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### **ARE AMERICANS CONFIDENT THEIR BALLOTS ARE COUNTED?**

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# **Are Americans Confident Their Ballots Are Counted?**

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## **Abstract:**

Expanding the large literature which investigates the characteristics of citizen and voter trust in government we analyze the heretofore neglected topic of voter trust in the electoral process. In this paper, we present results from three national surveys in which we asked voters the confidence they have that their vote for president in the 2000 or 2004 election was recorded as intended. We examine voter responses using both descriptive and multivariate analyses to determine the overall level of voter confidence and then analyze the characteristics which influence the likelihood a voter is confident in their ballot being recorded accurately. Our findings show that a significant portion of the U.S. voting population does not possess confidence that their vote will be counted as intended and similar to the literature on trust in government we find political identification significantly impacts a voter's level of confidence. Contrary to the bulk of findings concerning citizen trust, we find demographic variables such as race and education significantly impact the likelihood an individual is confident their vote will be recorded as intended.

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## Introduction

The issue of trust and confidence in the electoral process looms large in the United States in the wake of the disputed 2000 presidential election, especially following the many reports and studies of procedural irregularities, mistakes, and problems associated with the counting and recounting of ballots in Florida and other states (Caltech/MIT Voting Technology Project 2001). Despite efforts at reform, including passage of the “Help America Vote Act” in 2002, questions persist about the degree of confidence and trust that American citizens and voters have in their electoral process, given that problems again arose in the 2004 presidential election in a number of states, including the pivotal state of Ohio. As a reflection of the apprehension about how the problems in the American electoral process might affect confidence and trust in the process, some prominent studies raised confidence as a problem: the 2001 report from a commission chaired by former presidents Carter and Ford was titled “To Assure Pride and Confidence in the Electoral Process (NCFER 2001); the subsequent commission chaired by President Carter and former Secretary of State Baker was itself titled “Building Confidence in U.S. Elections” (CFER 2005).

Studies investigating the broader issue of trust are so numerous that a recent and exhaustive synthesis of the research on this topic has a six-page, double-column, list of previous studies (Levi and Stoker 2000). The modern research on trust was motivated by the social and political unrest of the 1960’s and 1970’s (e.g., Miller 1974). The origins of today’s research on trust in government is rooted in the systems theories of the mid-1960’s (e.g., Easton 1965) and the survey research of Stokes (1964) who focused upon the behavioral study of trust in government which began as part of the “Michigan School”. This early research set the

foundation for how scholars ask questions about trust in government in public opinion surveys, as well as documenting many of the early results about the level of government trust and the analysis of variation across citizens in their levels of stated trust.

The literature on governmental trust has focused on three distinct research questions. First, there have been studies the origins of trust, or distrust; in other words, the identification of which attributes of citizens determine whether or not they trust in government or other democratic institutions. This literature has examined a wide variety of possible covariates of trust in government, and has generally concluded that trust in government is tied closely with the political orientations and evaluations of citizens (Stokes 1962; Citrin and Lukes 2001; Brewer and Sigelman 2002; Cook and Gronke 2005). Despite some contradictory findings by Abramson (1983), Hetherington (1998), and Brewer and Sigelman (2002), most research on trust in government suggests that social situations and demographic attributes do not influence individual trust (Stokes 1962; Citrin and Lukes 2001; Cook and Gronke 2005).

Second, and of particular concern to political scientists is the investigation of the possible changes over time in government trust. In particular, this question has been a focus of research in the United States. Scholars have focused on the apparent decline in the overall level of American trust in government, reflected in particular in the National Election Survey's time-series of questions on this topic. Although much has been written about the decline in trust in government, its origins, and the consequences, it is clear that there is a common theme that resonates with the research on the simple cross-sectional analysis of government trust (c.f., Miller 1974a, 1974b; Citrin 1974): changes in trust in government are related to changes in the political environment and citizen evaluations of that environment, no matter what we make of

the broader implications of these changes (Chanley, Randolph and Rahn 2000; Cook and Gronke 2005).

A third major thread of research on trust in government has looked at the consequences of trust or distrust. Here, the research literature has studied a number of different outcome variables, examining outcomes where trust (or distrust) in government might be consequential for political behavior and attitudes. These studies include examinations of the connection between government trust and political engagement, voting behavior, compliance, cooperation, and social capital (see Levi and Stoker 2000). The results of these studies have often been inconsistent, identifying modest effects at best; for example, studies of the relationship between government trust and political engagement have debated exactly which direction the relationship might take, positive or negative, with studies arguing for either direction (Levi and Stoker 2000).

Despite this long history of scholarship on the topic of trust in government or trust in the performance of various institutions of government, there are many other dimensions of trust in democratic governance that have been neglected. One area of neglect is the trust or confidence that citizens and voters have in the electoral process itself. We are aware of no scholarly work on this topic in the research literature. This neglected topic should be a fundamental concern for the broader and more general issues of trust in an amorphous and faceless government, or even trust in various institutions of governments. If citizens lack trust or confidence in the process that is used to select those who fill the offices of those institutions of government, it seems unlikely that they will then have trust in the performance of those institutions themselves. It is also an important outcome variable. If some of the policy studies that have raised questions about American confidence in the election process are correct and Americans are less confident or trusting in the election process in the wake of recent disputed elections, this needs to be

documented and analyzed so that we can better understand what policy steps can bolster the confidence of Americans in their election process..

Our research on trust in the electoral process relates to the previous literature in two different ways. First, we examine confidence in a specific aspect of the political process, the American electoral process. Most of the past research on trust has focused on the generic question of trust in government, though there has been some studies of trust or confidence in specific democratic institutions, such as, trust in congress or congressional representatives (Fenno 1978; Bianco 1994; Hetherington 1998;) or across a number of democratic institutions, often studied as a combinatorial scale (Brehm and Rahn 1997; Cook and Gronke 2005). Although our work has the specificity associated with some of this newer work that tries to differentiate trust in government across institutional branches (but which often aggregates across the institutions), we focus not on democratic institutions but on a democratic process.

Second, our research investigates the origins of confidence cross-sectionally and over time, as we have access to survey measures of confidence in the electoral process from two different Presidential elections (2000 and 2004). Although we do test for differences across this short period of time in our panel dataset, we focus more attention on testing hypotheses regarding cross-sectional variation in opinions about electoral confidence. In particular, we seek to determine whether electoral confidence is rooted in political orientations and evaluations as the literature on more general trust in government has found, and whether electoral confidence lacks a relationship to demographic and social attributes of survey respondents (here voters). In the next section we discuss our data in more detail, as well as the specific hypotheses we test in subsequent sections of this paper.

## Confidence in the election process

Our paper investigates the trust or confidence American voters have that their presidential vote will be recorded as intended. Throughout the remainder of this paper the term trust or confidence will strictly refer to the trust or confidence American voter have that their presidential vote will be recorded as intended. We study only voters in this paper for a number of reasons. First, we are concerned with the attitudes of those who participate in the electoral process. Voters are in the best position to be informed about the process itself and whether they are confident their own votes are being counted. Second, we suspect (and leave for future research) that voters and non-voters are likely to be very different in what drives them to be confident or to lack confidence in the electoral process, and so trying to study both in the present paper could prove overly complicated. Third, in some of the survey waves some important questions were not asked of non-voters (especially questions regarding the voting technology used in their area, and their perceptions of new voting technologies).

