

# LOST VOTES

Effects of Methods of Voting

on Voter Participation

Iowa 1920-1984

Institute of Public Affairs

Division of Continuing Education

The University of Iowa

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George B. Mather

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The University of Iowa  
Iowa City 1986

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PRICE \$6.50

This work is dedicated to the memory of

ROBERT F. RAY

whose faith in the American political system  
was an inspiration to all who knew him

(6.50)

3-4-92

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## Foreword

The method of voting—traditional paper ballots, voting machines, electronic voting system—can make a difference in the outcome of an election. The mechanics of voting can influence the total number of voters who come to the polls, how effectively they register their choices, and how many votes are cast for various offices and questions on the ballot.

These are the chief results of the research presented in this report. The importance of these findings merit careful study and thought on the part of election officials, political leaders, reporters and editors, and citizens generally.

Chapter 1 presents a brief review of research that has been done previously on methods of voting. The striking fact revealed by this review is the very little research that has been done in this area. Some of the factors discussed—undervoting and position effects—have been known for years, but little hard data has been gathered concerning the extent of these effects and their implications for election outcomes.

Chapters 2 through 9 present the results of a detailed analysis of the use of three methods of voting in Iowa over a sixty-four year period. Iowa provides a sound basis for such an analysis since methods of voting have been adopted on a countywide basis. While the results cannot be projected to a wider population, there are no reasons for concluding that Iowa voters are unique in any regard.

This analysis shows that, in voting for candidates, about 5 percent fewer votes are cast when voting machines are used rather than traditional paper ballots. In voting on special questions, from 20 to 50 percent fewer votes are cast in the voting machine counties than in the paper ballot counties.

Chapter 10 presents the author's conclusions and recommendations, which are his own and not those of the Institute or the University.

Considerations of methods of voting take on additional

significance now because of the technological turmoil in the voting device industry. The mechanical voting machines are no longer being manufactured, although parts are available and many areas probably will continue using these devices for years to come. Many new types of electronic systems are now on the market. Election officials charged with the responsibility for making decisions on which type of system to adopt have a wide variety of choices.

Unfortunately, these officials have very little information about the effects on voter participation that these devices have. We hope that the information in this report will guide them in the kinds of questions to ask. In the past, it was often assumed that methods of voting had no effect on voter participation or effectiveness. Methods of voting are not a neutral factor in the electoral process. The reactions of voters to voting devices must be considered.

I wish to join in thanking the staff of the University Libraries and the Weeg Computing Center of The University of Iowa for their assistance in conducting this research, and many other research projects of the Institute. We are grateful also to Dean Emmett J. Vaughan for a special allocation of funds that made publication of this report possible, and to former Iowa Governor Robert D. Ray for advice concerning its distribution.

Clayton L. Ringgenberg,  
Director  
Institute of Public Affairs  
Division of Continuing Education

## Preface

The work on this research has spanned a period of more than twenty years; therefore, it is impossible to give proper appreciation to all the persons who have helped me in one way or another. I hope that by expressing gratitude to named individuals I do not give offense to others who also have made contributions.

Collection of the basic election data was facilitated by various persons in the office of the Iowa Secretary of State, particularly Melvin D. Synhorst, Mary Jane Odell, James Locke, Louise Whitcomb, and Sandra J. Steinbach. Ms. Steinbach also read the finished manuscript and made useful comments.

Professor Emeritus Harold P. Bechtoldt first introduced me to the enormous powers of electronic computers for handling data and solving analytical problems. Prof. William Snider assisted me in many ways, including guiding me in the use of computer programs that he had written. Other staff members of the Weeg Computer Center also assisted.

Staff members of The University of Iowa libraries, the library of the State Historical Society of Iowa, and the Iowa Department of History and Archives also were helpful.

Professors Russell M. Ross and Samuel C. Patterson of The University of Iowa Political Science Department provided guidance and assistance; both read the finished manuscript and offered numerous suggestions for improvement.

Several research assistants helped construct scores and scales and provided other useful assistance and advice. I am especially grateful to Jean Harrison, Sue Simon, Gayle Stone, and James Larew.

The gift of an IBM personal computer system from Mrs. Houston Barnett was extremely useful in completing the final manuscript, which was the typescript for printing.

Lin Hartman of the university's Department of Publications explained the mysteries of computer typesetting and patiently corrected my coding errors.

Virginia C. Mather provided encouragement and editing skills.

Encouragement and other assistance were provided by M. Dean Zenor and Clayton L. Ringgenberg. A special allocation of funds by Dean Emmett J. Vaughan of the Division of Continuing Education made publication of the work possible. Former Iowa Governor Robert D. Ray gave useful suggestions regarding distribution of the book.

With all this assistance, I still must retain complete responsibility for this work through all its phases: data collection, analysis, writing, editing, design, and typesetting.

# 1

## How Votes Are Lost

Certain factors in the election process can cause some votes to be lost. The causal factors can include the method of voting or the format of the ballot. Votes are lost through failures in the recording of or counting of votes, through voters voting part of the ballot but not other parts, and through failure of voters to appear at the voting place.

In this chapter I will discuss some of the ways in which votes are lost in the election process. In Chapters 2 through 9 I will present in detail some of Iowa's experiences with voting machines and how votes can be lost through that method of voting. In the final chapter I will summarize the steps that can be taken to help reduce the number of votes lost in the election process, to encourage voters to participate effectively, and to help voters register their choices so they will count.

This report is directed to legislators and county supervisors and to election administrators at the state and local levels who make decisions about methods of voting, ballot formats, and all the many details that comprise the election process. I hope the report also will interest citizens who are active in the political process and who are concerned that process performs its functions well.

It is my thesis that elections are important, and that voters should feel that they perform an important function by participating in them, that their opinions and choices are important and will be recorded accurately. Voting should be a pleasant, convenient, and rewarding experience.

This report shows that, in some situations and for some voters, this is not the case. Some voters feel threatened, frightened, and frustrated by the voting process. They are confronted by strange devices and unfamiliar procedures. They fear that they might make mistakes, that they might appear foolish, that their choices will not be recorded as they intended. For some, these feelings are so strong that they avoid the election situation entirely.

## Methods of Voting

Adoption of the Australian ballot was a sure step forward to giving voters confidence in feeling that how they voted would be secret. Massachusetts passed the first secret ballot law in 1889; thirty-five states had adopted some version of the Australian ballot by 1892, and by 1904 all but three states had done so.<sup>1</sup>

Mechanical voting machines were first used in this country in 1892<sup>2</sup> but acceptance and adoption of their use was slow. The cost of the machines was a major factor, but there were also problems with their reliability.<sup>3</sup> Improvements were made, and by 1940 voting machines were in use in most of the states.<sup>4</sup> By 1960 nearly half of all votes cast in the nation were registered on voting machines.<sup>5</sup>

Punch card voting systems were introduced in the early 1960s and they were an instant success.<sup>6</sup> By 1982 they had surpassed voting machines in terms of the percentage of the total vote cast by various voting methods.<sup>7</sup>

At the time of the 1984 election, about three out of ten jurisdictions in the U. S. still used paper ballots, but these areas accounted for only about 10 percent of the total votes cast. Lever-type voting machines were used in about 30 percent of all jurisdictions and these areas represented about 25 percent of the votes cast. Punch card systems were used in about one-third of all jurisdictions, but these areas accounted for 50 or 60 percent of the total vote. Other methods of voting, including electronically counted paper ballots, were in use in scattered areas, accounting for perhaps 5 or 10 percent of the total vote.<sup>8</sup>

Iowa was among the first states to adopt the Australian-type paper ballot and to authorize the use of voting machines (see Chapter 2). By 1920, twenty counties were using machines. It was not until 1960 that the number of votes cast on voting machines exceeded the number cast on traditional paper ballots. By a quirk in state law, punch card ballots have never been authorized in this state.<sup>9</sup> Electronically counted paper ballots were first used in three counties in 1982.

Which methods of voting will predominate in the future is open to conjecture. More than a dozen firms are marketing devices now; other devices are under development or in the testing stage. The industry is in turmoil with filings for bankruptcy, mergers, and acquisitions. The two companies that made the lever-type machines have discontinued production of those models and are marketing electronic devices.

In addition, serious questions have been raised about the lack of standards for electronic voting devices, particularly in regard to accuracy of the tallies and the possibilities of fraud and manipulation.<sup>10</sup> Legislators and election administrators will have some hard decisions to make in the near future.

Obviously, each of these voting devices has its own particular advantages and disadvantages. In this report we are concerned primarily with those features that could have an impact on voters' behaviors, and especially those sorts of behaviors that might influence the outcome of an election. This is an area in which there has been a great deal of conjecture and speculation but very little solid research.

Voter reaction toward the various methods of voting is hard to judge. Albright says the adoption of voting machines throughout the country was retarded by "the indifference, timidity, and distrust of the average voter."<sup>11</sup> Another writer reports that "some politicians believe" that voting machines "help draw voters to the polls."<sup>12</sup>

A June 1959 Gallup Poll asked, "Are you usually a little nervous when you go into a place to vote, or not?" Answers were 18 percent yes, 82 percent no. To the question, "Have you sometimes failed to vote because you weren't quite sure how to do it?" the responses were 19 percent yes, 81 percent no.

To this second question ("Have you sometimes failed to vote because you weren't quite sure how to do it?"), 21 percent of paper ballot voters said yes, 79 percent no, and 16 percent of voting machines voters said yes, 85 percent no.<sup>13</sup> The difference in response from the paper ballot voters and the voting machine voters probably is not significant, but the fact that nearly 20 percent of all respondents, including both paper ballot and voting machine users, expressed nervousness at the prospect of voting and admitted that they may have failed to vote because they were not quite sure how to do it could be quite significant in considering possible reasons for low voter turnout in elections.

Regarding the newer electronic methods of voting, we have this report:

When another user, St. Louis, Mo., County, bought 3,000 machines last month to record votes on a bond issue, 99 percent of 5,000 voters polled expressed a preference for the punchcard system over the traditional lever machines, and 89 percent of 2,700 election judges agreed.<sup>14</sup>

And, from another source, this comment:

Perhaps the cost of voting has increased in recent years in ways not yet understood by political scientists. For example, the change from simple ballot boxes to electronic voting booths in many areas may introduce a new voting cost—embarrassment and confusion for those who do not know how to operate such devices.<sup>15</sup>

### Spoiled Ballots

There can be no doubt that some voters are confused about how to vote, no matter what the method of voting is, and the consequence is votes lost at the polls. (The votes lost because voters do not show up at the polls is another matter.) Mistakes or failure on the part of the voters to operate the means of voting correctly have invalidated votes.

Paper ballots are notorious for spoiled ballots; indeed, that is where the term originated. Even at a special election, say a bond issue, where there is only one question on the ballot, voters spoil some ballots in attempting to record their choices. In general elections when the ballot is much longer and more complex and the turnout is heavier, the proportion of spoiled ballots is greater.

The number of spoiled ballots is not a part of the permanent record, but a guess, based on press reports, comments of election officials, and records of contested elections, puts the range between less than 1 percent to as much as 5 percent of all ballots cast. In addition to other factors, the number of spoiled ballots depends to a considerable extent on judgments made by election judges when the ballots are counted. Some of the ways in which ballots are spoiled include the following:

*Overvoting*—voting for more candidates than allowed, such as voting for two candidates when only one is to be elected, or voting for three candidates when only two are to be elected. In most cases of overvoting, only the vote for that particular office is lost; the votes for other offices are counted.

*Voter's failure to indicate his or her intent clearly*—Erasures, markovers, or other defects make ballot counters unable to tell just what the voter intended.

*Illegal markings*—Names or numbers, and a variety of other additions that might be used to identify the ballot. The intent of the law is to protect the secrecy of the ballot by requiring that ballots that could be identified must be thrown out. However, these determinations are difficult judgment calls for election officials.

An appreciation for the difficulties election judges face and



an explanation of why counting paper ballots takes so long can be gained by reading court reports of contested elections.<sup>16</sup>

We will not consider the cases in which ballots are "spoiled" intentionally by dishonest election officials in attempts to influence the outcome of the vote.

One of the great advantages of the mechanical and electronic voting methods is that nearly all of them greatly reduce the number of spoiled ballots. It is still possible for voters to lose their votes, but judgment calls by election officials are eliminated. Since the counting is done by machine, there is no need for election officials to examine the ballots to rule on how they should be counted.

There are exceptions to this statement, of course, as when ballots are damaged so that they cannot be read by the tallying machine, or in case of election contests.

Perhaps it would help clarify the different ways in which votes can be lost if we look in greater detail at the major ways and how the various voting methods deal with these problems.

### Overvoting

Overvoting is a problem with paper ballots, but newer model lever-type voting machines eliminate the problem through a series of interlocking devices within the machine. These lever interlocks are set at the time the machines are made ready for the election. Because of these interlocks, it is not possible to register more votes than are allowed for each office. Once a voter has pushed down one lever in a contest in which only one candidate is to be elected, he or she cannot push down another lever for that office unless the first lever is pushed back into place.

Voters can adjust the levers up and down all they want without destroying their vote because no votes are registered until the curtain is opened.<sup>17</sup>

With electronically counted voting systems, the counting unit can be programmed to disregard cases of overvoting. That is, the machine counter does automatically what election judges do when they find a paper ballot that has been overvoted: no votes are recorded for that office, but valid votes for other offices are recorded.

Recent research in Ohio indicates that overvoting may be a serious problem with punch card voting. In this study, Fraser found that overvoting may have accounted for 2.8 per cent of the votes cast for governor in 1982.<sup>18</sup>

With punch card voting, the voter is given a computer card that is fitted into a metal frame. A booklet attached to the frame lists the offices and the candidates, and indicates which hole to punch to vote for the candidate of your choice. The voter punches his or her choices with a stylus. It is fairly easy to make a mistake and punch too many holes for a given office, thereby overvoting and losing your vote for that office.

After the voter has finished voting, the card is put into a ballot box; after the polls close, the card ballots are tallied either at the polling place or at a central counting office.<sup>19</sup>

Fraser notes that after voters have used punch card ballots for some time, they appear to become accustomed to their use and the rate of overvoting declines. She states:

Once the voter reaches a "familiarity threshold" of having used punch card voting systems for approximately eight elections, over 40 percent of the overvoting electorate have modified their behavior such that they are no longer invalidating their vote for governor. Hence, these data suggest that increased familiarity with punch card voting systems decreases the likelihood of voters disqualifying their vote.<sup>20</sup>

Fraser also notes that even after considerable experience with the punch card system, there still seems to be some overvoting when areas using punch card voting are compared with areas using voting machines.<sup>21</sup>

### Undervoting

"Undervoting" refers to two quite different situations:

1. Voters do not participate in the election at all; they do not go to the polls. The nature of the election and the candidates have a lot to do with this. Many more voters participate in presidential elections than in the off-year general elections; participation rates in primaries and in most local elections are lower than the rates of participation in general elections.

The method of voting also discourages some voters from participating; the extent of this effect is explored in Chapters 3 through 5 of this report.

2. Failure of some voters to vote for all offices and propositions on the ballot; they vote for part of the ticket but fail to complete the ballot. This kind of undervoting is sometimes referred to as "falloff," "rolloff," or "voter fatigue." In this sense, these terms refer to the tendency for voters to vote for the offices at the top of the ballot—president, governor, and so

on—but to ignore or pass over the offices lower down, the lesser known offices.

Of course, there are some voters who do not vote for the offices at the top of the ballot, although presumably they do vote for other offices and propositions.<sup>22</sup> In her study of Ohio gubernatorial elections, Fraser found that 2 or 3 percent of the voters did not cast a vote for governor regardless of the method of voting used.<sup>23</sup>

The design of the ballot does influence the extent of the rolloff, and so does the method of voting. This has been noted in studies of the various methods legislatures have used in designing the ballot to encourage or discourage straight ticket voting.

Some states use the party-column ballot, in which candidates are listed under the names of the parties they represent. In some of these states, voters can cast their votes for all of the candidates of the party of their choice by marking in one circle at the top of the ballot, pulling one party lever on a voting machine, or punching out one hole on the punch card ballot.

In other states, candidates' names are listed under party columns, but to vote a straight ticket the voter must indicate a vote for each individual candidate.

Still other states list all candidates for each office under the name of that office; party designations usually follow each candidate's name. This type of ballot is known as the "office block" ballot. In voting either a straight or split ticket, votes must be marked, levers pulled, or holes punched by the name of each desired candidate.

In 1964, thirty-three states used the party column format; in twenty-seven of these states voters could vote a straight party ticket by marking in one circle, pulling one lever, or punching one hole. Seventeen states used the office-block format.

As might be expected, there is more straight-ticket voting in the states that permit the single party vote, and there is less rolloff in the vote for candidates for offices lower on the ballot.<sup>24</sup>

Walker discovered sharply greater rolloff, or "voter fatigue," in Ohio, which uses the office block ballot, than in Michigan, which uses the party column ballot. He also noted that when Ohio adopted the office block ballot in 1949 after using the party column ballot, rolloff doubled.<sup>25</sup>

In her more recent study of Ohio elections, Fraser found that voter fatigue or rolloff was greater in areas that used voting

machines than in those areas that used punch card voting systems.<sup>26</sup> She also found that rolloff was less in counties that had had more experience with punch card voting than in counties that were using that method for the first time.<sup>27</sup>

Both Walker and Fraser observe that emphatic instructions on the ballot urging voters to continue voting may account for lower rolloff. Walker found that when Montana switched to the more complex office block ballot, rolloff did not increase. Instructions at the top of the new ballot urged voters to "vote in all columns" and at the bottom of each column, "vote in next column."<sup>28</sup>

In Ohio, one type of punch card ballot instructs voters to "vote both sides" of the card; the other type of ballot states in the accompanying booklet "turn page to continue voting." Fraser notes that these instructions appeared to be effective in encouraging voters to complete their ballots, confirming an earlier finding by Walker.<sup>29</sup>

The rolloff effect in using voting machines rather than paper ballots for voting on referenda has been documented in studies in Minnesota, Michigan, and Iowa.<sup>30</sup> In all studies, substantially fewer votes were cast when voting machines were used. Thomas comments:<sup>31</sup>

It seems fairly apparent that the more complex mental and physical motions required to cast a referendum vote on a voting machine rather than on a paper ballot prevent certain voters from participating when machines are used. . . . such voters probably tend to be apathetic, poorly informed, of lower socio-economic status . . .

Chapters 7 through 9 of this report discuss this phenomenon in greater detail.

### Position Effect

Another feature of ballot design and method of voting that has been well documented is that of position effect. This term refers to the ways in which names of parties and candidates are listed on the ballot and the effects these arrangements have on voter behavior.

In its simplest form, position effect refers to the fact that, under certain conditions, voters tend to vote for the first name on the list. The effect varies according to the type of election, whether candidates are well known or not, whether the office is at the top of the ballot or lower down, and the number of names on the list. The effect seems to be most pronounced in

primary elections and in local elections when more than one position is to be filled.<sup>32</sup>

Bain and Hecock summarize their findings in studies of Michigan elections in this way:<sup>33</sup>

We found statistically significant evidence of position effects in primary and non-partisan elections in several Michigan cities, both where paper ballots were used and where voting machines were used, for a number of offices of widely varying importance, and for contests in which the number of candidates ranged from three to fifteen. . . .

The largest position effect was found in data from voting machines . . .

However, the effects observed were complex indeed: they depended on whether the voting machines were of the horizontal or vertical format, whether candidates' names were listed in one or two rows, and whether a blank row separated the parties on a primary ballot.<sup>34</sup>

Politicians have known about the position effect for years, and have acted accordingly. For example, Kelley and McAllister report that in Australia, candidates with names in the first third of the alphabet gain, on the average, an additional 3 percent of the vote. They explain:<sup>35</sup>

This is not so much because the electorate votes for the candidate at the top of the ballot (although the "donkey vote" does account for one percent of the advantage) as because the major parties think the electorate are donkeys and choose candidates with names high in the alphabet (that accounts for the remaining 2 percent of the advantage).

Early on, lawmakers and election officials in this country took steps to ameliorate the effects of ballot position. By 1940, twenty-three states required rotation of the names of candidates on the ballots.<sup>36</sup> In Iowa, as in many states, the procedure is to list the candidates alphabetically on the ballots for the first precinct, then place the name of the top candidate at the bottom of the list for the second precinct and move up the other names, and so on.<sup>37</sup>

This procedure does not eliminate the effects of ballot position, of course; it merely distributes the advantage among the candidates more or less equally. For practical purposes, that is probably sufficient.

### Other Effects

What other effects on voter behavior do features of the machinery of elections have? The list presented here is a fairly

complete summary of what is known, or rather, what has been written about, so far. As new methods of voting and designs of ballots are adopted, no doubt more unintended effects will appear.

Clearly, much more research is needed in this area. In the meantime, legislators and election officials must take into account what is known in making their decisions about which methods of voting to adopt and what election procedures to follow. We can hope that they will adopt methods and procedures that will eliminate or ameliorate the problems of past and current methods.

Chapters 2 through 5 of this report deal with the Iowa experience in the use of voting machines in voting for candidates for office; chapters 6 through 9 deal with the effects in voting on referenda. In the final chapter, I will discuss the implications of these findings and make some recommendations.

# 2

## Methods of Voting in Iowa

During the period 1920 through 1984, three methods of voting were used in Iowa: traditional paper ballots, Automatic voting machines, and electronically counted paper ballots.

Although Iowa law authorized the use of voting machines on a precinct-by-precinct basis, the practice has been to adopt their use on a county-by-county basis. Current law authorizes the use of voting machines and electronic voting systems concurrently in different precincts in a county, but not in the same precinct.<sup>1</sup>

The original act permitting the use of voting machines was adopted in 1900.<sup>2</sup> Franklin County was the first Iowa county to adopt voting machines on a countywide basis; this was in 1908.<sup>3</sup> By 1920 eighteen counties were equipped with voting machines.

In 1982, three counties first used electronically counted paper ballots in a general elections. Of the three, Buchanan and Howard counties previously had used traditional paper ballots, and Linn County switched from voting machines. In the 1984 general election, three additional counties, Cedar, Dallas, and Johnson, switched from voting machines to the electronically counted paper ballots.

In 1922 twenty counties used voting machines; these counties cast 24.1 percent of the total votes cast for U. S. Senator in the general election that year. Thirty-seven counties used voting machines in the 1960 general election; voters in those counties recorded 56.1 percent of the votes cast for President in Iowa that year.

In the 1980 election, seventy-seven counties used voting machines; voters in these counties accounted for 90.8 percent of the votes cast for President. In the 1984 Presidential election, 73 counties used voting machines, accounting for 80 percent of the total votes cast. Twenty counties used traditional paper ballots, accounting for 7.9 percent of the total votes, and six counties,

accounting for 12.1 percent of the total votes, used electronically counted paper ballots.

