

Electronic Elections in a Politicized Polity

Thad Hall¹ and Leontine Loeber²

¹Associate Professor of Political Science, University of Utah
260 S. Central Campus Drive, Room 252
Salt Lake City, UT 84112
USA

²University of Leiden, Netherlands
Professor Paul Scholtenlaan 48
1181 ME Amstelveen
The Netherlands

Abstract: Since the 2000 presidential elections, the evolution of electronic technologies in American elections—from voting machines to computerized voter registries—has occurred within the context of a highly partisan, polarized, and politicized environment. The decision about the type of voting systems to use within a given state has become especially political and these debates have affected the confidence and attitudes of voters toward various voting technologies. In the Netherlands, the debate even led to abolishing the use of all electronic technologies in elections. In this paper, we consider the evolution of voter confidence over this period and the evolution of the political debate that relates to electronic voting. We note that confidence in voting systems is affected by several factors, including race, partisanship, voting for a winning candidate, and the mode of voting (i.e., voting in person or voting via absentee ballot). During this time, certain factors, such as partisanship, have changed in importance based on previous election outcomes. On the issue of the importance of partisanship on confidence, we compare the United States and the Netherlands and the evaluation of electronic voting.

1 Introduction

A polity is a geographic area with a corresponding government. The term is also used to refer to a state or a lower level government such as a province, municipality or district. A polity can become politicized when different political factions appear. This may lead to changing policies with regard to electronic elections. A policy is a set of decisions to achieve a rational outcome. In this paper we look at different factors that may influence policies concerning electronic voting in politicized polities. The study of confidence in the electoral process—especially the process of counting ballots—in the United States has become a major field of research since the disputed 2000 presidential election. In that election, the decision regarding who won the race for president, between Al Gore and George Bush, became a tangled legal issue, largely because of the difficulties associated with determining how to count and recount ballots in the State of Florida. The decision of the United States Supreme Court in *Bush v. Gore* determined that recounts in the election would end, making George Bush the victor, but the controversies surrounding election administration and voting technologies continued. Throughout 2001 and 2002, several research groups and blue-ribbon commissions examined the elections in the United States and made recommendations that informed the passage of the Help America Vote Act (HAVA) of 2002 [VTP01, CF02]. Given that the most visible problem from the 2000 presidential election was the issue of how to count ballots, it is not surprising that the centerpiece of HAVA was providing funding to states to purchase modern voting technologies, with the intent of solving the vote-counting problem through the acquisition and implementation of new voting systems.

However, the contentiousness of the 2000 election was not just the result of the debate over the way votes were counted and the closeness of the election in the state of Florida. As many scholars have noted, the 2000 election occurred in a period when the American electorate had become increasingly polarized [AS08]. The highly politically engaged are especially polarized and there is evidence of strong partisan polarization in America as well. Liberals and conservatives, and Democrats and Republicans, view the political world quite differently; their issue preferences are highly bifurcated across an array of policy issues. In addition, the electorate is becoming divided geographically, with more states becoming uncompetitive and relatively few states serving as battlegrounds for electoral competition at the presidential level [AS08; Bi08]. These divisions in America have become much more pronounced than they were in the 1960s, with polarization increasing throughout the 1970s, 1980s, and 1990s.

One key issue for voting is how polarization and having a polarized electorate affects the confidence of voters in the voting process. Given the problems that existed in the 2000 election, it is reasonable to ask whether the partisan polarization—combined with issues with election administration—affects the willingness of losers to “consent” to the outcome of the election. The question of consent among losers is critical for the legitimacy of election administration because, although winners always find the election to have been fair, losers have to think and feel that the process that resulted in their loss was fair [ABB05]. This consent is needed not just from the candidates and parties; voters themselves must be confident that election administration is not being manipulated for partisan reasons.

In the Netherlands, electronic voting was introduced in 1966 and was for a long time no subject of debate. The confidence in the system was very high, which led to more and more municipalities making the choice for voting machines. During the municipal elections of 2006, 99% of the voters voted on a direct recording electronic (DRE) voting machine. In the summer of 2006, an action group called “We don’t trust voting computers” was founded, which started a media campaign against the voting machines in use. This led to several debates in Parliament and ultimately to the abolishment of all forms of electronic voting. After the parliamentary elections of 2006, voters were asked whether they had confidence in different forms of electronic voting. This research, done in the National Voters Study 2006, is the first major study done in the Netherlands concerning voter confidence.

In the United States, there has been an effort since 2004 by political scientists to measure voter confidence in the electoral process. This effort has examined confidence generally in the electoral process, but also with specific methods of voting, such as electronic voting or voting with machine-counted paper ballots. In this paper, we review the findings in this literature and present new analyses that show how Americans remain divided in their confidence levels in the voting process generally and with specific voting technologies. We discuss how a simple measure of confidence can be used to evaluate the attitudes of voters and election officials in various aspects of the electoral process. We then consider how voter confidence has changed over time in the electoral process and how partisanship, ideology, and the voting technology used all affect the confidence of individuals participating in the electoral process.

The American context for studying voter confidence and considering the effects of voting technologies on confidence has occurred in the shadow of the 2000 presidential election controversy. In order to disentangle the issue of voter confidence and voting technology, we compare the findings of the United States with results from the Netherlands. There, there was a great controversy over the security and efficacy of electronic voting in 2008, which led the government to disallow the use of these machines in elections in the Netherlands. We can compare confidence in the American context with the Netherlands to see how partisanship and attitudes toward voting technology are treated in both contexts. We can then see how the American experience may be unique in some ways, but not others, regarding voter confidence.

2 Measuring Confidence in the Electoral Process

Although discussions of voter confidence have existed in the United States for some time—the term “confidence” was used in the report of the National Commission on Federal Election Reform (Carter and Ford 2002)—the systematic measurement of voter confidence in the voting process has been a more recent phenomenon. In 2004, Alvarez and Hall conducted one of the first studies to use what has become a standard voter confidence question. The question they used was, “How confident are you that your vote was [or will be] counted as intended in [the election]?” with the response options “very confident,” “somewhat confident,” “not too confident,” or “not at all confident.” As

Alvarez, Hall, and Llewellyn (2008, 755) discuss, this measure “define[s] trust in the electoral process as the confidence that the voters have that their ballot was counted as intended.” As Gronke and Hicks (2009) note, several scholars have used voter confidence as a metric for studying voter attitudes toward election reforms [Ha08] and Stewart (2009) has referred to this voter confidence metric as “a summary judgments of the voting experience.”

