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Race, Politics, and Punishment: Democratic Failure in the New Orleans Mayoral Election

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Abstract

This paper empirically evaluates two competing theories of electoral accountability in the context of New Orleans' 2006 mayoral election. According to the democratic efficiency theory, voters can successfully punish ineffective political agents by removing them from office. In contrast, the public choice theory argues that the bundled nature of political goods prevents voters from successfully holding ineffective politicians accountable. This paper finds that although there is limited support for the punishment effect predicted by the democratic efficiency theory, this effect is overwhelmed by the fact that the bundle of goods politicians offer contains elements that pull in opposing directions. This prevents the punishment effect from having any real impact, leading to democratic failure. These results support the public choice theory of electoral (un)accountability.

The ideas presented in this research are the authors' and do not represent official positions of the Mercatus Center at George Mason University.

1 Introduction

The ability to hold politicians accountable for their decision making is critical to effective government. If principals (voters) cannot discipline their agents (political rulers), political governance breaks down. A crucial question is then whether or not democratic institutions are in fact capable of providing this political discipline. Does democracy allow voters to solve the principal-agent problem associated with their elected rulers? Or does it fail to check the behavior of incompetent politicians?

In this paper we consider two broad theories of electoral accountability and evaluate them using a new database on flood damage in New Orleans after Hurricane Katrina and voting data from the 2006 New Orleans mayoral election held in the wake of this disaster.

The first theory of electoral accountability is the democratic efficiency theory. According to this view, voters successfully discipline incompetent politicians by voting them out of office and reward competent politicians by (re)electing them. This theory is most famously associated with Donald Wittman (1989, 1995) who argues that democratic institutions and outcomes parallel those of the market.

According to Wittman, political advertising, information provided by experts, and the benefits that accrue to individuals from learning about political issues for their personal (non-political) ends ensure that voters are well informed and thus have the knowledge required to hold politicians accountable. Furthermore, Wittman argues, politics, like the market, is competitive. If one politician is incompetent or fails to execute the will of the majority, a competing politician who more faithfully serves voters will replace him via the voting booth.

The second theory of electoral accountability is the public choice theory (see, for instance, Buchanan and Tullock 1962). According to this view, the institutions of democracy

operate to thwart the ability of voters to hold ineffective or unscrupulous politicians accountable. The small benefit from becoming politically informed, in conjunction with the significant costs of doing so, render voters rationally ignorant and thus unable to successfully control their elected representatives. Further, this theory points out, even when voters are well informed, a number of other obstacles prevent them from disciplining ineffective politicians.

Among the most significant of these obstacles is the "bundled" nature of political goods. When individuals make selections in the market, they do so at a very low level of aggregation. Consumers may choose a basket that includes merlot, beef, carrots, and potatoes, or any other combination of goods they desire. When individuals make selections in the political arena, however, they do so at a very high level of aggregation. In selecting a political representative, voters are selecting an entire bundle of policies and attributes associated with the candidate, the separate components of which they may or may not desire if they could choose them individually. Thus, while for some voters candidate *A* may have a desirable stance on fiscal policy and foreign policy, he may have an undesirable stance on some other issue, such as abortion. Candidate *B*, on the other hand, may have what some voters view as objectionable stances on fiscal policy and foreign policy, but may represent their preferred position on abortion. Unlike in markets, where consumers may pick and choose their goods individually, in politics they cannot.

When candidate differences are multidimensional there is also the potential for voting intransitivities and agenda control (see, McKelvey 1976; Romer and Rosenthal 1978). If political parties and electoral rules are controlled from within the political system, even though each voter chooses the candidate who represents the smallest distance from him in the utility-weighted multidimensional attribute space, outcomes can easily deviate from voters' ideal

multidimensional position. This fact, along with incumbency advantage, gerrymandering, and other forms of barriers to entry in political competition, substantially weakens the disciplinary power of elections.

According to the public choice theory of electoral accountability, the bundled nature of political goods poses a potential problem for the effectiveness of the democratic disciplining mechanism because it forces even well-informed voters to select political candidates they may find inferior to other candidates in important ways. For example, if voters care deeply that their elected representative believe in God, they may elect him despite his considerable incompetence in other areas relative to other potential candidates who do not believe in God. In this way, the bundled nature of political choices can insulate incompetent politicians from voter discipline, leading to democratic failure.

The democratic efficiency and public choice theories of electoral accountability lead to very different predictions about how poor political performance will be treated by voters. The democratic efficiency theory predicts such performance will be heavily punished by voters, leading to the incompetent politician's removal from office. The public choice, in contrast, predicts minimal voter punishment in such cases and that the bundled nature of political goods will in many cases prevent voters from being able to remove the bad politician from office.

Our analysis examines these hypotheses by examining the determinants of the 2006 New Orleans mayoral election. This election was held shortly after Hurricane Katrina hit New Orleans at the end of August, 2005.[1] The catastrophic level of the damage Katrina caused in New Orleans was partly attributed to Mayor Ray Nagin's extreme mishandling of the crisis before, during, and

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[1] To our knowledge, this paper is the second to use a hurricane-caused disaster in New Orleans to evaluate the determinants of its mayoral election. The first is Abney and Hill (1966), who consider natural disaster in New Orleans as a political variable.

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after Katrina's landfall. Despite this, only months later he was reelected mayor in a political battle with Louisiana Lieutenant Governor Mitch Landrieu.

We find that although voters more heavily harmed by Nagin's bungling of the Katrina situation did in fact punish him more heavily at the voting booth, the bundled nature of the political goods they were deciding over prevented them from punishing Nagin enough to remove him from office. Specifically, our results suggest that the racial element of the bundle of goods Nagin offered was a far larger determinant of voter decision making, sufficiently so to overwhelm the minimal punishment effect related to his incompetence regarding Katrina. This finding corroborates the public choice theory and suggests that the bundled nature of political goods can prevent the voter-discipline mechanism from successfully removing ineffective politicians from office.

2   Mayoral Ineffectiveness and Hurricane Katrina

As is now commonly-acknowledged, the situation surrounding Hurricane Katrina's ravage of the Gulf Coast in August of 2005 showcased political failure at all levels of government. In the academic literature, Shughart (2006), Sobel and Leeson (2006, 2007) and others have well-documented the causes and consequences of this failure.[2] In the popular press, government's Katrina debacle, now dubbed "Katrinagate," was widely trumpeted as well (see, for instance, Eichel 2005; Phillips 2005; Krueger 2005; Myers 2005).

One of the major political figures identified as responsible for government's failure to effectively handle Katrina was Mayor Ray Nagin of New Orleans. Although the city of New Orleans was far from the only city to suffer severe devastation at the hands of the hurricane, it

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[2] For an analysis of the political problems associated with FEMA-provided disaster relief, see also Garrett and Sobel (2003) and Leeson and Sobel (2007).

was in many ways the epicenter of this destruction. More citizens from New Orleans were killed as a result of Katrina, for example, than any other city in the Gulf Coast. Nearly 1,300 people died in New Orleans and southern Louisiana because of the disaster (Seed et al. 2006). New Orleans was also the focus of some of the most severe flooding and property damage in the country. Currently, disaster-related damages are estimated to be between $100 and $200 billion in the greater New Orleans area. Further, more than 200,000 citizens of the metropolitan New Orleans area remain displaced from their homes (Seed et al. 2006).

Nagin, of course, cannot be blamed for the hurricane's occurrence or severity. However, he does bear considerable responsibility for much of the chaos and damage to life and property in New Orleans caused by his failure to adequately prepare for and manage the emergency.