Several minor deviations from this general pattern of methods of voting were noted. As the 1920 general election approached, there was considerable confusion and controversy over whether voting machines could be used in the election. An act of the Iowa legislature in 1919 restored the party circles to the ballot. The voting machines then in use were not equipped with party levers. In August the Attorney General gave an opinion to the effect that the machines could be used; this opinion was withdrawn in September. The machines were used in six counties without protest; the other twelve counties that had voting machines returned to the use of paper ballots.<sup>4</sup>

During the period covered by this study, only a few cases were discovered in which voting machines were used in some—but not all—precincts in a county.<sup>5</sup> In only one instance—Johnson County between 1905 and 1930—were voters ever given a choice between using voting machines or paper ballots.<sup>6</sup>

Table I lists the Iowa counties that used voting machines during the period, their 1980 populations, and the year of first adoption of this method of voting.<sup>7</sup>



Table I—Iowa Counties Using Voting Machines  
by Date of Adoption, 1920—1984

County	1980 Population	Date of Adoption of Voting Machines
Allamakee	15,108	1969
Appanoose	15,511	1976
Audubon	8,559	1971
Benton	23,649	1917
Black Hawk	137,961	1940
Boone	26,184	1916
Bremer	24,820	1966
Buena Vista	20,774	1959
Butler	17,668	1959
Calhoun	13,542	1918
Carroll	22,951	1967
Cass	16,932	1961
Cedar	18,635	1971-1982*
Cerro Gordo	48,458	1944
Cherokee	16,238	1973
Clay	19,576	1920
Clayton	21,098	1963
Clinton	57,122	1939
Crawford	18,935	1920
Dallas	29,513	1955-1982*
Delaware	18,933	1977
Des Moines	46,203	1969*
Dickinson	15,629	1920*
Dubuque	93,745	1919
Emmet	13,336	1970
Fayette	25,488	1977
Floyd	19,597	1956
Franklin	13,036	1908
Fremont	9,401	1969
Greene	12,119	1918
Grundy	14,366	1969
Guthrie	11,983	1973
Hamilton	17,862	1945
Hancock	13,833	1959
Hardin	21,776	1912
Humboldt	12,246	1956
Ida	8,908	1979
Iowa	15,429	1917
Jackson	22,503	1912
Jasper	36,425	1951

Table I—Continued

County	1980 Population	Date of Adoption of Voting Machines
Johnson	81,717	1963-1982*
Keokuk	12,921	1977
Kossuth	21,891	1966
Lee	43,106	1971
Linn	169,775	1926-1980*
Lyon	12,896	1971
Mahaska	22,867	1917
Marion	29,669	1967
Marshall	41,652	1919
Mills	13,406	1974
Mitchell	12,329	1973*
Monona	11,692	1973
Montgomery	13,413	1976
Muscatine	40,436	1923
O'Brien	16,972	1969
Osceola	8,371	1972
Page	19,063	1977
Palo Alto	12,721	1969
Plymouth	24,743	1973
Pocahontas	11,369	1921
Polk	303,170	1911
Pottawattamie	86,561	1928
Poweshiek	19,306	1955
Sac	14,118	1978
Scott	160,022	1920
Shelby	15,043	1922
Sioux	30,813	1973
Story	72,326	1920
Tama	19,533	1959
Union	13,858	1967
Wapello	40,241	1930
Warren	34,878	1973
Washington	20,141	1973
Webster	45,953	1920
Winneshiek	21,876	1973
Woodbury	100,884	1963
Wright	16,319	1961

\*Dickinson County did not use voting machines in the 1936 general election. Des Moines County used machines between 1922 and 1930, then returned to their use again in 1969<sup>8</sup>. Mitchell County used machines in 1930, then returned to their use in 1973<sup>9</sup>. Linn County discontinued the use of machines in 1981 and switched to the use of electronically counted paper ballots; Cedar, Dallas, and Johnson Counties did the same in 1984.

# 3

## Participation in Voting for Candidates

What proportion of the eligible voters actually cast ballots in an election? To calculate this percentage, we need to know two things: how many eligible voters lived in each particular election district at the time of the election, and how many of them actually went to the polls. Furthermore, for the purposes of this study, we would like to know how many of those who presented themselves at the polls actually cast ballots that were counted: that is, how many cast paper ballots that were not defective, or how many used the voting machines effectively.

In Iowa, it is not possible to ascertain any of these facts directly. There are no permanent records of the numbers of eligible voters; the total number of voters who cast ballots is not reported. There are no reports of the number of spoiled ballots, either in paper ballot or machine voting. Therefore, we must rely on estimates.

### Estimated Number of Potential Voters

We need a reasonably accurate estimate of the number of eligible voters who lived in each county at the time of each election from 1920 through 1984. These estimates must be made on a consistent basis so that we can make comparisons between counties and groups of counties in each election, and from election to election.

Totals on the numbers of registered voters would not be of much help. Such figures would tell only how many potential voters took the time and trouble to become registered voters. (During most of the period covered by this study, registration was not required on a county-wide basis.)

The best available figures for our purposes are the U.S. Census counts of persons twenty-one years of age and over (eighteen and over since 1972.) Under the Iowa constitution, aliens, idiots, insane persons, and persons who have been

convicted of infamous crimes are prohibited from voting in Iowa.<sup>1</sup> Such persons are included in the census counts and our estimate of "potential" voters; they would not be included in a definition of "eligible" voters and could not become "registered" voters.

For this reason, using the census counts tends to inflate the estimated number of potential voters. Because of the relative homogeneity of the Iowa population, this tendency to overestimate the number of eligible voters can be presumed to affect all counties uniformly, and all time periods similarly.

The census counts of persons twenty-one and over are used as the estimate of the number of potential voters for the period from 1920 to 1970. For the period from 1972 through 1980, the counts of persons eighteen and over are used. For the elections held in census years—1920, 1930, 1940, 1950, 1960, 1970, and 1980—the actual census figures are used. For the in-between census year elections, linear interpolations were computed from the two censuses at the start and end of each decade. That is, we assume that any increase or decrease in the potential voting population took place uniformly throughout the intervening decade.

For the elections of 1982 and 1984 different estimates were used. For 1982, the percent of persons eighteen and over for each county according to the 1980 census was applied to the census estimates of total county populations for 1982.<sup>2</sup> The estimates of the voting age population by counties prepared by the state demographer were used for the 1984 election.<sup>3</sup>

### **How Many Voters Went to the Polls?**

For nearly all the elections in this study, there are no reports of the number of potential voters who went to the polls, or the number of ballots actually cast. We must rely on the published results of each election for estimates of the numbers of voters who participated. The total votes cast for all candidates for the office for which the most votes were cast is used as the estimate of the number of participating voters.

This procedure tends to underestimate the total number of voters. Whatever office is selected, presumably there were some voters who did not vote for any candidate for that office. More total votes are cast for the offices at the top of the ballot—President, U.S. Senator, and Governor—than for other offices. The estimate of the total number of voters in each election thus is the total numbers of votes cast for the top statewide race that

attracted the most votes in the state, including the voters for minor party candidates and "scattering" or write-in votes.<sup>4</sup>

For every one of the presidential elections included in this study, the top vote-getting office was President of the United States. For the off-year elections, the top vote-getting offices were for U.S. Senator in 1922, 1926, 1942, and 1950 and for Governor in the other off-year elections.

### Level of Voter Participation Scores

To compute the "level of voter participation" score for each county in each election, the numerator is the total vote cast in that county for the candidates for the office for which the most votes were cast, and the denominator is the estimated number of potential voters living in that county at the time of the election. For convenience, let's call this the "percent voting" score.

We recognize that these scores underestimate the actual level of voter participation, but we have no way of finding out what that percentage might be. In computing the numerator of the formula, the number of actual voters is underestimated; in computing the denominator, the number of potential voters is overestimated. The discrepancy is slight, and for comparative purposes the measure is assumed to be adequate and valid.

Tables IIa and IIb show how these percentage scores fall into percentage classes for each election. From these tables we can see that the turnout of voters is consistently higher for presidential elections than for off-year elections. Also, the range from the highest to the lowest percentage scores is greater in off-year than in presidential elections.

In addition to the average turnout for each election for the state as a whole (mean of the county percentages), we have computed an alternate estimate of statewide voter turnout which is based on the total vote in the state in relation to the total estimated number of potential voters in the state. This second average is consistently lower than the average based on the unweighted scores by counties.

The reason for this difference is that in computing the average based on the county scores, the score for the county that turned in the most votes is treated the same as the county that turned in the fewest votes. No adjustment or weighting is made for the differences in relative voting power of the counties.

The percentage based on the statewide turnout, on the other

Table IIa—Level of Voter Participation Scores: Number of Counties Whose Scores Fall in Various Percentage Classes (N=99)

Presidential Elections 1920-1984																	
Range of Scores	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80	84
90.0-94.9					1	1											
85.0-89.9				1	6	4			3		8						
80.0-84.9		2	6	3	24	24		2	33	25	37	7	2				
75.0-79.9	5	10	9	14	16	27	2	4	32	36	33	25	17				
70.0-74.9	17	34	31	30	28	32	20	15	25	25	18	36	36	22	5	7	2
65.0-69.9	27	23	32	26	17	9	34	27	5	11	3	25	37	29	37	26	31
60.0-64.9	26	23	14	19	7	2	23	26	1	2	6	5	42	44	47	49	49
55.0-59.9	21	7	7	4			20	19					2	5	12	16	13
50.0-54.9	2			2				6						1	1	3	4
45.0-49.9	1																
Mean	64.9	68.6	69.1	69.2	75.1	76.4	65.3	64.5	77.5	76.0	78.8	72.7	70.9	65.7	64.3	63.2	63.0
Median	64.9	69.3	68.9	69.8	74.5	76.0	65.2	63.6	78.6	77.0	79.4	72.5	70.4	65.5	64.2	62.9	63.5
State Total	62.7	66.9	67.7	67.6	72.1	74.1	63.4	61.7	75.1	73.6	76.5	70.6	69.0	64.6	64.2	63.1	63.4

NOTE: "Mean" is the average score, computed by adding all the scores and dividing the result by 99. "Median" means that half the counties have scores that are higher than this score, and half of them have scores that are lower. The "State Total" percentage is obtained by adding the total votes cast in the state for each given office and dividing by the total number of potential voters in the state.

Table IIb—Level of Voter Participation Scores: Number of Counties Whose Scores Fall in Various Percentage Classes (N = 99)

Off-Year Elections 1922-1982

Range of Scores	22	26	30	34	38	42	46	50	54	58	62	66	70	74	78	82
80.0-84.9				1												
75.0-79.9				10												
70.0-74.9		1	1	13	3			2	1							
65.0-69.9	2	1	15	11				5	5	6	3	6				
60.0-64.9	7	4	5	21	18	5	3	13	11	19	8	14	2	4		3
55.0-59.9	11	9	7	15	28	9	5	25	20	17	20	27	10	11	1	14
50.0-54.9	17	12	13	14	14	16	11	27	23	32	24	42	20	34	10	37
45.0-49.9	14	18	11	8	18	25	7	15	30	19	26	6	34	33	24	32
40.0-44.9	23	16	16	2	7	21	22	11	9	5	14	4	27	14	35	9
35.0-39.9	12	9	12			18	23	1		1	3		2	3	23	4
30.0-34.9	12	19	11			5	17				1		4		5	1
25.0-29.9	1	8	11				11									
20.0-24.9		3	10													
15.0-19.9			1													
Mean	46.2	42.9	41.2	62.8	56.1	46.4	40.6	54.1	53.2	54.2	51.4	55.4	47.5	49.8	42.9	50.4
Median	46.3	42.6	41.2	61.9	55.8	46.1	39.9	53.1	53.4	54.0	50.9	54.8	47.2	49.7	42.8	50.5
State Total	42.8	38.8	36.8	58.1	52.6	42.9	37.8	50.7	50.4	51.4	49.1	53.0	46.6	47.3	41.3	49.7

NOTE: See explanation of terms on Table IIa.

hand, reflects these differences. This comparison is shown graphically in Figure 1; the presidential and off-year elections are compared separately. From this comparison we can infer that there is a consistent tendency for counties that have larger populations to have lower participation rates than counties that have lower populations. This factor will be analyzed in detail later.

### Voting Machines and Paper Ballots

For each election, the county percent of potential voters voting scores were divided into two groups: the scores for counties that used voting machines and the scores for the counties that used paper ballots. The mean scores for both groups of counties in each election are shown in Table III.

One main point is apparent in this comparison: the mean scores for the voting machine counties are consistently lower than the mean scores for the paper ballot counties. The differences between the two group means ranges from 4 to 10 percentage points. In all but three election years the differences are statistically significant at the .01 level of confidence: the chances are 99 out of 100 (or better) that the observations are not the result of chance statistical fluctuations. (For the three other years, the results are significant at the .05 level of confidence—95 chances out of 100.)

These comparisons are shown graphically in Figure 2.

Perhaps there is some other factor, or group of factors, that is associated with percent of voter turnout in such a way that it could explain these differences.

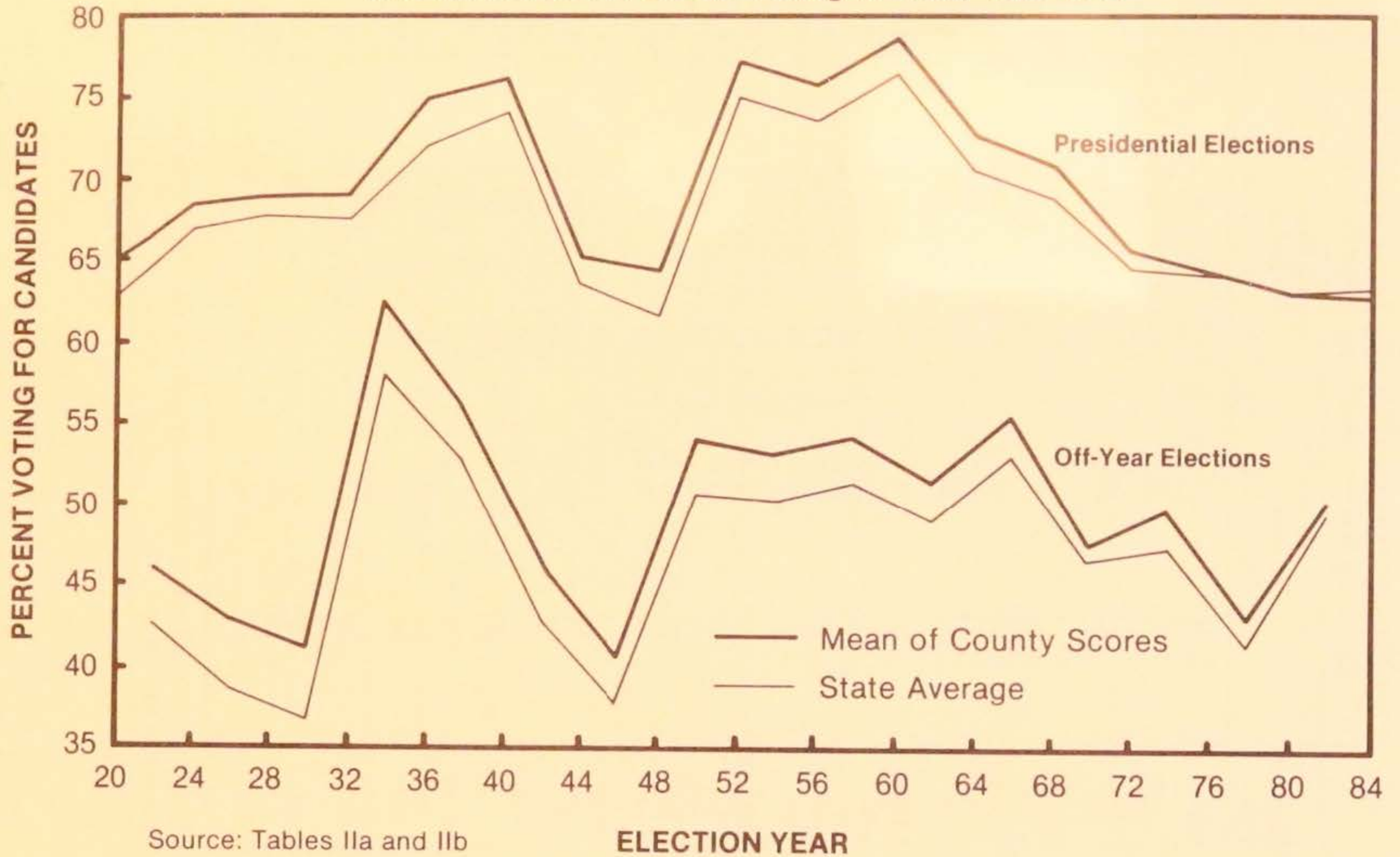
The differences between the mean and median scores and the "state total" scores in Tables IIA and IIB suggest that the more populous counties have lower turnout rates than the less populous counties. From Table I we know that the more populous, or urban, counties tended to adopt the use of voting machines earlier than most of the rural counties. Throughout the period, most of the urban counties tend to be included in the voting machine counties groups.

Is it possible that there is a consistent correlation between degree of urban-ness and level of voter turnout? If so, would this factor help to explain the differences in turnout rates between the voting machine counties and the paper ballot counties?

To test this hypothesis, we need a measuring stick of



**Figure 1:**  
Two Measures of Percent Voting in Iowa, 1920-1984



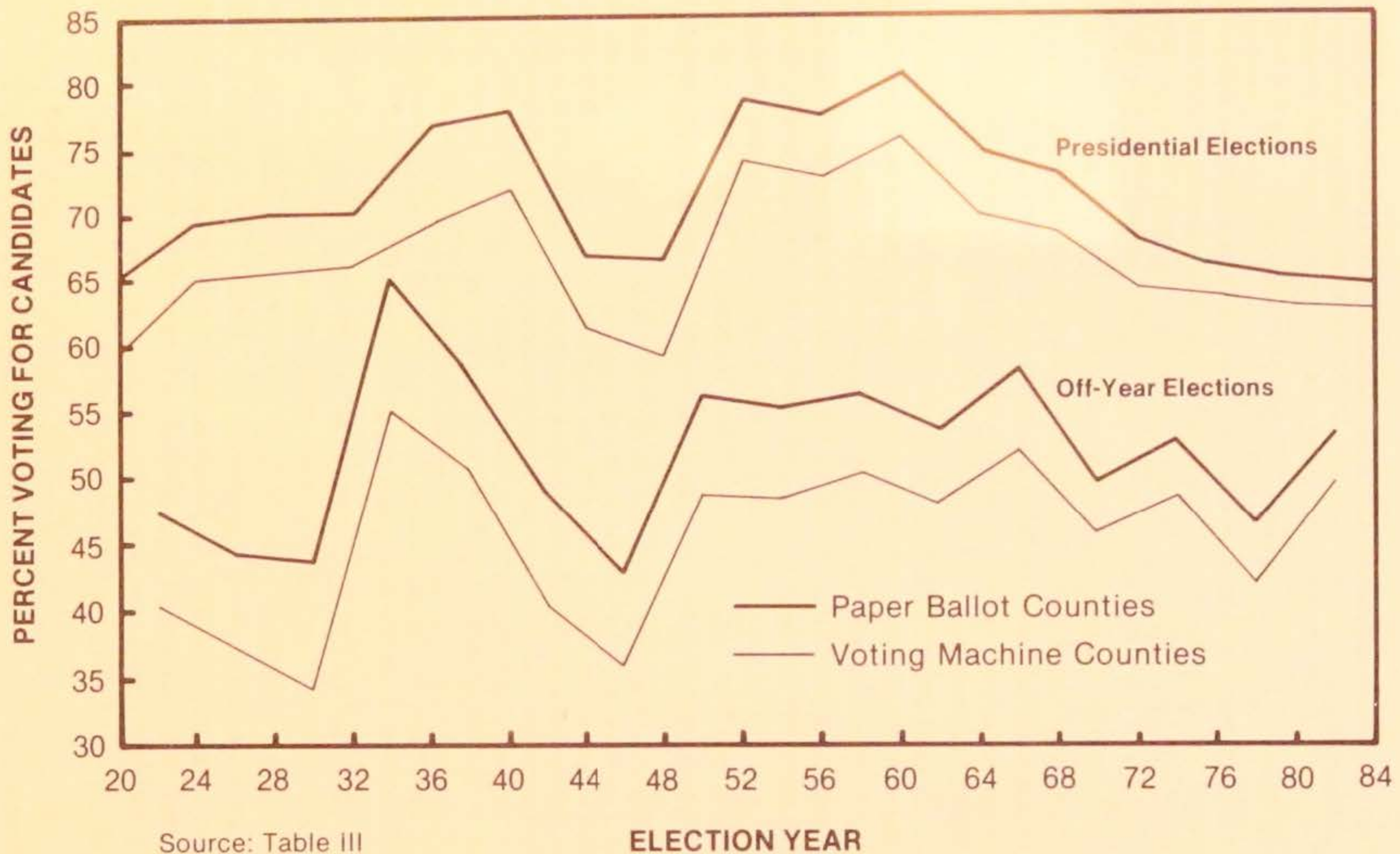
Source: Tables IIa and IIb

Table III—Level of Voter Participation Scores  
for Voting Machine and Paper Ballot Counties

Election Year	Voting Machine Counties		Paper Ballot Counties		Difference
	N	Mean	N	Mean	
1920	6	59.4	93	65.3	5.9
22*	20	40.7	79	47.6	6.9
24*	21	65.2	78	69.5	4.3
26*	23	37.3	76	44.5	7.2
28*	24	65.7	75	70.2	4.5
1930*	26	34.2	73	43.8	9.6
32*	24	66.2	75	70.2	4.0
34*	24	55.2	75	65.2	10.0
36*	23	69.3	76	76.9	7.6
38*	24	50.5	75	57.9	7.4
1940*	26	71.9	73	78.0	6.1
42*	26	40.4	73	48.6	8.2
44*	27	61.2	72	66.8	5.6
46*	28	35.8	71	42.6	6.8
48*	28	59.2	71	66.5	7.3
1950*	28	48.8	71	56.2	7.4
52*	28	74.2	71	78.8	4.6
54*	28	48.4	71	55.1	6.7
56*	31	72.8	68	77.4	4.6
58*	33	50.4	66	56.2	5.8
1960*	37	75.9	62	80.5	4.6
62*	39	48.1	60	53.5	5.4
64*	42	69.8	57	74.7	4.9
66*	44	52.0	55	58.2	6.2
68*	47	68.6	52	73.0	4.4
1970*	54	45.8	45	49.5	3.7
72*	59	64.2	40	68.0	3.8
74*	69	48.6	30	52.7	4.1
76	71	63.6	28	65.8	2.2
78*	76	41.8	23	46.4	4.6
1980	77	62.7	22	64.9	2.2
82*	76	49.5	23	53.1	3.6
84	73	62.6	26	64.4	1.8

\*Statistically significant at .01 level of confidence (simple randomized analysis of variance)

Figure 2:  
Percent Voting in Paper Ballot and Voting Machine Counties



Source: Table III

“urbanism” similar to our measure of level of voter participation.

### The Urbanism Scale

What we need is a measure that gives weight to concentrations of population in addition to the sheer numbers or percentages of people living in cities and towns. The procedure chosen does give weight to the relative populations of cities and counties and to the relative concentration of population. This procedure has been tested against a number of social and economic indices, both for national and for Iowa data, and has been found to correlate fairly well with these other measures of urbanization.<sup>5</sup>

The urbanism score for each county consists of the arithmetic mean of a series of up to ten individual percentage weights or bonuses. These weights are computed by dividing the combined population of cities over certain sizes by the total population of the county. We start with the combined population of the places over 500 population, then add extra percentages as the size of the cities increase. Here are the city population classes used in computing the percentage weights:

1. Percent of county population living in places of	500 or more
2. Percent of county population living in places of	1,000 or more
3. Percent of county population living in places of	2,500 or more
4. Percent of county population living in places of	5,000 or more
5. Percent of county population living in places of	10,000 or more
6. Percent of county population living in places of	25,000 or more
7. Percent of county population living in places of	50,000 or more
8. Percent of county population living in places of	100,000 or more
9. Percent of county population living in places of	250,000 or more
10. Percent of county population living in places of	500,000 or more

The total of the percentages to which the county is entitled is divided by 10 to get the final urbanism score.<sup>6</sup>

As an example, here is how the urbanism score for Cerro Gordo county was computed for 1980. The county's 1980 population was 48,458. There were four cities with populations over 500—Mason City, 30,144; Clear Lake, 7,458; Rockwell, 1,039; and Ventura, 614. The urbanism score is calculated as shown at the top of the next page:

By this procedure, urbanism scores were computed for each county for each of the census years included in the study. To obtain scores for the between-census years, linear interpolation was used; that is, it is assumed that the changes in urbanism

The total population of all cities over 500 (39,255) is divided by the county's population (48,458)	81.0
The total population of all cities over 1,000 (38,641) is divided by the county's population (48,158)	79.7
The total population of all cities over 2,500 (37,602) is divided by the county's population (48,158)	77.6
The total population of all cities over 5,000 (37,602) is divided by the county's population (48,158)	77.6
The total population of all cities over 10,000 (30,144) is divided by the county's population (48,158)	62.2
The total population of all cities over 25,000 (30,144) is divided by the county's population (48,158)	62.2
The total of these percentages is	440.3
which, divided by 10 is the county's urbanism score	44.0

took place evenly throughout the decade between censuses, and the changes in the index are prorated accordingly.