Scholars have also broadened this concept in a small number of surveys to ask voters not just “how confident are you that *your vote* will be counted as intended,” but also “how confident are you that *all votes in your county* will be counted as intended” and “how confident are you that *all votes in your state* will be counted as intended” [AAH09; AS07]. These broader measures are designed to determine if voters have different levels of confidence across varying levels of government—their vote, votes administered by a process in their county, and votes administered by various processes and various officials across the state—and various levels of abstraction in the process (your vote, votes in a county, votes in the state).

A key question that has emerged regarding the use of this metric is whether the metric is merely a reflection of the respondent’s trust in government or the respondent’s expectation of their candidate winning the election. Alvarez, Hall, and Llewellyn (2008) make the claim that there is no *a priori* reason to think that vote confidence and trust in government are the same. They argue, “Voters may not possess confidence in the voting technology used to cast a ballot, but trust their elected officials completely. Alternatively, voters may believe that the electoral process is fair and accurate, but simultaneously hold the belief that all politicians are crooks” [AHL08, 755]. They put the question of voter confidence within the literature on trust, but note how the two concepts are different.

Recently, Atkeson, Alvarez, and Hall (2009) and Gronke and Hicks (2009) independently tested the validity of this construct, explicitly examining whether voter confidence and voter trust are truly distinct concepts. Atkeson et al. (2009) compare three types of voter confidence—personal vote, the votes in a county, and votes in a state—with a measure of trust in government and a measure of political efficacy. They find that the confidence questions load differently in a principal-component analysis compared to the trust and efficacy questions; they are not part of the same dimension. In addition, trust, efficacy, and confidence have different correlation relationships; the confidence questions are highly inter-correlated, but these questions in turn are not as correlated with either trust or efficacy. Importantly, when used as dependent variables in a regression model, different factors predict voter confidence when compared to either efficacy or trust. For the confidence questions, a voter’s experience voting affects voter confidence, but is unrelated to either trust in government or efficacy.

Gronke and Hicks (2009) use a different methodology to come to the same result. Specifically, they run a series of regression analyses to determine if voter confidence is explained by trust in government, confidence in social or political institutions, current economic-political factors, or by election administration experiential factors. They determine that, although trust in government and confidence in election officials do help

to shape voter confidence, election experience is a strong predictor as well. If voter confidence were merely another measure of trust in government, these other factors would be washed out by the high correlation between trust and confidence. This adds weight to arguments that the voter confidence metric is a sound one to use as a “summary measure” for determining a voter’s confidence in the electoral process, at least in the American context.

In the Netherlands, the study of voter confidence has been done in the context of the National Election Survey. This survey is conducted before, during, and after elections for Parliament. It studies a wide range of subjects and contains nearly 700 questions. Different questions are asked before and after the election. During the Parliamentary Elections of 2006 a series of questions was added to the survey conducted after the election on voter confidence, both in the outcome of the election in general and in different voting methods. These questions were asked in light of the discussion on voting machines. Around 2800 participants answered these questions.¹

3 Experiential Influences on Voter Confidence

Research on voter confidence has generally focused on three sets of attributes that affect confidence in the voting process. First, there have been studies examining the way in which the voting experience—especially during in-person election-day voting—affects voter confidence [e.g., AAB09; CMM08; GH09; Ha09; HMP09]. These studies have found that voter confidence is affected by voter experiences at the polls. Voter confidence is sensitive to the experience that voters have with their poll workers; poll workers that are not seen as competent can negatively affect voter confidence. This is not surprising, given the important role that poll workers play in ensuring that votes are counted and counted accurately.

Second, there have been relatively consistent findings that voter confidence varies across modes of voting. This finding has been made by numerous scholars and the one consistency of these findings is that voter confidence is predicated on the mode by which voters cast their ballot [e.g., AH04, AH08A, AHL08, AHL09, AS07, AAH07, Ha09, St09, AAB09]. In the American context, there are three modes by which voters can cast their ballots, although these laws do vary by state [AAB09]: voters can cast a ballot (1) in person in a polling place on Election Day, (2) in person in a polling place during a period prior to Election Day (often the two weeks prior) in an “early voting” location, or (3) remotely, using a paper ballot that is mailed back to their election office (absentee or postal voting).² In the Netherlands, voters can vote in person in a polling place on Election Day. However, unlike in the United States, Dutch voters cannot vote absentee. They can give a proxy vote to a voter of their choice. A proxy vote can be given by a

¹ For more information about the survey and its methodology, see <http://www.dpes.nl/>, last accessed on 10 May 2010.

² The rules for absentee voting vary by country and can (as in the case of the United States) vary by subdivision within the state. In the United States, absentee voting occurs by the election official mailing the ballot to the voter and the voter mailing the ballot back. By contrast, in Estonia absentee voting is done using the Internet and in the Dutch case, the voters choose someone to cast a ballot for them.

voter who cannot vote in person at the polling station on Election Day to any other voter. The voter who receives the proxy vote is allowed to cast the vote for the other person. A voter can only cast proxy votes for two voters. Even though the system allows voters who cannot vote in person to use their vote, they have no guarantee that the person they give their proxy vote to will cast their vote as intended. Voters who live abroad can vote either by postal ballot or, in the 2006 elections, by Internet. For all voting methods, it is possible to cast a blank vote.

	Mode of Voting		
Confidence	In Person Election Day	In Person Early	Absentee
Not Confident	1.92%	1.62%	2.52%
Not too Confident	3.02%	2.61%	5.63%
Somewhat Confident	20.16%	22.87%	31.76%
Very Confident	74.91%	72.90%	60.09%
	Mode of Voting		
Trust in Elections	Proxy Voter	Voted In Person	
Very Much	31.56%	31.17%	
Much	49.78%	49.87%	
Not Too Much or Too Little	12.89%	13.29%	
Little	3.11%	4.89%	
Very Little	2.67%	0.77%	

Table 1: Confidence and Trust by Vote Mode

The research on voter confidence shows that voters who cast ballots using absentee voting are much less confident than voters who vote in-person, either early or on Election Day. In the top half of Table 1, we show the confidence of voters across various vote modes using data from the *2008 Survey of the Performance of American Elections* [AAB09]. These data illustrate the large gap in confidence between in-person and absentee voters. Absentee voters have many potential reasons for being less confident that their vote will be counted accurately, which may arise largely because these voters are less confident that their vote will be counted at all. In absentee voting, voters typically surrender their ballots to a third party—a postal service—and typically have to guess as to whether their ballot was received in the time frame required for ballots to be counted. These concerns are well founded; a small but significant percentage of ballots are rejected because they are received at the local election office after the deadline for including such ballots in the vote count [AHS08]. Even among ballots that were received in a timely manner, another cluster of ballots contains errors that result in the ballots being disqualified and not included in the ballots counted. Even after this hurdle is eclipsed, the vote on the ballot may still have an error that results in the vote not being counted for a given race.