Our analysis in this paper is based on the responses of 3,428 voters gathered in three separate surveys. The first survey (fielded from August 25 through 29, 2004) includes 635 voters responding to questions concerning the 2000 presidential election. Opinions regarding the 2004 presidential election were collected from 1,326 voters in the second survey (March 9-15, 2005) and 1,467 voters in the third survey (January 18-24, 2006). Although minor differences exist between the formats of the three surveys, the questions of interest in these analyses were consistent. The surveys were conducted by International Communications Research, who administered the questionnaire to randomly-selected participants interviewed by telephone.<sup>1</sup>

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<sup>1</sup> See Appendix A for additional information regarding the survey methodology of International Communications Research.

We use these data to test a series of hypotheses about the confidence of American voters about the electoral process. The first question we examine concerns the level of voter confidence in U.S. presidential elections, and whether it has varied between the 2000 and 2004 elections. Once we have examined the level of confidence, we test hypotheses regarding the origins of electoral confidence. The first major hypothesis we examine is whether electoral confidence is determined by political orientations or evaluations. We specifically focus on partisanship and given the current political environment, we expect to find that Republicans are more confident than Democrats. Secondly, we examine more direct environmental variables that may affect confidence in the electoral process, especially whether or not the voter is confident in the use of new voting technologies (here electronic voting technologies) in elections. We anticipate voters who are more acceptant of the new technologies may be more confident in the electoral process.

Finally, we are interested in testing hypotheses about the social and demographic attributes of voters and whether they have any influence on the confidence that voters have about the electoral process. Despite findings by Abramson (1983) and Brewer and Sigelman (2002) indicating that minorities (especially African Americans) are less trusting of the government than Caucasians, the majority of the literature on government trust has generally concluded that social and demographic attributes have a smaller effect on government trust than political orientations or evaluations.<sup>2</sup> However, because some have argued that the problems with the American electoral process observed in the 2000 and 2004 election have had a disproportionate effect on non-white voters, we suspect that race may have an important influence upon voter confidence.

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<sup>2</sup> There is also research that indicates that Hispanics and Latinos are less trusting of government (Michelson 2001). However we do not have a sufficient number of responses from Hispanic or Latino voters in our sample to well represent that population in our analysis. As to research that indicates that non-whites might have been disproportionately affected by administrative or voting system problems in recent presidential election cycles, see Sinclair and Alvarez (2004) and Tomz and Van Houweling (2003).



In addition to race, we examine a variety of social and demographic voter attributes including age and education to determine if those variables affect election confidence.

The dependent variable of our study is a survey question asked of voters in order to determine their level of confidence in their vote being recorded correctly: “How confident are you that your ballot for president in the 2004 (2000 where applicable) election was counted as you intended?” Respondents were asked to select one of the following options: very confident, somewhat confident, not too confident, and not at all confident. Responses to this question were categorized into a binary variable, not confident and confident.<sup>3</sup> Very and somewhat confident respondents were recoded as confident voters and not too or not at all confident respondents were recoded as not confident voters.

We examine the question of confidence using both descriptive and multivariate analyses. The tables in the next section examine how confidence varies among voters based on several socio-economic and political factors. To isolate the effect of a single attribute upon a voter’s confidence we then estimate a multivariate logistic regression model where confidence is a binary dependent variable. In order to facilitate interpretation of the logit coefficients, a table of first differences is provided. The table of first differences will clarify the probability a change in an independent variable will have upon the likelihood of a voter exhibiting confidence.

## **Confidence in Voting: A Descriptive Analysis**

Table 1 presents the tabulation of survey responses regarding election confidence by voter race, gender, party identification, age, and education level. In order to aid the reader in the evaluation of these variables and how they may affect voter confidence, Table 1 presents the results for the 2000 and 2004 elections separately. Thus, the results concerning the second and

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<sup>3</sup> The binary variable was selected due to a limited number of responses reporting somewhat confident and not at all confident.

third surveys are combined under the 2004 Election column. The last column of Table 1 contains the combined results for both elections. The results in Tables 1 and 2 are weighted using population weights provided by International Communication Research. Appendix A provides a comparison of how the weighted response levels used in the development of Tables 1 and 2 correspond to estimates of the voting public as provided by the Census Bureau through the 2000 and 2004 November CPS surveys.<sup>4</sup> Due to the amalgamation of the second and third survey into the column headed 2004 Election, we provide in Appendix B tables which report the response rates among the descriptive characteristics for the three individual surveys.

#### Insert Table 1

With the problems surrounding the 2000 election, voter registration scandals like that during the 2004 election in Nevada, and the trouble with the 2004 Ohio provisional ballots; it would not be surprising if voter confidence among returning voters fell in 2004 from the 2000 level. Abramson, Aldrich and Rohde (2006) attribute voter expectations regarding the closeness of the election outcome responsible for generating a 4.1% increase in voter turnout during the 2004 election over the 2000 election. These additional voters may be less involved in politics and less confident in the accuracy of the voting system. Examining the results in Table 1, when averaging across the last two presidential elections we observe that 11.0% of voters lack confidence that their vote will be recorded as intended. We observe a statistically insignificant *t*-statistic of 1.49 when testing if the confidence rate of 90.1% 2000 equals that of 88.2% 2004. Unfortunately, because our dataset is currently restricted to only the 2000 and 2004 elections we are unable to develop an adequate picture of how voter confidence is changing over time.

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<sup>4</sup> Although some differences exist in the weights assigned by ICR and those estimated by the Census Bureau, these differences will not impact the estimates of the coefficients contained in the multivariate analysis.

Prior research by Stokes (1962), Citrin and Lukes (2001), Brewer and Sigelman (2002), and Cook and Gronke (2005) all suggest that partisan identification plays a key role in determining trust in government. The Florida recount in 2000 and the electoral difficulties encountered in Ohio during the 2004 election are prime examples of controversies with strong partisan overtones. Given the two instances cited above, we anticipate that when Republican and Democrat confidence rates are compared, Republicans will be more confident. Combining the results over both elections, we find that 97.4% of Republicans report being confident their vote will be counted correctly, compared to only 82.4% of Democrats and 87.2% of independents. These differences are statistically significant as assessed by a difference-of-means test.<sup>5</sup> Furthermore, even respondents who identify themselves as independents are statistically more confident than those respondents identifying with the Democratic Party.<sup>6</sup>

Despite the fact that Democrats are less confident in the election process, they (as well as Republican identifiers) are relatively stable between 2000 and 2004 in their confidence about the electoral process. However, the same is not true for independents, as this group's confidence drops significantly between these two elections. We conclude that, similar to previous findings relating party identification to trust in government, a voter's identification with a particular party (Republican) has a significant (positive) influence in determining the confidence a voter places in the electoral process.<sup>7</sup>

Contrary to the bulk of the findings in the literature on trust in government, the results presented in Table 1 suggest voter confidence may vary along racial lines. The percent of

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<sup>5</sup> A *t*-statistic of 8.57 is received when testing if the confidence rates between Democrats and Republicans are equal. The *t*-statistic is 6.32 when running a similar test between independents and Republicans.

<sup>6</sup> When using a difference of means test to determine if the confidence rates are equal between respondents who identify themselves as Democrats or independents we receive a *t*-statistic of 2.12.

<sup>7</sup> See Hasen 2005, 943 regarding how Republicans in Washington State thought the election process was unfair in the aftermath of the state's contested Gubernatorial election, which the Republicans lost.