Table IV compares the populations of the counties and their urbanism scores in 1980 and 1920; the counties are ranked according to their scores in 1980. Table V shows the percentage distributions of the scores in 1980 and 1920.

Table IV—Counties Ranked According to 1980 Urbanism Scale and Compared with 1920

County	1980			1920		
	Population	Score	Rank*	Population	Score	Rank*
Scott	160,022	63.9	1	73,952	54.7	3
Polk	303,170	62.8	2	154,029	66.7	1
Linn	169,775	59.9	3	74,004	39.6	6
Woodbury	100,884	57.9	4	92,171	54.8	2
Black Hawk	137,961	56.4	5	56,570	43.4	4
Dubuque	93,745	49.1	6	58,262	41.5	5
Johnson	81,717	48.4	7	26,462	21.8	17
Pottawattamie	86,561	48.0	8	61,550	36.7	7
Story	72,326	44.1	9	26,185	15.4	23.5
Cerro Gordo	48,458	44.0	10	34,675	31.6	11
Wapello	40,241	41.8	11	37,937	31.7	10
Des Moines	46,203	41.5	12	35,520	34.8	8
Marshall	41,652	40.2	13	32,630	24.4	15
Clinton	57,122	39.8	14	43,371	29.2	13
Webster	45,953	39.6	15	37,611	26.7	14
Lee	43,106	32.6	16	39,676	33.7	9
Muscatine	40,436	32.3	17	29,042	29.7	12
Clay	19,576	30.6	18	15,660	9.2	44.5
Boone	26,184	27.3	19	29,892	23.0	16
Mahaska	22,867	25.9	20	26,270	15.4	23.5

Table IV—Continued

County	1980			1920		
	Popu- lation	Score	Rank*	Popu- lation	Score	Rank*
Page	19,063	25.7	21	24,137	14.9	25
Union	13,858	25.0	22	17,268	19.5	18
Emmet	13,336	24.7	23	12,627	12.3	34
Jasper	36,425	24.6	24	27,855	13.3	31.5
Marion	29,669	23.8	25	24,957	10.4	37
Jefferson	16,316	23.4	26	16,440	14.8	26
Montgomery	13,413	23.0	27	17,048	16.3	21
Cass	16,932	21.5	28.5	19,421	14.4	27
Poweshiek	19,306	21.5	28.5	19,910	13.6	30
Warren	34,878	21.1	30	18,047	7.0	63.5
Hamilton	17,862	20.9	31	19,531	13.3	31.5
Carroll	22,951	20.7	32	21,549	9.3	42.5
Floyd	19,597	20.6	33	18,860	17.8	19
Buena Vista	20,774	20.2	34	18,556	9.5	40.5
Cherokee	16,238	20.1	35	17,760	15.0	24
Henry	18,890	19.2	36	18,298	9.3	42.5
Wright	16,319	19.1	37	20,348	14.0	28.5
Appanoose	15,511	18.7	38	30,535	16.6	20
Hardin	21,776	18.6	39	23,337	11.7	35
Bremer	24,820	18.5	40	16,728	8.4	50.5
Mills	13,406	18.4	41	15,422	9.5	40.5
Dallas	29,513	17.4	42.5	25,120	11.5	36
Plymouth	24,743	17.4	42.5	23,584	9.2	44.5
Fayette	25,488	17.3	44	29,251	13.1	33
Washington	20,141	17.1	45	20,421	9.0	47
Crawford	18,935	16.3	46.5	20,614	7.6	58
Sioux	30,813	16.3	46.5	26,458	6.7	67.5
Winneshiek	21,876	15.9	48	22,091	6.8	65.5
O'Brien	16,972	15.7	49	19,051	9.9	39
Shelby	15,043	15.5	50	16,065	6.4	70
Lucas	10,313	15.1	51	15,686	14.0	28.5
Winnebago	13,010	15.0	52	13,489	6.5	69
Buchanan	22,900	14.8	53.5	19,890	6.8	65.5
Jackson	22,503	14.8	53.5	19,931	7.9	55
Benton	23,649	14.6	55	24,080	10.0	38
Monroe	9,209	14.3	56	23,467	9.1	46
Kossuth	21,891	14.0	57	25,082	5.8	75
Clarke	8,612	13.9	58.5	10,506	8.5	49
Greene	12,119	13.9	58.5	16,467	8.4	50.5
Dickinson	15,629	13.8	60	10,241	5.0	84.5
Jones	20,401	13.6	61	18,607	8.3	52
Humboldt	12,246	13.5	62	12,951	5.4	79.5
Palo Alto	12,721	13.0	63	15,486	7.0	63.5

Table IV—Continued

County	1980			1920		
	Popu- lation	Score	Rank*	Popu- lation	Score	Rank*
Decatur	9,794	12.6	64	16,566	5.2	83
Franklin	13,036	12.5	65	15,807	7.1	62
Allamakee	15,108	11.8	67	17,285	6.0	73.5
Chickasaw	15,437	11.8	67	15,431	7.5	59
Madison	12,597	11.8	67	15,020	6.3	71
Cedar	18,635	11.7	70	17,560	4.8	89
Mitchell	12,329	11.7	70	13,921	8.2	53
Sac	14,118	11.7	70	17,500	7.8	56
Monona	11,692	11.6	72.5	17,125	4.9	86.5
Osceola	8,371	11.6	72.5	10,223	4.8	89
Grundy	14,366	11.3	74	14,420	4.8	89
Audubon	8,559	11.1	76	12,520	4.0	93.5
Harrison	16,348	11.1	76	24,488	8.8	48
Howard	11,114	11.1	76	13,705	8.1	54
Tama	19,533	11.0	78	21,861	7.7	57
Hancock	13,833	10.5	79	14,723	4.9	86.5
Butler	17,668	10.4	80	17,845	5.3	81.5
Calhoun	13,542	10.2	81	17,783	7.2	61
Lyon	12,896	9.7	82	15,431	4.6	91
Ida	8,908	9.5	83	11,689	6.7	67.5
Davis	9,104	9.2	84.5	12,574	3.3	99
Delaware	18,933	9.2	84.5	18,183	6.2	72
Wayne	8,199	8.6	86	15,378	7.4	60
Pocahontas	11,369	8.4	87	15,602	5.0	84.5
Worth	9,075	8.1	88	11,630	5.3	81.5
Fremont	9,401	7.9	89.5	15,447	6.0	73.5
Taylor	8,353	7.9	89.5	15,514	5.5	78
Clayton	21,098	7.8	91	25,032	5.4	79.5
Guthrie	11,983	7.3	92	17,596	5.7	76.5
Adair	9,509	7.0	93	14,259	4.0	93.5
Keokuk	12,921	6.9	94	20,983	5.7	76.5
Adams	5,731	6.8	95.5	10,521	3.5	98
Iowa	15,429	6.8	95.5	18,600	4.5	92
Louisa	12,055	6.5	97	12,179	3.9	95
Ringgold	6,112	6.3	98	12,919	3.7	96
Van Buren	8,626	4.0	99	14,060	3.6	97
Median		15.5			8.4	

\*In the case of ties, the tied counties are given ranks equal to the mean of the ranks to which they would have been entitled had there been no ties.

Table V—Urbanism Scale: Number of Counties  
by Percentage Classes, 1980 and 1920

Range of Scores	1980	1920
65.0—69.9		1
60.0—64.9	2	
55.0—59.9	3	2
50.0—54.9		
45.0—49.9	3	
40.0—44.9	5	2
35.0—39.9	2	2
30.0—34.9	3	4
25.0—29.9	4	3
20.0—24.9	13	3
15.0—19.9	17	7
10.0—14.9	29	14
5.0—9.9	17	47
0.0—4.9	1	14
Total	99	99
Median	15.5	8.4

### Urbanism and the Use of Voting Machines

The next step is to divide the urbanism scores into two groups: counties that used voting machines and those that used paper ballots. The mean urbanism scores for each group, for each election, are shown in Table VI. As we might expect, the urbanism mean scores for the voting machine counties are consistently (and substantially) higher in every election year than the urbanism mean scores for the paper ballot counties. In all but three instances the observed results are statistically significant at the .01 level.

### Percent Voting, Urbanism, and Method of Voting

We want to test the hypothesis that there is some relationship or association between level of voter participation and urbanism. If such an association is found, we want to know its direction and its strength. Then we want to control the effects of the relationship on the participation scores so we can see how this changes the differences on the average participation scores for the voting machine and paper ballot counties.

Analysis of covariance is a statistical procedure that enables us to do this. The procedure adjusts (or controls) the effects of the relationship of X (urbanism) on Y (participation.) After these adjustments, we can see what differences remain be-



Table VI—Urbanism Mean Scores  
for Voting Machine and Paper Ballot Counties

Election Year	Voting Machine Counties		Paper Ballot Counties		Difference
	N	Mean	N	Mean	
1920	6	20.6	93	12.9	— 7.7
22	20	19.5	79	12.0	— 7.5
24*	21	20.3	78	11.9	— 8.4
26*	23	21.2	76	11.7	— 9.5
28*	24	22.2	75	11.5	—10.7
1930*	26	22.8	73	11.2	—11.6
32*	24	22.8	75	11.9	—10.9
34*	24	22.9	75	12.2	—10.7
36*	23	23.8	76	12.4	—11.4
38*	24	23.3	75	12.8	—10.5
1940*	26	25.0	73	12.3	—12.7
42*	26	25.2	73	12.5	—12.7
44*	27	26.0	72	12.4	—13.6
46*	28	25.9	71	12.7	—13.2
48*	28	26.1	71	12.9	—13.2
1950*	28	26.3	71	13.1	—13.2
52*	28	26.7	71	13.4	—13.3
54*	28	27.2	71	13.7	—13.5
56*	31	26.8	68	13.8	—13.0
58*	33	26.5	66	13.8	—12.7
1960*	37	25.1	62	14.3	—10.8
62*	39	25.1	60	14.4	—10.7
64*	42	26.1	57	13.4	—12.7
66*	44	26.0	55	13.6	—12.4
68*	47	26.0	52	13.3	—12.7
1970*	54	25.2	45	12.8	—12.4
72*	59	24.5	40	12.7	—11.8
74*	69	23.2	30	12.2	—11.0
76*	71	23.2	28	11.7	—11.5
78*	76	22.9	23	11.3	—11.6
1980*	77	22.9	22	11.5	—11.4
82*	76	22.4	23	13.6	— 8.8
84	73	22.2	26	15.0	— 7.0

\*Statistically significant at .01 level of confidence (simple randomized analysis of variance)

tween voting machine and paper ballot voting. The results of these analyses are shown on Table VII and Figure 3.

The first thing to notice about Table VII is the nature of the association ( $r$ ) between voter participation and urbanism as we have measured these concepts for the purposes of this study.

1. The association in every instance is negative. That is, in every election, high urbanism scores tend to be correlated with low participation scores, and vice versa.<sup>7</sup>

2. The association is fairly consistent throughout most of the sixty-four year period of the study. The  $r$  values range from a low of  $-.03$  to a high of  $-.64$ ; for nearly all the elections, the range falls between  $-.40$  and  $-.60$ . The values seem to be weaker in the later election years.

3. The correlation is not especially strong; it explains on the average about 16 to 36 percent of the variance in the participation scores. However, because of the consistency of the correlation, we must consider the effects of urbanism on participation as we analyse the differences between voting machine counties and paper ballot counties in the level of voter participation.

The following points can be made from the results of controlling for this correlation:

1. In only sixteen of the thirty-three elections are the differences between the group means statistically significant at the .01 level; before adjusting for the correlation, the differences in twenty-nine of the thirty-three elections were significant.

2. The differences between the means for the voting machine counties and the paper ballot counties have been reduced sharply, in some case by one-half. The smallest difference now is 2 percentage points; the average is around 4 or 5 percentage points.

3. In every election, the mean participation scores for the voting machine counties is still lower than the mean score for the paper ballot counties.

4. In computing the adjustments, the effect in nearly every case was to raise the mean for the voting machine counties, sometimes considerably, and to reduce the mean for the paper ballot counties, but only slightly.

The differences between the adjusted group means are shown graphically in Figure 3.

### **What Happens When Counties Change Method of Voting?**

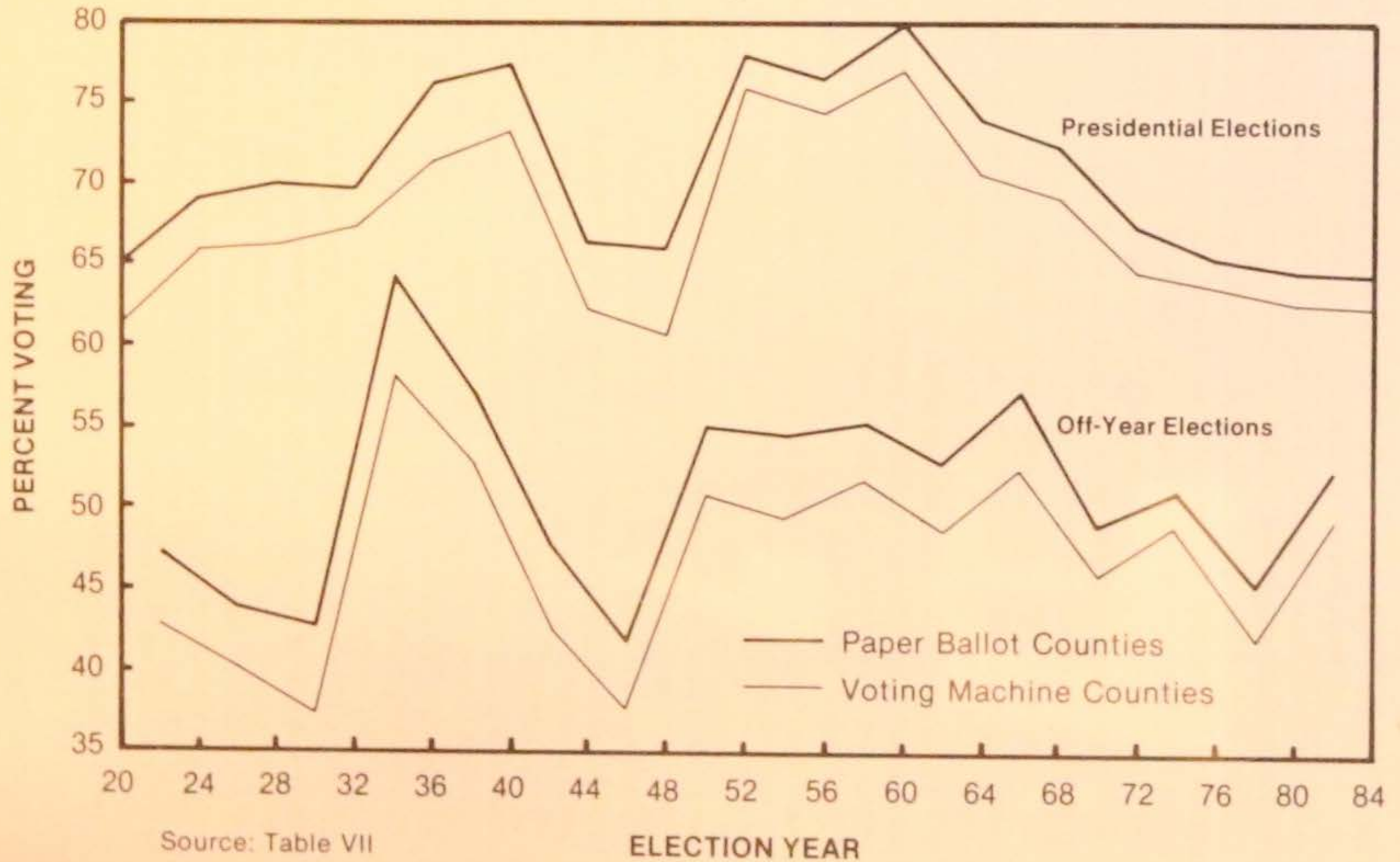
In 1920 twenty Iowa counties were equipped to use voting

Table VII—Percent Voting for Candidates Mean Scores  
After Adjusting for Correlation with Urbanism

Election Year	r	Voting Machine Counties		Paper Ballot Counties	
		Original Mean	Adjusted Mean	Original Mean	Adjusted Mean
1920	— .51	59.4	61.2	65.3	65.2
22	— .50	40.7	42.7	47.6*	47.1
24	— .35	65.2	66.0	69.5*	69.2
26	— .50	37.3	40.1	44.5*	43.7
28	— .25	65.7	66.3	70.2*	70.0
1930	— .46	34.2	37.2	43.8*	42.7
32	— .34	66.2	67.3	70.2*	69.8
34	— .64	55.2	58.3	65.2*	64.2*
36	— .60	69.3	71.5	76.9*	76.2*
38	— .60	50.5	52.8	57.9*	57.2*
1940	— .53	71.9	73.4	78.0*	77.5*
42	— .55	40.4	42.7	48.6*	47.8*
44	— .45	61.2	62.3	66.8*	66.4*
46	— .38	35.8	37.6	42.6*	41.8
48	— .52	59.2	60.7	66.5*	66.0*
1950	— .57	48.8	51.0	56.2*	55.3*
52	— .60	74.2	75.9	78.8*	78.1
54	— .41	48.4	49.7	55.1*	54.6*
56	— .62	72.8	74.5	77.4*	76.6
58	— .49	50.4	51.9	56.2*	55.4
1960	— .55	75.9	77.0	80.5*	79.9*
62	— .38	48.1	49.0	53.5*	52.9*
64	— .51	69.8	70.7	74.7*	74.1*
66	— .48	52.0	52.7	58.2*	57.5*
68	— .48	68.6	69.2	73.0*	72.4*
1970	— .24	45.8	46.1	49.5*	49.1
72	— .41	64.2	64.6	68.0*	67.4*
74	— .56	48.6	49.2	52.7*	51.3
76	— .18	63.6	63.7	65.8	65.6
78	— .34	41.8	42.1	46.4*	45.6*
1980	— .14	62.7	62.7	64.9	64.7
82	— .25	49.5	49.7	53.1*	52.6
84	— .03	62.6	62.5	64.4	64.5

\*Statistically significant at .01 level of confidence (simple randomized analysis of variance and covariance)

**Figure 3:**  
Percent Voting After Adjusting for Correlation with Urbanism



machines; in 1980 seventy-seven counties were using the devices. What happened to voter participation in the counties that changed their method of voting?

This is not an easy question to answer. For one thing, when the voters of a county are faced for the first time with a new, strange voting device, two things might happen: (1) that the voters are intimidated, or scared, by the new procedure, or (2) the novelty, the publicity, the educational campaigns, might encourage more people to vote than had previously. Or perhaps both factors, or others, might operate.

For purposes of this part of the study, we have eliminated from consideration the first election in which voting machines were used.

Then there is the problem of the higher turnout in presidential years than in off years. To overcome this difficulty, we have compared the county's turnout for the four elections—two presidential and two off-year—before the voting method change with the four elections—two presidential and two off-year—after the voting method change.

As shown in Tables IIa and IIb and Figure 1, there are long-range and short-range trends in voter turnout. There was a steadily rising trend in the 1920s and early 1930s, followed by a sharp decline in World War II. After the war, there was a steady and slightly rising trend until 1960; there has been a steadily falling trend since then (which may or may not have touched bottom in recent elections.)

I know of no way to control for the effects of these trends, but it is something to keep in mind in studying the experience presented in Table VIII.

Examination of these data shows:

1. In all but three cases, the differences in the average before-and-after participation scores are negative. That is, there was a decline in average voter participation after the adoption of voting machines in thirty-four of the thirty-seven counties.

2. In some cases the decline was slight; in others it was substantial, but, on average the decline ranged between 4 and 10 percentage points.

3. This range in average differences between the two methods of voting matches the range of differences noted earlier (Table III) between the groups of voting machine and paper ballot counties over the same period. In other words, this longitudinal analysis of the two methods of voting confirms the earlier findings of what happens when the two methods of

Table VIII—Average Percent of Potential Voters Voting  
in Counties That Changed from Paper Ballots to Voting Machines

	Date of Change	Average Percent of Potential Voters Voting in Four Elections		
		Before Change	After Change	Difference
Allamakee	1969	69.9	55.8	—14.1
Audubon	1971	66.8	58.4	— 8.4
Black Hawk	1940	55.4	43.1	—12.3
Bremer	1966	60.3	54.8	— 5.5
Buena Vista	1959	65.7	59.9	— 5.8
Butler	1959	59.7	55.3	— 4.4
Carroll	1967	73.1	57.1	—16.0
Cass	1961	69.0	58.3	—10.7
Cedar	1871	59.0	51.8	— 7.2
Cerro Gordo	1844	60.9	56.3	— 4.6
Clayton	1963	70.7	60.4	—10.3
Clinton	1939	69.8	51.2	—18.6
Dallas	1955	65.3	63.6	— 1.7
Des Moines	1969	60.6	51.1	— 9.5
Emmet	1970	61.8	52.2	— 9.6
Floyd	1956	57.1	59.7	2.6
Fremont	1969	64.5	53.4	—11.1
Grundy	1969	68.2	57.6	—10.6
Hamilton	1945	60.9	58.0	— 2.9
Hancock	1959	69.1	60.7	— 8.4
Humboldt	1956	64.3	63.9	— .4
Jasper	1958	65.9	63.9	— 2.0
Johnson	1963	54.3	54.7	.4
Kossuth	1966	67.6	63.1	— 4.5
Lee	1971	59.9	48.5	—11.4
Lyon	1971	60.3	56.5	— 3.8
Marion	1967	63.3	52.8	—10.5
O'Brien	1969	66.5	54.5	—12.0
Osceola	1972	66.5	49.8	—16.7
Palo Alto	1969	71.2	59.3	—11.9
Pottawattamie	1928	48.5	52.2	3.7
Poweshiek	1955	65.1	63.4	— 1.7
Tama	1959	67.4	62.6	— 4.8
Union	1967	68.1	54.4	—13.7
Wapello	1930	58.3	58.2	— .1
Woodbury	1963	60.8	56.2	— 4.6
Wright	1961	67.3	57.5	— 9.8

voting are used by different groups of counties in the same election.

### Interpretation

Thus far in this analysis of the possible effects on voter turnout of the use of voting machines for voting for candidates for office we have found:

1. There is a significant difference between the average level of voter participation scores for voting machine counties and paper ballot counties; the average scores for paper ballot counties are consistently higher than those for voting machine counties.

2. There is a consistent, although only moderately strong, correlation between urbanism and level of participation: higher urbanism scores tend to be associated with lower participation scores. This correlation explains part, but by no means all, of the variation in the participation rates.

3. When the effects of the correlation of the urbanism scores on the participation scores are controlled, there still remains an unexplained difference between the average participation scores for voting machine counties and those for paper ballot counties. The differences have been reduced, but some differences still remain.

4. When a given county changes its method of voting from traditional paper ballots to voting machines, there is a drop in level of voting participation. This happened in thirty-four of thirty-seven counties included in this analysis. The changes occurred over a period of sixty years. The counties involved included both rural and urban counties.

What causes this voting machine effect? Can it possibly influence the outcome of elections? What can be done to overcome this effect?

# 4

## Causes of Lost Votes

It has been known for some time that improper use of the voting machines by the voters can result in "lost" votes. This happens when the voting levers are not down as the curtain is opened for the voter to exit.

Because of the necessity for preserving the secrecy of the ballot, there is no direct evidence that this happens in voting for candidates in actual elections. However, the phenomenon has been observed in voting on referenda at special elections when only one question is on the ballot: in many cases the total number of yes and no votes is less than the total number of voters.

We assume that what happens is that some voters push a lever down, then push it back up again before opening the curtain. The result is that no vote is recorded.

Automatic voting machines manufactured since about 1960 are equipped with a locking device (pointer release mechanism) that thwarts this form of ineffective voting if the mechanism is operative. Properly equipped and functioning voting machines make it impossible for the curtain to be opened unless at least one lever is in the voting position.<sup>1</sup>

Experience in several Iowa elections serves to illustrate this phenomenon.

In the fall of 1963 several Iowa counties voted on the question of whether sales of liquor by the drink should be permitted in the county. In each of the cases cited here, the liquor question was the only issue on the ballot.

