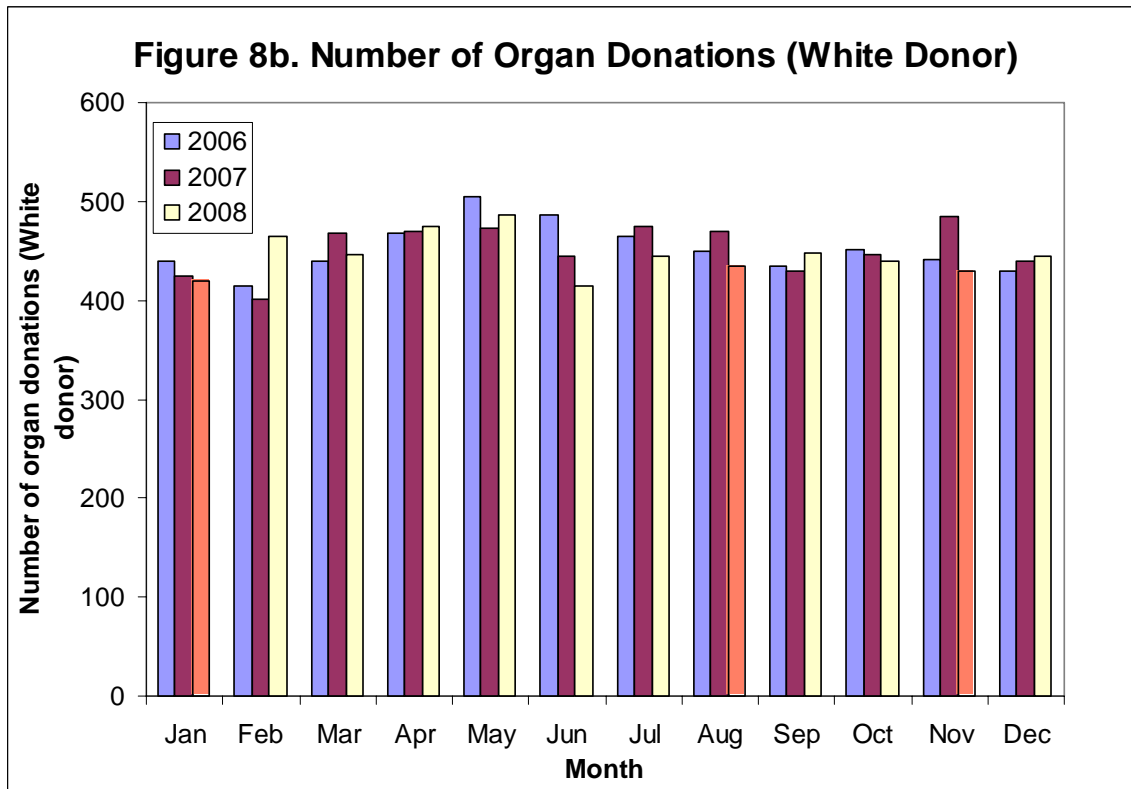
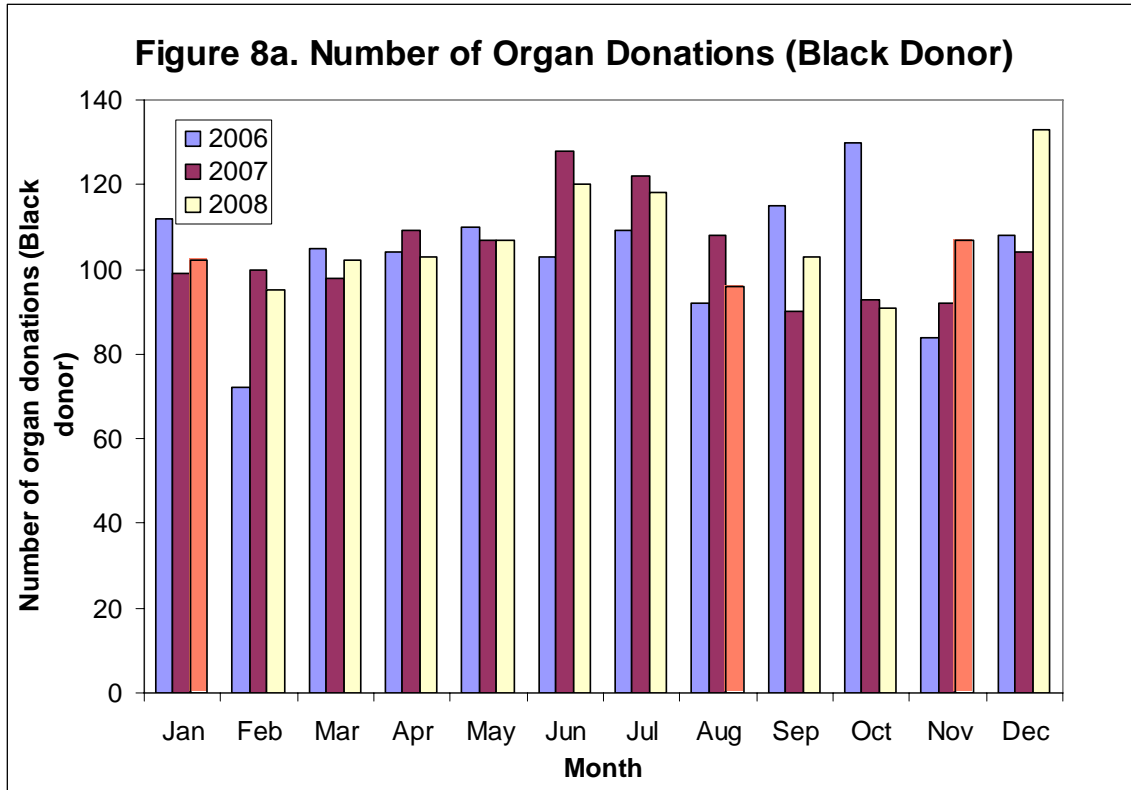
**Figure 6b. Labor Force Participation Rate (White)**