African Americans expressing a lack of confidence increased significantly between the 2000 and 2004 elections, from 16.6% for the 2000 election to 32.9% for the 2004 election.<sup>8</sup> The statistically significant decline in African American voter confidence is particularly worrisome given the stability in Caucasian voter confidence. Over the same period of time when African American confidence is significantly falling, Caucasian voters experience only a slight and statistically insignificant decrease in confidence, from 91.6% to 90.9%.<sup>9</sup> These results imply that African American and Caucasian voters may perceive the electoral problems surrounding the 2004 election as specific to minority voters. There are two possible reasons for this belief: (1) racism exists at the polls and is evident in decisions such as those in Ohio to disallow many minority provisional ballots or (2) there is a need to target information regarding the rules and requirements of the voting process to the African American community. Regardless of the source, if the belief among the electorate grows that minority ballots are not being counted properly, this belief may negatively impact the perceived legitimacy of our elected officials.

The hypothesis that demographic variables exert a significant influence upon confidence is also supported by a significant *t*-statistic finding African American voters are less likely to be confident than Caucasian voters. This finding supports the results of Abramson (1983) who finds African American levels of trust in government to be lower than that of Caucasians. Later in our multivariate analysis we estimate that, *ceteris paribus*, African American voters are approximately 15 points less likely to be confident than Caucasian voters. Given the significant differences in confidence rates between the two races, we suspected that African Americans and Caucasians might differ substantially in the factors that influenced their confidence, a subject

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<sup>8</sup> We receive a *t*-statistic of 1.82 when using a difference of means test to determine if the confidence rates change among African Americans between the two elections.

<sup>9</sup> A *t*-statistic of .43 is received using a difference of means test to determine if the confidence rates between Caucasian respondents changes between the 2000 and 2004 elections.

that we take up again below where we test for such heterogeneity in the determinants of opinions about confidence.

Are men or women more doubtful that their vote will be recorded as intended?

Hetherington (1998) and Brewer and Sigelman (2002) find that females are significantly less likely to trust the government than males. Because confidence in the electoral process may be a sub-category of an individual's overall trust in government, we expect that women may exhibit lower levels of confidence. Table 1 shows that female voters are significantly more skeptical than male voters ( $t$  statistic of 3.3). In the 2000 election 4.9% of male voters responded that they were not confident in how their ballot was counted compared to 12.6% of female voters. However, the data collected for the 2004 election shows that the gap between male and female voter confidence rates narrowed from 7.7 percentage points in 2000 to 3.7 percentage points in 2004. This movement towards similarity in confidence rates between the two genders is primarily the result of a statistically significant decline in the confidence of males between the two elections.<sup>10</sup> Given the data above regarding the differences in race, it is evident that much of the decline from 2000 to 2004 in male voter confidence is attributable to a decrease in confidence among African American male voters.

The literature on trust in government does present some evidence supporting the claim that citizen trust and education is positively correlated (Hetherington 1998; Brewer and Sigelman 2002). Intuitively, we believe that this positive relationship should remain when examining voter confidence and education. Perhaps best seen in the combined data column, Table 1 indicates that, as a voter's educational attainment increases, the percentage of voters expressing confidence in the voting system tends to rise.

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<sup>10</sup> When testing the null hypothesis that the confidence rate of men is constant across elections we receive a  $t$  statistic of 2.45.

Table 1 reveals two sharp distinctions when comparing how confidence varies with age between the two elections. The biggest change in confidence occurs among those aged 18-29, where we observe that 99.0% of respondents aged 18-29 report being confident in the 2000 election compared to only 81.8% for the 2004 election. When testing if the confidence rates between young voters are equal across elections we receive a t-statistic of 5.35 which implies a statistically significant difference at the 99.0% confidence level.<sup>11</sup> For other age groups, Table 1 provides little insight into the effect of age may have upon a voter's confidence.

Table 2 suggests that the type of voting technology used by voters and their opinion over electronic voting impact confidence. Information regarding the mode of voting and the technology used to cast a ballot were obtained through two questions. First, voters were asked if they voted at their local precinct, by absentee ballot, or in early voting. If an individual responded yes to voting at their local precinct, then they were asked the method by which they cast their ballot. The respondents were given the following choices: electronic voting, punch cards, levers, paper/optical scan, other. All voters who responded to voting by absentee ballot were coded as such. Given the small numbers and variety of voting technologies employed by early voters, Table 2 does not provide a measure of the confidence level of early voters.<sup>12</sup>

#### Insert Table 2

Investigating the effect of voting technology upon a voter's confidence is particularly relevant today, as we witness a strong movement away from more traditional balloting techniques to electronic voting systems. Table 2 suggests several relationships between the voting technology utilized by the voter and the confidence the voter has in the electoral process. Voters appear to place the most confidence in lever technologies; approximately 92.4% of

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<sup>11</sup> The sample from the 2000 election aged 18-29 is small and contains 37 responses.

<sup>12</sup> Additionally, early voters will be excluded from the multivariate analysis. Excluding early voters from the results is inconsequential because the number of respondents who are early voters is rather small.

respondents who report using the lever technology are confidence in the voting system. The least confident voters appear to be those who cast an absentee ballot with 86% of absentee voters reporting confidence. Paper/optical scan, electronic, and punch card ballots occupy the middle ground between these two technologies, with 90.0%, 89.6% and 88.5% of users reporting confidence in the voting system. Voters' relative distrust of absentee ballots is somewhat surprising given the rise in absentee voting over the last two decades.

Continuing with our consideration of the possible relationship between confidence and voting technology, we observe the confidence rate of voters who report using a paper/optical scan technology falls significantly from 95.8% for the 2000 election to 90.0% for 2004 ( $t=2.86$ ). Similarly, confidence rate among absentee voters undergoes a statistically significant drop from 92.0% in 2000 to 84.5% in 2004 ( $t=1.65$ ). The change from 2000 to 2004 among the other three voting technologies is insignificant. We suspect that the insignificant decrease in confidence among punch card voters during the 2004 election is due to the large amount of bad press that punch card balloting received after the 2000 election. Again we stress caution to the reader in forming conclusions based entirely on the data presented in Table 2.

The last two variables we analyze in Table 2 concern voter confidence in relation to their comfort with new voting technologies. Survey participants were asked two questions regarding their opinions on electronic voting systems: (1) "Do electronic voting systems increase the potential for fraud?" and (2) "Electronic voting systems are more accurate?" For each question respondents were given the option of agreeing, disagreeing, or expressing no opinion/don't know. Not surprisingly, we observe that voters who believe electronic voting makes electoral fraud easier are more likely to lack confidence in the accuracy of their vote being counted correctly. This result is statistically significant when compared to both voters who hold no opinion and

voters who disagree with the question on electronic fraud. Although confidence rates for voters who believe electronic voting increases the potential for fraud are relatively stable between the 2000 and 2004 elections, we notice a statistically significant decrease in the confidence of voters who have no opinion regarding the question concerning electronic fraud. Similarly, we find voters who believe e-voting increases vote accuracy (and even those who have no opinion on the issue) are significantly more likely to place confidence in the voting process over voters who disagree with this statement. Combining the results over the e-fraud and e-accuracy questions, we observe strong evidence supporting the theory that voters who are more comfortable with newer technologies are more likely to be confident with the balloting process.