In Story County, in the precincts in which older model voting machines were used, 8,649 yes and no votes were recorded for 9,054 voters; 405 votes, 4.5 percent of the total number of voters, were lost. New model voting machines were used in three precincts; in these precincts the total number of yes and no votes exactly equals the total number recorded on the public counter, the counter that records how many times the curtain has been opened.



In Boone County, using older machines in all precincts, 5,404 votes were registered by 5,675 voters, which means that 271 votes, 4.8 percent, were lost.

The records for Story and Boone counties should be compared with the vote in counties that used paper ballots for voting on the liquor question. In these cases also, the liquor question was the only issue on the ballot. Table IX shows that for these paper ballot counties, spoiled ballots accounted for 1 percent or less of all ballots cast.

Table IX—Vote on Liquor by the Drink Question  
in Counties Using Paper Ballots (Fall 1963)

County	Total Number of Voters According to Poll Books	No. of Yes-No Votes	Blank or Spoiled Ballots Number	Percent
Clay	5,780	5,716	64	1.1
Guthrie	3,347	3,331	16	0.5
Henry	4,428	4,413	15	0.3
Keokuk	3,665	3,655	10	0.3
Madison	2,842	2,812	30	1.1
Sioux	9,592	9,545	47	0.5
Van Buren	2,449	2,427	22	0.9
Washington	5,460	5,435	25	0.5

On December 3, 1963, a constitutional amendment regarding apportionment of representation in the state legislature was submitted to the voters of Iowa. The proposed amendment required that the question of its adoption should be submitted at a special election in which that question was the only issue to be decided.<sup>2</sup> The state attorney general issued an opinion in which he said that local questions should not be submitted in the same election with the referendum.<sup>3</sup>

An effort was made to get complete reports by precincts for all counties. Complete reports required, in addition to the number of yes and no votes, the public counter readings, and the serial numbers of the voting machines used in each precinct of the counties that used voting machines and the number of names recorded in the poll books of the counties that used paper ballots. These results are reported in Table X. These data show the effectiveness of the pointer release mechanism in reducing the percentage of lost votes.

Table X—Summary of the Vote at the Special Election  
December 3, 1963, by Method of Voting

		No. of Voting Machines	Total Vote	Spoiled or Blank Ballots	Percent
I	Precincts using paper ballots (67 counties and 34 precincts in Black Hawk County)	—	250,319	1,039	0.4
II	Precincts using Voting Machines NOT equipped with pointer release mechanism (a)	431	65,648	1,946	3.0
III	Precincts using voting machines equipped with pointer release mechanism that can be made inoperative with "slide plate" arrangement (b)	108	14,836	107	0.7
IV	Precincts using voting machines equipped with pointer release mechanism that can be made inoperative with "slotted stud" in rear of machine (c)	316	53,066	54	0.1

(a) Automatic Voting Machines serially numbered below 90,501

(b) Machines serially numbered 90,501 through 109,199

(c) Machines serially numbered 109,200 and higher

NOTE: Complete information could not be obtained for these counties: Clarke, Des Moines, Dickinson, Dubuque, Fremont, Mantgomery, Polk, Pottawattamie. All differences between group means (t tests) are statistically significant at the .01 level except for the differences between the means for groups I and III, groups I and IV, and groups III and IV.

Some comments volunteered by county auditors who supplied the information on the special election throw additional light on this problem:

There are fifty-eight machines in this county and inasmuch as there was only one issue, there are more votes on the counters than on the total vote on the issue.

This occurs in every election, but it is only apparent when there is only one lever to pull. The lever is pulled down and pushed up again, resulting in a count on the machine but no vote.

There is nothing unusual about this and nothing to be excited about.

\*\*\*\*\*

This office was very happy when we found it possible to use voting machines on this question. Our last precinct came in at 9:00 p.m., and if it had been paper ballots I doubt if the first one would have been in by that time. You will note that there are very few spoiled ballots (2.5 percent), and with a bit more education we can eliminate the errors.

\* \* \* \* \*

On our old machines a voter can approach the machine, pull down a lever, then push it up and leave the machine. This registers on the public counter but fails to register a vote.

We had another special measure election in February and instructed the judges to take special care in instructing voters and managed to cut the discrepancy in half.

\* \* \* \* \*

Write-in vote lever raised, no vote registered; actually six voters did not vote, although listed in poll books and on public counters.

The evidence presented here shows clearly that improper use of voting machines results in lower actual voter participation. Some voters manipulate the machines in such a way that their votes do not register on the machines. These voters think they are voting but in fact they are not.

While we have considered only the special case of voting on a public measure when only one measure is on the ballot, it seems reasonable to assume that this phenomenon operates in other elections as well.

It seems likely that this mechanical deficiency of the older models of voting machines explains part of the differences between methods of voting noted in Chapter 3.

Part, but not all.

We do not know how many of the older model voting machines are still in use, or when some were replaced by the newer models. Forty counties adopted the use of voting machines between 1960 and 1980; all these counties have the newer models.

However, Table III shows that even in recent elections there are significant differences in voter participation between the voting machine counties and the paper ballot counties that still remain.

Is there some other factor that might account for this difference?

From what we do know about the phenomenon of nonvoting in the United States, we might infer that some potential voters are intimidated by, or afraid of, these strange voting devices.

For the most part, nonvoters tend to be the young, the poor, the less educated, and minorities.<sup>4</sup> They tend to be persons who are highly mobile, who do not feel an attachment to the community, who do not feel that their votes matter, the persons Penn Kimball calls "the disconnected."<sup>5</sup>

If you look at the phenomenon of voting-nonvoting as a continuum ranging from the hard-core, vote in every election types at one end and the alienated, apathetic, would never vote under any circumstances types at the other, in the middle is a group of marginal voters—folks for whom voting has a very low priority. They may or may not vote today, depending on all sorts of factors, including how they feel, what else they have to do today, the weather, and so on.

For folks like this, factors like registration requirements, where the polling place is located, and the like can make an important difference in whether or not they will vote. For such persons voting machines may represent one more obstacle that must be overcome before they can become effective participants in the electoral process.

What we seem to have here is not one but two voting machine effects, two kinds of undervoting:

1. A failure on the part of some voters to operate the machines properly to record their votes. This effect was transitory, and may have been solved by improvements in the voting machine mechanism.

2. A failure on the part of some voters to come to the polls at all. They don't vote because they don't try, because they don't want to be embarrassed, or for some other reason. This effect, which represents about 5 percent of the potential voters, is pervasive and persistent.

These considerations should guide our efforts to educate citizens for effective participation.

# 5

## Implications for Election Outcomes

Could the fact that fewer total votes are recorded when voting machines are used affect the outcome of an election? Does the use of voting machines consistently tend to favor one political party over the other?

We assume that the voting machine effect operates the same on voters of different political predispositions. That is, as far as we know, there is no reason to believe that normally Republican voters are affected differently from normally Democratic voters.

Assuming this to be so, if one party's strength is concentrated in counties that use voting machines, then clearly that party is at a disadvantage. The reduced participation in these counties would give the opposing party an advantage. To find out whether or not the voting machine counties differ significantly in normal political tendency from the paper ballot counties, we need to devise some method of measuring normal political tendency.

### Difficulties in Measuring Political Tendency

A number of difficulties must be overcome in constructing a satisfactory scale to measure normal political tendency. Obviously, it would be unwise to base our index on the vote for any one given office. We would run the risk of having our index distorted by the relative personal, rather than the political, appeal of two candidates for the office. For this reason, most attempts at devising a measure of normal political tendency have used various combinations of offices.<sup>1</sup>

If we weight our index heavily with the outcome of local races, we also run the risk of measuring personal rather than political appeal. The effects of personalities are much stronger at the local level than at the state or national level. Indeed, there is considerable basis for regarding local contests in Iowa, at least in recent years, as contests between individuals rather

than as contests between parties. County offices particularly have tended to become apolitical; as long as the incumbent does a reasonably satisfactory job, he or she tends to be reelected, often without opposition.

The advantages of incumbency extend also to members of the state legislature; some of them win uncontested reelection time after time.

The effects of incumbency and personalities vary considerably from place to place and over time. In any event, reliance on local contests does not provide a stable basis for measuring partisan tendency.

In view of these realities of Iowa politics, we have decided not to include the votes for any local offices in constructing our scale of normal political tendency. The powers of incumbency also rule out using Congressional races or the minor state offices. Accordingly, we will use only the votes for the top three positions on the ballot: President, U.S. Senator, and Governor. In this way we can avoid most of the distortions caused by local personalities and issues. By combining the votes for two or three offices, we can cancel out some of the effects of a strong personality or key issues involved in any one race.

There is a further difficulty. By limiting our measurement to only one election, we may be measuring only "the passions of the time"—the outpouring of votes for a particularly strong candidate or for or against some particular issue. The "coat-tails" effect also operates here—the tendency for a strong candidate at the top of the ballot to attract votes for candidates for his party for other offices. Countering this effect is the strong tendency for Iowa voters to ignore party labels and vote split ballots.

What we want to measure is the basic tendency for the voters of a county to vote for one political party or the other—without regard to particular candidates, issues, or events involved in one particular race or election. We hypothesize that some counties are basically more Republican or Democratic than others, and that we can arrange the counties on a scale graduated from most Republican to least Republican, or most Democratic to least Democratic.

We could combine the votes for various offices over the entire sixty-four year period of the study and come up with just one scale. This procedure, however, would overlook the possibility that a county's political complexion might change over

the years. Examination of the data reveals that some counties have changed their basic political tendency; some have shifted only slightly, others quite substantially.

How much time should be included in computing the average political tendency? We have decided on six years, three elections. This period should be long enough to give a stable index, yet short enough to reveal shifts in political tendency. It must be recognized that there is a built-in lag in the index; a sudden shift in political tendency may not be revealed until the index for the following two or three elections is computed.

### **Computing the Political Index**

Because the great majority of Iowa counties have tended to be Republican during the period of this study, the counties are arranged from the most Republican to the least Republican. The more Republican a county, the higher the political index score; the more Democratic, the lower the score.

To compute the index for a given county for a given election year, we compute the average (mean) of the percent of the total two-party vote cast Republican for the offices of President, Senator, and Governor in that election and in the preceding two elections.<sup>2</sup>

For example, the index figures for 1984 are the averages of the percent of the two-party vote cast Republican for President and Senator in 1984, for Governor in 1982, and for President and Senator in 1980. The political index figures for 1982 are the averages of the percent of the two-party vote cast Republican for Governor in 1982, for President and Senator in 1980, and for Governor in 1978. How the scores by counties fall into various ranges on the political index scale is shown in Table XI.

### **Normal Political Tendency and Method of Voting**

If we accept this scale as a satisfactory measure of the normal political tendency of the ninety-nine Iowa counties for comparative purposes, we are ready to see what differences there might be if we divide the counties according to their method of voting—voting machines or paper ballots. The means of the scores for each group of counties in each election are shown in Table XII. These observations may be made about these comparisons:

1. In nearly all elections, the average score for the voting machine counties is lower than the average score for the paper

Table XI—Index of Normal Political Tendency  
 Number of Counties Whose Scores Fall in Various Percentage Classes (N = 99)

Year	Mean	Median	(Least Republican)										(Most Republican)		
			25.0- 29.9	30.0- 34.9	35.0- 39.9	40.0- 44.9	45.0- 49.9	50.0- 54.9	55.0- 59.9	60.0- 64.9	65.0- 69.9	70.0- 74.9	75.0- 79.9	80.0- 84.9	85.0- 89.9
1920	66.2	65.8					1	4	13	27	22	20	11	1	
22	67.3	66.9					1	4	7	26	28	18	11	4	
24	67.4	66.9					1	3	10	19	32	19	13	2	
26	67.6	68.2					3	5	7	27	15	21	14	6	1
28	65.7	67.1					3	6	11	25	22	23	8	1	
1930	64.2	65.1				1	4	11	13	20	22	22	5	1	
32	54.9	56.5		1	1	6	19	19	25	25	3				
34	51.1	51.6	1		7	13	21	26	18	12		1			
36	46.3	45.5	1	1	8	35	28	15	10	1					
38	48.8	48.3		1	3	18	30	20	15	3					
1940	50.3	50.1			2	16	31	28	17	5					
42	55.8	55.3				1	14	29	27	24	4				
44	56.7	56.7					14	28	26	25	6				
46	58.0	57.9					12	21	32	21	11	2			
48	53.5	53.2				7	22	33	24	12	1				
1950	54.6	54.7				2	18	30	33	15	1				
52	55.8	55.8					13	29	33	22	2				
54	58.2	58.6				1	7	23	28	29	9	2			
56	56.6	56.8				1	10	27	34	21	5	1			
58	53.7	53.4			1	3	18	38	26	11	1	1			



1960	54.3	54.1		1	2	17	35	31	9	3	1	
62	53.6	53.4	1	1	2	18	36	31	7	2	1	
64	49.7	49.3	2	1	13	38	34	5	4	1	1	
66	48.9	48.4	2	4	15	35	31	7	4	1		
68	50.8	51.2		3	12	30	34	13	6		1	
1970	55.9	55.8			3	11	30	35	12	6	2	
72	56.2	56.3			3	9	29	36	14	5	3	
74	55.7	55.3			2	9	33	37	11	5	2	
76	55.3	55.1			2	11	35	37	7	5	2	
78	55.3	54.8			2	15	36	30	9	6		1
1980	57.1	57.1			2	12	20	40	14	7	3	1
82	58.2	58.5			2	9	17	38	19	9	4	1
84	55.8	55.4		1	2	16	27	32	13	4	3	

Table XII—Normal Political Tendency  
for Voting Machine and Paper Ballot Counties

Election Year	Voting Machine Counties		Paper Ballot Counties		Difference
	N	Mean	N	Mean	
1920	6	68.4	93	66.0	-2.4
)22	20	66.6	79	67.4	.8
)24	21	67.1	78	67.5	.4
)26	23	67.2	76	67.7	.5
)28	24	65.5	75	65.8	.3
1930	26	64.0	73	64.3	.3
)32	24	54.9	75	54.9	0.0
)34	24	50.5	75	51.3	.8
)36	23	44.8	76	46.7	1.9
)38	24	46.6	75	49.5	2.9
1940	26	48.2	73	51.0	2.8
)42	26	53.6	73	56.6	3.0
)44*	27	53.9	72	57.7	3.8
)46*	28	55.5	71	59.0	3.5
)48*	28	51.1	71	54.5	3.4
1950	28	52.6	71	55.4	2.8
)52*	28	53.5	71	56.7	3.2
)54*	28	55.5	71	59.3	3.8
)56*	31	54.3	68	57.6	3.3
)58	33	51.8	66	54.7	2.9
1960	37	53.0	62	55.1	2.1
)62	39	52.3	60	54.5	2.2
)64	42	48.0	57	50.9	2.9
)66*	44	47.0	55	50.3	3.3
)68*	47	48.6	52	52.7	4.1
1970*	54	54.4	45	57.6	3.2
)72	59	55.2	40	57.6	2.4
)74	69	55.4	30	56.5	1.1
)76	71	55.3	28	55.3	0.0
)78	76	55.7	23	53.9	-1.8
1980	77	57.5	22	55.6	-1.9
)82	76	58.6	23	57.0	-1.6
)84	73	56.5	26	53.5	-3.0

\*Statistically significant at .01 level of confidence (simple randomized analysis of variance)

ballot counties; on the whole, the voting machine counties tend to be more Democratic.

2. In only nine elections are the results significant at the 1 percent level of confidence.

3. There seems to be a rather clear trend in the analysis. In the twenties and early thirties, the two groups were very similar. Starting about 1940 there seems to be a trend for the voting machine counties to be more Democratic than the paper ballot counties. This trend continued upward at a fairly steady rate until 1954; since then, the trend has declined until the reverse is true—the paper ballot counties are more Democratic in recent elections.

This trend may reflect nothing more than the changing composition of the two groups: as more counties adopted the use of voting machines, the normal political tendency of the two groups changed. This hypothesis assumes that counties retain their political tendencies relative to other counties over time, an assumption that appears to be true on the basis of analysis of the raw scores but has not been validated by structured analysis.

#### **Normal Political Tendency and Level of Voter Participation**

We have shown that there is a difference between voting machine and paper ballot counties in their average levels of voter participation. In Table XII we note a difference between the two groups of counties in their normal political tendency in many instances. The voting machine counties have lower participation scores than the paper ballot counties; they also tend to be more Democratic in their normal political tendency. Clearly, if there is a consistent relationship between level of participation and political tendency, the use of voting machines might tend to put the Democrats at a disadvantage.

Table XIII gives the correlations ( $r$ ) between participation and political tendency, between participation and urbanism, and between political tendency and urbanism. . Regarding the relationship between participation and political tendency, these points should be noted:

1. Until 1934 there seems to have been a consistent and moderately strong negative association between normal political tendency and level of voter participation: high Republican scores tend to go with low participation scores.

2. Since 1934 there seems to be no consistent pattern and the  $r$  values are low. We conclude that there is no direct association

Table XIII—Correlations (r) Between Participation and Political Tendency, Between Participation and Urbanism, and Between Political Tendency and Urbanism

Election Year	Participation and Political Tendency	Participation and Urbanism	Political Tendency and Urbanism
1920	— .31	— .51	.01
22	— .52	— .50	— .15
24	— .44	— .35	— .14
26	— .47	— .50	— .15
28	— .57	— .25	— .09
1930	— .50	— .46	— .11
32	— .50	— .34	— .03
34	— .02	— .64	— .13
36	.10	— .60	— .10
38	.05	— .60	— .10
1940	.09	— .53	— .12
42	— .06	— .55	— .16
44	— .04	— .45	— .28
46	— .23	— .38	— .27
48	— .01	— .52	— .29
1950	— .06	— .57	— .27
52	.12	— .60	— .38
54	— .18	— .41	— .43
56	.00	— .62	— .37
58	— .27	— .49	— .30
1960	— .09	— .55	— .28
62	— .28	— .38	— .35
64	— .01	— .51	— .36
66	— .03	— .48	— .40
68	.05	— .48	— .42
1970	— .38	— .24	— .39
72	— .15	— .41	— .36
74	— .04	— .56	— .30
76	— .27	— .18	— .28
78	— .32	— .34	— .25
1980	— .12	— .14	— .36
82	— .22	— .25	— .44
84	— .23	— .03	— .41

between voter turnout and political tendency as we have measured those concepts with the data for Iowa during this period.

### Urbanism and Normal Political Tendency

Table XIII shows a consistent correlation between normal political tendency and urbanism. Except for 1920, the correlation is negative: high urbanism scores tend to be associated with low Republican scores. The correlation is rather weak during the first two decades of the period but becomes stronger during more recent decades.

The analysis of covariance (Table XIV), showing the results of adjusting the mean political index scores to take account of the correlation with urbanism, reveals a fascinating pattern. The adjustments have reduced the differences between means to the point where the nine elections that were significant on the original analysis of variance are no longer significant. However, the results for 1980 and 1984 have become significant. This may reflect the peculiar mix between voting machine counties and paper ballot counties that has occurred in recent years.

Apart from this recent deviation, the primary conclusion to be drawn from this analysis is that the correlation between urbanism and political tendency explains nearly all the observed differences between the method-of-voting groups of counties in normal political tendency.

### Summary and Conclusion

We have been dealing with four factors related to political behavior: method of voting, voter participation, normal political tendency, and urbanism. We have used county data because the county is the basis of the factor of primary interest—method of voting. To summarize the relationships among these factors:

1. Method of voting is related to percent voting (Table III) and to urbanism (Table VI), but not to political tendency (Table XII); when the effects of the correlation between urbanism and political tendency are controlled, the effects of method of voting are no longer significant (Table XIV).

2. Urbanism is related to all three other factors. The relationship with method of voting is sharp, strong, and substantial (Table VI); the relationship with percent voting is consistent and moderately strong, sufficiently strong to explain part, but not all, of the observed differences between the voting machine

Table XIV—Normal Political Tendency Mean Scores  
After Adjusting for Correlation with Urbanism

Election Year	r	Voting Machine Counties		Paper Ballot Counties	
		Original Mean	Adjusted Mean	Original Mean	Adjusted Mean
1920	.01	68.4	68.4	66.0	65.3
22	— .15	66.6	67.1	67.4	67.3
24	— .14	67.1	67.6	67.5	67.3
26	— .15	67.2	68.0	67.7	67.4
28	— .09	65.5	66.0	65.8	65.7
1930	— .11	64.0	64.7	64.3	64.0
32	— .03	54.9	55.1	54.9	54.9
34	— .13	50.5	51.0	51.3	51.2
36	— .10	44.8	44.9	46.7	46.7
38	— .10	46.6	46.7	49.5	49.5
1940	— .12	48.2	48.3	51.0	51.0
42	— .16	53.6	53.8	56.6	56.5
44	— .28	53.9	54.8	57.7*	57.4
46	— .27	55.5	56.2	59.0*	58.7
48	— .29	51.1	51.9	54.5*	54.1
1950	— .27	52.6	53.4	55.4	55.1
52	— .38	53.5	54.6	56.7*	56.2
54	— .43	55.5	57.1	59.3*	58.6
56	— .37	54.3	55.4	57.6*	57.1
58	— .30	51.8	52.6	54.7	54.3
1960	— .28	53.0	53.6	55.1	54.7
62	— .35	52.3	53.2	54.5	53.9
64	— .36	48.0	49.0	50.9	50.2
66	— .40	47.0	48.1	50.3*	49.5
68	— .42	48.6	49.6	52.7*	51.8
1970	— .39	54.4	55.2	57.6*	56.6
72	— .36	55.2	55.8	57.6	56.6
74	— .30	55.4	55.8	56.5	55.5
76	— .28	55.3	55.7	55.3	54.2
78	— .25	55.7	56.1	53.9	52.7
1980	— .36	57.5	58.0	55.6	53.8*
82	— .44	58.6	59.1	57.0	55.5
84	— .41	56.5	57.0	53.5	52.3*

\*Statistically significant at .01 level of confidence (simple randomized analysis of variance and covariance.)

and paper ballot counties as measured by percent voting (Table VII). The relationship with political tendency also is consistent and moderately strong, sufficiently strong to overcome the observed differences between the method-of-voting groups as measured by the normal political tendency scale (Table XIV).

3. Voter participation is influenced by method of voting (Table III) and by urbanism (Tables VII and XIII), but is not associated with political tendency (Table XIII.) This finding adds to the rebuttal against the contention that "a heavy turnout usually helps the Democrats (or Republicans)."

4. Normal political tendency is associated with urbanism; the relationship is consistent and moderately strong (Table XIII.) Any relationship with method of voting disappears when the correlation with urbanism is controlled (Table XIV.) And there is no association with voter participation.

The evidence presented in Chapter 3 supports the existence of a voting machine effect on voter turnout; voters in counties using voting machines register 2 to 5 percent fewer total votes than voters in counties using paper ballots. The evidence presented in this chapter indicates that this difference does not aid one party or the other directly, consistently, or significantly.

There may be some sort of indirect effect, in that urbanism is related to all three other factors: the association between urbanism and political tendency may be reflected in lower voter turnout which in turn is influenced by the voting machine effect. This is highly speculative, and can be refuted by the fact that there is no direct relationship between political tendency and percent voting (Table XIII.)

# 6

## Voting on Special Questions

The Iowa Constitution provides for the submission of three types of questions to the voters of the entire state:

1. In 1870, and every tenth year thereafter, the question "Shall there be a convention to revise the constitution, and amend the same?" must be submitted to the voters at the general election.<sup>1</sup> Seven such votes are included in this analysis.

2. Amendments to the state constitution. All amendments must be passed in identical form by two successive sessions of the general assembly, then submitted to the voters for their approval.<sup>2</sup> Twenty-seven proposed amendments were submitted during the period 1920-1984. Only six amendments were submitted during the first forty years; nine during the decade of the sixties, nine during the seventies, and three so far in the eighties.

3. Proposals to increase the state debt beyond limits specified in the constitution.<sup>3</sup> Four such proposals were submitted during the period of this study: the veterans' bonus questions of 1922, 1948, and 1956, and the highway improvement bond issue of 1928.

A simple majority of the votes cast on the question is sufficient to carry any measure of any of the three types.