The beginnings of Nagin's mismanagement are located in the time under his leadership before Katrina made landfall just outside New Orleans early Monday morning on August 29th. Despite the fact that the National Hurricane Center (NHC) announced as early as 5:00 am Saturday morning on August 27th that Katrina was headed for New Orleans and was now a Category 3 storm, growing more severe by the hour, Mayor Nagin—the only individual with the authority to evacuate the city—chose not to issue a mandatory evacuation for New Orleans. Political leaders in several surrounding parishes issued mandatory evacuations of their citizens following Saturday morning's NHC announcement while there was still time. But Nagin was not among them.

Instead, New Orleans' mayor held a press conference Saturday afternoon reiterating the NHC's warnings about the impending onslaught of Katrina. By Saturday afternoon, the NHC had declared that by the time Katrina made landfall it would likely be a Category 5 storm. Later that evening, Max Mayfield, director of the NHC, made a personal phone call to Nagin to urge

him to take the looming hurricane seriously and to issue a mandatory evacuation of New Orleans in preparation. Defiantly, Nagin waited to issue his first public mandatory evacuation of the city until 10:00 am Sunday morning, less than 24 hours before Katrina made first landfall about 60 miles southeast of New Orleans.

Nagin waited to evacuate the city because he feared lawsuits from New Orleans' business community—his strongest base of political support—for disrupting their commercial activity (Brinkley 2006: 22-23). Thus, instead of focusing on the coming storm and making preparations for its landfall, Nagin spent most of Saturday with legal advisors discussing the potential for lawsuits, which might have political repercussions for him. According to historian David Brinkley, who chronicled the Katrina debacle in New Orleans in detail, "On Saturday afternoon, Mayor Nagin endangered the welfare of the poor and elderly . . . and in the end, the city . . . by holding legal discussions about the impact of an evacuation on the hotel trade" (2006: 34).

Nagin's late evacuation left many in New Orleans without time to exit before Katrina hit. By the time he ordered the evacuation, 20 percent of New Orleans nearly 500,000 residents were still in the city, and an equal proportion of the 900,000 residents in the surrounding suburbs were as well (Brinkley 2006: 89-90). As a result, many New Orleans citizens were needlessly left in the path of the coming Category 5 hurricane.

Nagin's evacuation delay was ultimately responsible for unnecessary deaths in Katrina's wake. Nursing home managers, for example, sat with their patients under the belief they did not need to leave the city. By the time Nagin mandated otherwise it was often too late. As Joe Donchess, executive director of the Louisiana Nursing Home Association stated, for instance, "Because Mayor Nagin refused to call a mandatory evacuation, the nursing homes didn't feel compelled to evacuate . . . I know for sure, that twenty-one facilities would have evacuated on

Saturday if he had called it. That would have been just enough time for buses to properly bring the patients out of harm's way" (quoted in Brinkley 2006: 64-65). Many other New Orleans citizens reacted similarly to the absence of a mandatory evacuation order with similar results. As one New Orleans security guard put it, "The biggest mistake in New Orleans history was Nagin's not calling a mandatory evacuation on Thursday or Friday, at the latest" (quoted in Brinkley 2006: 63).

Compounding Nagin's delayed evacuation order was his failure to implement the city's evacuation plan—the "City of New Orleans Comprehensive Emergency Management Plan"—or any other evacuation plan for that matter. As the *Washington Times* reported, for example, "The city of New Orleans followed virtually no aspect of its own emergency management plan in the disaster caused by Katrina" (quoted in Brinkley 2006: 19).

The city's evacuation plan was established in 2000 and indicated, for instance, that "evacuation zones" be established based on flooding patterns in the event of a disaster—a step Nagin never carried out (Brinkley 2006: 19). It also "instructed that when a serious hurricane approached, the city should evacuate seventy-two hours prior to the storm to give 'approximately 100,000 citizens of New Orleans [who] do not have the means of personal transportation' enough time to leave" (Brinkley 2006: 20). Nagin evacuated the city less than 24 hours before Katrina landed. His mismanagement on this front is all-the-more disconcerting when one considers the fact only two years prior in 2004, Nagin participated in a simulation to prepare New Orleans for Hurricane Pam. This simulation outlined the devastation that could result from the likely event of a severe hurricane hitting the city and highlighted the importance of effectively implementing an evacuation plan (Brinkley 2006: 94). Despite this, Nagin chose not to.

When it came to transporting citizens without their own means of leaving the city, Nagin again dropped the ball, exacerbating the growing severity of the situation caused by his failure to implement an evacuation plan. New Orleans' Regional Transit Authority (RTA) had roughly 360 buses capable of shuttling 22,000 people out of the city per trip (Brinkley 2006: 91). Nagin's last-minute planning designated 12 collection areas for picking up passengers, but by midday Sunday, the busing system virtually ceased to operate. One problem was that, unlike in Miami Beach, Florida, where signs were posted to indicate to would-be evacuees where the bus pickup points were, in New Orleans, Nagin had taken no such measures (Brinkley 2006: 92).

Another problem was that at least some RTA bus drivers claimed they never received a clear order to evacuate citizens from New Orleans' city government (Brinkley 2006: 92). Adding to this, in the months leading up to Katrina, Nagin failed to negotiate contracts with RTA bus operators, making it difficult for him to call on them in the wake of Katrina to undertake bus evacuations for the city. According to one bus operator, for example, "One reason Nagin was afraid to put us to work that Saturday or Sunday is that he never had us under contract" (quoted in Brinkley 2006: 92).

In a final act of transportation-related bungling, Nagin let an Amtrak train with 700 open seats leave the city Sunday morning unoccupied. He never made arrangements with Amtrak, as he could of, to help ease the bus-evacuation failure he created. In fact, when Amtrak contacted him to offer its services for this purpose, Nagin declined (Brinkley 2006: 92).

The closest Nagin came to anything like a coherent strategy for dealing with the incredible number of citizens still remaining in New Orleans as a result of his last-minute evacuation order was to direct them to the Superdome. Even this, however, was poorly planned. The city had made only minimal preparations for the droves of New Orleans citizens who would

be holed up in the Superdome in the aftermath of the storm. Thus, they were directed to bring their own food and water, which few had in adequate supply. The mayhem of the Superdome "strategy" has been discussed at great length by others and so does not bear recounting in detail here. Needless to say, the stench of urine and feces that filled the arena in the absence of adequate bathroom facilities was among the more minor problems encountered in the Superdome.

It is not difficult to find additional examples of poor leadership and bungled Katrina-related efforts at the hands of Mayor Nagin. The widespread looting that occurred in the city following the disaster and Nagin's failure to secure citizens' property rights would be one case in point. Nagin's failure to secure satellite telephone communications for city officials, despite the fact that the federal government had supplied $7 million dollars to the city for precisely this purpose only three years before, would be another. This failure left Nagin himself without the means of such communication following Katrina, further incapacitating the city's ability to coordinate for Katrina-related efforts (Brinkley 2006: 216).

As if to add insult to injury, in the face of the chaos that his lack of planning and mismanagement of the Katrina situation created, Nagin chose primarily to avoid the streets of New Orleans or the Superdome to ease his citizens or at least let them know he was with them. Instead, he bunkered himself along with his aids in the Hyatt Hotel secluded from the hurricane's devastation (Brinkley 2006: 217).