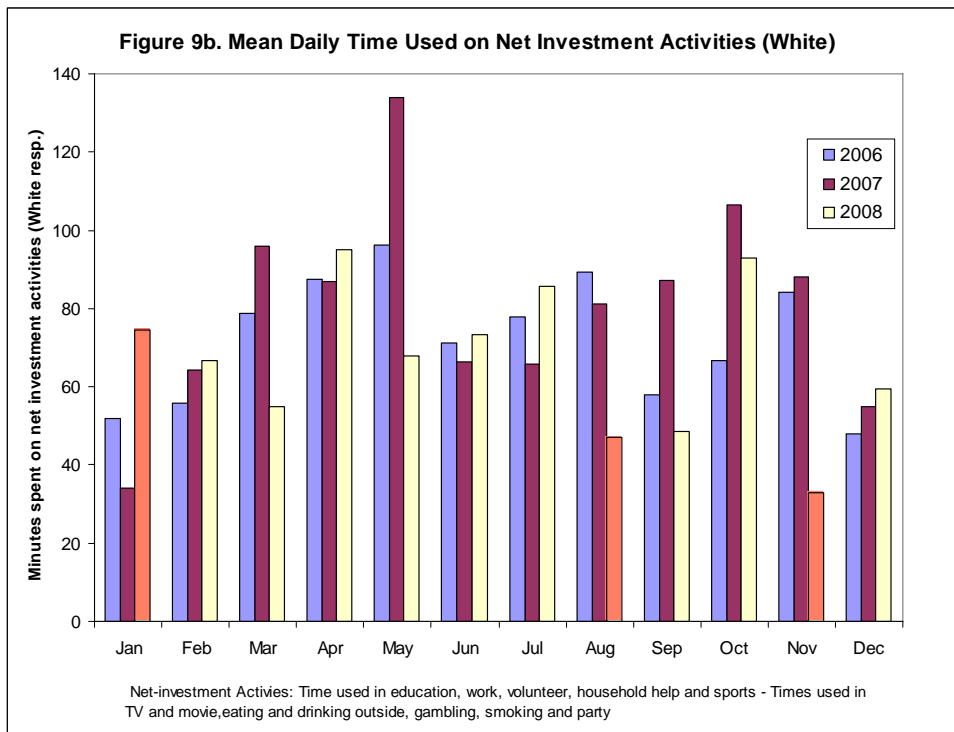
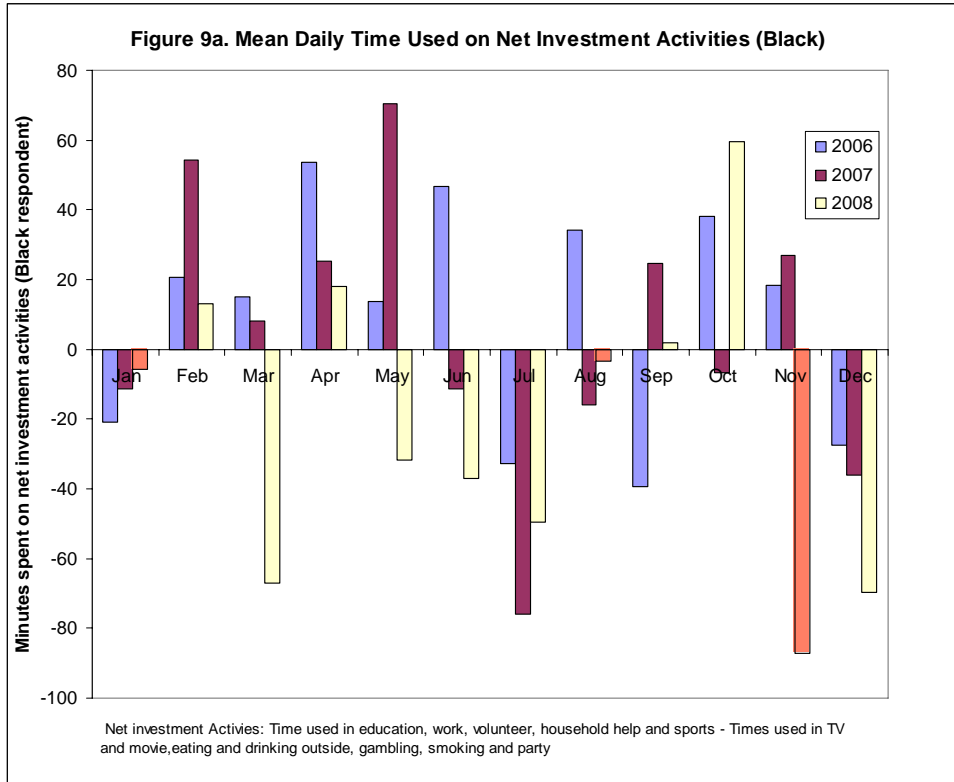
**Note:** The data refers to the labor force participation rate from the BLS at the monthly level by race.