## **Logistic Regression Results**

The results in the previous section suggest relationships between various voter attributes such as race and political affiliation with the likelihood a voter is confident in the voting system. But in order to ascertain the independent effects of these variables while controlling for other possible effects,, we estimate a multivariate model using the binary variable *confidence* as the dependent variable, where the value of one corresponds to a voter who is confident that their vote for President in the 2000 or 2004 election was counted as intended. As the dependent variable in this analysis involves a binary choice (confident versus not confident), we use a logit model to produce estimates for the various independent variables in these models. Although the descriptive results section provided tentative answers to many questions regarding overall American voter confidence, our multivariate analysis will continue to focus upon the central questions: (1) does the level of voter confidence vary between the 2000 and 2004 elections, (2) what role does partisanship have in determining confidence, (3) do more direct environmental characteristics, such as voting technology, influence voter confidence and (4) is there an



observable relationship between descriptive characteristics such as race, age, and education and a voter's likelihood of confidence.

Before we consider the estimated coefficients, it is necessary to describe the measures taken to avoid problems associated with possible heterogeneity between survey waves and elections. Multiple tests were run to determine if heterogeneity exists between the three surveys. In each test, the chi squared test statistic was not significant, allowing us to reject the hypothesis that there are significant differences across the three waves of our surveys. Thus below we run our multivariate models pooling the data from all three surveys.<sup>13</sup>

The independent variables are listed in the first column of Table 3 and the column headed  $\beta_H$  corresponds to the estimates for the coefficients on the combined data; we include all observations within the  $\beta_H$  model except those pertaining to early voting.<sup>14</sup> The coefficients in the  $\beta_H$  model generally take the expected sign as predicted in the descriptive tables. For instance, the coefficients on race and e-fraud are negative and significant.

Earlier findings by Abramson (1983) and Brewer and Sigelman (2002) and the results reported in Table 1 suggest African Americans should exhibit less confidence than Caucasian voters. Table 3 shows a large and significant coefficient on *race*, which takes a value of one for African American, in the  $\beta_H$  model. The magnitude and significance of the *race* coefficient, coupled with the earlier finding that changes between the 2000 and 2004 confidence rates vary by race, indicates clear racial differences. Testing the difference of the likelihood ratios for a

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<sup>13</sup> In order to determine if combining the data from the three surveys was an appropriate treatment of the data, a Wald test using likelihood ratios was run in order to test for heterogeneity between the surveys. In each test of the three possible combinations (surveys 1&2, 2&3, 1&3), the chi squared test statistic was not significant. We also ran a test in order to test for heterogeneity between the two elections (thus testing if the first survey is different from the 2<sup>nd</sup> and 3<sup>rd</sup> survey). This final test also produced an insignificant chi squared test statistic.

<sup>14</sup> We eliminated observations pertaining to early voting due to a limited number of observations and heterogeneity among earlier voters in the voting technology used to cast their ballots.

model that accounts for individual race effects with a nested model without race effects delivers a chi squared test statistic significant at the 95% level.

Given heterogeneity between Caucasian and African Americans, separate logit models were run in order to develop race specific coefficients for the variables estimated in the  $\beta_H$  model.<sup>15</sup> Ideally we would like to run African American and Caucasian logit models that contain the same right-hand side variables. However, due to a limited number of responses among the African American sample we eliminated the absentee voters from the analysis and combined Republicans and independents into a variable labeled *not Democrat*.<sup>16</sup> Our rationale for coding partisanship in this way was based upon a limited number of Republican African American observations and similarities in the response rates of African American Republicans and independents.

The estimates for the coefficients, standard errors, and statistical significance for the Caucasian model,  $\beta_C$ , and the African American model,  $\beta_A$ , are presented in Table 3. Using likelihood ratio tests to determine the fit of the  $\beta_C$  and  $\beta_A$  models, we conclude that overall the  $\beta_C$  and  $\beta_A$  models fit the data well. Comparing the likelihood ratios of the  $\beta_C$  and  $\beta_A$  models with those from a naïve model comprised solely of an intercept, we find that the  $\beta_C$  and  $\beta_A$  models present a significant improvement, at the 95% level, over the naive model.

Insert Table 3 Here

Note that the estimate for the coefficient on *2000 Election* is insignificant in the Caucasian model, yet significant in the African American model. A likelihood ratios test to

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<sup>15</sup> A likelihood ratios test for the Caucasian model was run in order to determine if heterogeneity exists between elections. The chi squared test statistic obtained from this test was not significant.

<sup>16</sup> Eliminating the African American absentee voters resulted in the loss of 13 observations. We did run several model specifications of the African American logit model which did include absentee and/or party identification. The results reported under these model specifications were not significantly different than those reported in Tables 3 & 4. However, the special steps taken to account for the small sample size of African Americans highlights the need for additional research in order to better understand and estimate the coefficients which determine African American confidence.

determine if heterogeneity may exist between 2000 and 2004 African American voters is not feasible due to the limited number of African American observations pertaining to the 2000 election. We did estimate the  $\beta_A$  model eliminating African American observations pertaining to the first survey wave (the 2000 election) and obtained nearly identical estimates with no comparative change in the significance (or lack thereof) of the variables.

In order to better interpret the coefficients reported in Table 3, we presents the logistic regression coefficients transformed into first differences in Table 4, estimated using CLARIFY (King, Tomz and Wittenberg 2000).<sup>17</sup> The values in Table 4 indicate how a change in a specific attribute will alter the probability of a voter being confident while holding the other attributes at the median response level.<sup>18</sup> A brief example will help to elucidate the table of first differences. In Table 4, the figure at the top of the Caucasian and African American columns, .91 and .76, is the probability that a hypothetical voter possessing the median sample attributes is confident their vote was recorded as intended. Suppose we are interested in comparing the probability of confidence for a median Republican Caucasian voter with a median Democrat Caucasian voter. In Table 4 we see that a switch from *Democrat* to *Republican* will increase the probability a Caucasian voter is confident from .91 to .99. Similarly, in the Caucasian model changing the voting technology utilized from *paper/optical scan* to *absentee* changes the estimated probability that this voter is confident from .91 to .86.

Insert Table 4 Here

As expected, both the  $\beta_C$  and  $\beta_A$  models ascribe a powerful effect to political identification upon a voter's likelihood of confidence. The effect of political identification varies

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<sup>17</sup> First differences are only reported for the African-American and Caucasian models. Providing these figures for the combined model will only serve to confuse the reader regarding the usefulness of the coefficients obtained under the combined model.

<sup>18</sup> In some cases such as voter technology the modal response is used. For a listing of the "median" response values see footnotes to Table 2 Table 3 or Table 4.

by race, a Republican Caucasian voter is virtually certain to be confident (estimated probability of .99) but a Democratic Caucasian voter has an estimated probability of .91 of being confident (the difference between Caucasian independents and Democrats is not significant). However, for a typical African American voter, identification with either the Republicans or independents, relative to identifying with the Democrats, results in a significant 21 point decline in likelihood of confidence.<sup>19</sup> Despite the apparent differences between the races, the magnitude and significance of party identification on a voter's likelihood of confidence extends the findings from the literature on trust in government, which tends to show a significant link between partisan identification and trust in government.