Despite the substantial evidence of Nagin's failed Katrina-related efforts as mayor of New Orleans, it is, of course, not possible to objectively determine that Nagin was a "bad mayor." If this were possible, we could test the competing electoral accountability hypotheses discussed above simply by looking at whether or not he was reelected. However, the inability to

objectively determine if Nagin was a bad mayor does not prevent us from investigating these hypotheses in an alternative, albeit somewhat less direct, manner.

3 Data and Empirical Strategy

Our analysis relies on two new datasets that allow us to do evaluate the democratic efficiency vs. the public choice hypothesis in several different ways. The first dataset relates flood depth information for 434 of New Orleans' 442 precincts.[3] These data are from *C & C Technology Survey Services* (2006). Our flood data draw on three measurements of flood depth at different locations in each precinct. On the basis of these measurements, an average precinct flood level was constructed. The second dataset contains voting information regarding the racial demographics and vote shares for each mayoral candidate in the 2002 and 2006 general and runoff New Orleans mayoral elections by precinct.[4] We get these data from the Louisiana Secretary of State *Post-Election Statistics* database (2006).

Using these data, we consider the determinants of the 2006 mayoral election in New Orleans. Mayoral elections in Louisiana follow an open primary system sometimes called the "jungle primary." It typically proceeds in two rounds. In the first round, voters consider all mayoral candidates simultaneously—regardless of party—on one ballot. If one of these candidates receives over 50 percent, he is elected mayor. If no candidate receives a majority, a runoff election is held between the two candidates who received the highest vote shares in the general election. In the 2006 general election, no candidate received a majority of votes, leading to a runoff shortly later that pitted Nagin, a black Democrat, against Louisiana's Lt. Gov. Mitch

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[3] We exclude the remaining eight precincts because of missing data. These are, in Ward 9, precincts 41A, 41B, 41C, 41D, 42C, 44G, 44O, 45A.
[4] We exclude absentee ballots not assigned to a precinct.

Landrieu, a white Democrat. Nagin was ultimately won this race as was reelected as Mayor of New Orleans.[5]

There was wide variation in the flooding caused by Hurricane Katrina across the precincts of New Orleans. Some precincts were largely spared by Katrina and received virtually no flooding. In these precincts, Nagin's mishandling of Katrina had comparatively little impact on citizens. Other precincts, however, felt the full brunt of the hurricane and experienced more than 11 feet of flooding. In them, Nagin's effectiveness or ineffectiveness addressing Katrina-created havoc had a much greater impact on citizens.

This variation in flood depths created by Katrina preceding the 2006 election therefore creates an interesting natural experiment to explore the democratic efficiency vs. public choice hypothesis of electoral accountability. By examining how voters reacted differently to Nagin at the voting booth depending upon the flood depth their precinct experienced, and how other components of the bundle of political goods Nagin offered voters, such as race, affected their voting behavior, we can evaluate some of the central claims of both competing hypotheses.

Using our data, several questions that bear on these hypotheses allow for testing. First, how did a precinct's average flood depth affect Nagin's vote share? The democratic efficiency theory, for instance, predicts that flood depth should be negatively and significantly associated with Nagin's vote share. This result would help to corroborate the proposed mechanism whereby voters harmed more by Katrina, and thus Nagin's handling of Katrina's damage, would punish him more at the voting booth. On the other hand, if voters are largely unable to effectively punish ineffective political agents successfully, as suggested by the public choice view, it is less likely that greater flood depth with be associated with a lower vote share for Nagin.

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[5] The only other major candidate facing Nagin and Landrieu in the general election was Audubon Nature Institute CEO Ron Forman who garnered 17 percent of the vote.

Second, how much of the variation in Nagin's vote share across precincts is explained by the variation in flood depth relative to other potential factors that have historically figured importantly in New Orleans mayoral elections, such as race? According to the democratic efficiency theory, flood depth should explain a largest part of this variation since political agent effectiveness is the primary determinant of voter behavior in this view. The public choice view, in contrast, suggests that political agent effectiveness will explain less of the variation in Nagin's vote share across precincts relative to other components of the bundle of goods Nagin offered that are unrelated to competence.

Third, and perhaps most importantly, how important was flood depth, our proxy for Nagin's effectiveness in dealing with Katrina, in determining Nagin's vote share vs. the importance of other components of the bundle of goods Nagin offered voters, such as race? This last question is critical because it allows us to get directly at the issue of bundling, seen as important in the public choice view of electoral accountability.

Although, as discussed above, the democratic efficiency theory of electoral accountability does not see this bundling as problematic, the public choice theory does. A political candidate seen as incompetent in dealing with Katrina, for example, may nevertheless be reelected because he satisfies the racial good desired by most voters. If race and competence could be unbundled, voters might select differently. However, because in political candidates these goods cannot be unbundled, a suboptimal result from voters' perspective can result.

If bundling is not problematic, per the democratic efficiency theory of electoral accountability, the racial good provided by Nagin, specifically blackness, should not overwhelm the effect of the competence good. In other words, if voters in more flooded precincts do in fact punish Nagin more heavily at the voting booth than voters in less flooded precincts, this

punishment effect should not be dominated by the race effect. If the race effect dominates, electoral accountability is jeopardized and democratic failure results.

To begin addressing these questions, we first estimate the following equation using Ordinary Least Squares (OLS):

$$\text{Vote share}_i = \alpha + \beta_1 \text{Flood depth}_i + \beta_2 \% \text{ Black}_i + \varepsilon_i \tag{1}$$

where Vote share$_i$ is Nagin's vote share in the 2006 general election in precinct i, Flood depth$_i$ is the average flood depth in precinct i following Hurricane Katrina, % Black$_i$ is the share of those who voted in the 2006 general election who are black in precinct i, and ε_i is a random error term. Both β_1 and β_2 are coefficients of interest and measure the impact of precinct flood depth and racial composition on Nagin's vote share respectively.

We also estimate the following change-in-vote-share model:

$$\Delta \text{Vote share}_i = \alpha + \beta_1 \text{Flood depth}_i + \beta_2 \% \text{ Black}_i + \gamma \Delta \% \text{ Black}_i + \varepsilon_i \tag{2}$$

where everything is the same as above only our dependent variable is the change in Nagin's vote share within the precincts between the 2002 general mayoral election and the 2006 general election. In this specification we also control for the change in the share of citizens in each precinct who voted and are black between the 2002 and 2006 election, $\Delta \%$ Black$_i$. Doing this accounts for the fact that blacks may have disproportionately fled New Orleans in the wake of Katrina, if for example they were more likely to be in areas where homes were destroyed. If this

is the case, in the change model we need to control for the changing racial proportions of various precincts between elections.

Next, we estimate the following equation using OLS:

$$\text{Vote share}_i = \alpha + \beta_1 \text{Flood depth}_i + \beta_2 \% \text{ Black}_i + \beta_3 \text{Flood depth}_i * \% \text{ Black}_i + \varepsilon_i \tag{3}$$

This equation is like (1), only here we include the interaction term, Flood depth$_i$ * % Black$_i$, which measures how precincts with voters with different racial compositions may respond differently in terms of punishing Nagin to the same marginal change in flood depth. If β_3 is negative and significant, this would mean that precincts with a larger share of voters who are black punished Nagin more at the voting booth for the same flood depth relative to precincts with a larger share of non-black voters. If β_3 is positive, more heavily black precincts punish Nagin less at the voting booth for the same increase in flood depth relative to less heavily black precincts.