Thirty-six of the thirty-eight questions mentioned so far were submitted at the regular November general elections. The vote on the 1962 judicial reform amendment was submitted at the primary election that year, and the 1963 reapportionment plan was submitted at a special election called specifically for that purpose.

The vote on repeal of the federal prohibition amendment in 1933 was also conducted at a special election called for that purpose.



## Method of Voting on Special Questions

During the first forty-two years of the period covered by the study, the fact that an Iowa county used voting machines was no guarantee that special questions were voted on the machines. In many cases separate paper ballots were used for voting the referenda. The statute authorizing the adoption of voting machines states:<sup>4</sup>

"All of the provisions of the election law not inconsistent with the provisions of this chapter shall apply with full force to all counties adopting the use of voting machines. Nothing in this chapter shall be construed as prohibiting the use of a separate ballot for public measures."

Two sections of the general election law are relevant:

"When a constitutional amendment or other public measure is to be voted upon by the electors, it shall be printed in full upon a separate ballot. . . ." <sup>5</sup> "All of such ballots for the same polling place shall be of the same size, similarly printed, upon yellow paper. . . ." <sup>6</sup>

Whether to use the voting machine ballot or separate paper ballots was a matter of concern and controversy for many years. Legislators, the courts, attorneys general, and state and local election officials differed in their opinions. On the one hand, there was the ease of counting the machine votes; on the other, there was the common knowledge that fewer votes would be cast if the machine ballot were used.

The historical record of this controversy, excerpted and paraphrased, is as follows:

In 1916 the Iowa Supreme Court held that it was proper to use paper ballots in voting on a special question even though voting machines had been adopted by the county board of supervisors for use throughout the county. The court stated that the last clause of section 52.24 "expressly authorizes the use of the separate ballot in submitting 'other public measures,' when voting is by voting machine." <sup>7</sup>

In 1928 the Iowa attorney general was asked his opinion regarding the use of voting machines for voting on special questions; an amendment to the state constitution and a state bond issue proposal were to be submitted to the voters that fall. The attorney general said:

The question submitted appears to be more a mechanical than legal question. If the ballot containing the constitutional amendment and public measure to be voted upon can be contained in the voting machine, there is nothing in

the statute to prohibit the use of the machine if the will of the voter can be properly registered thereon. The statute, however, in the chapter relating to the use of voting machines, does provide for and authorizes the use of separate ballots for constitutional amendments and other public measures in precincts where voting machines are used.<sup>8</sup>

In 1948 the attorney general advised that the World War II soldier's bonus proposition should be voted on separate paper ballots.<sup>9</sup>

In 1956 the attorney general again was asked his opinion regarding the use of paper ballots for voting on special measures in voting machine precincts. A bonus for Korean veterans was to be voted on that year. The attorney general reviewed the Code sections cited above and the 1928 opinion of the attorney general and ruled:<sup>10</sup>

We are of the opinion, therefore, that the public measure . . . shall be printed upon a separate ballot pursuant to the provisions of Chapter 49 . . .

It is the opinion of this Department that the foregoing measure may not be submitted to the electors on voting machines.

Perhaps the sheer length of some public measures had influenced the judgments of some persons in deciding the proper voting method to use. Section 49.43 of the Code requires that any constitutional amendment or other public measure that is submitted to the people must be printed in full on the ballot. Some public measures, such as those calling for a bond issue, are quite lengthy. In some cases, it might be extremely difficult, and perhaps impossible, to print the measure in full on the inserts for the voting machines.

The bonus questions of 1922, 1948, and 1956, and the highway bond issue of 1928, were lengthy documents. Nevertheless, five counties used voting machines for voting on the bonus question in 1922, and sixteen counties used machines for voting on the highway bond issue of 1928.

The legislature acted in 1959 to overcome this problem of voting lengthy issues on voting machines. The current statute, amended slightly since 1959, reads:<sup>11</sup>

The question of a constitutional convention, amendments and public measures including bond issues may be voted on the voting machines in the following manner:

The entire convention question, amendment or public measure shall be printed and displayed prominently in at least two places within the voting precinct and on the left-hand side inside the curtain of each voting machine,

said printing to be in conformity with the provisions of chapter 49. The public measure shall be summarized by the commissioner and in the largest type possible printed on the inserts used in such voting machines . . .

In the case of state issues, the state commissioner of elections is responsible for wording the summary.

The final statement of section 52.24 remains in effect: "Nothing in this chapter shall be construed as prohibiting the use of a separate ballot for public measures."

On July 20, 1960, the attorney general issued an opinion which stated that voting machines could be used in voting on the question of constitutional revision in the 1960 general election.<sup>12</sup> Eleven of the thirty-seven counties then equipped with voting machines chose to use separate printed ballots for voting the Con-Con question.

The 1961 legislature again acted to modify the method of voting on special state questions where voting machines are used by adding this clause at the end of section 52.24:<sup>13</sup>

. . . provided, however, that separate ballots shall be used for the submission to the people of the question of a constitutional convention or amendments or contracting state debts.

This clause was repealed by the 1971 legislature.<sup>14</sup>

In regard to a constitutional amendment that was to be submitted to the voters in connection with the 1962 primary election the attorney general stated:<sup>15</sup>

. . . I am of the opinion that the legislative intent was to restrict the submission of a proposed constitutional amendment to the voters to the use of separate ballots in such submission, and not by voting machine.

In 1963 the attorney general ruled that voting machines could be used in voting on a proposed constitutional amendment because the proposed amendment was the only issue on the ballot. This ruling stated:<sup>16</sup>

The primary requirement of this statute sec. 52.24 is a separate ballot. It will not be questioned that a machine ballot is not as much a separate ballot as a paper ballot. The view that I take is not that the Amendment is voted upon the voting machines as a separate instrument of the election process, but that a separate ballot is provided to be voted within the secrecy of the machine instead of the statutory booth, whether it be submitted at a primary, general or special election.

. . . What was intended was that a constitutional amend-

ment should not be joined on a printed ballot or on a machine ballot with any other election contest. . . . Provision is made for submitting the amendment to a vote on a voting machine . . . with the requirement that it be submitted upon a separate ballot which is satisfied in the submission of this single amendment on a voting machine ballot.

Earlier the attorney general had ruled that other, local issues could not be submitted at the December 3 special election.<sup>17</sup>

In 1969 the attorney general ruled that the submission of the five constitutional amendments (approved by the voters in the 1968 general election) on voting machines constituted submission by means of a separate ballot and separate paper ballots were not required.<sup>17</sup>

In 1970 the attorney general ruled that it was proper to use voting machines rather than separate paper ballots to submit to the people the question of calling a constitutional convention.<sup>18</sup>

In all cases, the decision on which method to use is the responsibility of local officials: the county board of supervisors and the county auditor, in the capacity of commissioner of elections.<sup>19</sup> The exception, of course, is when a statute regarding a specific submission states the method of voting to be used, such as the Korean veterans' bonus of 1956.<sup>20</sup>

The dilemma faced by local officials was summed up very well by a county auditor in commenting on a county issue that was to be submitted to the voters in the June 1960 primary:<sup>21</sup>

Trouble with using the voting machines on public measures is that it is difficult to get voters to use the machines on anything but voting for the candidates.

I, at first, figured on using the 'Yes and No' section for the . . . question, but upon further thought, and the board supervisors agreed with me, that if we did use the machine, it would likely result in a small vote, and the pressure group . . . would coach all their members and friends how to vote on the machine—and the ordinary citizen being entirely unfamiliar with the mechanics of voting machine voting on public measures would not 'go up' and pull down the necessary lever. A great many others simply wouldn't see it up there. So to avoid a minority affirmative vote, it was decided to use paper ballots.

# 7

## Percent Voting on Special Questions

The purpose of this part of the study is to analyze the effects of the use of voting machines in voting on special questions—apart from the effects in voting for candidates. The essential finding is that substantially fewer votes are cast on special questions when voting machines are used than when paper ballots are used. The next step is to try to find out whether this substantial difference makes a difference in the outcome of the vote.

The total vote cast on each of the thirty-nine questions is compared with the total votes cast for candidates. The question posed is: "Of all the voters who registered effective votes in voting for candidates, what percent cast effective votes on the question?" The base for comparison is the total votes cast for all candidates for the office for which the most votes were cast in that election.<sup>1</sup>

In four instances all counties used paper ballots for voting on the special questions even though voting machines were used for voting on candidates. In these cases—the vote on the bonus questions in 1948 and 1956 and the vote at the two special elections (repeal in 1933 and the amendment at the primary in 1962)—the legislature required that the issues be submitted on paper ballots.

In three of these four cases the differences in percent voting on the question in the voting machine and paper ballot counties are statistically significant at the .01 level of confidence. In the case of the vote on the bonus question in 1948, the percent voting on the question in the voting machine counties is higher than the percent voting on the question in the paper ballot counties. The difference between the two groups in the voting on repeal in 1933 is not significant.

As shown in Table XV, in thirty-four of thirty-five cases of direct comparison of voting machine with paper ballot voting on special questions, paper ballot voting comes out ahead, far

Table XV—Total Votes Cast on Questions as Percent of Votes Cast for Candidates

Election Year and Question	Voting Machine Counties				Paper Ballot Counties	
	Question on Machines		Question on Paper Ballots		N	Mean
	N	Mean	N	Mean		
1920 Con-Con	5	13.0	—	—	93	61.9
22 Bonus	5	67.0	14	104.6	79	93.2
26 Amendment	11	24.5	8	71.9	76	75.9
28 Amendment	17	40.1	7	72.9	75	61.2
28 Bond Issue	16	62.8	8	89.1	75	80.7
1930 Con-Con	18	24.1	5	48.9	73	77.4
33 Repeal	—	—	24	62.7	75	61.0
36 Amendment	14	15.5	6	63.2	76	75.1
40 Con-Con	16	12.9	7	36.7	73	65.6
42 Amendment	14	35.5	10	75.5	73	85.7
1948 Bonus	—	—	28	94.7	71	89.8
50 Con-Con	14	29.7	12	71.9	71	80.0
52 Amendment I	5	11.4	22	47.2	71	64.8
52 Amendment II	5	10.4	22	44.8	71	58.8
56 Bonus	—	—	31	83.1	68	86.3
1960 Con-Con	26	61.4	11	89.4	62	90.2
62 Amendment	—	—	39	21.8	60	27.5
63 Amendment	39	57.9	—	—	60	57.5
64 Amendment	42	36.6	—	—	57	77.8
66 Amendment	44	31.8	—	—	55	76.6
1968 Amendment I	47	56.3	—	—	52	75.8
68 Amendment II	47	57.4	—	—	52	78.6
68 Amendment III	47	56.7	—	—	52	74.0
68 Amendment IV	47	55.6	—	—	52	74.1
68 Amendment V	47	56.0	—	—	52	74.2
1970 Con-Con	54	43.9	—	—	45	72.2
70 Amendment I	54	45.0	—	—	45	67.5
70 Amendment II	54	44.0	—	—	45	74.5
70 Amendment III	54	46.1	—	—	45	77.7
72 Amendment I	59	63.8	—	—	40	84.3
1972 Amendment II	59	63.9	—	—	40	84.1
72 Amendment III	59	66.8	—	—	40	80.1
74 Amendment I	69	53.0	—	—	30	80.0
74 Amendment II	69	53.9	—	—	30	80.5
78 Amendment	76	52.7	—	—	23	88.5
1980 Con-Con	77	77.3	—	—	22	88.3
80 Amendment	77	78.1	—	—	22	91.6
84 Amendment I	73	46.6	—	—	26	77.3
84 Amendment II	73	46.8	—	—	26	76.1

NOTE: All differences between group means are statistically significant at the .01 level of confidence except for those between the voting machine counties that voted the question on paper ballots and the paper ballot counties in 1926 and 1960, and the two groups in the special elections in 1933 and 1963.

ahead—20 to 40 percentage points ahead, and in some cases 50 percentage points; see Figure 4.

In some cases, more than twice as many votes (on a percentage basis) are cast on the question in the paper ballot counties. The smallest difference is 11 percentage points. All differences are statistically significant at the .01 level.

The lone exception is the vote in 1963 at the special election on the reapportionment amendment, the only question on the ballot. This difference is not significant.

The issues presented to the voters varied widely in importance, and in the controversy, publicity, and political activity attendant upon the issue. Even though some issues attracted relatively few votes in the voting machine counties, at least two-thirds to three-fourths of the voters in the paper ballot counties register their approval or disapproval. Why should this be so?

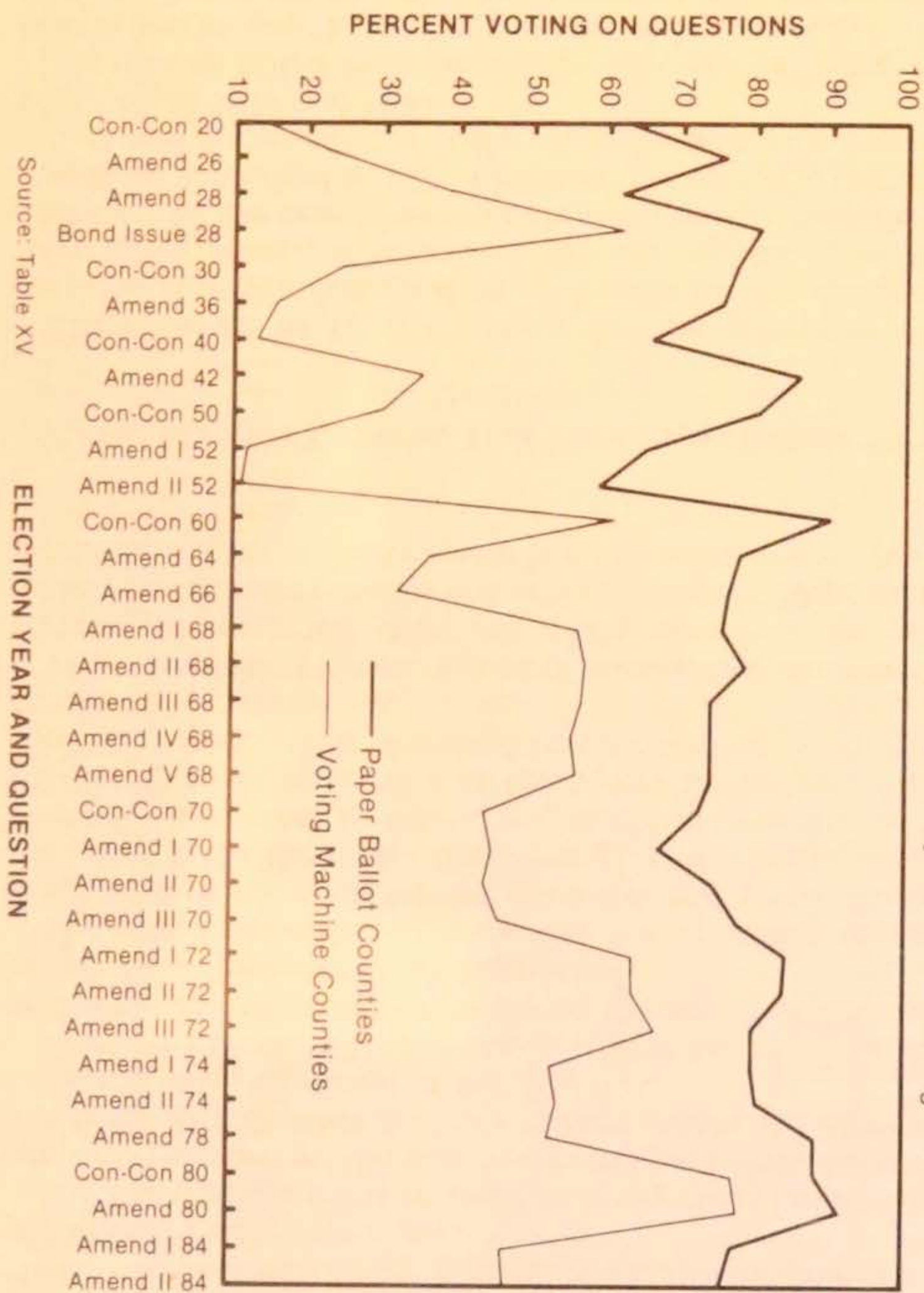
When important issues, issues of substantive constitutional reform, are presented, there still is considerably lower participation in the voting machine counties—usually 20 percentage points lower, as in the votes on the amendments of 1968 and 1970. Why?

### **Voting Machine Counties That Used Paper Ballots for the Question**

There seems to be a tendency for the group of voting machine counties that used paper ballots for the question to have lower participation scores than the regular paper ballot counties. In the case of the 1922 bonus question and the two questions submitted in 1928, however, the opposite is true. All differences are significant at the .01 level except for the issues voted on in 1926 and 1960.

It must be noted that the groups of counties using paper ballots for the question rather than the voting machines varied from election to election. During the period 1920-1960, very few counties were consistent in their manner of voting on these special state questions. For the great majority of the voting machine counties, sometimes the question was on the machine ballot, sometimes on separate paper ballots.<sup>2</sup>

It should be noted also that in only one instance does the participation score exceed 100; that is, that more votes were cast on the question in that group of counties than were cast for the candidates for the office for which the most votes were cast.



**Figure 4:**  
Percent Voting on Special Questions by Method of Voting



This case is that of the voting machine counties that used paper ballots for voting on the bonus question in 1922.<sup>3</sup>

A search of contemporary newspapers disclosed five instances in which voters were required to ask for the separate ballot if they wished to vote on a special question.<sup>4</sup> Five different counties were involved, and the period covered 1922 to 1956. Although all these instances were in voting machine counties, similar practices may have occurred in paper ballot counties. Another instance was discovered in which ballots for the special question were stacked in the voting booths; apparently voters who wished to vote on the question could help themselves to ballots.<sup>5</sup>

In 1962 the attorney general made it clear that voters were not required to request ballots to vote on a proposed constitutional amendment<sup>6</sup> Apparently there had been some feeling that voters should request the separate ballot if they wished to vote on the amendment.

It would be difficult to discover how widespread or frequent these sorts of practices may have been. As discussed in the preceding chapter, there was a long period of time when there was a great deal of controversy and confusion regarding proper election procedures.

### **Percent Voting, Urbanism, and Normal Political Tendency**

Table XVI shows the correlations between percent voting on the question with percent voting for candidates, normal political tendency, and urbanism. These correlations seem too weak to merit further analysis.

In general, there is a weak positive relationship between percent voting for candidates and percent voting on questions. The association between percent voting on questions and normal political tendency is very weak and inconsistent.

There is a weak to moderately strong negative relationship between urbanism and percent voting on questions. This association reflects the moderately strong association between urbanism and percent voting for candidates shown in Table XIII. None of these correlations could help explain the enormous differences in the results related to method of voting shown in Table XV.

### **Interpretation**

One fact stands out clear: When special questions are voted on voting machines, substantially fewer of those persons who

Table XVI—Correlations (r) of Percent Voting on Question with—

Election Year and Question	Percent Voting for Candidates	Political Index	Urbanism
1920 Con-Con	.10	.04	— .36
22 Bonus	— .34	.28	.12
26 Amendment	.01	.06	— .35
28 Amendment	.11	.17	— .38
28 Bond Issue	.07	.17	— .43
1930 Con-Con	.21	.12	— .41
33 Repeal	— .31	.15	— .12
36 Amendment	.46	.09	— .44
40 Con-Con	.44	.15	— .43
42 Amendment	.37	.15	— .53
1948 Bonus	— .30	— .22	.15
50 Con-Con	.28	.13	— .48
52 Amendment I	.22	.28	— .39
52 Amendment II	.17	.24	— .36
56 Bonus	.09	.17	— .28
1960 Con-Con	.33	.19	— .35
62 Amendment	—	.16	— .41
63 Amendment	— .23	.18	— .29
64 Amendment	.41	.19	— .39
66 Amendment	.44	.25	— .31
1968 Amendment I	.42	.20	— .34
68 Amendment II	.41	.21	— .34
68 Amendment III	.40	.15	— .32
68 Amendment IV	.41	.17	— .32
68 Amendment V	.40	.17	— .32
1970 Con-Con	.18	.29	— .28
70 Amendment I	.15	.28	— .25
70 Amendment II	.19	.29	— .30
70 Amendment III	.18	.30	— .30
72 Amendment I	.27	.19	— .20
1972 Amendment II	.27	.19	— .21
72 Amendment III	.17	.19	— .12
74 Amendment I	.16	.14	— .16
74 Amendment II	.19	.17	— .21
78 Amendment	.26	— .16	— .11
1980 Con-Con	.25	— .16	— .14
80 Amendment	.26	— .17	— .13
84 Amendment I	.13	— .21	— .14
84 Amendment II	.11	— .20	— .15

go to the polls vote on the questions than when separate paper ballots are used. When some counties use voting machines and others use paper ballots, the differences in percent voting on the question can be enormous. We can predict with a great deal of confidence that the difference will be 20 percentage points if the issue has aroused a great deal of public interest and controversy; the difference may be 40 or 50 percentage points if the issue is minor and noncontroversial. We can only speculate about why this happens.

Some of the explanations that have been suggested why voters do not vote on special questions on voting machines include: they do not "see" the questions above the candidate ballot;<sup>7</sup> they will not "go up" to vote on the questions after voting for candidates; they do not know how to vote on questions. The evidence presented here makes these "explanations" seem most inadequate.

The fact is that many voters do vote on special questions when they appear on the machine. The voting machine counties in this analysis recorded relatively high turnout records when voting the bonus question in 1922, the road bond question in 1928, the Con-Con question in 1960, and the amendments in 1968, 1972, 1974, 1978, and 1980.

It would seem that many voters do know how to use the machines for voting on special questions; they can find the section for voting on the questions, and they can record their votes so they will count.

The explanation our analysis suggests is this: Voters do not vote on special questions on voting machines because they choose not to do so. In effect, voting machines provide the voter a third choice: he or she may vote "yes" or "no" and may also vote "I don't know," "I don't care," "I don't feel well enough informed about this to express an opinion," and do so freely, easily, and without embarrassment. As Coke puts it, voting machines offer a convenient way out for uninformed, uninterested voters.<sup>7</sup> Perhaps we can answer the question better if we turn it around:

Why such a large vote on paper ballots?

Coke suggests that when paper ballots are used for the special questions, the voter, in a sense, is "forced" to vote. Under Iowa law, every voter must be handed the separate ballot containing the constitutional amendments or other public measures to be voted on.<sup>8</sup> If a voter decides not to vote any ballot that has been handed him or her, the voter is required to

return it to the election officers and this fact must be noted on the poll lists.<sup>9</sup> While these provisions of the election law may not be followed in the letter in all cases, there clearly is no way for a voter to dispose of a paper ballot without embarrassment except to put it in the ballot box. Of course, the voter can deposit an unmarked ballot, but there would seem to be strong pressures to express an opinion one way or the other.

The next question is, does the difference in participation make a difference in outcome? Would the results of the election be different if all counties had used the same method of voting? Under what circumstances would the reduced turnout caused by machine voting influence the outcome of the vote on a special question?

# 8

## Affirmative-Negative Direction of the Vote

In general, is a heavy turnout—a larger than normal number of persons going to the polls—likely to be favorable or unfavorable to the outcome of the vote on a special question? Although there has been a great deal of speculation about this question, it is a very difficult question to answer with hard data because of the many factors and complex relationships involved. Because of the big differences in percent of voters voting on questions related to the method of voting, we must make the attempt.

The measure of the affirmative-negative direction of the vote on special questions used here is simple and straight-forward: the percent "yes" votes of the total votes cast on each question. These combined scores for counties grouped by method of voting are shown in Table XVII.

There are differences between the mean scores for the groups of counties; in more than half the cases, the differences are statistically significant at the .01 level of confidence. In some case, the voting machine counties are higher; in others, the paper ballot counties are higher.

In an attempt to answer the basic question about percent voting and a favorable or unfavorable vote, we compare the "percent yes" scores by counties with the "percent voting on the question" scores that are the basis of the mean scores shown in Table XV. These correlations are shown in the first column in Table XVIII.

In general, the correlations are weak. In most cases, the correlations are negative: higher participation scores tend to be associated with lower "percent yes" scores. In three cases the strength of the association stands out: in the votes on the two relatively minor amendments of 1964 and 1966, and the vote on Amendment No. III in 1970. In the first two cases, the correlation is strong and negative; in the third, it is strong and positive; that is, high percent voting is related to a high favorable vote.