We focus our conclusions regarding voting technology upon the  $\beta_C$  model because the observations among the African American voting population lack the richness necessary to provide meaningful estimates of the voting technology coefficients in the  $\beta_A$  model. Evaluating the results in Tables 3 & 4 on voting technology, we draw several conclusive results regarding Caucasian confidence when comparing alternative voting technologies to that of the paper/optical scan technology: (1) absentee voting reduces the estimated likelihood of confidence by five points, (2) electronic voting reduces the estimated likelihood of confidence by five points, and (3) voting via punch card ballots reduces the estimated likelihood of confidence by three points. After the 2000 election the media focused a great deal of attention upon the problems of punch card ballots due to the potential for hanging chads, thus we find it reasonable that voters associate a lower degree of confidence with the punch card technology. In response to the 2000 election, government officials sped up the retirement of punch card voting systems, replacing them in many voting districts with electronic voting technology (Alvarez and Hall 2005).

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<sup>19</sup> There are 76 out of the 219 observations are classified as not Democrats.

One of the more interesting results found in the  $\beta_C$  model is the negative coefficient on electronic voting given the current nationwide shift among voting districts away from traditional voting technologies and towards electronic voting. There are two possible sources of voter skepticism concerning electronic voting: (1) voters are undergoing a transition period in which they need to adjust to the new voting technology or (2) voters simply do not trust the “black box” nature of electronic voting and believe electronic voting is inaccurate and/or does not adequately guard against vote fraud. Given that the  $\beta_C$  model controls for voter opinion over the security and accuracy of electronic voting *vis-à-vis* the other voting technologies through the *e-fraud* and *e-accuracy* variables, we conclude that the negative coefficient associated with *e-voting* is largely attributable to voter adjustment to the new voting technology. The magnitude and significance of the *e-voting*, *e-fraud*, and *e-accuracy* variables on the confidence of Caucasian voters suggests that these voters might need to be convinced about the use of electronic voting technologies is leading to a more accurate and secure election process: perhaps election officials should conduct education campaigns focusing upon the operation, security, and accuracy of the electronic voting technology for these voters.

The magnitude and significance of the negative coefficient associated with absentee voting may be a cause of concern given that there is a push among many states to extend the use of absentee ballots. During the 2004 election 26 states did not place geographic or immobility restrictions upon the ability of voters to cast absentee ballots. Additionally, the negative coefficient associated with absentee ballots may give pause to proponents of all-mail voting systems who base the desirability of all-mail voting systems, such as that employed in Oregon, on the belief that this voting system increases voter turnout in state and local elections (Southwell and Burchett 2000). Alvarez and Hall (2004) present results from both Britain and

Oregon indicating all-mail or absentee voting systems increase voter turnout, but additional study is needed to determine if increased participation is worth the possible reduction in voter confidence.<sup>20</sup>

Respondents were asked two questions regarding their opinions on electronic voting systems: (1) “Do electronic voting systems increase the potential for fraud” and (2) “Electronic voting systems more accurate”. Including these two variables allows us to measure the potential effect of implementing new voting technologies on voter confidence, as they measure two important aspects of electronic voting system performance. Also, these two variables allow us to gauge the degree to which comfort with new technologies determines voter confidence. For each question respondents were given the option of agreeing, disagreeing, and no opinion/don’t know and these responses were coded: 1, -1, and 0. Thus, agreeing with the statement concerning electronic fraud corresponds to a value of 1 and disagreeing corresponds to a value of -1. The values of the coefficient for both e-fraud and e-accuracy will be zero for voters who are either unsure or don’t know. Furthermore, if voters disagree with the statement regarding e-fraud or e-accuracy, then the sign of the coefficient flips from that reported in Table 4.

We suspect voters who disagree with the question on e-fraud and agree with the question on e-accuracy are more comfortable and less skeptical with the increasingly sophisticated manner in which their votes are tallied and thus are more likely to be confident. Therefore, we expect the coefficient on *e-fraud* should be negative and the coefficient on *e-accuracy* should be positive. As expected, we observe the estimates for the coefficient on *e-accuracy* in the  $\beta_C$  and  $\beta_A$  models are positive and significant. Although both the  $\beta_C$  and  $\beta_A$  models estimate a negative coefficient on *e-fraud*, only in the  $\beta_C$  model is this estimate significantly different from zero. The

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<sup>20</sup> There is a body of literature suggesting that all-mail voting does not increase turnout (Ornstein 1996 and Jacoby 1996).

conclusion to be drawn from the estimates on *e-fraud* and *e-accuracy* is that regardless of voting technology a positive and significant relationship exists between a voter's comfort with new voting technology and confidence.

Recall that most previous research has found little conclusive evidence linking descriptive variables such as race and age to citizen trust in government. The statistics reported in Table 1 tend to contradict this finding in relation to voter trust in the electoral process. The results we present in Tables 3 & 4 also finds that demographic and social variables have a significant influence upon a voter's likelihood of confidence. Most importantly, we find evidence that suggests race has an important part in determining the likelihood a voter is confident.

Fully realizing that slight differences exist across the  $\beta_C$  and  $\beta_A$  models, we compare the likelihood of confidence for typical (those with median attributes) African American and Caucasian voters. The typical African American voter has a .76 probability of being confident, while a typical Caucasian voter has a .91 probability of confidence. The median African American and Caucasian characteristics are equivalent across the two models; that implies the 15 point differential in likelihood is most likely attributable to race. This estimate appears reasonable; when pooling the data across race in the  $\beta_H$  model we estimate *ceteris paribus* an African American voter is 15 points less likely to be confident than a Caucasian voter.

The large difference in confidence based upon minority status raises both normative and positive concerns related to participation. Given the historical disenfranchisement of African American voters, any factor that reduces the confidence of this class of voters is troubling. We suspect that the significant difference in confidence between the races is based upon a perception among the African American community that events surrounding the 2000 and 2004 elections

is part of an organized effort to discriminate against African Americans. Finally, there is a possibility that a lack of confidence may affect the calculation of whether or not to vote in future elections. Although analyzing the impact of confidence on voter turnout is beyond the scope of this paper, we see this as a topic for future research.

Can we find evidence in the data that African Americans believe the legitimacy of their votes have been unfairly targeted by election officials in recent Presidential elections? One piece of evidence that suggests this relationship can be found by evaluating the estimated coefficient for *2000 Election* in the  $\beta_C$  and  $\beta_A$  models. The variable *2000 Election* is 1 if a respondent answered questions pertaining to the 2000 election and 0 if the respondent answered questions pertaining to the 2004 election. Although the sample size is small for African Americans in the 2000 election, we obtain a significant and positive coefficient for *2000 Election* in the  $\beta_A$  model and a positive, but statistically indistinguishable from zero, estimate on *2000 Election* in the  $\beta_C$  model.<sup>21</sup> Thus, we infer that African American voters may perceive actions such as disallowing many provisional ballots and long lines in urban precincts which occurred in Ohio in 2004 as part of an effort to target the votes within their particular sub-population. However, additional research is needed in order to fully identify this relationship.

There are six different levels of education, as seen in Table 1, and these levels were assigned values 1-6 (with 6 representing an advanced degree) with the log of this value used to compute the log of education variable. The positive and significant relationship between education and confidence (as identified in Table 3) supports previous research that found positive and significant relationships between education and broader measures of trust in government (Hetherington (1998) and Brewer and Sigelman (2002)). Table 4 reports how the

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<sup>21</sup> Together these results imply that the 15 point difference in likelihood across the two races for the 2004 election narrows to only 5 points when considering the 2000 election.



likelihood of confidence changes with each additional level of educational achievement while holding all other responses at the median level.