In the bottom half of Table 1, we show data on voter confidence that uses a slightly different question than the one used in the American context. Here, we examine trust in the elections process generally by voting mode in the Dutch context. Here, we see that there are no significant differences in trust between voters who cast a vote in person and voters who gave a proxy vote. Both groups have the same levels of trust in the voting process.

Finally, there has been research on voter confidence and how it is related to the voting technology the individual used to cast her ballot [AH04, AHL08, AL08, AS07, HNH08, St09]. In these studies, the primary analysis has been whether voting technologies affect voter confidence. The findings of these studies have been relatively consistent; in the United States, voters using DREs tend to be less confident than voters who vote on paper ballots. For example, Alvarez, Hall, and Llewellyn (2008) found that voting on a DRE lowered the predicted probability that an individual would have their vote counted accurately by sixteen percentage points compared to a voter who voted using a paper ballot. Interestingly, this decline in confidence is the same as the decline in confidence for individuals who vote absentee. The confidence was even lower if an individual had low levels of trust in electronic voting generally.

In his study of the 2008 election, Stewart (2009) extended the work of Alvarez, Hall, and Llewellyn to determine if their results held in the 2008 election. Using a variety of statistical analyses, including ordered probit and ordinary least squares regressions (with state fixed effects and without), he found that voting technology was an important part of the confidence equation. Specifically, voters who cast ballots using electronic voting technologies were less confident than voters who cast ballots using optical scan voting. In addition, important for the discussion of voter confidence and polarization in the next section, Stewart found that liberal voters who used DREs were much less confident than were other voters who used DREs. In fact, conservative voters who use DREs are especially confident that their vote is counted accurately.

In the Netherlands however, in the 2006 Parliamentary elections, more voters expressed confidence in the DREs than in paper ballot voting; 80% of the voters expressed high levels of confidence in voting by DRE but the confidence level for paper ballot voting was 74%. When asked what type of voting method a voter preferred, DRE or paper ballot, 50% of the voters preferred voting by DRE and only 14% paper ballots. The 2006 election was the last election before the decision to terminate use of DREs in the Netherlands. During the 2006 election, out of around 400 municipalities, only 35 municipalities used paper ballot voting, the rest used DREs made by the Nedap Company.

4 Voter Confidence and Political Polarization in the United States

The fact that there are variations in confidence across voting technologies and voting modes—early, absentee, and Election Day—leads to questions regarding the political and ideological factors that also may affect voter confidence. There is a strong rationale for thinking that liberals and Democrats would be less confident overall compared to conservatives and Republicans, as well as thinking that liberals and Democrats would be less confident in electronic voting. The issue of overall confidence in this political and ideological context can be explained as resulting from two factors. First, Democrats were on the losing end of the 2000, 2002, and 2004 elections—elections that were generally very close and very polarizing. The close and controversial aspects of the 2000 election in Florida and the 2004 presidential election in Ohio—where both Secretaries of State were Republicans who had endorsed President Bush—led many Democrats to view these elections as being one where partisan decision making had made the playing field unfair [AH08a].

Second, there were linkages made between the outcomes of these elections and the use of electronic voting. The concerns about electronic voting arose because of research that found problems associated with the Diebold DRE) voting machines that were used in several states, including Georgia and Maryland [KSR04]. These technical concerns became and remain a contentious source of debate, which centers primarily on whether DREs can be secured using standard methods for securing election materials through chain of custody procedures (AH08b).

These technical concerns became politicized when various advocates attempted to make links between electronic voting and pro-Republican election outcomes, starting with claims that the election in the state of Georgia in 2002 was potentially fraudulent. As Alvarez and Katz (2008) note,

The allegations and concerns about the potential for election fraud in the trial use of these “touchscreen” voting systems in Georgia’s 2002 election only worsened when the chairman and chief executive of Diebold, Inc., the corporation that produced the “touchscreen” voting machines used in Georgia was quoted in a Republican fundraising letter that he was “committed to helping Ohio deliver its electoral votes to the president next year.”³

Alvarez and Katz (2008) review the claims of irregular outcomes in the 2002 senatorial and gubernatorial elections in Georgia—which introduced DREs statewide the same year—and use statistical analyses to refute these claims of fraud associated with electronic voting. However, questions continued to be raised about the accuracy and validity of elections conducted using DREs through the 2006 elections, as various issues have come up in jurisdictions that use electronic voting. Ironically, the same polarization has not occurred with similar problems with electronically counted paper ballots

³ Schwartz, John. 2004. Executive calls vote-machine letter an error. *New York Times*, May 12, section A, column 6, page 19.

[AH08a]. The debate over electronic voting has also failed to consider the important issue of usability and effective interaction between the voter and the voting technology—the issue that was the original concern of reformers after the 2000 presidential election. Work in this area has examined the usability of various voting equipment and the evaluation that voters have of these technologies [HNN08]. These data show that voters have varying attitudes toward specific voting technologies and that it is incorrect to view all electronic voting as being the same. Voters differentiate between various types of DREs and between DREs and paper ballots in ways that are much more subtle than would normally be thought.

We see evidence of the difference in attitudes toward electronic voting among political partisans in survey data where voters are asked the following: “I’m going to read you some statements about electronic voting and want to know whether you agree or disagree with each statement, or if you have no opinion. ‘Electronic voting systems increase the potential for fraud.’”⁴ Table 2 shows data for this question from surveys conducted 25–29 August 2004, 9–15 March 2005, and 26–31October 2006 by International Communications Research

		Agree	Disagree	No Opinion
Oct-06	Republican	32	40	26
	Democrat	46	21	29
	Independent	39	21	37
Mar-05	Republican	33	37	28
	Democrat	47	23	28
	Independent	36	31	32
Aug-04	Republican	34	32	30
	Democrat	40	23	35
	Independent	40	31	29

Table 2: Electronic Voting and the Potential for Fraud

In each case, we see that Democrats are more likely to think that electronic voting increases the potential for fraud compared to Republicans and that the Democrat/Republican gap on this issue widens from six percentage points before the 2004 election to thirteen points after the 2004 election. This widening gap comes from Democrats becoming more sure that electronic voting increases the potential for fraud; the attitudes of Republicans stays the same on the agree side of the question, but five percentage points more Republicans disagree with this statement between the three surveys.⁵ The data from the 2006 wave is shown in the top third of the table; it closely

⁴ A detailed discussion of these survey data and the methodology for their collection can be found in Alvarez and Hall 2008a and Alvarez, Hall, and Llewellyn 2008.