Finally, we also estimate a change specification for equation (3):

$$\Delta\text{Vote share}_i = \alpha + \beta_1 \text{Flood depth}_i + \beta_2 \% \text{ Black}_i + \beta_3 \text{Flood depth}_i * \% \text{ Black}_i$$
$$+ \gamma\Delta\% \text{ Black}_i + \varepsilon_i \tag{4}$$

where everything is the same as in (2), except for the inclusion of the interaction term discussed above. In addition to these four basic models, we also perform several robustness checks that consider additional variables and look at alternative elections (runoff instead of general), discussed in Section 5.

4   Electoral Accountability at a Glance

Figure 1 considers the evidence for the democratic efficiency vs. the public choice hypothesis of electoral accountability in the raw data. On the vertical axis we plot Nagin's vote share in the 2006 general mayoral election by precinct. On the horizontal axis we plot average flood depth by precinct. The scatter itself depicts no clear relationship between Nagin's vote share and flood depth. However, adding a trend line reveals a weak *positive* relationship. In precincts that had more flooding, Nagin's vote share was higher. A quick look at the raw data would therefore reject the democratic efficiency theory, which predicts a negative relationship between flooding and Nagin's vote share.

This result is surprising even for the public choice view, which suggests that voters hit by greater flooding in the wake of Katrina will not punish Nagin, but not that these voters will reward Nagin. Figure 2 resolves this apparent peculiarity. Here, we plot the share of those voting in the 2006 general mayoral election who are black on the vertical axis, and average flood depth by precinct again on the horizontal axis. The relationship is strong and positive. Precincts with more flooding have a higher proportion of black voters. The positive-sloped trend line in Figure 1 is picking up this fact.

A casual look at the data in Figures 1 and 2 point to two important features that bear closer examination using econometric analysis to isolate the relationships involved. First, there does not appear to be a strong negative connection between flood depth and Nagin's vote share, as the democratic efficiency hypothesis predicts. Second, race clearly played an important role in determining Nagin's reelection, and may have played a substantially more important role than flood depth, in support of the public choice hypothesis. Next, we explore these issues econometrically.

5 Benchmark Results

Table 1 presents our results that examine the relationship between flood depth, race, and Nagin's vote share in the 2006 general mayoral election. Column 1 is our stripped-down specification that includes only flood depth. Consistent with Figure 1, the coefficient is positive and significant. Precincts with more flooding voted more for Nagin in his reelection bid following Katrina. Notably, the R-squared in this specification is extremely small. Flood depth explains less than one percent of the variation in Nagin's vote share across precincts. Thus, it appears to be a relatively unimportant determinant of voting patterns, a result that lends support to the public choice view of electoral accountability and cuts against the democratic efficiency hypothesis.

In column two we include the share of those voting in each precinct who are black. When we do this, the coefficient on flood depth becomes negative and significant. As we suspected, the positive relationship between flood depth and Nagin's vote share in Figure 1 was being driven by the positive relationship between flood depth and the proportion of black voters in each precinct in Figure 2. This result lends at least partial support to the democratic efficiency hypothesis. Precincts that were flooded more by Katrina punished Nagin more than those that received less flooding, indicating that at least to some extent voters impacted more by Nagin's mishandling of Katrina-related events punished him more than voters impacted less by his mishandling.

Despite this, the estimate for percent black suggests that this punishment effect was overwhelmed by the race effect. The coefficient on percent black is large, positive, and highly significant. While a one foot increase in flood depth is associated with a 1.2 percentage point fall in Nagin's vote share, a one percentage point increase in the share of voting citizens in a precinct

who are black is associated with a 0.5 percentage point increase in Nagin's vote share. In other words, in order to make up for a one foot increase in flood depth in a precinct, Nagin required only a 2.4 percentage point increase in the share of voting black citizens.

Additionally, including the share of black voters in this specification causes the R-squared to increase to 0.88. In stark contrast to flood depth, which explains less than one percent, race explains more than 87 percent of the variation in Nagin's vote share across precincts. Both of these results support the public choice view.

In column 3 we add our variable that interacts flood depth with percent black. When we include this interaction term, flood depth by itself becomes insignificant, although percent black remains large, positive, and highly significant. Consistent with our results in column 2, here too, race is a more important determinant of Nagin's vote share than flood depth. The coefficient on our interaction term is interesting. It is negative and significant. This means that the marginal punishment meted out by black voters against Nagin for one additional foot of flood depth was greater than the marginal punishment non-black voters dealt Nagin for the same one foot increase in flood depth. Non-black precincts that experienced the same amount of flooding as relatively black precincts took it easier on Nagin at the voting booth. This effect, however, is small, and overwhelmed by the impact of race (i.e., sharing the same race as Nagin) in determining voting patterns.

To better understand the relative importance of race vs. flood depth in determining Nagin's vote share, consider Figure 3. Here, using our estimates from column 4 in Table 1, we simulate the effect of differing flood depths on Nagin's vote share and consider this effect by precinct racial composition. On the vertical axis is Nagin's vote share in the 2006 election. On the horizontal axis is flood depth. We consider the relationship between these variables for three

different racially composed precincts: the minimum percent black precinct in our sample (0%), the maximum percent black precinct in the sample (100%) and the mean percent black precinct in our sample (59.55%). Each of these precinct racial compositions is depicted by a different line in the graph. The pattern this figure displays is striking.

First, note that for each different racially composed precinct the slope of the line is negative. Consistent with the democratic efficiency theory, regardless of the racial composition of the precinct, voters punish Nagin with fewer votes if they live in a precinct that experienced more flooding. Second, as discussed above, note that the slope of the line becomes more negative the larger proportion of blacks a precinct contains. More heavily black precincts punish Nagin more for the same marginal increase in flood depth then less heavily black precincts.

Finally, and most importantly, notice the large gap between each of the lines representing different racially composed precincts. Even in the presence of the punishment effect, Nagin receives a higher vote share in a 100% black precinct with ten feet of flooding than he does in the average percent black precinct with zero feet of flooding. In other words, the positive effect of blackness nearly completely offsets the negative effect of flooding, even in the most opposing flood depth situations, moving from a precinct with the mean percent black to one with all black voters. Similarly, Nagin's vote share is nearly five times larger in a precinct with the mean percent black that receives eleven feet of flooding than it is in an entirely non-black precinct that experiences no flooding at all. The positive effect of blackness overcomes the negative effect of flooding by a factor of nearly five, even in the most opposing flood depth cases, moving from a precinct with the mean percent black to one with all non-blacks. The punishment effect associated with more flooding is overwhelmed by the race effect associated with a higher percent black precinct. This provides strong evidence for the public choice view of electoral

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accountability that points to how unavoidable bundling of political goods can confound electoral accountability.

In Figure 4 we present this same simulation in a slightly different way. Here, we consider the effect of percent black on Nagin's vote share for different levels of flooding. We consider three different levels of flooding, each represented by a different line: the minimum level of flooding in our sample (0 ft.), the maximum level of flooding in our sample (11.4 ft.), and the mean level of flooding in our sample (4.35 ft.). Each of the lines is positively sloped. The greater the proportion of black voters in a precinct, the higher Nagin's vote share. Further, the lines spread increasingly further away from one another moving from the lowest flood situation to the highest. The rate at which more heavily black precincts punish Nagin for the same increase in flood depth is increasing as the flood depth increases.