**Note:** The data refers to the applications to a top-ranked Law School. The Figures include only applications in the top five months (October to February). The applications excluded are for September 2005 (118 applications by Whites and 9 by Blacks), March 2008 (2 by Whites), June 2008 (20 by Whites), July 2008 (7 by Whites) and April 2009 (2 by Whites, 1 by Black).

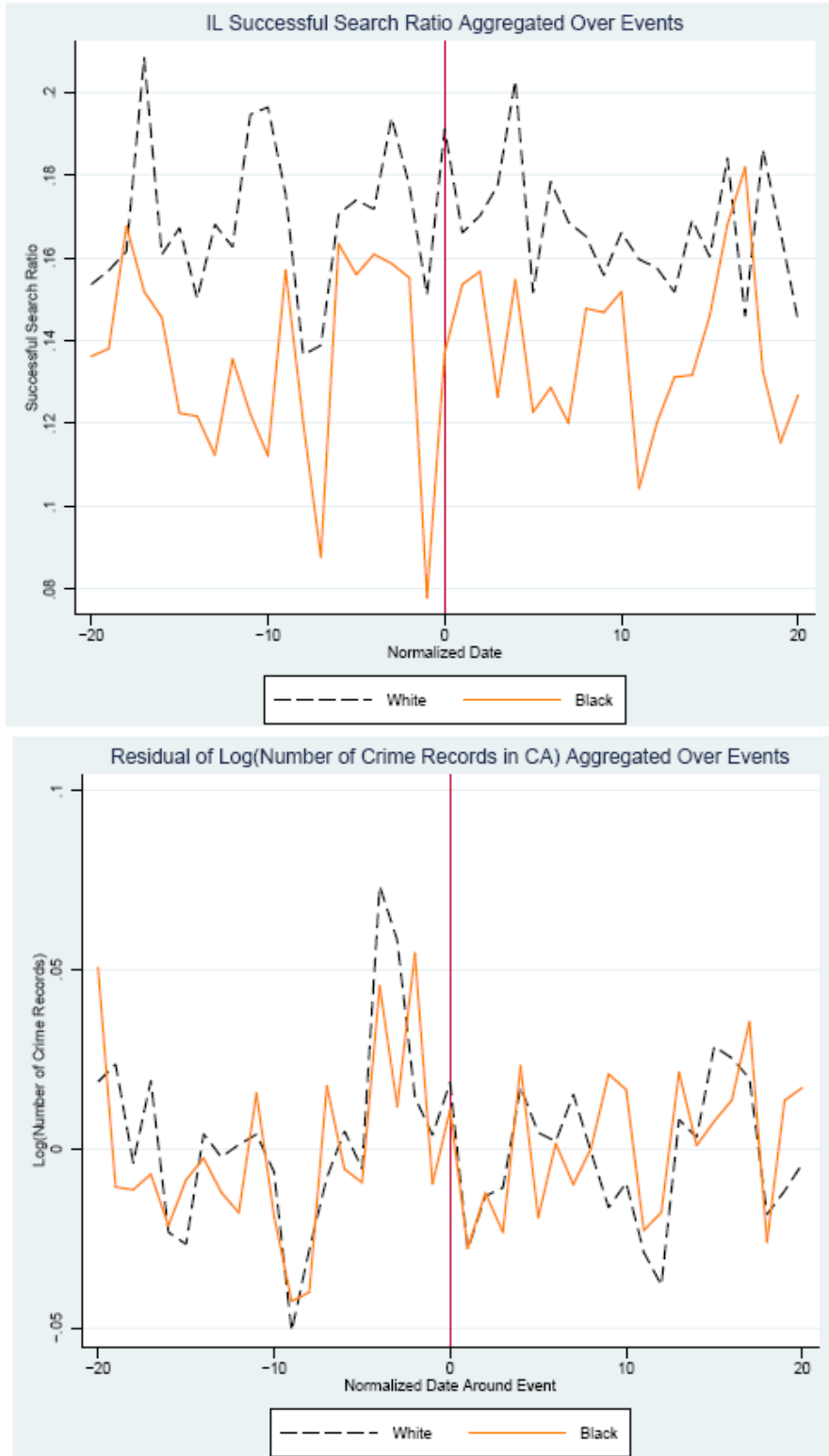


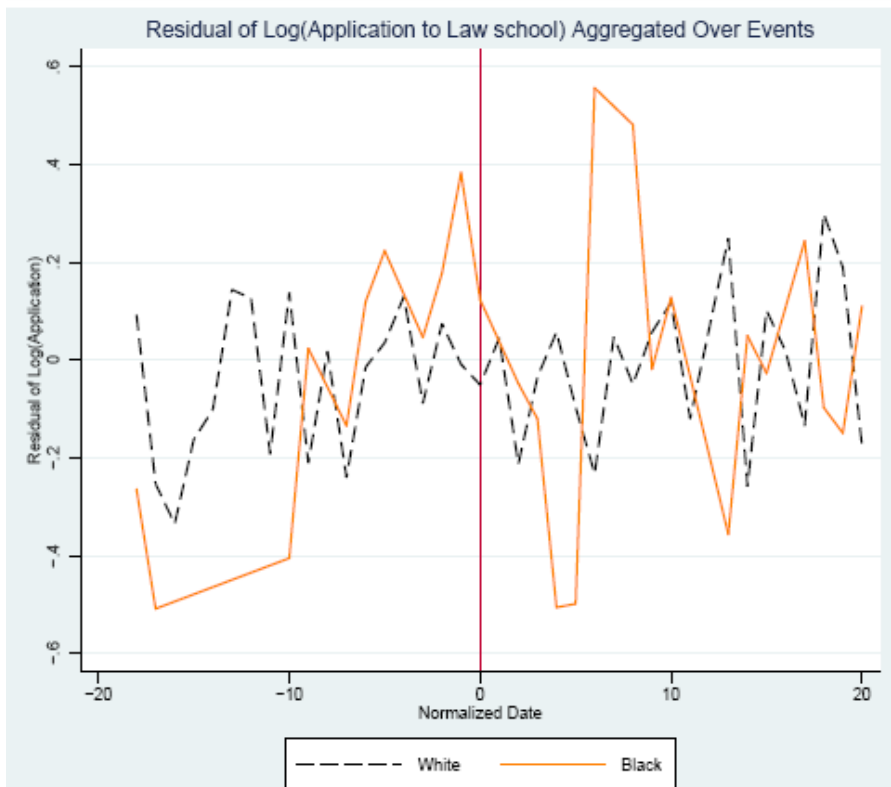
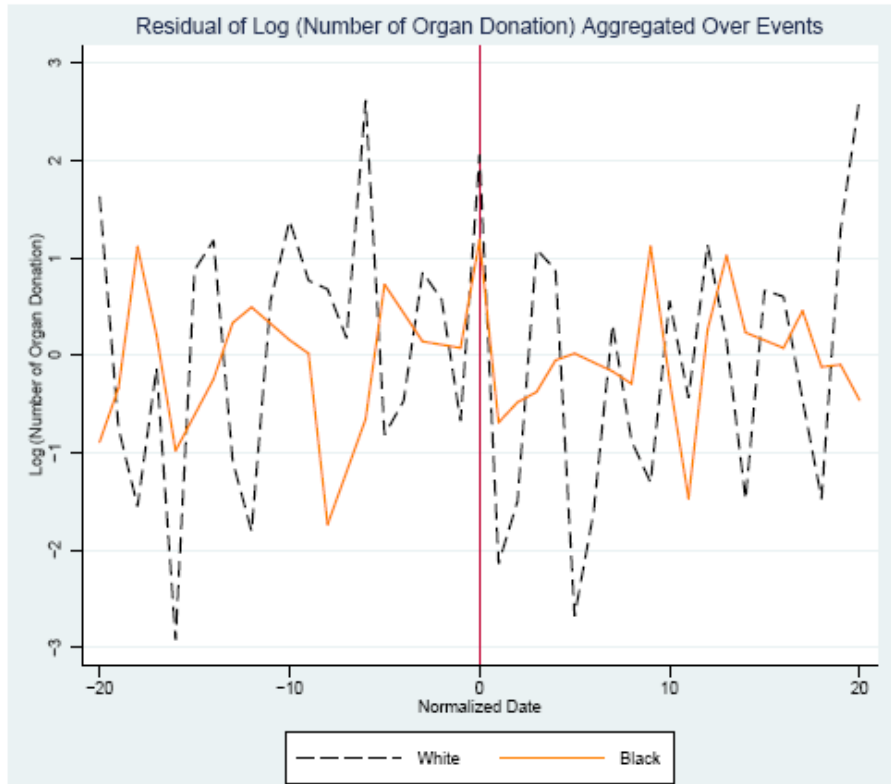
**Note:** The data covers all organ donations for the case of fatal accidents in the US. The data source is the United Network for Organ Sharing (UNOS).



**Note:** The daily diaries from the ATUS data provide information on time spent in all the activities undertaken in one day in 15 minutes increments. The final measure of time spent on net investment activities is an average across respondents and over days of the total daily minutes spent on investment activities minus the total daily minutes spent on leisure activities. The investment activities include work, education, sports, volunteering and help in household and outside household. The leisure activities include watching TV, eating and drinking outside the home, gambling, smoking, and partying.

**Figure 10a-d. Effect of Obama Events, Daily Event Study**





**Note:** Figures 10a reports the daily level of successful search ratios (the measure of discrimination, Figure 3). Figures 10b-d report the residuals of regressions of the outcome variable at the daily level on the set of controls of Table 5. The residuals are converted to event time and averaged across the daily events listed in Table2. The residual for the one negative Obama event is changed of sign before aggregation.