⁵ The survey marginals presented in Figure 3 do not show the “don’t know/no response” category. In the first survey, 4.6 percent of Republicans answered, “don’t know” compared to 1.6 percent of Democrats. In the second wave, Republicans and Democrats were almost equal in this category (1.9 percent Republicans, 2.3 percent Democrats).

mirrors the 2005 survey data and suggests a relative stability in attitudes about electronic voting and the likelihood of it increasing the potential for fraud during this period.

There are also differences between Democrats and Republicans in their confidence that their vote will be counted accurately. If we look at data from before the 2006 election in the three waves of surveys, we see that there are marked differences between Democrats and Republicans who are very confident—Republicans are much more confident than Democrats are that their votes will be accurately counted. Prior to the 2006 election, we see that, even combining the very confident and somewhat confident categories for Democrats, more Republicans are very confident than Democrats are very or somewhat confident.

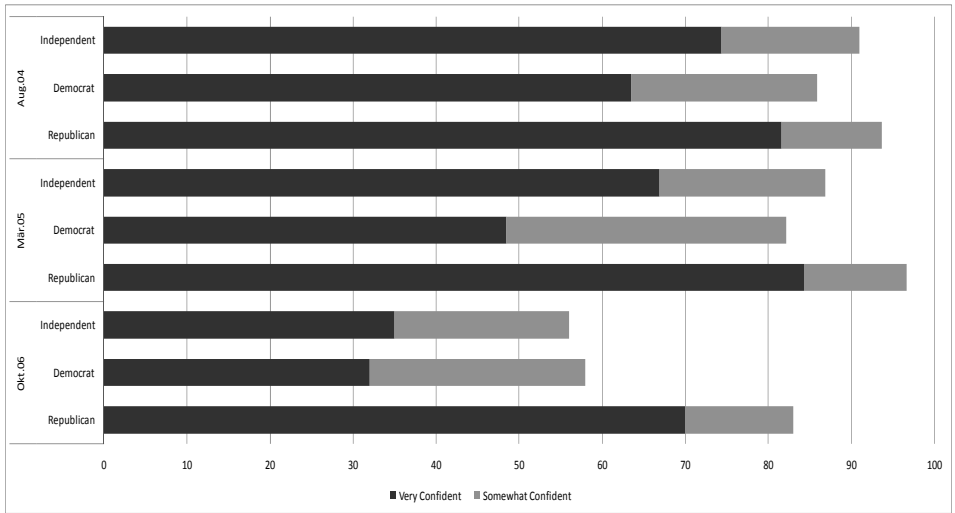


Figure 1: Voter Confidence by Party Affiliation

If we consider the context of the 2000 and 2004 elections—where Democrats lost close elections for the presidency and suffered losses in the Senate in 2002—it is not surprising that Democrats expressed little confidence in the electoral process. For many, it was likely easier to blame the electoral process than blame voters and the candidates for these losses. However, in 2006 and 2008, the Democrats were on the winning side of the elections. In 2006, Democrats nationally recaptured control of the Congress and, in 2008, they recaptured control of the Presidency. So how did these wins affect voter confidence?

We can examine this by using data from the Cooperative Congressional Election Study (CCES), which is a national survey conducted by Polimetrix in which individuals were surveyed before and after the 2006 congressional elections and the 2008 presidential elections.⁶ Before the election, individuals were asked about their confidence that their

⁶ For more information about the survey and its methodology, see <http://web.mit.edu/polisci/portl/cces/index.html> (last accessed 1 June 2009).

vote *would be* counted accurately, and after the election, they were asked their confidence that their vote *was* counted accurately. Figure 2 shows the pre- and post-election confidence for Democrats and Republicans after each of these elections. In 2006, we see that the percentage of Democrats who were very confident doubled between the pre- and post-election surveys and the percentages of Democrats who stated being not too confident or not at all confident declined by half as well. Republicans—who were much more confident to begin with—saw little change in their confidence in the pre- to post-election surveys. In 2008, we see a similar pattern; Republicans have a relatively stable level of confidence between the pre- and post-election surveys and Democrats have a sharp increase in the percentage reporting being very confident in the post-election survey compared to the pre-election survey.

As Alvarez, Hall, and Llewellyn (2009a, 2009b) have argued, this result can be viewed as a form of “winner’s effect” that is conditional on an election outcome being different from the outcome that was expected for one of the parties. In the case of the 2006 and 2008 elections, Republicans expressed relatively high levels of confidence in the system before the election, but were not surprised by losing, given the level of polling on these elections and the amount of conservative punditry that had predicted—even welcomed the idea of—Republican losses. Democrats, on the other hand, had a more “believe it when I see it” attitude, which led them to have lower baseline levels of confidence pre-election and a relatively strong surge in overall confidence after the election.

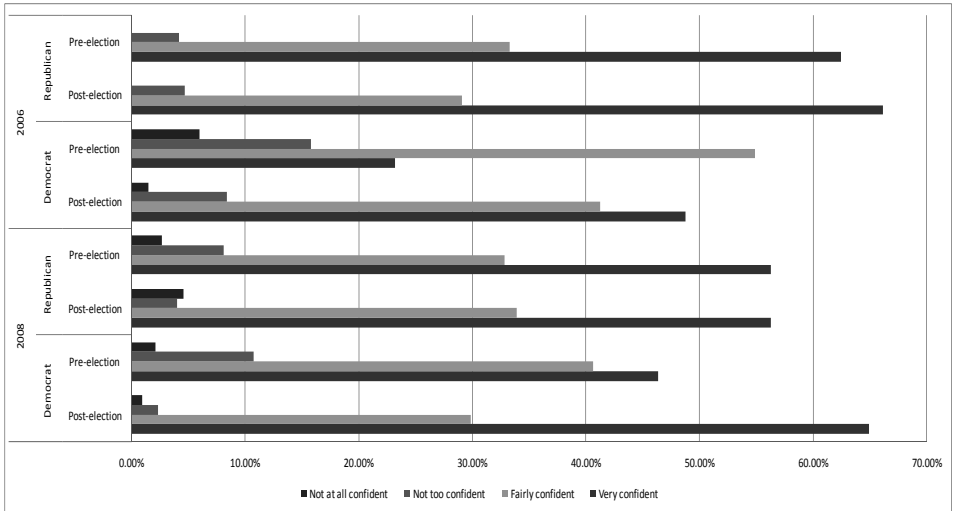


Figure 2: Pre- and Post-Election Confidence 2006 and 2008

In their work on a winner’s effect in the 2006 elections, Alvarez, Hall, and Llewellyn (2009a) found that, in the pre-election voter confidence model, Democratic voters, and Independent voters, had significantly lower levels of confidence compared to Republicans. Specifically, the first differences in an ordered logit model show that “hypothetically changing the voter’s party identification from Republican to Independent decreases the likelihood of a very confident response by 21 percentage points and from Republican to Democrat lowers confidence by 28 percentage points.” They also found

that individuals who lived in an area that the respondent felt was not dominated by one political party was more confident, pre-electoral confidence may be increased through a belief in the existence of a politically balanced or non-partisan local government [AHL09a].