Table XVII—Percent "Yes" Votes on Special Questions

Election Year and Question	Voting Machine Counties				Paper Ballot Counties	
	Question on Machines		Question on Paper Ballots		N	Mean
	N	Mean	N	Mean		
1920 Con-Con	5	48.6	—	—	93	56.5
22 Bonus	5	70.3	14	69.4	79	63.3*
26 Amendment	11	67.9	8	66.3	76	63.7
28 Amendment	17	62.3	7	69.9	75	66.2
28 Bond Issue	16	72.3	8	59.1	75	59.2
1930 Con-Con	18	39.1	5	37.3	73	42.3
33 Repeal	—	—	24	61.2	75	53.0
36 Amendment	14	58.1	6	58.9	76	57.6
40 Con-Con	16	28.5	7	36.9	73	36.7*
42 Amendment	14	90.2	10	90.1	73	88.4
1948 Bonus	—	—	28	80.6	71	74.6*
50 Con-Con	14	43.1	12	37.5	71	35.8
52 Amendment I	5	91.2	22	89.2	71	85.9*
52 Amendment II	5	89.3	22	87.6	71	83.9*
56 Bonus	—	—	31	77.6	68	73.5*
1960 Con-Con	26	41.0	11	46.8	62	29.0*
62 Amendment	—	—	39	58.6	60	53.6
63 Amendment	39	46.3	—	—	60	57.5*
64 Amendment	42	76.8	—	—	57	61.9*
66 Amendment	44	84.0	—	—	55	73.3*
1968 Amendment I	47	65.7	—	—	52	54.2*
68 Amendment II	47	47.6	—	—	52	45.4
68 Amendment III	47	53.0	—	—	52	44.3*
68 Amendment IV	47	63.0	—	—	52	50.8*
68 Amendment V	47	47.5	—	—	52	47.6
1970 Con-Con	54	48.4	—	—	45	43.1*
70 Amendment I	54	55.3	—	—	45	59.7*
70 Amendment II	54	66.4	—	—	45	68.0
70 Amendment III	54	61.8	—	—	45	75.0*
72 Amendment I	59	90.0	—	—	40	86.3*
1972 Amendment II	59	70.5	—	—	40	65.8*
72 Amendment III	59	65.5	—	—	40	61.1*
74 Amendment I	69	65.2	—	—	30	63.8
74 Amendment II	69	46.9	—	—	30	45.9
78 Amendment	76	58.4	—	—	23	49.4*
1980 Con-Con	77	39.7	—	—	22	40.6
80 Amendment	77	40.4	—	—	22	44.3
84 Amendment I	73	59.2	—	—	26	61.0
84 Amendment II	73	57.6	—	—	26	55.5

\*Significant at .01 level

Table XVIII—Correlations (r) of Percent "Yes" Vote  
on Special Questions with—

Election Year and Question	Percent Voting on Question	Political Index	Urbanism
1920 Con-Con	.13	.19	— .12
22 Bonus	.15	.01	.50
26 Amendment	— .18	.17	.24
28 Amendment	.08	— .09	— .36
28 Bond Issue	— .27	— .49	.44
1930 Con-Con	.15	— .21	— .11
33 Repeal	— .21	— .67	.31
36 Amendment	— .03	— .13	.11
40 Con-Con	.44	— .23	— .10
42 Amendment	— .27	.12	— .03
1948 Bonus	.36	— .32	.54
50 Con-Con	— .35	— .30	.73
52 Amendment I	— .52	— .01	.44
52 Amendment II	— .46	— .05	.49
56 Bonus	— .31	— .33	.31
1960 Con-Con	— .30	— .36	.89
62 Amendment	— .31	.12	.34
63 Amendment	.20	.60	— .80
64 Amendment	— .70	— .27	.69
66 Amendment	— .72	— .10	.38
1968 Amendment I	— .51	— .34	.77
68 Amendment II	— .12	— .24	.66
68 Amendment III	— .29	— .47	.82
68 Amendment IV	— .44	— .41	.83
68 Amendment V	.06	— .32	.68
1970 Con-Con	— .35	— .33	.60
70 Amendment I	.48	.01	.20
70 Amendment II	.26	.04	.30
70 Amendment III	.82	.25	— .16
72 Amendment I	— .42	— .22	.47
1972 Amendment II	— .34	— .23	.58
72 Amendment III	— .23	— .53	.45
74 Amendment I	— .05	— .14	.38
74 Amendment II	— .14	— .30	.36
78 Amendment	— .37	.21	.24
1980 Con-Con	— .23	.38	— .20
80 Amendment	.14	— .45	.33
84 Amendment I	.17	.53	— .09
84 Amendment II	— .12	.43	— .07

(The nature of each special question and the issues involved are summarized in the appendix and will be discussed in the next chapter.)

The second and third columns of Table XVIII show the correlations between the "percent yes" scores and the political index and urbanism scores for each county. (How the urbanism scores were derived is described in Chapter 3 and Tables IV, V, and VI; the political index is described in Chapter 5 and Tables XI and XII.)

The associations between the "percent yes" scores and the political index are weak to moderate, and they run in both directions. Two rather obvious but important conclusions can be drawn from this finding: (1) none of the special questions submitted to the voters of Iowa during the past sixty-four years aroused strong partisan divisions, and (2) there is no general tendency for voters in an area that is normally Republican (or Democratic) always to vote yes (or no) on special questions.

The associations between "percent yes" and urbanism are another matter. In most of the cases, the  $r$  values are weak and they run in both directions. However, in certain cases there are strong associations between urbanism and the direction of the vote; these associations are consistent with the nature of the issues involved—representation in the state legislature and basic reforms in the structure of state government.

In 1950 there were some attempts to urge a favorable vote on calling a constitutional convention to force action on reapportionment; the correlation between percent "yes" and urbanism is .71. In 1960, the attempts were much more vociferous, and the correlation in .89.

In December 1963 a reapportionment plan drafted and supported by rural interests was proposed at a special election; the correlation between urbanism and percent "yes" is  $-.80$ .

The amendment submitted in 1964 required the legislature to call a constitutional convention if one were ever voted, and authorized selecting delegates, submitting any proposed amendments to a vote of the people, and other procedural matters. The issue was noncontroversial; even so, the correlation between percent "yes" and urbanism is .69.

In 1968 five amendments were proposed, including one dealing with reapportionment; the others dealt with other basic reforms of the state government. The correlations between urbanism and the percent "yes" votes on these questions range between .66 and .83.



This finding is crucial because it relates to other findings discussed earlier in this report: (1) the negative association between percent voting on questions with urbanism (Table XVI); (2) the negative correlation between percent voting for candidates and urbanism (Table XIII); (3) the association between urbanism and method of voting (Table VI); (4) the "voting machine effect"—the fact that fewer total votes are cast when voting machines are used (Table III)—which persists even after the effects of the correlation with urbanism are controlled (Table VII); and (5) the substantial reduction in total votes cast on special questions when voting machines are used (Table XV.)

### Controlling Effects of the Correlations

The next step is to control the effects of these correlations—of the percent "yes" votes on the questions with percent voting on the question, normal political tendency, and urbanism—shown in Table XVIII to see if they explain the differences in the percent "yes" votes between the voting machine and paper ballot counties shown in Table XVII. The results of these analyses of covariance are shown in Tables XIX, XX, and XXI.

In the original analysis (Table XVII), the differences between group means were significant in twenty-one of the thirty-nine cases, slightly more than half. After adjusting for the correlations with percent voting on the question (Table XIX), in only fourteen cases are the differences still significant (eight dropped below the level of significance, one rose above it, for a net loss of seven.)

After adjusting for the correlations with normal political tendency (Table XX), eighteen cases are significant (four cases dropped below the level of significance, one rose above it, for a net loss of three.)

After adjusting for the correlations with urbanism (Table XIX), twenty cases are still significant (five cases dropped below the level of significance, four rose above it, for a net loss of one.)

What are we to conclude from all this? There is still a great deal of unexplained difference between the voting machine and paper ballot counties in their mean percent "yes" votes on these special questions. The correlations with percent voting on the question, normal political tendency, and urbanism explain some but not much of the difference.

Table XIX—Percent 'Yes' Vote on Special Questions Adjusted for Correlation with Percent Voting on the Question

Election Year and Question	Voting Machine Counties				Paper Ballot Counties	
	<u>Question on Machines</u>		<u>Question on Paper Ballots</u>		Original Mean	Adjusted Mean
	Original Mean	Adjusted Mean	Original Mean	Adjusted Mean		
1920 Con-Con	48.6	44.2	—	—	56.5	56.8
22 Bonus	70.3	66.7	69.4	68.6	63.3*	63.6*
26 Amendment	67.9	63.8	66.3	66.5	63.7	64.3
28 Amendment	62.3	61.5	69.9	70.4	66.2	66.4
28 Bond Issue	72.3	78.9	59.1	56.4	59.2	58.0
1930 Con-Con	39.1	37.6	37.3	37.1	42.3	42.7
33 Repeal	—	—	61.2	61.6	53.0	52.9
36 Amendment	58.1	53.9	58.9	58.5	57.6	58.4
40 Con-Con	28.5	30.0	36.9	37.6	36.7*	36.3
42 Amendment	90.2	90.1	90.1	90.2	88.4*	88.3
1948 Bonus	—	—	80.6	80.4	74.6*	74.7*
50 Con-Con	43.1	34.5	37.5	36.0	35.8	37.8
52 Amendment I	91.2	86.0	89.2	87.7	85.9*	86.7
52 Amendment II	89.3	85.2	87.6	86.6	83.9*	84.5
56 Bonus	—	—	77.6	77.3	73.6*	73.7*
1960 Con-Con	41.0	25.8	46.8	48.4	29.0*	35.1*
62 Amendment	—	—	58.6	57.1	53.6	54.6
63 Amendment	46.3	46.2	—	—	57.5*	57.5*
64 Amendment	76.8	76.5	—	—	61.9*	62.0*
66 Amendment	84.0	84.3	—	—	73.3*	73.0*

1968 Amendment I	65.7	65.5	—	—	54.2*	54.3*
68 Amendment II	47.6	46.8	—	—	45.4	46.1
68 Amendment III	53.0	54.9	—	—	44.3*	42.6*
68 Amendment IV	63.0	64.1	—	—	50.8*	49.8*
68 Amendment V	47.5	48.9	—	—	47.6	46.3
1970 Con-Con	48.4	50.2	—	—	43.1*	41.0*
70 Amendment I	55.3	58.5	—	—	59.7*	55.8
70 Amendment II	66.4	69.4	—	—	68.0	64.3
70 Amendment III	61.8	65.4	—	—	75.0*	70.7
72 Amendment I	90.0	91.0	—	—	86.3*	84.8*
1972 Amendment II	70.5	72.0	—	—	65.8*	63.6*
72 Amendment III	65.5	65.5	—	—	61.1*	61.1
74 Amendment I	65.2	65.5	—	—	63.8	63.1
74 Amendment II	46.9	45.5	—	—	45.9	49.1
78 Amendment	58.4	56.4	—	—	49.4*	56.0
1980 Con-Con	39.7	38.8	—	—	40.6	43.9*
80 Amendment	40.4	40.2	—	—	44.3	44.9
84 Amendment I	59.2	59.8	—	—	60.8	59.2
84 Amendment II	57.6	58.8	—	—	55.5	52.2*

\*Statistically significant at .01 level of confidence

Table XX—Percent 'Yes' Vote on Special Questions Adjusted for Correlation with Index of Normal Political Tendency

Election Year and Question	Voting Machine Counties				Paper Ballot Counties	
	Question on Machines		Question on Paper Ballots		Original Mean	Adjusted Mean
	Original Mean	Adjusted Mean	Original Mean	Adjusted Mean		
1920 Con-Con	48.6	47.8	—	—	56.5	56.6
22 Bonus	70.3	70.4	69.4	69.3	63.3*	63.3*
26 Amendment	67.9	67.8	66.3	66.4	63.7	63.7
28 Amendment	62.3	62.2	69.9	70.1	66.2	66.2
28 Bond Issue	72.3	71.8	59.1	59.2	59.2	59.2
1930 Con-Con	39.1	38.7	37.3	38.0	42.3	42.3
33 Repeal	—	—	61.2	61.1	53.0	53.0*
36 Amendment	58.1	57.9	58.9	58.7	57.6	57.7
40 Con-Con	28.5	27.8	36.9	35.4	36.7*	37.0*
42 Amendment	90.2	90.3	90.1	90.7	88.4*	88.3*
1948 Bonus	—	—	80.6	80.3	74.6*	74.7*
50 Con-Con	43.1	42.7	37.5	36.4	35.8	36.1
52 Amendment I	91.2	91.9	89.2	89.3	85.9*	85.9*
52 Amendment II	89.3	89.8	87.6	87.7	83.9*	83.8*
56 Bonus	—	—	77.6	77.3	73.6*	73.7*
1960 Con-Con	41.0	39.9	46.8	45.8	29.0*	29.7*
62 Amendment	—	—	58.6	59.0	53.6	53.4
63 Amendment	46.3	48.2	—	—	57.5*	56.2*
64 Amendment	76.8	76.5	—	—	61.9*	62.0*
66 Amendment	84.0	84.2	—	—	73.3*	73.1*

1968 Amendment I	65.7	65.1	—	—	54.2*	54.6*
68 Amendment II	47.6	46.8	—	—	45.4	46.1
68 Amendment III	53.0	51.8	—	—	44.3*	45.4*
68 Amendment IV	63.0	62.0	—	—	50.8*	51.6*
68 Amendment V	47.5	46.5	—	—	47.6	48.5
1970 Con-Con	48.4	48.1	—	—	43.1*	43.5*
70 Amendment I	55.3	55.1	—	—	59.7*	59.9*
70 Amendment II	66.4	66.4	—	—	68.0	68.0
70 Amendment III	61.8	61.9	—	—	75.0*	74.9*
72 Amendment I	90.0	90.0	—	—	86.3*	86.4*
1972 Amendment II	70.5	70.4	—	—	65.8*	66.0*
72 Amendment III	65.5	65.0	—	—	61.1*	62.0
74 Amendment I	65.2	65.1	—	—	63.8	64.0
74 Amendment II	46.9	46.7	—	—	45.9	46.2
78 Amendment	58.4	58.3	—	—	49.4*	49.9*
1980 Con-Con	39.7	39.6	—	—	40.6	41.1
80 Amendment	40.4	40.6	—	—	44.3	43.6
84 Amendment I	59.2	58.9	—	—	60.8	61.7*
84 Amendment II	57.6	57.4	—	—	55.5	56.1

\*Statistically significant at .01 level of confidence

Table XXI—Percent 'Yes' Vote on Special Questions Adjusted for Correlation with Urbanism

Election Year and Question	Voting Machine Counties				Paper Ballot Counties	
	Question on Machines		Question on Paper Ballots		Original Mean	Adjusted Mean
	Original Mean	Adjusted Mean	Original Mean	Adjusted Mean		
1920 Con-Con	48.6	49.2	—	—	56.5	56.5
22 Bonus	70.3	68.9	69.4	70.0	63.3*	63.6*
26 Amendment	67.9	66.7	66.3	66.2	63.7	63.9
28 Amendment	62.3	65.9	69.9	69.2	66.2	65.5
28 Bond Issue	72.3	64.2	59.1	60.8	59.2	60.7
1930 Con-Con	39.1	39.4	37.3	37.2	42.3	42.2
33 Repeal	—	—	61.2	58.6	53.0	53.8
36 Amendment	58.1	57.6	58.9	59.0	57.6	57.7
40 Con-Con	28.5	27.7	36.9	37.1	36.7*	36.8*
42 Amendment	90.2	91.0	90.1	90.1	88.4*	88.3*
1948 Bonus	—	—	80.6	79.8	74.6*	75.0*
50 Con-Con	43.1	36.5	37.5	35.8	35.8	37.5
52 Amendment I	91.2	89.6	89.2	88.9	85.9*	86.2*
52 Amendment II	89.3	87.0	87.6	87.2	83.9*	84.2*
56 Bonus	—	—	77.6	77.4	73.6*	73.7*
1960 Con-Con	41.0	35.0	46.8	39.3	29.0*	32.9
62 Amendment	—	—	58.6	57.0	53.6	54.6
63 Amendment	46.3	52.1	—	—	57.5*	53.7
64 Amendment	76.8	74.6	—	—	61.9*	63.4*
66 Amendment	84.0	83.8	—	—	73.3*	73.5*

1968 Amendment I	65.7	62.7	—	—	54.2*	56.8*
68 Amendment II	47.6	44.1	—	—	45.4	48.6*
68 Amendment III	53.0	49.4	—	—	44.3*	47.6
68 Amendment IV	63.0	59.3	—	—	50.8*	54.1*
68 Amendment V	47.5	44.2	—	—	47.6	50.6*
1970 Con-Con	48.4	47.2	—	—	43.1*	44.6
70 Amendment I	55.3	54.2	—	—	59.7*	61.0*
70 Amendment II	66.4	65.5	—	—	68.0	69.1*
70 Amendment III	61.8	61.1	—	—	75.0*	75.9*
72 Amendment I	90.0	89.8	—	—	86.3*	86.7*
1972 Amendment II	70.5	69.9	—	—	65.8*	66.8*
72 Amendment III	65.5	64.6	—	—	61.1*	62.5
74 Amendment I	65.2	64.6	—	—	63.8	65.3
74 Amendment II	46.9	46.1	—	—	45.9	47.7
78 Amendment	58.4	58.1	—	—	49.4*	50.5
1980 Con-Con	39.7	39.9	—	—	40.6	40.0
80 Amendment	40.4	39.8	—	—	44.3	46.3*
84 Amendment I	59.2	59.2	—	—	60.8	60.7
84 Amendment II	57.6	57.7	—	—	55.5	55.3

\*Statistically significant at .01 level of confidence

Sometimes the percent "yes" vote is higher in the voting machine counties than in the paper ballot counties; sometimes it is lower. We don't know why.



# 9

## When Does a Difference Make a Difference?

We now can specify the conditions under which a change in the method of voting on a special question could affect the outcome of the vote on that issue:

1. Statewide sentiment on the issue is fairly evenly divided; that is, the outcome is close.

2. There is some factor that divides the opinions of voters in the paper ballot counties from voters in the voting machine counties. From the analyses in Chapter 8, we know that urbanism is one such factor, and there are others, still unexplained.

Close examination of the issues and the circumstances at the time of the election may help to illustrate the conditions under which a change in the method of voting, in some counties at least, might affect the outcome of a statewide vote on a special question.

Study of the percent "yes" votes by groups of counties divided according to method of voting (Tables XVII, XIX, XX, and XXI) and the actual votes (Appendix) reveals that not many of the statewide votes were very close; most issues were decided by substantial margins, usually favorably.

This is not surprising, considering the procedures through which matters are brought to a popular vote in Iowa. Proposed constitutional amendments first must be passed, in identical form, by two succeeding sessions of the legislature. Proposals to issue state bonds also must be recommended by the legislature. Only the decennial submission of the question to call a convention to consider constitutional revision and amendments is "automatic."

In other words, there has to be substantial statewide support for a proposal before it is presented to the voters.

Even so, certain measures do merit special study:

1. Because of the high correlation with urbanism, the votes

on reapportionment in 1960 and 1963 and the five amendments submitted in 1968 should be studied.

2. Because it was submitted at a primary election, the judicial reform amendment of 1962 needs to be analyzed.

3. Because it was the closest issue in the entire period—a margin of only 2,500 votes, the vote on the "school funds" amendment of 1974 must receive special study.

### The 1960 Vote on Constitutional Revision

Proponents of more urban representation in the state legislature used the 1960 vote on calling a constitutional convention as a vehicle to bring about the changes they desired.<sup>1</sup> The issue was a clear urban-rural split; our analysis (Table XVIII) shows a .89 correlation between the percent "yes" vote and urbanism, the highest correlation found in this study.

Aware of the differential effect of the use of the voting machine ballot for voting special questions, proponents of a favorable vote on Con-Con urged election officials in the voting machine counties to use separate paper ballots for voting the question; eleven counties did so.

Of course, not all the counties that used voting machines were urban counties, nor did all of them favor Con-Con. However, the mean urbanism scores for the voting machine counties was 25.1; for the paper ballot counties 14.3 (Table VII.)

The mean percent voting on the question for the twenty-six voting machine counties was 61.4, for the eleven voting machine counties that used paper ballots for the question it was 89.4, and for the 62 paper ballot counties it was 90.2 (Table XV).

The mean percent "yes" vote for the machine ballot counties was 41.0, for the voting machine counties that used paper ballots for the question it was 46.8, and for the traditional paper ballot counties 29.0 (Table XVII.)

However, these comparisons treat the counties as units of equal weight; the figures presented in Table XXII show the actual votes cast by each group of counties, and the percent of the state total each group represents.

These facts stand out: The twenty-six counties that voted the question on the machine ballot accounted for 38.6 percent of the state's potential voters, 37.5 percent of all the votes cast for President, and only 28.7 percent of the votes cast on the question. The voters in these counties favored constitutional revision by 56.9 percent.

The sixty-two paper ballot counties contained 42.4 percent of

Table XXII—Vote on Constitution Revision in 1960—Total Estimated Number of Potential Voters, Total Votes for President, Total Votes on the Question, Total “Yes” Votes on the Question, Percent of State Total, and Weighted Mean Percent “Yes”

	Voting Machine Counties			State Total
	Question on Machines N=26	Question on Paper Ballots N=11	Question on Paper Ballot Counties N=62	
Estimated Number of Potential Voters*	642,312	315,665	706,394	1,664,371
Percent of State Total	38.6	19.0	42.4	100.0
Total Vote for President	478,284	236,514	559,022	1,273,820
Percent of State Total	37.5	18.6	43.9	100.0
Total Vote on Question	288,416	211,604	504,865	1,004,885
Percent of State Total	28.7	21.1	50.2	100.0
“Yes” Vote on Question	163,966	134,042	172,249	470,257
Percent of State Total	34.9	28.5	36.6	100.0
Weighted Mean Percent “Yes”	56.9	63.3	34.1	46.8

\*1960 Census—persons 21 years of age and over

the state’s potential voters, cast 43.9 percent of the total votes for President, and 50.2 percent of the votes cast on the question. Only 34.1 percent of these voters favored constitutional revision.

The eleven voting machine counties that used paper ballots for the question represented 19.0 percent of the state’s potential voters, cast 18.6 percent of the total votes for President, and 21.1 percent of the votes cast on the question. These voters favored constitutional revision by 63.3 percent.

What might have happened if more of the voting machine counties had used paper ballots for voting the question? Now that all the data are available and we have had fifteen years to play with them, the answer is clear: the issue still would have been defeated. Now, long after the fact, carefully selecting the method of voting for each county and adding up the results, the issue still loses.

The fact remains that the total margin of defeat for the question, 64,471, is too great.

These facts also remain true: 1. Place of residence, urban or rural, was a factor in determining voters' views on Con-Con in 1960. 2. It seems reasonable that the views of those voters who voted for President but did not vote on the question did not differ significantly from the views of those who did vote on the question.

Had the method of voting on the question been uniform throughout the state, the results of the election would have been different from what actually occurred. The question would have been defeated, but by a much slimmer margin.

### The 1963 Vote on Reapportionment

The vote on the reapportionment amendment of 1963 was another clearcut urban-rural split: proponents included the Iowa Farm Bureau Federation; opponents included the Iowa Federation of Labor, AFL-CIO, and the League of Women Voters of Iowa.<sup>1</sup> The proposed plan called for one house of the legislature to be apportioned on population, the other house on area.

The legislature required that the measure be submitted at a special election; the attorney general ruled that because it was the only issue on the ballot, the voting machines could be used.<sup>2</sup> The attorney general also ruled that other (local) issues could not be submitted at that election.<sup>3</sup>

In comparing the total votes cast on the question with the total votes cast for Governor in the 1962 general election, there is no difference in percent voting as a result of the method of voting: the voting machine counties registered 57.9 percent, the paper ballot counties 57.5 percent (Table XV.)