TABLE 1  
DATA ON ECONOMIC OUTCOMES AND SUMMARY STATISTICS

<b>Outcome</b>	<b>Discrimination in Traffic Stops</b>	<b>Crime Occurrences</b>	<b>Labor Force Participation</b>	<b>Law School Applications</b>	<b>Organ Donations</b>	<b>Net Time Use on Investment Goods</b>
<b>Data Description</b>	All traffic stop in Illinois	All reports or crime in California from MACR data base	Labor force participation	Applications to a top-ranked Law School	Organ explants due to fatal accident	Time use data from ATUS time diaries
<b>Key Variable</b>	Share of searches which result in findings of drugs or weapons	Number of occurrences of crime	Labor force participation	Number of applications to a top-ranked Law School	Daily number of organ explants	Average time spent daily in investment activities, net of time spent in leisure activities
<b>Source</b>	Illinois Department of Transportation	California Department of Justice	BLS	Administrative Law School Records	United Network for Organ Sharing	Bureau of Labor Statistics
<b>Years Covered</b>	2007-2008	2006-2008	2006-2008	Entering year 2006-2009 5 months: October-	2006-2008	2006-2008
<b>Months Covered</b>	12 Months	12 Months		February	12 Months	12 Months
<b>Data Frequency</b>	Daily	Daily	Monthly	Daily	Daily	Daily
<b>Number of Records</b>	4969811	5741812		28629	24091	37914
<b>Information on Race</b>	Yes (Race of driver stopped)	Yes (Race of offender)	Yes	Yes	Yes	Yes
<b>Share Black</b>	0.173	0.166		0.053	0.157	0.133

Notes: See text for additional information.

TABLE 2  
LIST OF EVENTS FOR OBAMA ELECTION

<b>Panel A: Daily Event Study</b>		
<b>Date</b>	<b>Valence</b>	<b>Description</b>
<b>1/3/2009</b>	Positive	<i>First Primary:</i> Barack Obama wins election in Iowa primary, against expectations
<b>1/8/2009</b>	Negative	<i>Second Primary:</i> Barack Obama loses second election in New Hampshire primary to Hillary Clinton
<b>2/5/2008</b>	Positive	<i>Super Tuesday:</i> Barack Obama wins 847 delegates (to Clinton's 834) from the 23 States holding primaries on Super Tuesday
<b>3/18/2008</b>	Positive	<i>Speech on Race:</i> Barack Obama gives speech on race which earns very positive reviews
<b>6/4/2008</b>	Positive	<i>Nomination:</i> Barack Obama wins the Democratic nomination for President
<b>8/28/2008</b>	Positive	<i>Convention:</i> Barack Obama gives the speech in Democratic National Convention
<b>11/4/2008</b>	Positive	<i>Election:</i> Barack Obama is elected 44th President of the United States
<b>1/20/2009</b>	Positive	<i>Inauguration:</i> Barack Obama is inaugurated as president

<b>Panel B: Monthly Event Study</b>		
<b>Date</b>	<b>Valence</b>	<b>Description</b>
<b>January 2008</b>	Positive	<i>First Primary:</i> Barack Obama wins election in Democratic primary in Iowa, against expectations
<b>August 2008</b>	Positive	<i>Convention:</i> Democratic Convention by acclamation chooses Barack Obama as Democratic nominee for President
<b>November 2008</b>	Positive	<i>Election:</i> Barack Obama is elected 44th President of the United States
<b>January 2009</b>	Positive	<i>Inauguration:</i> Barack Obama is inaugurated as president

Notes: See text for additional information.

TABLE 3  
EFFECT OF OBAMA EVENTS ON DISCRIMINATION FOR BLACKS: MONTHLY EVENT

<b>Specification:</b>	<b>OLS Regression</b>		
<b>Dep. Var.Outcome:</b>	<b>Successful Search Ratio</b>	<b>Successful Search Ratio (Only Drugs)</b>	<b>Log (Number of Stops / Population)</b>
	(1)	(2)	(3)
Dummy for positive month for Obama	-0.0032 [0.0062]	-0.0086* [0.0047]	0.0083 [0.0251]
Positive Obama month* Black Dummy	0.003 [0.0057]	0.0082* [0.0045]	-0.0227 [0.0272]
Dummy for Black	-0.0528*** [0.0026]	-0.0257*** [0.0023]	1.1598*** [0.0096]
Month-of-year Dummies	X	X	X
Year Dummies	X	X	X
R-squared	0.95	0.88	0.99
Number of Observations	48	48	48

**Notes:** Each observation is a monthly count of the dependent variable for either whites or blacks. See Table 1 for the definition of the dependent variable. Standard errors clustered by month in parentheses.