By contrast, they found that post-election voter confidence was driven by both partisan and election administration factors. There was a winner's effect—Democrats did have a marked increase in confidence after the election. In addition, voters who think that there is congruence between their party identification and the party that controls the local government are significantly more likely to be confident compared to voters who have incongruence. This finding supports previous research [AS07] regarding the link between confidence and local government politics. The post-election voter confidence was also affected by the voting technology the voter used. Specifically, voters who used electronic voting were significantly less confident than were voters who cast ballots using paper ballots. The negative effects of electronic voting, however, were made up for if voters voted on an electronic voting machine that had a paper audit trail (PAT) that allowed the voter to review a printed copy of their ballot before casting their electronic vote. In fact, voting on an electronic voting machine with a PAT made voters 14 percentage points more likely to be very confident compared to paper ballot voters [AHL08].

Alvarez, Hall, and Llewellyn (2009b) have also examined voter confidence in partisan primary elections, specifically the “Super Tuesday” presidential primaries held on 5 February 2008. These primary elections are interesting because they bring out the most committed partisan voters, who may have different views about the voting process compared to more casual voters. However, they find that the same factors that have been identified previously—a partisan difference in confidence between Democrats and Republicans (Republican primary voters have a higher base level of confidence compared to Democrats), lower confidence among absentee voters, and a “winner's effect” (voters in a primary who voted for a winner are more confident than those who voted for a loser)—all are significant in primary elections as well.

5 Voter Confidence and Political Polarization in the Netherlands

Because we only have data on voter confidence in the Netherlands for one election, it is not possible to see whether there are changes in voter confidence within supporters of the same party over time. It is however possible because of the multi-party system to look at the difference in voter confidence between voters of several parties, some of which were winners in the 2006 elections and some of which were losers. However, because of the Dutch proportional representation system coupled with coalition government, even parties that lose seats can still end up in government. In 2006, for example, this happened with the Labor Party (PvdA). Winning or losing in the Netherlands is therefore more relative than in the US. In the elections of 2006, the big winners were the Socialist Party (SP), the ChristenUnie, the Party for Animals (Partij voor de Dieren), and the party led by Wilders (PVV). Big losers were the Labor Party (PvdA), the Liberals (VVD), the Democrats 66 (D66), and the former party of Fortuyn (LPF).

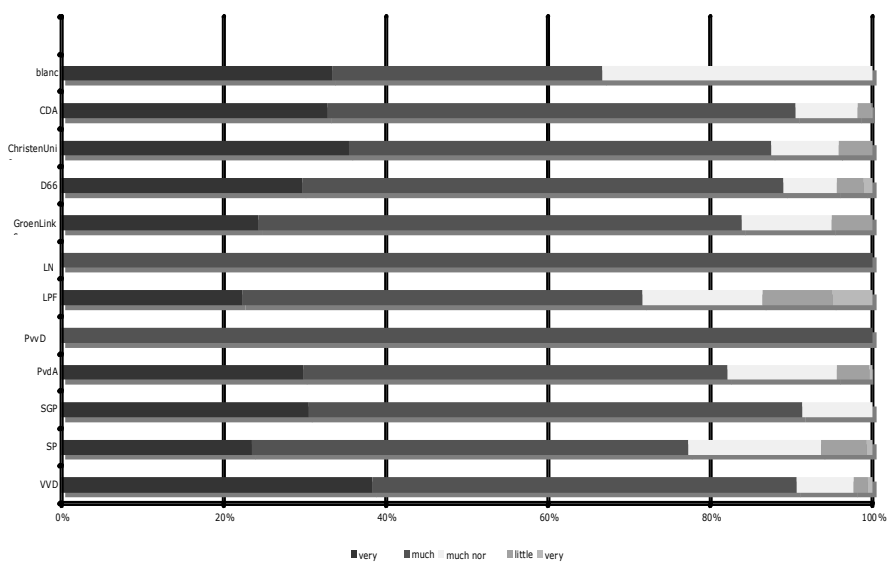


Figure 3a: Confidence in Voting machines

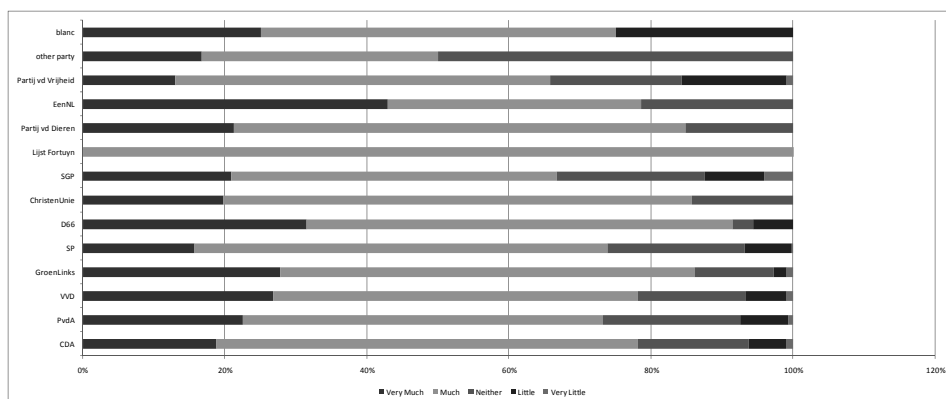


Figure 3b: Confidence in Paper Ballots

Figure 3a shows the confidence level in voting by voting machine of the voters of all the parties. In general, the trust in voting machines is very high, both with voters of parties that won compared to 2003 and parties that lost. One party that was actually a winner, the Socialist Party shows lower levels of trust. Two losing parties, the Liberals and the LPF have high levels of trust, compared to the other parties. The only voters that seem to have relatively low levels of trust in the DREs are the voters who voted blank. The same picture appears when looking at confidence levels with regard to paper ballot voting, as shown in Figure 3b. Again, one of the winning parties, the SP shows lower levels of confidence. The LPF, which lost all its seats, has a high level of trust. These figures do suggest that there is no winner or loser effect on voter trust in voting technology apparent in Dutch elections.