Most significantly, however, is again what this figure indicates in terms of the relative importance of flood depth vs. race for Nagin's vote share. Nagin receives a lower vote share in a precinct with zero flooding that is only 50 percent black than he does in a precinct with the maximum (11.4 ft.) amount of flooding that is 100 percent black. The positive race effect associated with moving from a half black precinct to an all black precinct more than totally offsets the punishment effect associated with 11.4 feet of water. The strength of the race effect relative to the punishment effect is even more striking if one considers moving between a precinct with zero feet of flooding and a precinct with the mean flood depth. Nagin receives a lower vote share in a 50 percent black precinct with zero flooding than he does in an only marginally more black precinct—one that is 60 percent black—with 4.35 feet of flooding. Here, a ten percentage point increase in blackness more than totally offsets 4.35 feet of flooding.

Taken together, the results in Table 1 and Figures 3 and 4 provide some support for the democratic efficiency claim that voters punish political incompetence. However, the public choice view receives far more support. The impact of flood depth and percent black pull in opposite directions on voter behavior—even among precincts with a higher share of black voters. This suggests that voters preferred a competent, black mayor, but owing to the bundled nature of political goods, could not select these features separately. In the end, the race component of the bundle trumped the competence component, leading to Nagin's reelection.

6   Precinct-Level Change in Vote Share

Because our data is at the precinct level, many of the other factors that potentially might be included in our regressions, such as the state of the economy or taxes are mostly uniform, and impossible to measure. To see whether unobserved precinct-level factors are driving our results, here we consider the change within each precinct in Nagin's vote share between the 2002 general mayoral election and the 2006 election. In Table 2, we consider same regressions in Table 1 using this alternative dependent variable.

Our findings here corroborate those in Table 1. Column 1 contains our most basic specification that includes only flood depth. The coefficient on this variable is positive and significant. In precincts with more flooding, Nagin's vote share increased in the 2006 election relative to his vote share in the same precincts in 2002. The R-squared also remains tiny. Flood depth explains only one percent of the variation in the change in Nagin's vote share between 2002 and 2006.

Like in Table 1, when we add percent black in column 2 flood depth becomes negative and significant. The fact that more flooded precincts had larger proportions of black voters,

which as we saw above was responsible for the positive relationship between flood depth and Nagin's vote share depicted in Figure 1, is also behind the positive relationship between flood depth and the change in Nagin's vote share. Also like in Table 1, however, only a small increase in percent black is required to offset the punishment effect associated with additional flooding. The negative impact of one additional foot of flooding on the change in Nagin's vote share is completely eliminated by only a 2.3 percentage point increase the proportion of voting blacks in a precinct. Additionally, like before, compared to flood depth, race explains nearly all the variation in the change in Nagin's vote share—approximately 88 percent compared to flood depth's one percent.

In column 3 we control for the change in percent black in each precinct between 2002 and 2006 to address the fact that the racial composition of the voters across precincts may have changed between 2002 and 2006 due to the relocation of many New Orleans residents following Hurricane Katrina. Interestingly, the coefficient on this variable is negative and significant. In precincts where the proportion of voting blacks fell between 2002 and 2006, the change in Nagin's vote share rose. This finding is consistent with a situation in which the blacks who would have voted against Nagin tended to be the ones displaced by Hurricane Katrina. This could be, for example, the wealthier blacks who had the means of evacuating New Orleans on their own and were not trapped in the city by Nagin's delayed and mismanaged evacuation order. The remaining coefficients in column 3, those on flood depth and percent black, are similar to before. Percent black retains its size and significance, however, flood depth, while still negative and significant, becomes smaller.

The last column in Table 2 adds our interaction variable. Consistent with our findings in Table 1, the impact of flood depth falls substantially, the effect of percent black increases

substantially, and the interaction term is negative and significant, but small. For the same marginal increase in flood depth, more heavily black precincts punish Nagin slightly more than less heavily black precincts.

In Figures 5 and 6 we perform the same simulations as we did for our results in Table 1, only for our results in Table 2. We again consider the fullest specification in column 4.[6] The patterns illustrated here are virtually identical to the patterns in Figures 3 and 4. Although there is some punishment effect associated with more flooding, the race effect clearly dominates it.

7 Robustness

We take several steps to ensure the robustness of our findings. In addition to considering both Nagin's vote share in the 2006 general mayoral election and the change in his vote share between the 2002 election and the 2006 election, we rerun all of our regressions in Tables 1 and 2 substituting percent Democratic with percent black. Since these two variables are highly correlated, multicollinearity prevents us from including them both at the same time. However, their high correlation makes percent Democratic a good alternative measure of percent black to check the consistency of our results.

Table 3 presents our results substituting percent Democratic for percent black for the specifications we considered in Table 1 that considered the relationship between race (here political party), flood depth, and Nagin's vote share in the 2006 general election. Our results are virtually identical across the board. Once percent Democratic is included, the coefficient on flood depth becomes negative. Percent Democratic, like percent black, is positive, sizeable, and highly significant. However, the importance of percent Democratic, as the magnitude of percent

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[6] Our simulation of column 4 evaluates change in percent black at its mean, -1.94.

black did in our main regressions, overwhelms the importance of flood depth in predicting Nagin's vote share. The biggest difference between the results in Table 3 and those in Table 1 is that the R-squared is lower when we use percent Democratic as an alternative measure for percent black. This suggests that race, not political party, is really what's driving Nagin's vote share.

In Table 4 we rerun the specifications in Table 2 that used the change in Nagin's vote share between 2002 and 2006 as our dependent variable, substituting percent Democratic again for percent black. Our results are again robust, and again the R-squared is lower than when percent black is used. In addition to their similarity to our findings in Table 3, they are also remarkably close to those in Tables 1 and 2. In the fullest specification, flood depth is negatively and significantly associated with the change in Nagin's vote share. However, the importance of this punishment effect is again dominated by the importance of the political party effect (the race effect), which pulls in the opposite direction.

We try a number of additional alternative specifications to check the robustness of our results as well. For instance, we try rerunning all of our regressions using Nagin's vote share (and the change in his vote share) in the 2006 runoff election instead of the general election to see if this might affect our findings. It does not. The size, sign, and significance of our estimates remain virtually unchanged. Voters who experienced more flooding punished Nagin more than those who experienced less, but the punishment effect is overwhelmed by the race effect.

We also try rerunning all of our regression using a dummy variable for flooding instead of actual flood depth across precincts. We assigned a one to any precinct that experienced any flooding and zero to all those that experienced no flooding. Doing so did not affect our results, and the R-squares were lower than when the actual flood depth was used. We also try including

the standard deviation and range of the flood depth within each precinct, but they were insignificant as long as average flood depth was also included.[7] Precincts with flooding punished Nagin at the voting booth more than those without flooding, regardless of how it is measured, but race trumped this effect.

Finally, we reran all of the regressions in Table 1 and Table 2 using a logistic transformation of the vote share percentage $[\ln(P/(1-P))]$, and also using Nagin's numerical vote count in each precinct (along with number of black voters, etc., on the right hand side) estimated with Poisson and negative binomial models. In each case, our results remained essentially unchanged.

8   Conclusion

Our analysis leads to several conclusions. First, there is limited evidence that the democratic efficiency theory of electoral accountability is at least partially correct. Voters in precincts that had higher flooding, and thus were more damaged by Nagin's bungled Katrina evacuation and general disaster mismanagement, punished him more in the election that followed this debacle than voters in precincts with less flooding, who were harmed less by Nagin's incompetence.

Our second major finding, however, is that this punishment effect was trumped in the New Orleans mayoral election by race. Nagin offered New Orleans voters a bundle of attributes—at least partial incompetence, evidenced by the Katrina mishandling, and blackness. Our results show that these attributes pulled in opposite directions for most New Orleans voters, especially those who are black. Our analysis suggests that black voters actually punished Nagin more for a given increase in flood depth in their precinct compared to non-black voters.