TABLE 4  
EFFECT OF OBAMA EVENTS ON OUTCOMES FOR BLACKS: MONTHLY EVENT STUDY

<b>Specification:</b>	<b>OLS Regression</b>				
<b>Dep. Var.:</b>	<b>Log of Total Occurrences of Outcome in Month t for Race j</b>				<b>Daily Minutes Spent on</b>
	<b>Civilian Labor</b>				<b>Net Investment,</b>
<b>Outcome:</b>	<b>Crime</b>	<b>Force</b>	<b>Law School</b>	<b>Organ</b>	<b>Averaged in Month t for</b>
	<b>Occurrences</b>	<b>Participation</b>	<b>Applications</b>	<b>Donations</b>	<b>Race j</b>
	(1)	(2)	(3)	(4)	(5)
Dummy for positive month for Obama	-0.0422* [0.0203]	0.0427 [0.1734]	-0.01 [0.1135]	-0.0294 [0.0355]	-8.2154 [26.5191]
Positive Obama month* Black Dummy	0.033 [0.0211]	0.187 [0.2260]	0.0416 [0.3415]	0.028 [0.0476]	-8.778 [21.8493]
Dummy for Black	-0.7210*** [0.0047]	-2.6875*** [0.0810]	-2.1430*** [0.3325]	-1.4654*** [0.0291]	-74.6959*** [8.6231]
Month-of-year Dummies	X	X	X	X	X
Year Dummies	X	X	X	X	X
R-squared	1.00	0.95	0.95	0.99	0.76
Number of Observations	72	72	40	72	72

**Notes:** Each observation is a monthly count of the dependent variable for either whites or blacks. See Table 1 for the definition of the dependent variable. Standard errors clustered by month in parentheses.

TABLE 5  
EFFECT OF OBAMA EVENTS ON OUTCOMES FOR BLACKS: DAILY EVENT STUDY

Specification:	Poisson Regression			OLS Regression
Dep. Var.:	Total Number of Occurrences of Outcome on Day			Daily Minutes Spent on
Outcome:	Crime	Law School	Organ	Net Investment,
	Occurrences	Applications	Donations	Averaged in Day t for
	(1)	(2)	(5)	(6)
Event for Obama Last Week (Days (0,6)) ( <i>lag</i> )	-0.0323**	-0.0571	-0.022	-17.869
(1=positive,-1= negative,0=none)	[0.0140]	[0.0607]	[0.0421]	[13.5473]
Event for Obama Two Weeks Ago (Days (7,13))	-0.014	-0.065	-0.017	-26.914
(1=positive,-1= negative,0=none)	[0.0101]	[0.0942]	[0.0478]	[17.5574]
Event for Obama Next Week (Days (-7,-1)) ( <i>lead</i> )	-0.0113	-0.0388	0.0268	-10.3187
(1=positive,-1= negative,0=none)	[0.0104]	[0.0432]	[0.0463]	[18.9342]
Event for Obama Last Week (Days (0,6)) ( <i>lag</i> )	0.029	0.1164	0.030	-27.612
* Black Dummy	[0.0203]	[0.1848]	[0.0673]	[19.9859]
Event for Obama Two Weeks Ago (Days (7,13))	0.0324**	0.233	0.027	9.390
* Black Dummy	[0.0134]	[0.2439]	[0.1026]	[28.7775]
Event for Obama Next Week (Days (-7,-1)) ( <i>lead</i> )	0.0225	0.3471*	0.0581	30.963
* Black Dummy	[0.0154]	[0.1848]	[0.1012]	[32.9017]
Black Dummy	-0.7208***	-2.2260***	-1.4296***	-86.0570***
	[0.0061]	[0.0691]	[0.0194]	[6.8310]
Controls for day-of-week and day-of-year	X	X	X	X
Controls for years	X	X	X	X
R-squared	.	.	.	0.410
Number of Observations	2190	1144	2156	2104

**Notes:** Each observation is a daily count of the dependent variable for either whites or blacks. See Table 1 for the definition of the dependent variable. Standard errors clustered by month to allow for autocorrelation within a month and correlation across races (in parentheses).