The correlation between percent voting and urbanism is —.44 (Table XVI).

Voters in the voting machine counties registered a percent "yes" vote of 46.3 percent; in the paper ballot counties the favorable vote was 57.5 percent (Table XVII.) The correlations between the percent "yes" vote on the question and the index of normal political tendency was .60 and the correlation with urbanism was —.80 (Table XVIII.) The measure was defeated by a margin of more than 80,000 votes (see Appendix).

Two points should be noted from this case:

1. Voters in the voting machine counties were equally effective in turning out and registering their opinions as voters in the paper ballot counties. This finding contrasts with findings discussed earlier—that there is a tendency for fewer votes

to be cast when only one issue is on the ballot (see Chapter 4 and Tables IX and X).

2. Despite the fact that this election was a major battle in a controversy that had been going on for at least ten years, the turnout was not particularly high. From other findings in this study, we know that if the issue had been presented at a general election, more votes would have been cast on it. We also know that if the issue had been submitted at a general election, the voting machine effect would have been in operation: that the percent voting on the issue would have been much higher in the paper ballot counties than in the voting machine counties.

### Votes on Five Amendments in 1968

The five constitutional amendments submitted to the voters in the 1968 general election represented the culmination of years of effort by proponents of major reform of the state government. The issues related to reapportionment, annual sessions of the legislature, giving the Governor the item veto on appropriation bills, home rule for cities, and allowing the legislature to set the compensation of its members.<sup>4</sup>

Although all five amendments were adopted, the margins of approval were far from uniform. Two measures—reapportionment and home rule for cities—carried by more than 200,000 votes; two others—allowing legislators to set their salaries and annual sessions—carried by less than 50,000 votes (see Appendix).

The voting machine effect operated to hold the percent voting on the questions to around 55 percent in the voting machine counties while the rate was 75 percent in the paper ballot counties (Table XV.)

There seems to have been a tendency for voters to vote on all five issues, rather than vote on one or two and skip the others. That is, voters who voted on one issue tended to vote on all of them. The correlations of the percent voting on each issue with the percent voting on each of the other four are very high (data not shown.)

According to our unweighted "percent yes" votes for the voting machine and paper ballot counties, two of the measures were defeated—annual sessions and compensation of legislators. Both the voting machine counties and the paper ballot counties show percent "yes" mean scores less than 50 percent (Table XVII.)

On the item veto question, the voting machine counties favored it by 53.0 percent and the paper ballot counties favored it by only 44.1 percent.

Of course what this means is that the issues carried the more populous counties by sufficiently large margins to overcome the less favorable votes in the less populous counties. The 1968 mean urbanism scores show the voting machine counties 26.0 and the paper ballot counties 13.3 (Table VII.)

The correlations between percent "yes" votes on the questions and urbanism are strong and consistent, ranging between  $r$ 's of .66 and .83 (Table XVII). However, the mean percent "yes" scores after adjusting for these correlations are inconclusive and confusing (Table XXII.)

What can we conclude from all this? Simply that the proponents of constitutional reform should congratulate themselves and be grateful that they worked as hard as they did to get out a large favorable vote.

#### **The Judicial Reform Amendment—June 4, 1962**

All the questions we have examined so far were submitted at general elections or special elections; this one was presented to the voters at a primary election.

The issue involved was a constitutional amendment to change the method of selecting judges. Previously, judges of the state supreme court and the district courts were nominated by special partisan nominating conventions and elected at the general election.

The proposed amendment would have judges appointed by the Governor from lists of nominees submitted to him by special judicial nominating commissions. Once appointed, judges would remain in office subject to periodic votes of the people on retention in office.

The legislature required that the question be submitted to the people "at a special election to be held for that purpose at the same time and in conjunction with the primary election" in 1962.<sup>5</sup> Because the vote on the amendment was a special election, the attorney general stated that separate poll books would be needed, one for the primary, one for the special election.<sup>6</sup> A voter did not have to give his party affiliation to vote on the special question.

In accordance with the 1961 amendment to the voting machine statute, paper ballots were used in the voting machine counties. This meant that separate voting booths and ballot

boxes were needed for the special election in the voting machine counties.<sup>7</sup>

As it turned out, this notion of a "special election" was a complete fiction: the persons who voted on the special question were the same persons who voted in the primary. The percent voting on the question compared with the percent voting in the primary was 97.3 percent for the voting machine counties, 98.0 percent for the paper ballot counties.

Persons who vote in Iowa primaries are a very special (self) selected group: active partisans. About 20 to 25 percent of the potential voters usually participate. Usually Republicans outnumber Democrats 2 to 1 or 3 to 1.

The 1962 primary was a usual primary in this sense. Although there were significant contests in both parties, the percent voting in the primary compared with the vote for President in 1960 was 21.8 percent for the voting machine counties and 27.5 percent for the paper ballot counties. (Comparison of these percentages with the percent voting on the question in Table XV shows no significant difference between the primary and "special election" voters.)

Of the total votes cast in the primary, Republicans outnumbered Democrats 72 percent to 28 percent.

The amendment was adopted by a vote of 158,269 to 118,215. In the analysis of unweighted mean scores, the measure received a 58.6 favorable vote in the voting machine counties and a 53.6 favorable vote in the paper ballot counties (Table XVII.) The correlations with the index of normal political tendency and urbanism are weak (Table XVIII.)

If the issue had been one of partisan controversy, clearly the Democrats would have been at a distinct disadvantage, since Democratic voters in the primary were outnumbered by Republican voters 72 to 28.

What would have happened if the amendment had been voted on the voting machine ballot in the voting machine counties?

What would have happened if the amendment had been submitted at a "real" special election in which it was the only matter to be decided?

What would have happened if the measure had been submitted at a general election, when the 280,000 active partisans who normally vote in the primary (and other elections) had been joined by several hundred thousand additional voters who customarily vote only every two or four years?

These are unanswerable questions, of course. However, we have little basis for believing that the results in altered conditions would have been similar to what did happen on June 4, 1962.

### The "Fines Money" Amendment

Two minor, inconsequential amendments were submitted to the voters at the 1974 general election. Neither attracted much attention or publicity.

The first permitted members of the legislature to call themselves into special session by a petition signed by two-thirds of the membership of both houses. At the time, the legislature was meeting annually; the Governor had the power to call special sessions. This amendment was adopted by a vote of 364,556 "yes" to 178,116 "no." The second proposal attracted even less public attention, if that's possible; it was adopted by a vote of 272,792 to 270,244. This quietly controversial issue involved what to do with the money collected by the courts as fines and forfeitures.

For more than 100 years the constitution required that fine moneys be deposited with the county treasurer in the school fund. At least once a year, the treasurer distributed these funds to the school districts of the county in which the fines were collected on the basis of the number of potential students as shown by the school censuses.

The 1974 amendment proposed that these constitutional provisions be stricken; this would leave it up to the legislature to decide what to do with the fine money.

In the early days this method of distribution was fair; after all, there was a fairly good correlation between population and fines collected. However, times change. As the *Des Moines Register* pointed out:

State weighing stations for checking truck loads have changed that. Income from fines is scarcely worth noting in school budgets of some counties, but it may amount to 4 per cent of costs in places where truck fines are heavy.

Channelling money from a state operation to a few school districts on the basis of geographical good fortune is unfair. We urge a "Yes" vote on the amendment.<sup>8</sup>

The amendment was opposed, rather quietly, by the Iowa Association of School Boards and the Iowa Association of School Administrators. Apparently some folks did not trust the



legislature to give these funds to the schools; they feared the money might go someplace else.<sup>9</sup>

According to our analysis, 53.9 percent of the voters in the voting machine counties voted on the amendment; 80.5 percent of the voters in the paper ballot counties did so (Table XV.)

Voters in both groups of counties as a whole opposed the amendment, on the basis of the unweighted percent "yes" scores: 46.8 for the voting machine counties, 45.9 percent for the paper ballot counties (Table XVII.)

Once again, the measure was favored in some of the more populous counties by a sufficient margin to overcome the negative votes elsewhere. Indeed, the "yes" margins in each of six counties (Polk, Black Hawk, Linn, Johnson, Woodbury, and Story) was greater than the net margin for the state as a whole.

Because nearly all of the large population counties used voting machines at that time, if the measure had been voted on paper ballots in all counties, it would have carried by a wider margin than the 2,548 that prevailed.

However, as it turned out, almost anything, including the weather, might have reversed the outcome. The fact that the Register's favorable editorial was published just four days before the election may have been the deciding factor.

### **Interpretation**

We have not "proved" that a change in the method of voting on any of these questions would have changed the outcome of the vote. However, we have demonstrated that the margins by which some questions were adopted or defeated could have been quite different.

For the future, we must keep in mind that the method of voting on special questions can have significant effects.

# 10

## Lost Votes and Public Policy

An American election is never the expression of the opinions of all the people; it is the expression of the combined opinions of the eligible voters who go to the polls. Every election is a selection process: a separate set of participants is selected for each election, a separate sample is drawn from the universe of potential voters.

The fight for universal suffrage for all adult citizens has been a long and arduous one. In some places, the fight still goes on. Much progress has been made in recent decades in removing arbitrary barriers to voting: poll taxes, literacy tests, residence requirements. Procedures for voter registration and absentee voting have been improved and simplified. Steps are being taken to make voting easier for handicapped persons and for persons who have difficulties with the English language.

Iowans can be proud that this state has taken the lead in removing many of these artificial barriers to the exercise of the franchise.

On the other hand, compulsory voting is an idea that has never been popular in this country. Americans take the view that the right to vote also includes the right not to vote.

However, the decision to vote or not to vote ought to be made by each citizen uninfluenced by outside factors. Certainly, legal requirements, official procedures, and the mechanics of voting ought to be completely neutral in the individual's decision.

For the electorate as a whole, many factors enter into the voting decision process. From other research we know that age, economic status, racial and minority status, and education are factors that influence voter turnout.

In addition, we know that many more voters will participate in a presidential election than in an off-year election; many more voters will participate in a general election than in a primary election. When a special election is called, the partici-

pating electorate will be limited to those persons who are sufficiently concerned about that particular issue to go to the polls.

The selection process also operates in the voting on special questions. If the question is submitted at a special election at which it is the only question on the ballot, only those persons who are sufficiently motivated to take part will do so.

If more than one question is on the ballot, the participating electorate will be somewhat different. If the special question is submitted at a general election, the sample of voters will be considerably different, and it will make a difference whether it's a presidential election or an off-year election. And if the question is voted upon at a primary election, the participating electorate will be very special indeed.

The major finding of this study is that the method of voting is not a neutral factor in determining the nature of the selected electorate. Methods of voting do make a difference in determining who votes, and in the extent of their voting. Voting behaviors such as undervoting and rolloff are influenced by voting methods. As this study shows, the use of voting machines tends to limit the number of persons who participate. In the case of voting for candidates in general elections, around 5 percent fewer voters will participate in areas where voting machines are used.

In voting on special questions, participation will be 20 to 50 percentage points lower in the places where voting machines are used.

### **Uniform Method of Voting**

The first recommendation of this report is that the method of voting ought to be uniform throughout the state.

In discussing his findings regarding referenda voting in Michigan, Thomas comments:<sup>1</sup>

What does seem necessary, however, is a uniform ballot, machine or paper, in each state. The practice of using both machine and paper ballots in a single state distorts the operation of the electoral system by not making the actual physical act of voting an identical experience for all voters. This enhances the interests of some individuals and groups at the expense of others . . .

In a 1978 report on "Effective Use of Computing Technology in Vote-tallying," the National Bureau of Standards recommended state adoption of standards and guidelines to assure

accuracy and security. These recommendations included:<sup>2</sup>

(a) Additional State leadership could alleviate the problem of lack of market leverage, and could satisfy the need for uniformity in accuracy and security guidelines and the need of local jurisdictions for increased technological expertise.

(b) Technological expertise within a State election administration can develop, on a Statewide basis, accuracy and security guidelines, design controls, acceptance tests, and definitions of technical terms; and can provide technical inputs to election policy decisions.

(c) Each State should insure that each of its local jurisdictions possesses the necessary expertise in computer technology to carry out its statutory election functions and does not rely primarily on vendors of election system components.

Iowa has accomplished some of these recommendations by establishing procedures for evaluating various voting systems and approving accepted systems for adoption by local jurisdictions.<sup>3</sup> In addition, administrative rules provide guidelines for conducting elections using the approved devices.<sup>4</sup>

However, since 1900, the state has left the final decision regarding method of voting to local officials. This policy follows the general policy of charging local officials with conducting all elections, within statutory guidelines, and paying all costs of elections.

In recent decades, the legislature has taken steps to make it easier for counties to adopt and pay for voting machines. We have seen the statewide percent of the vote cast on voting machines increase from 20 to 80 percent during the period of this study.

The general practice has been for counties to adopt voting machines on a countywide basis, although this has never been required by law.

The method of voting special questions also has been a local decision except in those cases where the legislature provided the method of submission in the specific legislation calling for the popular vote on an issue. In recent decades the general practice has been to vote questions on machines in the counties that used machines. In view of the substantial amount of undervoting that occurs when voting machines are used, this practice should be reviewed.

Now the issue of which method of voting to use has been confounded by the appearance of a third choice: electronically

counted paper ballots. Three counties first used these new devices in 1982; three more counties used them in 1984. The results, in terms of the percent voting, are compared with the counties using the traditional methods in Tables XXIII and XXIV.

In the voting for candidates, there seems to be little difference among the three methods: as noted earlier in Tables III and VII, the difference in group means between paper ballots and voting machines is significant for the 1982 election but disappears when the means are adjusted for the correlation

Table XXIII—Comparison of Percent of Potential Voters Voting for Candidates, Using Three Methods of Voting, 1982 and 1984

—1982—		
	Mean	Standard Deviation
Voting Machine Counties (76)	49.5	4.7
Paper Ballot Counties (20)	53.1	5.4
Electronically Counted Paper Ballots:		
Buchanan	49.5	
Howard	56.7	
Linn	51.3	
—1984—		
Voting Machines Counties (73)	62.6	3.7
Paper Ballot Counties (20)	64.4	4.4
Electronically Counted Paper Ballots		
Buchanan	59.4	
Cedar	58.7	
Dallas	62.0	
Howard	62.8	
Johnson	68.1	
Linn	67.8	

Table XXIV—Comparison of Percent Voting on Special Questions, Using Three Methods of Voting, 1984

—Amendment No. I—

	Mean	Standard Deviation
Voting Machine Counties (73)	46.6	5.3
Paper Ballot Counties (20)	78.1	5.1
Electronically Counted Paper Ballots:		
Buchanan	79.3	
Cedar	68.8	
Dallas	75.5	
Howard	73.8	
Johnson	72.2	
Linn	78.0	

—Amendment No. II—

Voting Machines Counties (73)	46.8	5.6
Paper Ballot Counties (20)	77.0	4.8
Electronically Counted Paper Ballots:		
Buchanan	78.2	
Cedar	66.8	
Dallas	76.3	
Howard	73.0	
Johnson	67.8	
Linn	75.9	

with urbanism. The 1984 differences were not statistically significant.

The differences in percent voting on the amendments in 1984 were significant, however. The percent voting in the six counties using the electronically counted paper ballots is much closer to the percent voting in the traditional paper ballot counties than to the percent voting on the questions in the voting machine counties.

It should be noted that two of these six counties are urban counties (Johnson and Linn); the other four are rural counties. Two counties (Buchanan and Howard) previously used traditional paper ballots; the other four previously used voting machines.

On the basis of this limited experience, the use of the electronically counted paper ballots would seem to be the way

to go. These devices seem to overcome the main objections to traditional paper ballots—the cumbersome, time-consuming, and, sometimes, inaccurate counting procedures.

Electronically counted paper ballots also seem to overcome the main objection to voting machines brought out in this study—the substantially lower turnout in voting on special questions.

The electronic ballot counters also incorporate many of the security features recommended in the 1978 Bureau of Standards report.<sup>5</sup> The devices provide records of undervoting and overvoting for each office; they provide records of test runs, program changes, and machine stoppages.

As new computerized methods of voting are presented for approval, the state voting machine commission will need to exercise great care. There have been many cases of problems with some of these systems reported in the press.<sup>6</sup> Some election contests have resulted in court cases charging fraud and manipulation.<sup>7</sup> There have been calls for federal standards, and some standards are promised for late summer 1986.<sup>8</sup>

Whatever single method of voting is selected, it should be proscribed in a clear, definite statement of state policy and it should apply uniformly throughout the state. Questions regarding methods of voting, arrangement of the ballot, and so on should not be left to the discretion of local officials. These decisions should be made at the state level and apply uniformly and consistently throughout the state and from election to election.

### Research

We know very little about how voters will react to these new methods of voting. As the Bureau of Standards report points out “. . . no organized data are available on the effects of different kinds of voting systems and ballot arrangements on voting patterns and voting errors due to the human response to the equipment.”<sup>9</sup>

In Chapter 1 we reviewed what is known about some of the effects of older voting methods; the bulk of this report is concerned with some of the effects of voting machines. But how will voters respond to the new methods? The Bureau of Standards report states: “There is a lack of technical data on how individuals react to specific types of equipment, what kinds of errors they make, and in particular, how voting drop-off, that is, the tendency of voters not to vote for

candidates of lower level offices, is affected by different voting systems. Ballot design, including how much the first candidate listed actually benefits, if at all, deserves attention."<sup>10</sup>

The new system of electronically counted paper ballots now used by six Iowa counties pose similar questions. The traditional party column format that has been used in this state for many years is replaced by an office block type of ballot, although it is still possible to vote a straight party ticket.

From earlier research we know that falloff or dropoff is greater for this type of ballot than for the party column ballot, and that this effect is greater when voting machines are used than when paper ballots are used.<sup>11</sup>

On these new ballots, propositions are listed on the same ballot as the list of offices and candidates, rather than on a separate ballot. What effects will this arrangement have on undervoting? As reported in Table XXIV, very little, but this finding is based on only one election in six counties.

Also, the ballot may be printed on both sides. Although voters are admonished to "vote both sides" will they? Does it make a difference when the voter is handed the ballot which side is up?

Several Iowa counties are investigating the use of punch card ballots for absentee voting.<sup>12</sup> How will voters respond to these devices?

While we may hope that future research may have some answers to these and other questions, decisions must be made and elections conducted. We will have to do the best we can with the information available to us.

### Recommendations

1. The legislature should declare electronically counted paper ballots as the standard method of voting for the state. Other methods currently in use may continue to be used, but the state board of examiners for voting machines and alternate methods of voting should not approve any new methods at this time.

2. Adoption of voting methods must be on a countywide basis. The statute should be amended so that counties cannot use one method of voting in some precincts and another method in other precincts.

3. Until all counties in the state are equipped with the standard voting method, all state special questions must be submitted to the voters on paper ballots.



4. Voting any public measure, state or local, at primary elections should be prohibited.

### Uniform Election Procedures

The state has made a great deal of progress in recent years in setting and enforcing uniform rules and procedures regarding such important matters as residency requirements, voter registration, absentee voting, etc. Some of these actions were mandated by judicial and legislative changes at the federal level, but the state has gone further on its own to simplify and streamline procedures.

Two key decisions were to designate the Secretary of State as State Commissioner of Elections and the county auditors as commissioners. Additional state leadership and resources should be directed to providing technical expertise to the counties and in assisting in training activities for election personnel and educational programs for citizens. Additional rules regarding the arrangement of the ballot for electronic voting systems, as authorized by statute, should be implemented.<sup>13</sup>

Proper training of election officials and persons who work with voter registration and absentee voting is very important. Participation in rigorous "schools of instruction" should be compulsory. All persons, whether paid or volunteer, who work with voter registration or elections should be well informed about current legal interpretations and procedures.

### Citizen Education

Education for effective citizenship ought to be a primary, continuous concern of many institutions and agencies: election officials, the schools, the political parties, the media, and voluntary citizen action groups. Too often these efforts are spasmodic, hit-or-miss, ad hoc, and superficial.

Adoption of a uniform method of voting and standard election procedures throughout the state will aid in citizen education. Instructional materials and processes can be developed for the state as a whole that deal with specifics, not generalities. Statewide educational programs and media campaigns can be presented before every election, with a minimum of adaptation to local conditions.

Ballot formats and arrangements also can be made consistent, which will help citizens become familiar with these

procedures. When the ballot is so long that both sides of the sheet must be used, the printed instructions to "vote both sides" of the ballot should help reduce falloff or voter fatigue.

A great deal needs to be done to make certain that our political processes and election machinery perform well their task of serving as the vehicles for expressing the will of a sovereign people.

## References

### Chapter 1

1. Philip L. Allen, "American Ballot Laws and Their Work- ings," *Political Science Quarterly*, 21 (1906), pp. 38-58
2. "First Voting Machines a Hit," *American City*, 80 (August 1965), p. 122
3. Spencer D. Albright, *The American Ballot*, Washington D. C., American Council of Public Affairs, 1942, p. 78
4. Albright, p. 82
5. "Voting Machines Need No Introduction," *American City*, 75 (September 1960), p. 171
6. Allan F. Kiepper and others, "Punched-card Votes Meet with Instant Success," *American City*, 80 (September 1965), p. 110
7. *New York Times*, December 1, 1983, p. A20
8. Cullen Murphy, "Big Business in Ballots," *The Atlantic*, 254 (November 1984), p. 22; Scott Armstrong, "New Technology in the Voting Booth," *Christian Science Monitor*, 76 (Oct. 30, 1984), p. 19
9. Iowa Code 1985, sec. 52.26(7) reads: "The voting punch device shall be so constructed and designed so if an elector makes an error in marking the ballot, the machine shall indicate the error and permit the elector to make a correc tion . . ." by getting a new ballot.
10. "Punch-card voting may have a hole in it; back-room jug glers could change computerized ballot count," *Business Week*, July 19, 1969, p. 38; Douglas B. Seba, "Still one man, but many computer ballots," *Online*, May 1983, p. 87; *New York Times*, July 29, 1985, p. A1, July 30, 1985, p. A1, Sept. 24, 1985, p. A17
11. Albright, p. 80
12. "How a Voting Machine Works," *Popular Science*, 177 (October 1960), p. 137
13. The Gallup Poll, *Public Opinion 1935-1971*, vol. 3, pp. 1614-1615
14. "Voters Can Now Punch Out Their Candidates," *Business Week*, November 17, 1975, p. 95
15. Carol A. Cassel and David B. Hill, "Explanations of Turnout Decline—A Multivariate Analysis," *American Politics Quarterly*, 9 (1981), p. 193
16. See, for example, *Frakes v. Farragut Community School District*, 1969, 255 Iowa 88, 121 N.W.2d 636; *Voorhees v. Arnold*, 1899, 108 Iowa 77, 78 N.W. 795; *Donlan v. Cook*, 1931, 212 Iowa 771, 237 N.W. 496; *Headington v. North Win neshiek Community School District*, 1962, 254 Iowa 430, 117 N.W.2d 831; *Devine v. Wonderlich*, 1978, 268 N.W.2d 620
17. The ways in which voting machines operate in this regard, and the consequences, are discussed in Chapter 4. There is one exception to the

procedure described here: when the "independent" slot cover is exposed to insert a write-in vote, the cover cannot be closed again if the voter changes his or her mind.

18. Jeannette L. Fraser, "The Effects of Voting Systems on Voter Participation: Punch Card Voting Systems in Ohio," unpublished doctoral dissertation, The Ohio State University, 1985

19. *Voting Systems Vendors 1981*, Washington, D.D., National Clearinghouse on Election Administration, Federal Election Commission, 1982, p. 54

20. Fraser, p. 64

21. Fraser, pp. 64-68

22. In constructing the "level of voter participation" scores in chapter 3, I have used the total votes cast for the office for which the most votes were cast; to the extent that there was some rolloff in the voting for these offices, the scores underestimate the actual number of voters who participated in each election.