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[7] The average employed in our regressions is based on a sample of three observations within each precinct, and the standard deviation and range was calculated from these three observations.

This suggests that black voters' most preferred bundle of attributes in a mayor was competence and blackness. However, as the public choice view indicates, in the political arena, candidates' attributes cannot be selected separately by voters. In the face of this bundling problem, black New Orleans voters had to decide which attribute of Nagin—degree of competence (which was low) or degree of blackness (which was high)—to weigh more heavily. In the end, race was assigned the far greater weight, leading to the reelection of a more incompetent mayor than voters preferred. The fact that mayoral candidates' attributes could not be unbundled led to a suboptimal political outcome from the perspective of voters than could have been achieved if the goods offered by political candidates, like goods in the marketplace, could be selected separately.

This finding supports the public choice theory of electoral accountability. Although there is some punishment effect for political incompetence, tending toward democratic efficiency as the democratic efficiency view proposes, this effect appears to be quite limited, and in the case of the 2006 New Orleans mayoral election, was totally offset by the inefficiency resulting from the political bundling problem in multidimensional voting pointed to by the public choice view.

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Figure 1. Electoral Accountability? A First Glance
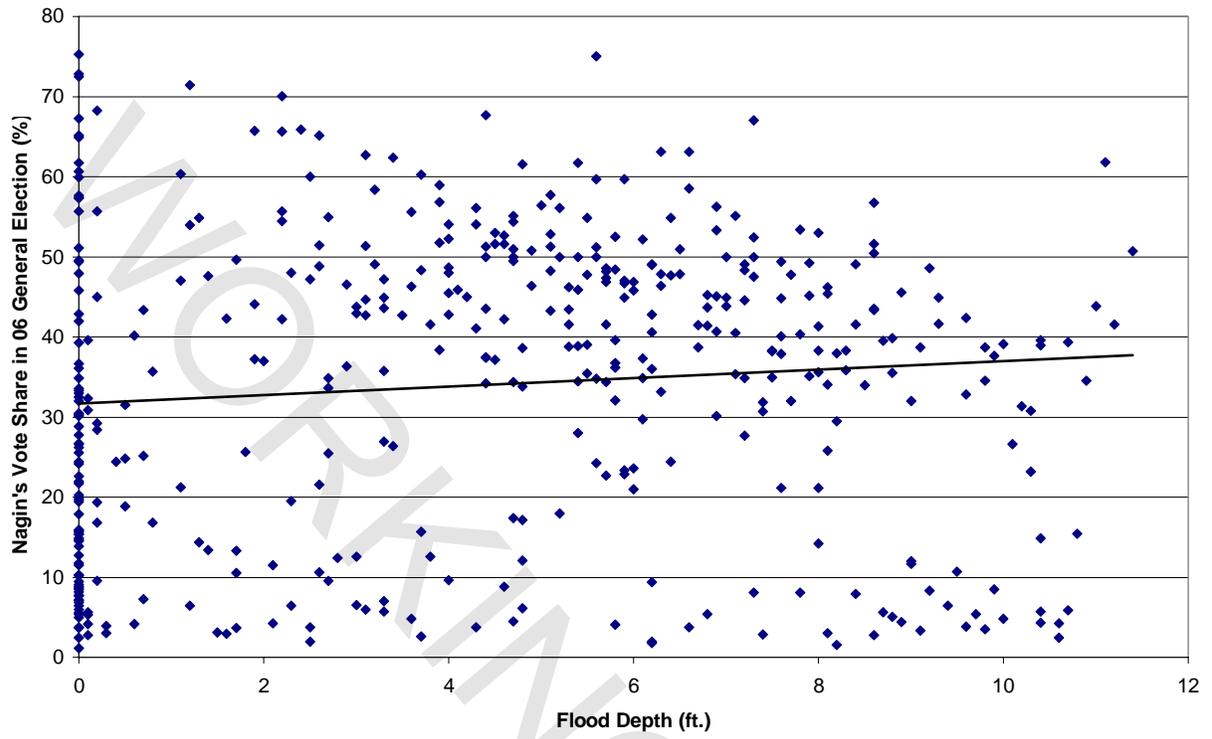
Figure 2. Who was Hit Hardest by Katrina?
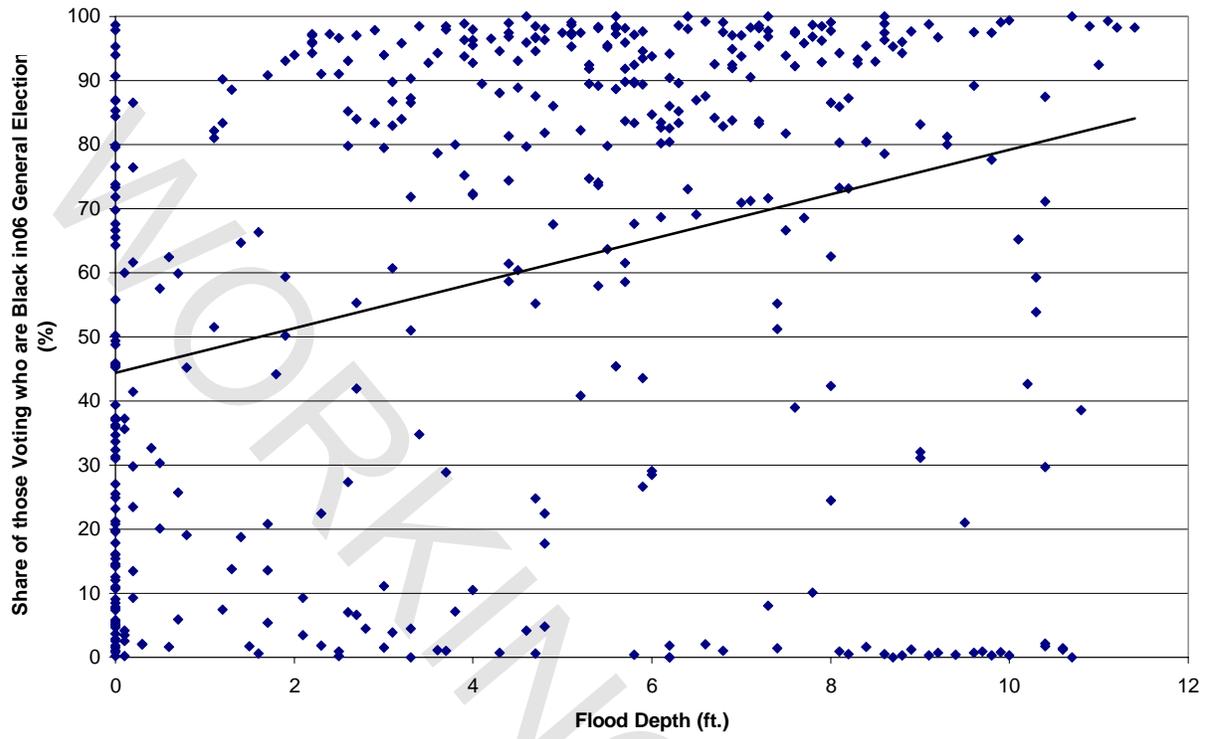
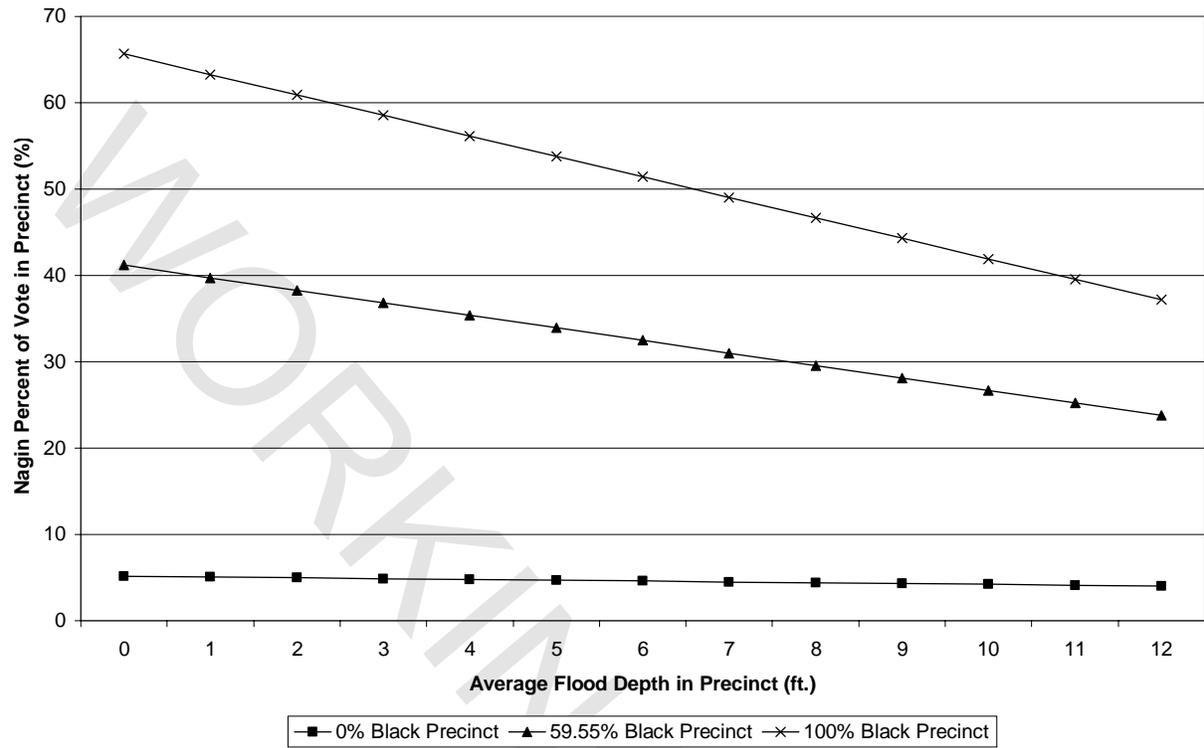**Figure 3. Effect of Flood Depth on Vote Share by Race**