6 Reforms and Voting Technology: Reforms in a Polarized Electorate

The partisan differences that exist in voting technology in the United States may continue into the future, given the polarized views of Americans and the fact that Americans are “well sorted” both ideologically and geographically [e.g., AS08, Bi08]. This sorting makes politics in the United States self-reinforcing; individuals tend to be involved in self-referential worlds, interacting primarily with individuals who share their views. The debate over election fraud in the United States, for example, has a strong partisan bent as do debates over making voter registration and voting easier [AAB09, AHH08]. Given this partisan dynamic, how does the future debate over electronic voting look going into the future?

We can begin to see the potential future debate over electronic voting in recent survey data that asked 32,800 individuals who participated in the 2008 CCES survey conducted by Polimetrix. The survey asked individuals the following question: “States have tried many new ways to run elections in recent years. Do you support or oppose any of the following ways of voting or conducting elections in your state?” One reform the individuals were asked about was “Allow absentee voting over the Internet.” Respondents were given the following response options: “Support,” “Oppose,” and “Not Sure.”⁷ Given the movement toward Internet voting that is currently either ongoing or under consideration across western countries, it is interesting to consider the attitudes of Americans toward these reforms and how the partisan nature of the debate over this reform might shape up.⁸

In Figure 4, we see that overall support for Internet voting in the United States is not tremendously high; 31.0 percent support Internet voting, 46.9 percent oppose this reform, and 22.1 percent are undecided. However, there are clear differences in attitudes between Democrats, Republicans, and Independents and between younger and older voters on this issue. First, Republicans are much more opposed to Internet voting than are Democrats. Only 20 percent of Republicans support the idea of Internet voting and 65.2 percent of Republicans oppose it. By contrast, Democrats have a more diverse set of viewpoints and are more undecided on it; 37.4 percent of Democrats support Internet voting and a roughly equal percentage (38.7 percent) of Democrats oppose it. In addition, almost 24 percent of Democrats are undecided about Internet voting compared to only 14.9 percent of Republicans. There are also differences in attitudes toward these reforms vary across age cohorts as well. Younger individuals have more positive views toward Internet voting than do older individuals, who are more negatively inclined toward this reform.

⁷ Individuals could also skip the question. There were 26,066 valid responses to the survey question. The data in Figure 6 have 26,066 as the total number of cases analyzed, except for the partisan question, where individuals who did not state a party identification were excluded. For that table, 23,330 is the denominator.

⁸ For a review of these reforms, see AH04, AH08a, MT04, TM05, TSB07.

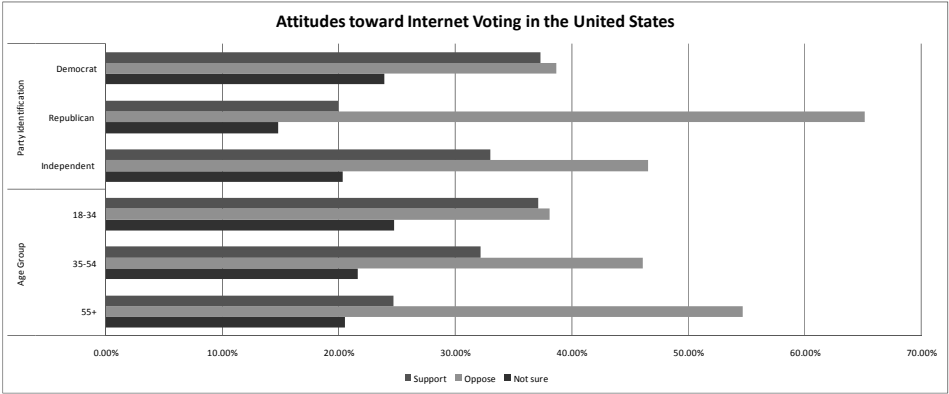


Figure 4: Internet Voting Attitudes in the United States

These partisan differences are not surprising, given that Democrats have used Internet voting in primary elections more than have Republicans, including the 2000 Arizona Democratic Presidential primary elections, the 2004 Michigan Presidential caucus, and the 2008 Presidential primary held by overseas voters. In addition, work internationally has shown differences in attitudes and in the use of Internet voting, especially in Estonia, across age groups. The key question is whether this reform will become one that has a partisan component, like the debate over electronic voting does in the United States, or whether Internet voting will be a reform that is debated without partisan suspicions. In Table 4, we see that there is not strong support for Internet voting in the Netherlands either.

Trust in Internet Voting	
Very Much	4,3%
Much	27,3%
Not Too Much or Too Little	21,2%
Little	33,7%
Very Little	13,4%

Table 4: Trust in Internet Voting

In the Netherlands, the debate on the use of voting technology led to an abandonment of all electronic forms of voting [JP09, Lo08]. These decisions were made after the 2006 parliamentary elections. Almost all parties in Parliament, whether they won or lost seats during this election, supported the return to paper ballot voting. This is remarkable, since most voters did express a higher trust in voting machines than in paper ballots as shown in Figure 5.