Moving on to the interpretation of the education results in Table 4 we see that a Caucasian voter who did not complete high school but possesses the other median characteristics has a .76 probability of being confident in the voting system. If this voter completes high school, then the probability of confidence increases to .87; an 11-point increase in probability of confidence. Similarly, an African American who completes high school has a 9-point increase in their likelihood of confidence. Considering confidence as a valiance issue, the large increase in the probability of confidence with the completion of a high school degree lends additional credibility to the popular belief that high school imparts a civic benefit.

Turning to the effect of age, we see that age is significant in the voter confidence model. In our multivariate analysis the variable *age* contains the five age categories, as seen in Table 1, with *age* taking values 1-5 where 1 identifies a voter aged 18-29 and 5 a voter aged 66 and older. We did specify the  $\beta_H$ ,  $\beta_C$ , and  $\beta_A$  models with dummy variables for the age categories and did not find a significant improvement upon the fit. In an effort to save degrees of freedom in the  $\beta_A$  model and to promote comparability across models, we use the linear age coefficient. Differences in the estimated likelihood of confidence between those aged 18-29 and those 66 and older are 5 points for Caucasians and 13 points for African Americans. Although *ceteris paribus* older voters seem more likely to be confident, we are unable to determine if the source of this confidence is do to experience or simply older individuals who lack confidence simply are not as likely to turnout to vote.

## Conclusions

A key result of our analysis is that a significant portion of the U.S. voting population (11.0%) lacks confidence that their vote for President in the 2000 and 2004 elections were counted as intended. Furthermore, although we do not see a significant difference in confidence rates between Caucasian voters in the 2000 and 2004 elections, we find evidence indicating that African Americans' confidence fell significantly between the 2000 to 2004 elections. The large percentage of individuals reportedly lacking confidence in the electoral system raises potentially troubling empirical and normative questions needing additional research. Why do individuals vote if they do not believe their vote will be counted correctly? How long can we expect voters who lack confidence to stay committed to voting if they are not confident their vote will be counted correctly? Is the percent of voters who lack confidence increasing, decreasing, or stable over time? Will the partisan and racial characteristics of the low confidence population change if the Democrats win in 2008?

The evidence that individuals turnout to vote despite a lack of confidence their vote will be counted as intended presents evidence in support of the "calculus of voting" as formulated by Riker and Ordeshook (1968). Although we hypothesize the consideration of civic duty upon a voter's turnout decision may add explanatory power to the actions of certain voters, we do not infer that this relationship implies a voter's confidence in the electoral process does not affect electoral participation. A lack of confidence may have a negative impact upon a voter's sense of civic duty and thus their turnout decision. Though we suspect a negative relationship, further research is needed to determine the nature of the interaction between a voter's lack of confidence and their sense of civic duty.

Contrary to the majority of research in the larger field of trust in government which finds a relationship between political identity and trust in government but generally fails to credit demographic variables such as race as having a significant effect upon trust, we find that both political affiliation and demographic variables such as race, education, and gender exert a significant influence upon confidence. Furthermore, we find that the technology voters use to cast their ballots can significantly alter their likelihood of confidence with Caucasian voters preferring paper and lever voting technologies to punch card and electronic voting technologies. We present additional evidence supporting the conclusion that the confidence rate among Caucasian voters using absentee ballots is significantly lower when compared to paper/optical scan ballot technology. Finally, relatively high voter comfort with new voting technologies, as measured by their opinions on electronic voting, significantly increases the likelihood that a voter is confident in the electoral process.

We identify in our analyses significant differences between the trust that African American and Caucasian voters place in the accuracy of the voting system. The differences between the estimates of African American and Caucasian coefficients are so large we were unable to combine both races into a single multivariate model. For instance, African American Democrats are significantly more likely to be confident versus African American Republicans and independents, although Caucasian Republicans are significantly more likely to be confident when compared to Caucasian Democrats and independents. Using the individual median characteristics of the two races we find African Americans are approximately 15 points less likely than Caucasians to be confident in their 2004 vote for President being counted as intended.

Because there is little extant research on the confidence of voters and citizens in the American electoral process, we see three questions needing additional research. First, what are

the characteristics that influence the confidence of non-voters, and are non-voters less confident than voters? Second, does a relationship exist between a voter's confidence in the electoral process and their likelihood of voting. Third, what are the key attributes of confidence for minorities a question which requires studies with larger samples of minority voters. Only after we have better understood the confidence of voters and citizens in the electoral process, can we assess the impact of recent events --- and recent reform efforts --- on the perceptions and behavior of Americans.

Table 1: Voter Confidence in Their Vote Being Counted Correctly by Selected Characteristics for the 2000 and 2004 Elections

	2000 Election – Survey 1		2004 Election – Survey 2& 3		All Surveys Combined	
	Not Confident	Confident	Not Confident	Confident	Not Confident	Confident
<b>Confidence Summary</b>	9.1	90.9	11.8	88.2	11.0	89.0
<b>Survey by race</b>						
African American	16.6	83.4	32.9	67.1	28.9	71.1
Caucasian	8.4	91.7	9.1	90.9	8.9	91.1
<b>Confidence by gender</b>						
Male	4.9	95.2	9.7	90.3	8.3	91.7
Female	12.6	87.4	13.4	86.6	13.2	86.8
<b>Confidence by party identification</b>						
Democrat	17.7	82.4	17.5	82.5	17.6	82.4
Republican	2.1	97.9	2.8	97.2	2.6	97.4
Independent	8.3	91.8	14.8	85.2	12.8	87.2
<b>Confidence by education</b>						
Did not complete H.S.	18.7	81.3	23.2	76.8	22.0	78.0
High School Diploma	9.4	90.6	13.2	86.8	12.1	87.9
Some College	9.2	90.9	13.4	96.6	12.1	87.9
Completed Technical School	8.5	91.5	9.7	90.3	9.5	90.6
College	5.6	94.4	4.6	95.4	4.9	95.1
Graduate School	6.0	94.0	2.9	97.1	3.9	96.1
<b>Confidence by age</b>						
20-29	1.0	99.0	18.2	81.8	14.9	85.1
30-39	14.7	85.3	9.7	90.3	11.5	88.5
40-49	6.7	93.4	11.0	89.0	9.8	90.2
50-65	8.5	91.5	10.1	90.0	9.6	90.4
66+	9.9	90.1	11.9	88.2	11.2	88.8

Table 2: Voter Confidence in Their Vote Being Counted Correctly by Selected Characteristics for the 2000 and 2004 Elections Continued

	2000 Election – Survey 1		2004 Election – Survey 2& 3		All Surveys Combined	
	Not Confident	Confident	Not Confident	Confident	Not Confident	Confident
<b>Confidence by Voting Technology</b>						
Evoters	8.1	91.9	11.1	88.9	10.4	89.6
Punch cards	12.5	87.5	11.0	89.0	11.6	88.5
Levers	9.8	90.2	6.0	94.0	7.6	92.4
Optical scan	4.2	95.8	12.0	88.0	10.0	90.0
Absentee	8.0	92.0	15.5	84.5	14.0	86.0
<b>E-voting increases potential for fraud</b>						
Agree	17.1	82.9	16.0	84.0	16.3	83.7
Disagree	4.5	95.5	7.4	92.6	6.5	93.5
No opinion	5.5	94.5	10.8	89.3	9.1	90.9
<b>E-voting increases vote accuracy</b>						
Agree	5.5	95.5	9.0	91.0	8.0	92.0
Disagree	16.3	83.7	19.9	80.1	18.8	81.2
No opinion	8.4	91.6	9.0	91.0	8.8	91.2