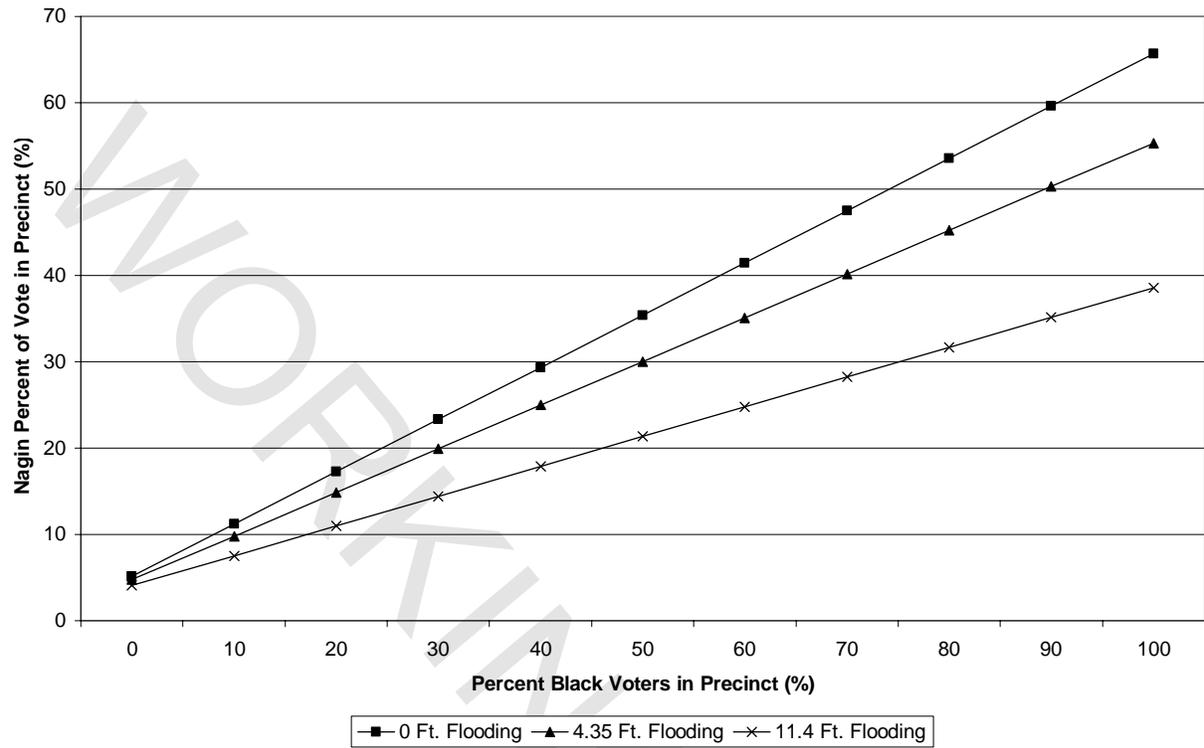**Figure 4. Effect of Race on Vote Share by Flood Depth**

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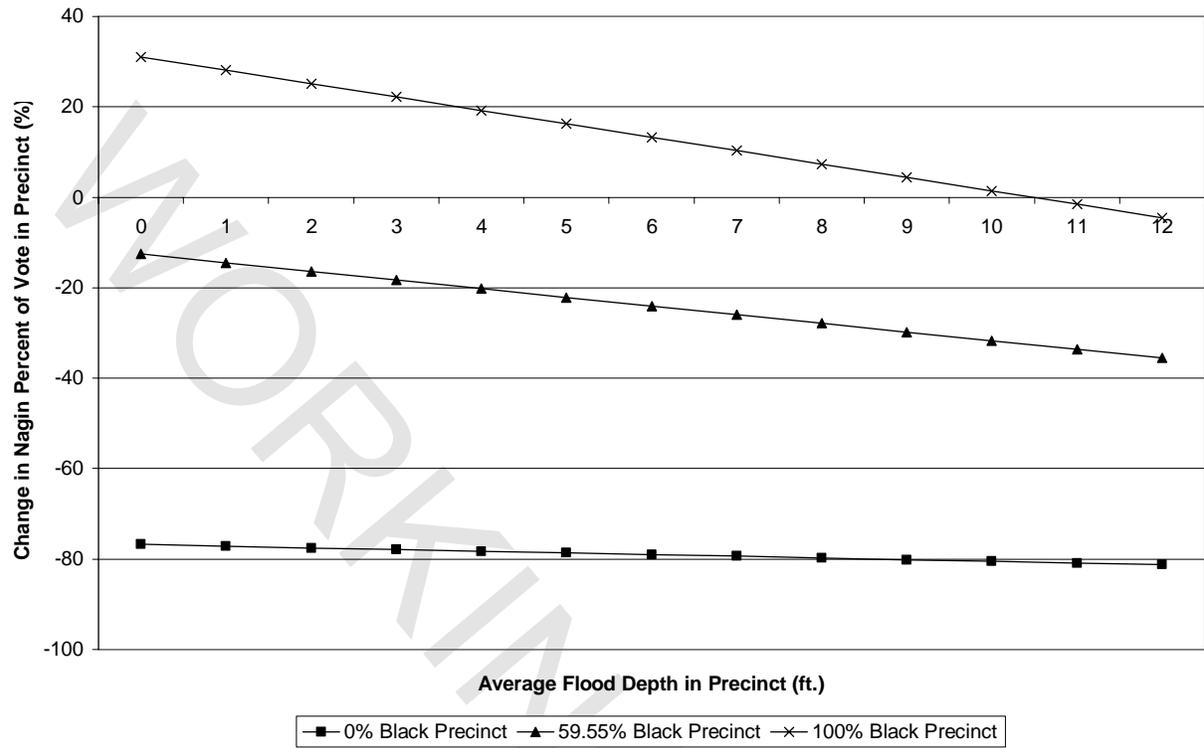**Figure 5. Effect of Flood Depth on Change in Vote Share by Race**