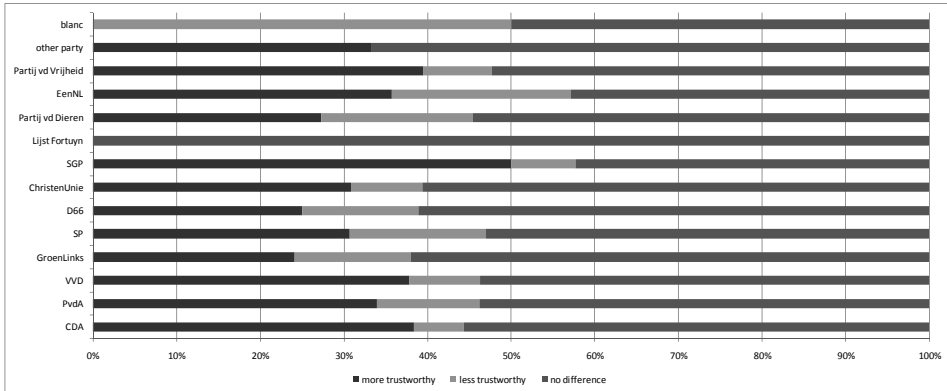


Figure 5: Trustworthiness of Voting Machine Compared to Paper Ballot

After the municipal elections of March 2010, the question whether or not to use electronic voting again became a topic of debate. During these elections, in which everybody voted with paper ballot, the results of the count were subject of discussion in a number of municipalities. There were problems with the proxy votes, in some cases two people were in the voting booth together and the votes were not always counted correctly.⁹ Fifteen municipalities, including Rotterdam, the second largest city in the Netherlands, decided to do a recount of all the votes. This led to some cases of a seat being awarded to a different party. Parties that felt they had been ‘cheated’ out of seats raised the issue of trustworthiness. Some parties even demanded a revote. In Rotterdam, the two biggest parties, the PvdA and a local party, Leefbaar Rotterdam, achieved the same number of seats. Since by custom, the largest party is the first to try to form a coalition to govern, the exact number of votes that either party received became of importance. The PvdA had the most votes. Leefbaar claimed that a lot of the poll workers in Rotterdam were supporters of the PvdA and that this had helped them to become the biggest.¹⁰ After the recount, which was done by different people and under scrutiny of the parties and the press, the PvdA still received the most votes.¹¹

The municipal elections did show a more politicized debate on the use of certain voting techniques. The abandonment of the voting machines apparently did not mean that the same pathologies did not occur. On the contrary, where the use of voting machines had not raised issues on politicization of the voting process, with the paper ballot elections, there were politicized recounts. The security of the proxy voting system was questioned and issues were raised with regard to the accuracy of the results when paper ballots are used. This led to a strong call from the poll workers and the local election boards to return to a form of electronic voting. So far however, the government has stated that they have no intentions to do so.¹² Parliament has agreed to this course of action. Apparently,

⁹ <http://www.nd.nl/dossiers/politiek/gemeenteraadsverkiezingen-2010> (in Dutch only, May 23, 2010).

¹⁰ <http://www.deweekkrant.nl/pages.php?page=1112223> (in Dutch only, accessed May 23, 2010).

¹¹ <http://www.ad.nl/ad/nl/1038/Rotterdam/article/detail/469496/2010/03/12/Hertelling-Rotterdam-PvdA-blijft-grootste-partij.dhtml> (in Dutch only, accessed May 23, 2010).

¹² http://www.telegraaf.nl/binenland/6223820/_Rood_potlood_niet_ter_discussie_.html (in Dutch only, accessed May 23, 2010).

the decisions made by government and parliament in 2007 and 2010 were not solely based on confidence in electronic voting, but also on other factors. Because electronic voting was in the past uncontroversial in the Netherlands, until now, there are hardly any studies that have focused on the motives of political parties to favor certain types of voting technology. More research is therefore needed to find out what motivated parties to abandon electronic voting.

7 Conclusions and Implications

Voter confidence in election results is of the utmost importance for the legitimacy of the chosen legislators. When the trustworthiness of the techniques and methods that are used during the elections become subject of a debate, this can have a negative impact on the confidence of voters. Voters or NGOs can raise the question of trustworthiness, as was the case in the Netherlands, but losing candidates can also be tempted to use the voting system as a scapegoat, as seems to happen in the United States and even in the 2010 municipal elections in the Netherlands. In the United States, the 2000 election raised critical questions about the performance of the nation's voting system and these questions have continued to resonate through the polity. Most troubling, they are creating questions among some voters about the security and accuracy of various voting technologies. These concerns have polarized characteristics in some cases, especially in regards to voting modes—voters tend to be less confident in by-mail voting compared to in-person voting—and across voting technologies, with liberals and Democrats less confident in DREs compared to conservatives and Republicans. In controversial elections, such as in 2000, 2002, 2004, and in certain specific races in 2006, voting technology has been the focus of media and political scrutiny, used to explain election losses and to question the voting process.

In the United States, one reason why confidence is so important is that losers are just that, losers. There is no proportional representation in Congress or in the Executive, so voting for a losing candidate can mean that your preferences will not be represented in the political debate. Obviously, there are people who vote for losing candidates, but the party they support may control the Congress or one chamber therein. However, in proportional systems, a voter's party can finish third or fourth and still get a plum portfolio in a coalition government. In the American context, losing can be a more bitter experience. The evidence points toward a clear loser effect on confidence in voting technology.

The Dutch case seems to support this thesis. In the proportional system that is used in the Netherlands, losing parties can be part of government. The data from the 2006 elections shows that the level of voter confidence in voting technology is not noticeably influenced by the fact of whether or not the party a person voted for won or lost in the elections. There are differences between parties in the level of voter confidence, but more research is needed to find what factors cause this. The March 2010 elections did show an increasing politicization of the debate on voting techniques. It remains to be seen whether or not this trend will continue.

As electronic voting technology use expands, debates over its efficacy have expanded as well. The Dutch experience with electronic voting is a case in point, where electronic voting technologies came under sharp scrutiny and were eventually removed from use [Lo08]. In the Netherlands, the advocates and opponents of electronic voting were not divided on party lines. Neither were they following the preferences of the voters, since these voters even expressed more confidence in electronic voting than in paper ballot voting. However, if such debates become politicized, they can undermine trust and confidence in the voting process. As advocates and politicians link to address concerns about certain voting technologies, the pro and con sides of these debates can take on partisan dimensions, with one party or set of parties associated with liking or disliking one voting technology or mode of voting over another. In the American context, such linkage has occurred with electronic voting, as Democrats and liberals associate DREs with pro-Republican interests. After the 2008 elections, these positions may have shifted. If positions in the debate on the use of electronic voting depend solely on partisan dimensions, other objectives of electronic voting, such as the improvement of voter accessibility may be overlooked. Other countries (e.g., Estonia) have much clearer core ideals about the efficacy of electronic voting and these core ideals make confidence in the system higher [TSB07]. The American example is a cautionary one; when voting technologies are politicized, they can undermine confidence in the voting process.