Table 3: Logit Coefficient Estimates for Confidence: Combined Data, Caucasian Model, African-American Model

Variable	Combined data <sup>a</sup>			Caucasian <sup>b</sup>			African-American <sup>c</sup>		
	$\beta_H$	Std. Error	p-value	$\beta_C$	Std. Error	p-value	$\beta_A$	Std. Error	p-value
race	-1.03	.19	.00††	-	-	-	-	-	-
age	.16	.06	.01††	.15	.07	.03††	.23	.14	.10†
female	-.34	.14	.01††	-.40	.16	.01††	-.06	.34	.86
log(education)	.98	.14	.00††	1.07	.15	.00††	.57	.35	.10†
evoter	-.21	.18	.26	-.45	.21	.03††	.47	.41	.26
lever	.24	.23	.31	.18	.26	.50	.32	.53	.55
punch card	-.21	.19	.26	-.34	.21	.09†	.26	.47	.58
absentee	-.42	.22	.06†	-.47	.25	.06†	-	-	-
e-fraud	-.35	.10	.00††	-.43	.11	.00††	-.03	.23	.90
e-accuracy	.30	.09	.00††	.30	.10	.00††	.42	.23	.07†
2000 Election	.39	.21	.07†	.32	.23	.16	1.02	.59	.09†
Republican	1.63	.23	.00††	2.02	.27	.00††	-	-	-
independent	.04	.15	.77	.21	.16	.18	-	-	-
Not Democrat	-	-	-	-	-	-	-.94	.35	.01††
not employed	-.52	.15	.00††	-.58	.17	.00††	-.15	.40	.71
constant	1.06	.30	.00††	1.13	.33	.00††	-.07	.64	.91

a	number of observations included is 3,191. The median characteristics are age 30-39, female, completed some college, used a paper ballot, uncertain if electronic voting increases potential for fraud, uncertain electronic voting increases accuracy, Democrat, and employed.
b	number of observations included is 2,959. The median characteristics are age 30-39, female, completed some college, used a paper ballot, uncertain if electronic voting increases potential for fraud, uncertain electronic voting increases accuracy, Democrat, and employed.
c	number of observations included is 219 (13 observations pertaining to the removal of absentee ballot observations). The median characteristics are age 30-39, female, completed some college, used a paper ballot, uncertain how electronic voting increases potential for fraud, uncertain about impact of the accuracy of electronic voting, Democrat, and employed.
†	indicates significance at 90% level
††	indicates significance at 95% level
*	difference between $\beta_C$ and $\beta_A$ is significant at 90% level
**	difference between $\beta_C$ and $\beta_A$ is significant at 95% level

Table 4: First Differences for Caucasian and African-American Models

Variable	Caucasian Model <sup>a</sup>			African-American Model <sup>a</sup>		
	Possesses Attribute	Does not Possess Attribute	Impact	Possesses Attribute	Does not Possess Attribute	Impact
<b>MEDIAN INDIVIDUAL</b>	<b>.91</b>			<b>76</b>		
Age 18-29	88	91	-3%	67	76	-9
Age 30-39	90	91	-1%	72	76	-4
Age 40-49	91	91	-	76	76	-
Age 50-65	92	91	1	80	76	4
Age 66 & over	93	91	2	83	76	7
Female	91	94	-3**	76	77	-1
Evoter	86	91	-5*	83	76	7
Lever	92	91	1	81	76	5
Punch card	88	91	-3*	80	76	4
Absentee	86	91	-5**	-	-	-
Believes e-voting makes fraud easier	87	91	-4**	75	76	-1
E-voting is more accurate	93	91	2**	82	76	7*
Republican	99	91	8**	-	-	-
Independent	93	91	2	-	-	-
Not Democrat	-	-	-	55	76	-21**
2000 Election	93	91	2	88	76	12
Unemployed	85	91	-6**	73	76	-3
<b>Impact of Education Levels<sup>b</sup></b>	Completed Level	Highest Completion One Level Lower	Change	Completed Level	Highest Completion One Level Lower	Change
Did not complete High School	76			63		
Completed High School	87	76	11**	72	63	9
Some College	91	87	4**	76	72	4
Completed Technical Program	93	91	2**	79	76	3
College Graduate	95	93	2**	81	79	2
Graduate Degree	96	95	1**	82	1	1

a - Holding all responses at the median characteristic: age 30-39, male, some college, paper ballot, uncertain about e-voting & fraud, uncertain e-voting increases accuracy, Democrat, and employed.

b - Holding all responses at the median characteristic: age 30-39, female, some college, paper ballot, uncertain of the impact e-voting has upon vote fraud, uncertain about accuracy of e-voting, Democrat, and employed.

\* significant at the 90% confidence level

\*\* significant at the 95% confidence level



## Appendix A: Survey Methodology

The ICR EXCEL omnibus telephone survey methodology consists of interviews with approximately 1000 respondents, conducted twice a week.<sup>22</sup> ICR undertakes a random-digit dialing approach to sampling telephone households, and within each sample household a single adult respondent is selected based on the adult with the most recent birthday. The ICR EXCEL survey data is then weighted to produce a nationally representative sample of the adult population; we use these population weights in all of the univariate and cross-tabulated analyses reported in this paper. Given the sample size of the ICR EXCEL survey we use, a typical survey proportion (50%-50% split) will have a 95% confidence level of approximately 3 percentage points.

In Table A-1 below, we report weighted survey frequencies from our ICR data, in comparison to the similar frequencies from the 2000 and 2004 November Voter Supplement to the Current Population Survey. We consider comparisons among four sub-categories ICR uses to weight their responses: gender, age, education, and region. The weighted ICR survey frequencies closely match the CPS estimates of the same population parameters, especially once we take into account the slightly different categorizations used for age and educational attainment.

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<sup>22</sup> More information regarding the ICR EXCEL survey is available from <http://www.icsurvey.com/ICRExcel.aspx>.

**TABLE A-1: ICR Survey Compared to 2004 Current Population Survey (CPS)<sup>a</sup>**

	Survey 1 (2000 Election)	2000 CPS <sup>a</sup>	Survey 2 (2004 Election)	Survey 3 (2004 Election)	2004 CPS <sup>a</sup>
<b>Gender</b>					
Male	45.6	46.5	44.0	45.5	46.5
Female	54.4	53.5	56.0	54.5	53.5
<b>Age</b>					
Age 18-24 years	3.1	7.8	7.1	6.8	9.3
Age 25-44 years	35.7	36.8	35.4	37.3	34.1
Age 45-64 years	40.4	35.4	37.4	37.4	37.6
Age 65-74 years	11.8	11.2	10.4	9.9	10.3
Age 75 years and over	9.0	8.8	9.7	8.6	8.7
Refused	-	-	-	-	-
<b>Education</b>					
Less than High School	9.8	9.2	12.7	11.8	8.1
High School	34.2	29.5	32.4	34.2	28.5
Some College	24.9	30.1	26.3	23.5	31.0
College Degree	18.9	20.4	19.2	19.1	21.1
Graduate Degree	12.2	10.7	9.4	11.5	11.3
Technical School or Refused	-	-	-	-	-
<b>Region</b>					
Northeast	20.4	19.4	20.3	18.1	19.2
North Central	25.8	25.5	26.7	27.8	25.0
South	34.1	34.7	34.8	35.1	34.6
West	19.7	20.5	18.2	19.0	21.2

a – Information collected from U.S. Census Bureau’s November 2000 and 2004 Current Population Surveys (CPS) and November 2000 and 2004 Voter Supplements.