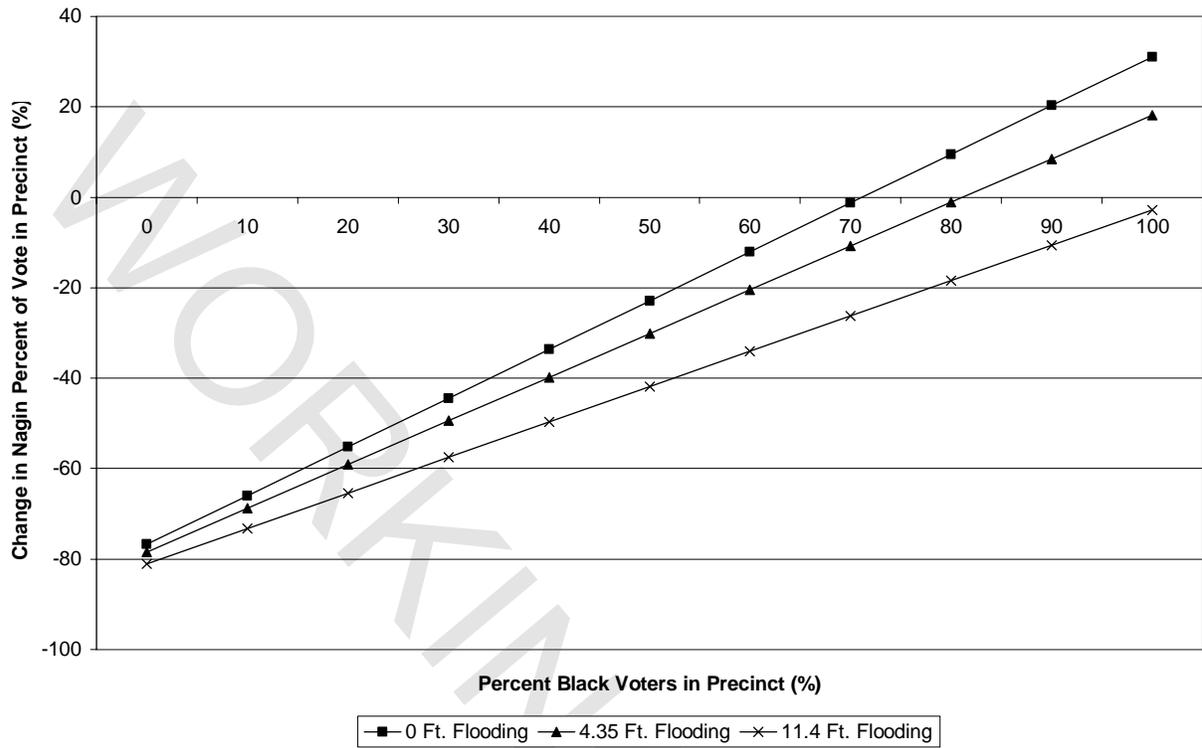**Figure 6. Effect of Race on Change in Vote Share by Flood Depth**

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Table 1. Flood Depth, Race and Nagin's Vote Share

	(1)	(2)	(3)
Constant	31.688***	9.511***	5.152***
	(1.606)	(0.493)	(0.452)
Flood depth (ft.)	0.527*	-1.211***	-0.094
	(0.283)	(0.107)	(0.079)
% Black		0.500***	0.605***
		(0.009)	(0.014)
Flood depth * % Black			-0.023***
			(0.002)
R-squared	0.009	0.880	0.901
Observations	434	434	434

Notes: Regressand: Nagin's vote share in the general election, 2006. OLS with robust standard errors in parentheses (calculated using White's heteroskedasticity correction). *** = 1%; **=5%; *10%.

Table 2. Flood Depth, Race and the Change in Nagin's Vote Share

	(1)	(2)	(3)	(4)
Constant	-26.637[***]	-68.734[***]	-73.693[***]	-78.467[***]
	(2.871)	(0.889)	(0.768)	(0.824)
Flood depth (ft.)	1.090[**]	-2.211[***]	-1.624[***]	-0.375[***]
	(0.528)	(0.168)	(0.159)	(0.138)
% Black		0.948[***]	0.959[***]	1.078[***]
		(0.014)	(0.013)	(0.022)
Change % black			-0.913[***]	-0.880[***]
			(0.079)	(0.080)
Flood depth * % Black				-0.026[***]
				(0.004)
R-squared	0.010	0.888	0.911	0.918
Observations	434	434	434	434

Notes: Regressand: Change in Nagin's vote share in the general election, 2002 to 2006. OLS with robust standard errors in parentheses (calculated using White's heteroskedasticity correction). *** = 1%; **=5%; *10%.

Table 3. Nagin's Vote Share Using Percent Democratic

	(1)	(2)	(3)
Constant	31.688***	-28.288***	-43.167***
	(1.606)	(1.495)	(2.157)
Flood depth (ft.)	0.527*	-1.070***	2.186***
	(0.283)	(0.139)	(0.329)
% Democratic		0.933***	1.170***
		(0.024)	(0.036)
Flood depth * % Democratic			-0.049***
			(0.005)
R-squared	0.009	0.789	0.816
Observations	434	434	434

Notes: Regressand: Nagin's vote share in the general election, 2006. OLS with robust standard errors in parentheses (calculated using White's heteroskedasticity correction). *** = 1%; **=5%; *10%.

Table 4. Change in Nagin's Vote Share Using Percent Democratic

	(1)	(2)	(3)	(4)
Constant	-26.637***	-139.869***	-154.433***	-169.107***
	(2.871)	(2.679)	(2.919)	(4.301)
Flood depth (ft.)	1.090**	-1.926***	-1.666***	-1.738***
	(0.528)	(0.234)	(0.221)	(0.608)
% Democratic		1.762***	1.891***	2.132***
		(0.041)	(0.038)	(0.066)
Change % Democratic			-1.627***	-1.520***
			(0.259)	(0.271)
Flood depth * % Democratic				-0.052***
				(0.010)
R-squared	0.010	0.788	0.827	0.835
Observations	434	434	434	434

Notes: Regressand: Change in Nagin's vote share in the general election, 2002 to 2006. OLS with robust standard errors in parentheses (calculated using White's heteroskedasticity correction). *** = 1%; **=5%; *10%.