Bibliography

- [AS08] Abramowitz, A. I., and K. L. Saunders. 2008. Is polarization a myth? *Journal of Politics* 70 (2): 542–555.
- [AH04] Alvarez, R. M., and T. E. Hall. 2004. *American attitudes about electronic voting*. Salt Lake City: Center for Public Policy and Administration at the University of Utah.
- [AH08b] Alvarez, R. M., and T. E. Hall. 2008b. Building secure and transparent elections through standard operating procedures. *Public Administration Review* Sept/Oct.: 827–837.
- [AH06] Alvarez, R. M., and T. E. Hall. 2006. Controlling democracy: The principal-agent problems in election administration. *Policy Studies Journal* 34 (4): 491–510.
- [AH08B] Alvarez, R. M., and T. E. Hall. 2008a. *Electronic elections: The perils and promise of digital democracy*. Princeton, NJ: Princeton University Press.
- [AH04] Alvarez, R. M., and T. E. Hall. 2004. *Point, click, and vote: The future of Internet voting*. Washington, DC: Brookings Institution Press.
- [AAB09] Alvarez, R. M., S. Ansolabehere, A. Berinsky, G. Lenz, C. Stewart III, et al. 2009. *2008 survey of the performance of American elections*. Boston/Pasadena: Caltech/MIT Voting Technology Project.
- [AHL08] Alvarez, R. M., T. E. Hall, and M. Llewellyn. 2008. Are Americans confident their ballots are counted? *Journal of Politics* 70 (3): 754–766.
- [AHL09a] Alvarez, R. M., T. E. Hall, and M. Llewellyn. 2009a. *The winner's effect. Voter confidence before and after the 2006 elections*. Working Paper. Pasadena, CA. <http://vote.caltech.edu/>.
- [AHL09b] Alvarez, R. M., T. E. Hall, and M. Llewellyn. 2009b. Voter confidence in partisan primary elections. Working Paper. Pasadena, CA. California Institute of Technology.
- [AHS08] Alvarez, R. M., T. E. Hall, and B. Sinclair. 2008. Whose absentee votes are returned and counted: The variety and use of absentee ballots in California. *Electoral Studies*. 27: 673–683.
- [ABB05] Anderson, C. J., A. Blais, S. Bowler, T. Donovan, O. and Listhaug. 2005. *Losers' consent: Elections and democratic legitimacy*. Oxford: Oxford University Press.
- [AS05] Ansolabehere, S., and C. Stewart III. 2005. Residual votes attributable to technology. *Journal of Politics* 67 (2): 365–389.
- [AS07] Atkeson, L. R., and K. L. Saunders. 2007. Voter confidence: A local matter? *PS: Political Science and Politics* 40: 655–660.
- [AAH09] Atkeson, L. R., R. M. Alvarez, and T. E. Hall. 2009. Government trust and voter confidence: How similar are they? Paper presented at the annual meeting of the *Midwest Political Science Association*, Chicago, IL: April 2–5, 2009.
- [AAH07] Atkeson, L. R., R. M. Alvarez, and T. E. Hall. 2007. *The New Mexico election administration report: The 2006 November general election*. Albuquerque: University of New Mexico.
- [Bi08] Bishop, B. 2008. *The big sort*. New York: Houghton Mifflin.
- [VTP01] Caltech/MIT Voting Technology Project. 2001. *What is/what could be*. Boston/Pasadena: VTP.
- [CF02] Carter, J., and G. Ford. 2002. *To assure pride and confidence in the electoral process*. Washington, DC: Brookings Institution Press.
- [CSED08] Center for the Study of Elections and Democracy. 2008. *Evaluating the quality of the voting experience*. Provo, Utah: Brigham Young University.
- [CMM08] Claassen, R. L., D. B. Magleby, J. Q. Monson, and K. D. Patterson, K. D. 2008. At your service: voter evaluations of poll worker performance. *American Politics Research* 36: 612–634.

- [Fo06] Fortier, J. C. 2006. *Absentee and early voting. Trends, promises, and perils*. Washington, DC: AEI Press.
- [GH09] Gronke, P., and J. Hicks. 2009. Re-examining voter confidence as a metric for election performance. Paper presented at the annual meeting of the *Midwest Political Science Association*, Chicago, IL: April 2-5, 2009
- [Ha09] Hall, T. E. 2009. Voter attitudes toward poll workers in the 2008 election. Paper presented at the annual meeting of the *Midwest Political Science Association*, Chicago, IL: April 2-5, 2009.
- [HMP09] Hall, T. E., J. Q. Monson, and K. Patterson, K. 2008. Poll workers and American democracy. In *Democracy in the States: Experiments in Election Reform*, ed. B. Cain, T. Donovan, and C. Tolbert. Washington, DC: Brookings Institution Press, 35-54.
- [HMP09] Hall, T. E., Q. Monson, and K. Patterson, K. 2009. The human dimension of elections. How poll workers shape public confidence in elections. *Political Research Quarterly*. 62, No. 3, 507-522
- [HMH08] Herrnson, P. S., R. G. Niemi, M. J. Hanmer, B. B. Bederson, F. C. Conrad, and M. W. Traugott. 2008. *Voting technology. The not-so-simple act of casting a ballot*. Washington, D.C.: Brookings Institution Press.
- [JP09] Jacobs, B., and W. Pieters. 2009. Electronic voting in the Netherlands. From early adoption to early abolishment. In *Foundations of security analysis and design V: FOSAD 2007/2008/2009 tutorial lectures, lecture notes in computer science*, vol. 5705, ed. A. Aldini, G. Barthe, and R. Gorrieri. Berlin: Springer-Verlag. 121-144.
- [KSR04] Kohno, T., A. Stubblefield, A. D., Rubin, and D. S. Wallach. 2004. Analysis of an electronic voting system. In *IEEE symposium on security and privacy*. IEEE Computer Society Press. 1-23.
- [Lo08] Loeber, L. 2008. E-voting in the Netherlands; from general acceptance to general doubt in two years. In *Electronic voting 2008, GI lecture notes in informatics*, ed. R. Krimmer and R. Grimm, 21–30. Bonn, Germany: Gesellschaft für Informatik.
- [MT04] McNeal, R., and C. Tolbert. 2004. Support for Internet voting in the United States. In *Electronic voting and democracy. A comparative analysis*, ed. N. Kersting and H. Baldersheim. London: Palgrave.
- [St09] Stewart III, C. 2009. Election technology and the voting experience in 2008. Paper presented at the annual meeting of the *Midwest Political Science Association*, Chicago, IL: April 2-5, 2009.
- [St06] Stewart III, C. 2006. Residual vote in the 2004 election. *Election Law Journal* 5 (2): 158–169.
- [TV03] Tomz, M., and R. P. Van Houweling. 2003. How does voting equipment affect the racial gap in voided ballots? *American Journal of Political Science*, 47, 1: 347-361.
- [TM05] Trechsel, A. H., and F. Mendez. 2005. *The European Union and e-voting. Addressing the European Parliament's Internet voting challenge*. London: Routledge.
- [TSB07] Trechsel, A. H., G. Schwerdt, F. Breuer, R. M. Alvarez, and T. E. Hall. 2007. *Report for the Council of Europe, Internet voting in the March 2007 parliamentary elections in Estonia*. Strasbourg: Council of Europe.