## Appendix B: Response Level by Individual Survey

The results contained within this paper are based on the responses of 3,428 voters. Responses from these individuals were gathered in three separate surveys: (1) the first survey of 635 responses fielded from August 25-29, 2004, (2) the second survey of 1,326 responses fielded from March 9-15, 2005, and (3) the third survey of 1,467 responses fielded January 18-24, 2006. In the Tables contained within the body of the paper we combined the second and third survey ways in order to facilitate comparison across elections. In Tables B-2 & B-3 below we provide a breakdown of response rates across the individual surveys in order to allow comparison across the individual surveys.

Table B-1: Voter Confidence in Their Vote Being Counted Correctly by Selected Characteristics for Individual Surveys

	Survey 1		Survey 2		Survey 3	
	Not Confident	Confident	Not Confident	Confident	Not Confident	Confident
<b>Confidence Summary</b>	9.1	90.9	10.9	89.1	12.6	87.4
<b>Survey by race</b>						
African American	16.6	83.4	35.5	64.5	29.8	70.2
Caucasian	8.4	91.7	7.4	92.6	10.7	89.3
<b>Confidence by gender</b>						
Male	4.9	95.2	8.5	91.5	10.8	89.2
Female	12.6	87.4	12.8	87.2	14.0	86.0
<b>Confidence by party identification</b>						
Democrat	17.7	82.4	18.1	81.9	17.0	83.1
Republican	2.1	97.9	3.1	96.9	2.4	97.6
Independent	8.3	91.8	10.9	89.2	18.1	81.9
<b>Confidence by education</b>						
Did not complete H.S.	18.7	81.3	15.2	84.8	31.5	68.5
High School Diploma	9.4	90.6	13.2	86.8	13.2	86.8
Some College	9.2	90.9	12.7	87.3	14.0	86.0
Completed Technical School	8.5	91.5	15.4	84.6	4.5	95.5
College	5.6	94.4	3.7	96.3	5.5	94.5
Graduate School	6.0	94.0	3.3	96.8	2.7	97.3
<b>Confidence by age</b>						
20-29	1.0	99.0	15.8	84.2	20.2	79.8
30-39	14.7	85.3	12.6	87.4	7.0	93.1
40-49	6.7	93.4	11.5	88.5	10.6	89.5
50-65	8.5	91.5	8.2	91.8	11.8	88.2
66+	9.9	90.1	9.2	90.8	14.6	85.4

Table B-2: Voter Confidence in Their Vote Being Counted Correctly by Selected Characteristics for Individual Surveys Continued

	Survey 1		Survey 2		Survey 3	
	Not Confident	Confident	Not Confident	Confident	Not Confident	Confident
<b>Confidence by Voting Technology</b>						
Evoters	8.1	91.9	8.6	91.4	13.2	86.8
Punch cards	12.5	87.5	10.9	89.1	11.1	88.9
Levers	9.8	90.2	6.6	93.4	5.3	94.7
Optical scan	4.2	95.8	14.0	86.0	9.7	90.4
Absentee	8.0	92.0	13.1	86.9	18.4	81.6
<b>E-voting increases potential for fraud</b>						
Agree	17.1	82.9	15.0	85.0	17.0	83.0
Disagree	4.5	95.5	7.6	92.5	7.2	92.8
No opinion	5.5	94.5	8.8	91.2	12.6	87.5
<b>E-voting increases potential for fraud</b>						
Agree	5.5	95.5	7.9	92.1	9.8	90.2
Disagree	16.3	83.7	8.2	91.8	10.0	90.0
No opinion	8.4	91.6	18.5	81.5	21.3	78.7

## References

- Abramson, Paul R. 1983. *Political Attitudes in America*. San Francisco: Freeman.
- Abramson, Paul R., John H. Aldrich and David W. Rohde, 2006. *Change and Continuity in the 2004 Elections*. Ann Arbor: University of Michigan Press
- Alvarez, R. Michael and Thad E. Hall. 2005. "Rational and Pluralistic Models of HAVA Implementation: The Cases of Georgia and California", *Publius*, 35(4): 559-577.
- Bianco, William. 1994. *Trust: Representatives and Constituents*. Ann Arbor: University of Michigan Press.
- Brewer, Paul R. and Lee Sigelman. 2002. "Trust in Government: Personal Ties that Bind?" *Social Science Quarterly* 83 (2) 624-631.
- Brehm, John and Wendy Rahn. 1997. "Individual-Level Evidence For the Causes and Consequences of Social Capital." *American Journal of Political Science* 41(3) 999-1023.
- Burchett, Justin I. and Pricilla L. Southwell. 2000. "The Effect of All-Mail Elections on Voter Turnout." *American Politics Research* 28 (1) 72-79.
- Chanley, Virginia A., Thomas J. Rudolph and Wendy M. Rahn, 2000. "The Origins and Consequences of Public Trust in Government." *Public Opinion Quarterly*, 64: 239-256.
- Citrin, J. 1974. "Comment: The Political Relevance of Trust in Government." *American Political Science Review* 68, 973-88.
- Cook, Timothy E. and Paul Gronke. 2005. "The Skeptical American: Revisiting the Meanings of Trust in Government and Confidence in Institutions." *Journal of Politics* 67(3), 784-803.
- Cox, Gary W. 1997. *Making Votes Count*. Cambridge: University of Cambridge Press.
- Fenno, Richard F., Jr. 1978. *Home Style: House Members in the Districts*. Boston: Little, Brown.
- Hasen, Richard. 2005. "Beyond the Margin of Litigation: Reforming U.S. Election Administration to Avoid Electoral Meltdown." *Washington and Lee Law Review*. 63: 937-999.
- Hetherington, Marc J. 1998. "The Political Relevance of Political Trust." *American Political Science Review*. 92:791-808.
- Jacoby, J. (1996 February 1). Election by Mail? Here's a No Vote. *The Boston Globe*, p. 9.

- King, Gary, Michael Tomz and Jason Wittenberg, 2000. "Making the Most of Statistical Analyses: Improving Interpretation and Presentation." *American Journal of Political Science* 44(2) 347-61.
- Levi, Margaret and Laura Stoker. 2000. "Political Trust and Trustworthiness." *Annual Review of Political Science* 3, 475-507.
- Miller, Arthur H. 1974a. "Political Issues and Trust in Government: 1964-1970." *American Political Science Review* 68, 951-972.
- Miller, Arthur H. 1974b. "Rejoinder to "comment" by Jack Citrin: Political Discontent or Ritualism?" *American Political Science Review* 68, 989-1001.
- Ornstein, N. (1996 February 8). A Vote Cheapened. *The Washington Post*, p. 25.
- Riker, William H. and Peter Ordeshook, 1968. "A Theory of the Calculus of Voting". *The American Political Science Review* 62(1), 25-42.
- Sinclair, D.E. "Betsy" and R. Michael Alvarez, 2004. "Who Overvotes, Who Undervotes, Using Punchcards? Evidence from Los Angeles County." *Political Research Quarterly* 57(1), 15-25.
- Tomz, Michael and Robert P. Van Houweling, 2003. "How Does Voting Equipment Affect the Racial Gap in Voided Ballots?" *American Journal of Political Science* 44(2), 347-361.