23. Fraser, pp. 56-59

24. *Congressional Quarterly Weekly Report*, 22 (September 18, 1964), pp. 2173-2175; Jerrold G. Rusk, "The Effect of the Australian Ballot Reform on Split-Ticket Voting," *American Political Science Review*, 64 (December 1970), pp. 1220-1238

25. Jack L. Walker, "Ballot Forms and Voter Fatigue: An Analysis of the Office Block and Party Column Ballots," *Midwest Journal of Political Science*, 10 (1966), pp. 448-463

26. Fraser, pp. 122-123

27. Fraser, pp. 124-126

28. Walker, pp. 455-456

29. Fraser, p. 126

30. James G. Cole, "Voting Machines, Constitutional Amendments and Non-Voting in Minnesota," *Minnesota Municipalities*, 28 (January 1953), p. 13;

John P. White, *Voting Machines and the 1958 Defeat of Constitutional Revision in Michigan*. Ann Arbor: Institute of Public Administration, University of Michigan, 1960;

Norman C. Thomas, "Voting Machines and Voter Participation in Four Michigan Constitutional Revision Referenda," *Western Political Quarterly*, 21 (September 1968), pp. 409-419;

George B. Mather, *Effects of the Use of Voting Machines on Total Votes Cast: Iowa—1920-1960*, Iowa City: Institute of Public Affairs, The University of Iowa, 1964

31. Thomas, p. 418

32. Howard White, "Voter Plump for First on List," *National Municipal Review*, 39 (1950), pp. 110-111; Henry M. Bain, Jr., and Donald S. Hecock, *Ballot Position and Voter's Choice*, Detroit: Wayne State University Press, 1957;

C. R. Bagley, "Does Candidates' Position on the Ballot Paper Influence Voters' Choice?" *Parliamentary Affairs*, 19 (1964), pp. 162-174; Delbert A. Taebel, "The Effect of Ballot Position on Election Success," *American Journal of Political Science*, 19 (1975), pp. 519-526;

G. J. G. Upton and D. Brook, "The Importance of Positional Bias in British Elections," *Political Studies*, 22 (1974), pp. 178-190;

John E. Mueller, "Voting on the Propositions: Patterns and Historical Trends in California," *American Political Science Review*, 63 (1969), pp. 1197-1212; —, "Choosing Among 133 Candidates," *Public Opinion Quarterly*, 34 (1970), pp. 395-402

33. Bain and Hecock, pp. 87-88

34. Bain and Hecock, pp. 71-82

35. Jonathan Kelley and Ian McAllister, "Ballot Paper Cues and the Vote in Australia and Britain: Alphabetic Voting, Sex, and Title," *Public Opinion*

*Quarterly*, 48 (Summer 1984), p. 464; see also Colin Hughes, "Alphabetic Advantage in the House of Representatives," *Australian Quarterly*, 42 (September 1970), pp. 24-29

36. Albright, p. 128

37. Iowa Code sec. 49.31; Laws 1892 (24th G.A.) ch. 33, secs. 14, 16

## Chapter 2

1. Code 1985, sec. 52.2

2. Laws 1900, ch. 37

3. Information supplied by Automatic Voting Machine Division, Rockwell Manufacturing Company, Jamestown, New York.

4. John E. Briggs, "The Legislation of the Thirty-Ninth General Assembly," *Iowa Journal of History and Politics*, vol. XIX, no. 4, pp. 508-509 (October 1921)

5. 1920 was selected as the starting date for this study for two reasons: (1) it was the first election in which a significant number of counties were equipped with voting machines, and (2) any study of elections before 1920 would be limited to male voters only, hence not comparable with later elections.

6. In Des Moines county in 1920, voting machines were used in Burlington, West Burlington, Mediapolis, and Danville; other precincts used paper ballots—*Burlington Hawk-Eye*, Nov. 2, 1920, pp. 1-2. Also in 1920, three precincts in Hardin county—Union, Eldora, and Hardin townships—used paper ballots; voters in other precincts cast their ballots on voting machines—*Eldora Herald*, Oct. 21, 1920, p. 8. Three precincts in Jackson county—Washington, Prairie Springs, and Bellevue townships—used paper ballots in 1922; voters in other precincts voted on machines—*Dubuque Telegraph-Herald*, Nov. 5, 1922, p. 20.

7. Iowa City and Johnson county purchased five voting machines jointly in 1905; the county later purchased three additional machines. When the machines were used, paper ballots also were provided; voters in these eight precincts could choose between the two methods of voting. In the 1930 election, out of 1,700 voters, only 110 used the machines. The machines were not popular in other elections; they were not used after the 1930 election. Voting machines were adopted on a countywide basis in 1963 and replaced with electronically counted paper ballots in 1984. *Cedar Rapids Gazette*, Nov. 3, 1958; *Iowa City Press-Citizen*, Nov. 30, 1926, p. 3, Nov. 5, 1928, p. 2, Nov. 3, 1930, p. 5. Johnson county is included with the paper ballots counties from 1920 to 1963 and in 1984, and with the voting machine counties in the other years.

A voting machine that is attributed to be one of the original Johnson county machines is on display in the state historical museum in Des Moines. This model displays an unusual feature: near the party levers is a notice "Pull lever until bell rings." 8. *Burlington Hawk-Eye*, Nov. 2, 1930, part one, p. 6, Nov. 2, 1932, p. 5

9. *Osage News*, May 29, 1930, p. 1, Oct. 31, 1930, p. 1, Nov. 1, 1928, pp. 1, 6-7; *Mitchell County Press*, Oct. 27, 1932, pp. 2, 11

## Chapter 3

1. Iowa Constitution, Art. II, secs. 1, 4, 5

2. U.S. Bureau of the Census, Current Population Reports, Local Population Reports, Series P-26, No. 82-15-SC, Iowa, issued September 1984

3. Iowa Census Data Center Bulletin Board, Office of the State Demographer, Iowa Office of Planning and Programming, October 8, 1984
4. The records of the official canvasses of the votes, filed in the office of the Secretary of State, do contain this information in many cases.
5. S. A. Queen and D. B. Carpenter, *The American City*, New York, McGraw Hill, 1953, p. 29; David L. Thomas, "An Exploratory Model for City Size and Growth," unpublished M.A. thesis, State University of Iowa, 1960.
6. Queen and Carpenter use the metropolitan area, where it exists, as their base, rather than individual cities as used here and by Thomas. There are few metropolitan areas in Iowa, and for these the entire county is included as the metropolitan area.
7. Some writers state that urban voters participate in larger proportions than rural voters; this statement is supported by the findings of some of the panel studies; see Clinton Rossiter, *Parties and Politics in America*, Ithaca, N.Y., Cornell University Press 1960, p. 32 and works cited in note 46, Chapter I. However, there is a body of evidence, based on studies of aggregate election results, that confirms the results obtained from the Iowa data—that rural areas have higher participation rates than urban areas; see Howard A. Scarrow, "Patterns of Voter Turnout in Canada," *Midwest Journal of Political Science*, vol. V, no. 4 (1961) pp. 356-361 and works cited.

#### Chapter 4

1. The mechanical features of the locking device are described as follows by M. O. Doolittle, Sales Manager, Automatic Voting Machine Division, Rockwell Manufacturing Company:

"All machines serially numbered 90501 and higher are equipped with pointer release mechanism. This mechanism requires that a voter leave at least one voting pointer in the voted position in order to open the curtain and register his vote. This device was first put on machines in June, 1955, and was made operative or inoperative through use of a 'slide plate' arrangement. Beginning with machines serially numbered 109,200 in October, 1958, we introduced detent pointers for use with pointer release mechanism and operation or inoperation of pointer release is controlled by the turning of a slotted stud in the rear of the machine. Thus, although all machines since 90501 were equipped with pointer release mechanism, it is possible that there are many machines in the field on which this mechanism is inoperative. The mechanism cannot be installed on machines below the 90501 series.

"We agree that the inclusion of this mechanism in the machines is effective in preventing improper use of the machines by the voters. It may be of interest to you in your study to analyze, as we have done, the 'blank' vote on the newer and older models of machines. For instance, in the Gubernatorial race in the State of New Jersey in 1951, Ocean County, using our new machine, cast 43,323 votes for Governor out of a total of 43,350 for voters signed to the poll list. This blank vote then is about one-tenth of 1 per cent. Essex County, using older model machines, voted 293,793 Gubernatorial votes out of 295,946 votes cast. The blank vote here represents just under 1 per cent."

2. Laws 1963, ch. 371, sec. 2

3. Op. Atty. Gen., 1963, p. 180

4. George B. Mather, "Why Americans don't vote and what to do about it," *Des Moines Register*, Aug. 3, 1984, p. 11A

5. Penn Kimball, *The Disconnected*, New York, Columbia University Press,

1972, pp. 285, 295, 301; William J. Crotty, "The Franchise: Registration Changes and Voter Representation," in Crotty, ed., *Paths to Political Reform*, Lexington, Mass., D. C. Heath and Company, 1980, pp. 69, 85, 87

## Chapter 5

1. See, for example, David Gold and John R. Schmidhauser, "Urbanization and Party Competition: The Case of Iowa," *Midwest Journal of Political Science*, vol. IV, no. 1 (1960), pp. 63-65
2. In calculating the level of voter participation scores, we included votes for minor party candidates and scattering; here those votes are excluded.
3. The index figures for 1920 are based on the three races in that year only; the 1922 figures include the two races in that year and the 1920 races.

## Chapter 6

1. Art. X, sec. 3
2. Art. X, sec. 1
3. Art. VII, sec. 5
4. Code 1985, sec. 52.24
5. Code 1985, sec. 49.93
6. Code 1985, sec. 49.49
7. *Yunker v. Susong*, 173 Iowa 663, 669, 670; 156 N.W. 24 (1916)
8. Op. Atty. Gen., 1928, p. 417
9. *Dubuque Telegraph-Herald*, Nov. 2, 1948, p. 1. Apparently this was an unofficial opinion; it does not appear in the official report of the Attorney General.
10. Op. Atty. Gen., 1956, pp. 183-185
11. Laws 1959, ch. 95, sec. 6; Code 1985, sec. 52.25
12. Op. Atty. Gen., July 20, 1960. The opinion states, in part: "I am therefore of the opinion that, at the November 8, 1960, General Election, the question, 'Shall there be a Convention to revise the Constitution, and amend the same?' may be placed on voting machines at the discretion of the governing body of the governmental unit purchasing the machine, i.e., Board of Supervisors; city or town council." The original bill that became the 1959 act setting up procedures for voting machine voting of special questions contains an 'Explanation' that declares that the bill 'Provides the manner in which constitutional amendments and public measures may appear on voting machines.' (House File 678, introduced by the Elections, Political and Judicial Districts Committee)
13. Laws 1961, ch. 77, sec. 1
14. Laws 1971, ch. 101, sec. 3
15. Op. Atty. Gen., 1962, pp. 204-206
16. Op. Atty. Gen., 1964, pp. 180-181
17. Op. Atty. Gen., (Voorhees), May 29, 1969
18. Op. Atty. Gen., (Landess), March 13, 1970
19. Op. Atty. Gen., 1964, pp. 179-180
20. Laws 1955, ch. 61, sec. 13
21. Letter to the author April 29, 1960

## Chapter 7

1. The vote on the repeal amendment at a special election in 1933 is compared with the vote for President in 1932; in the case of the amendment voted on at the primary election in 1962, the comparison is made with the vote for President in 1960; and in the case of the vote on the amendment at the special election in 1963, the comparison is made with the vote for Governor in 1962.
2. In the 1928 election one county—Crawford—voted the amendment on the machines and the bond issue on paper ballots. The level of voter participation scores are 17.0 for the amendment and 95.4 for the bond issue.
3. This is true for the group mean of scores and also in terms of the total number of votes cast: the total number of votes cast for U.S. Senator by these counties was 105,289; the total vote on the question was 109,715.
4. *Dubuque Telegraph-Herald*, Nov. 5, 1950, p. 29; *Eldora Herald-Ledger*, Oct. 28, 1948, p. 1; *Cedar Rapids Gazette*, Nov. 6, 1950, p. 8; *Altoona Herald*, Nov. 1, 1956, p. 1; (???)Ames Tribune, Nov. 3, 1922, p. 1
5. *Nevada Evening Journal*, Nov. 3, 1956, p. 1
6. Op. Atty. Gen., 1962, p. 226
7. Indeed, there have been numerous complaints that the sections for voting on questions and for write-in votes are located too high; elderly and handicapped persons in particular find it difficult to reach these sections. *Christian Science Monitor*, Oct. 5, 1982, p. 9
8. James G. Coke, "Voting Machines, Constitutional Amendments and Non-Voting in Minnesota," )@f)Minnesota Municipalities, vol. 38, no. 1 (January 1953), p. 13
9. Code 1985, sec. 49.50
10. Code 1985, sec. 49.86

## Chapter 9

1. For a detailed analysis of the vote on this question, see John R. Schmidhauser, "Iowa's Campaign for a Constitutional Convention in 1960," Eagleton Institute Cases in Practical Politics No. 30, pp. 27-29.
2. Op. Atty. Gen., 1964, pp. 180-181
3. Op. Atty. Gen., 1964, pp. 179-180
4. Mary Osborne Bryant, "Five Constitutional Emendments Proposed to the Voters," Institute of Public Affairs, The University of Iowa, 1968
5. Laws 1961, ch. 343, sec. 2
6. Op. Atty. Gen., 1962, pp. 203
7. Op. Atty. Gen., 1962, pp. 204, 225
8. *Des Moines Register*, Nov. 1, 1974, p. 14
9. In 1983, the legislature required that all fine moneys "be paid to the treasurer of state for deposit in the general fund of the state" effective July 1, 1984. Laws 1983, ch. 185, sec. 58

## Chapter 10

1. Norman C. Thomas, "Voting Machines and Voter Participation in Four Michigan Constitutional Revision Referenda," *Western Political Quarterly*, 29 (Sept. 1968K), p. 419
2. Roy G. Saltman, *Effective Use of Computing Technology in Vote-Tallying*, Washington, D. D., National Bureau of Standards Special Publication 500-30, p. 7



3. Code 1985, sec. 52.4, creates a state "board of examiners for voting machines and electronic voting systems."
4. Code 1985, sec. 52.5, provides that the secretary of state, as state commissioner of elections, "shall formulate, with advice and assistance of the examiners, and adopt rules governing the development of vote counting programs and all procedures used in actual counting of votes by means of that system."
5. Saltman, pp. 3-5, 64-69
6. Saltman, pp. 15-35; *Business Week*, Nov. 19, 1975, p. 95; *Online*, May 1983, p. 87; *New York Times*, Nov. 4, 1984, Sec. 4, p. 6E
7. *New York Times*, July 29, 1985, p. A1, July 30, 1985, p. A17
8. *New York Times*, Sept. 24, 1985, p. A17
9. Saltman, p. 8
10. Saltman, p. 86
11. Jack L. Walker, "Ballot Forms and Voter Fatigue: An Analysis of the Office Block and Party Column Ballots," *Midwest Journal of Political Science*, 10 (1966), pp. 455-456; Jeannette L. Fraser, "The Effects of Voting Systems on Voter Participation: Punch Card Voting Systems in Ohio, unpublished Ph.D. dissertation, The Ohio State University, 1985, pp. 119-124
12. Iowa Administrative Code, sec. 750-10.1(52)-750-10.4(52) (Secretary of State 10/15/80)
13. Code 1985, sec. 52.28(1)



## Appendix

### Details Regarding Special Questions Submitted to the Voters of Iowa 1920—1984

**1920 Con-Con**—As the 1920 general election approached, there was considerable confusion and controversy over whether voting machines could be used in the election. An act of the Iowa legislature in 1919 restored the party circles to the ballot. The voting machines then in use were not equipped with party levers. In August the attorney general gave an opinion to the effect that the machines could be used; this opinion was withdrawn in September. The machines were used in six counties without protest; the other counties that had voting machines returned to the use of paper ballots.<sup>1</sup>

There was virtually no public interest in the constitutional convention question until just a few days before the election when leaders of two strong farm organizations sent letters to their county presidents urging a favorable vote on the question. No reasons were cited in these appeals.<sup>2</sup> The convention question carried on a vote of 279,652 "yes" to 221,763 "no."<sup>3</sup>

**1922**—The question submitted to the voters concerned a state bond issue of \$22,000,000 to pay bonuses to veterans of World War I.<sup>4</sup> The newspapers promoted and publicized the matter vigorously; there were many strong appeals for a favorable vote; there was no organized opposition. The bonus was approved by a vote of 383,335 "yes" to 195,898 "no."

**1926**—Adoption of the Nineteenth Amendment to the U.S. Constitution automatically gave women in Iowa the right of suffrage. However, it was necessary to remove a restriction in the state constitution in order that women would serve in the state legislature. By the amendment of 1926 the section regarding qualifications of members of the General Assembly was amended by striking the word "males." Little publicity or promotion was given the amendment before the election, although women's clubs in some counties urged a favorable vote. The amendment was adopted by a vote of 239,999 "yes" to 133,929 "no."

**1928 (1)**—It was proposed to amend the state constitution by adding to the section on representation in the state senate a provision that no single-county senatorial district could have more than one senator. There was relatively little interest in the proposed amendment although newspaper editors and political leaders in a few of the more populous counties urged a negative vote on the amendment, while their counterparts in a few of the less populous counties urged an affirmative vote. The amendment was adopted by a vote of 352,027 "yes" to 201,812 "no."

**1928 (2)**—There was much greater public interest in the second proposal presented to the voters of Iowa at the 1928 general election; this proposal was

for a \$100,000,000 bond issue for primary highway improvements.<sup>5</sup> Paved highways had been a controversial political issue for several years. By the time of the 1928 general election, sixty-one counties had issued bonds for road improvements; such proposals had been voted down in twelve counties.<sup>6</sup> A special session of the legislature in the spring of 1928 proposed the issuance of state bonds to assume the obligations of the counties and to pay for further highway improvements throughout the state. This proposal received strong support in those counties that had issued bonds; there was active opposition only in those counties in which bond issue proposals had been defeated. An affirmative vote was strongly urged by an active "good roads" association and many newspapers. The proposal was approved by a vote of 510,633 "yes" to 252,394 "no."<sup>7</sup>

**1930 Con-Con**—There was virtually no interest in revising the state constitution in 1930. However, it seems there was some confusion regarding which constitution was proposed to be revised. Some newspaper editors pointed out that the question concerned the state, not the federal, constitution; they feared some voters might regard this vote as their opportunity to vote for or against Prohibition. The vote on the constitutional convention question was 140,667 "yes" to 195,356 "no."

**June 20, 1933**—Congress provided that the ratification or rejection of the twenty-first amendment to the U.S. Constitution should be decided by conventions in the several states. The Iowa legislature acted, in 1933, to provide procedures for nominating and electing delegates to such a convention and for holding the convention.<sup>8</sup> Two slates of delegates at large—one pledged to favor Repeal and the other pledged to oppose it—were presented to the voters at a special election June 20, 1933. While technically the voters were selecting delegates to a convention, actually they were voting for and against the repeal of Prohibition.

In the act providing for these procedures it is stated:<sup>9</sup>

"The use of voting machines at such special election is hereby prohibited."

The question of Repeal was the only matter on the ballot in this special election. The vote was 276,661 for Repeal and 249,534 against Repeal.

**1936**—As an economy measure, the legislature proposed that the constitutional provision requiring the taking of a state census in the years ending in "5" be repealed. After having been passed by two sessions of the legislature, the measure was submitted to the voters in the 1936 general election. Very little interest was shown regarding the proposal. The amendment was adopted by a vote of 364,563 "yes" to 266,713 "no."

**1940 Con-Con**—As in 1930, very little interest was shown in the vote on the constitutional convention question in 1940. The vote on the question was 199,247 "yes" to 352,142 "no."

**1942**—The constitutional amendment submitted to the voters at the 1942 general election provided that all revenues from motor vehicle registration fees and from licenses or taxes on motor vehicle fuel must be used exclusively for highway purposes. This amendment was supported by "good roads" and "highway user" groups; there was no active, organized opposition. The measure received moderate newspaper publicity and editorial support. The amendment was adopted by a vote of 433,917 "yes" to 56,472 "no."

**1948**—It was proposed that the issuance of \$85,000,000 in state bonds be authorized to pay bonuses to veterans of World War II.<sup>10</sup> The measure was adopted by a vote of 743,447 "yes" to 210,465 "no."

**1950 Con-Con**—Considerably more interest was evident in the 1950 vote on

a constitutional convention than in the previous two votes in 1940 and 1930. Several major newspapers urged a favorable vote on the constitutional convention question as a means of bringing about reapportionment of the legislature. Fairly extensive campaigns were waged in several urban counties, Polk, Black Hawk, Linn, and Scott in particular, for a favorable vote on the question. The vote was 221,189 "yes" to 319,704 "no."

**1952**—Two related amendments were presented to the voters at the 1952 general election. One provided that if the Governor-elect dies, resigns, or is unable to assume the office between the time of his election and the time he is to take office, the duties of the office shall devolve upon the Lieutenant Governor-elect; the second provided for succession to the office of Governor in the event the office is vacant and the Lieutenant Governor is unable to serve. The first amendment was adopted by a vote of 551,444 "yes" to 80,178 "no"; the second amendment by a vote of 496,409 "yes" to 83,216 "no."

**1956**—A state bond issue of \$26,000,000 was proposed to pay bonuses to Iowa veterans of the Korean conflict.<sup>11</sup> The proposal was approved by a vote of 773,950 "yes" to 249,770 "no."

**1960 Con-Con**—As in 1950, a favorable vote on a constitutional convention was urged as a means of bringing about legislative reapportionment. Rival statewide organizations were formed; there was considerable activity and publicity. As the campaign developed, it became clear that the issue was a rural-urban one, with urban counties more strongly in favor of a "yes" vote; organizations opposed to a convention were more active in rural areas.<sup>12</sup> (See Chapter 9 for more details.) The vote was 470,257 "yes" and 534,628 "no."

**June 4, 1962**—The legislature provided that a proposed "judicial reform" amendment be submitted to the voters "at a special election to be held for that purpose at the same time and in conjunction with the primary election" in 1962. The proposed amendment received a good deal of interest and publicity; for more details, see Chapter 8. The amendment was adopted by a vote of 158,279 "yes" to 118,215 "no.")

**December 3, 1963**—This was indeed a special election: the proposed amendment dealing with representation in the legislature was the only issue on the ballot (see Chapter 9 for more details). The proposed amendment was defeated by a vote of 190,424 "yes" to 272,382 "no."

**1964**—The proposed amendment presented to the voters at the 1964 general election was designed to provide answers to the question, "What would happen if the people ever did vote for calling a constitutional convention?" The amendment set up procedures for the legislature to provide by law for the selection of delegates and the submission to the people of any proposed amendments. The proposal was relatively noncontroversial and was adopted by a vote of 430,657 "yes" to 175,230 "no."

**1966**—The amendment adopted by the voters at the 1966 general election changed the effective date of new laws passed by the legislature from July 4 to July 1. The vote was 340,539 "yes" to 96,555 "no."

**1968**—Voters were given the opportunity to approve or reject five proposed constitutional amendments at the 1968 general election. The issues were among a group of proposals for reform of state government that had been discussed for more than a decade.<sup>13</sup> For more details, see Chapter 9. The order in which the amendments are listed here follows the order in which the amendments are presented in the official canvass of the vote published by the Secretary of State; this differs from the order in which they are listed in the Iowa Official Register.<sup>14</sup>

(I) **Home rule for cities.** This amendment allows cities to take any legal action that is not specifically prohibited by state law except in the area of levying taxes. The amendment was approved by a vote of 486,749 "yes" to 256,236 "no."

(II) **Annual sessions.** This proposal amended the constitution to provide that the legislature meet in regular session annually rather than every two years. It was approved by a vote of 394,258 to 366,591.

(III) **Item veto.** This amendment gives the Governor the power to veto individual items in appropriations bills passed by the legislature. It was approved by a vote of 411,472 "yes" to 328,273 "no."

(IV) **Reapportionment.** This amendment fixes the number of senators at fifty and the number of representatives at 100. New legislative districts must be drawn every ten years using new federal census counts and according to the U.S. Constitution and the U.S. Supreme Court. Newly drawn legislative districts may be subject to speedy review by the Iowa Supreme Court. The amendment was adopted by a vote of 469,449 "yes" to 263,886 "no."

(V) **Compensation of legislators.** This amendment provided that the legislature set the compensation and expenses of members of the legislature by law; no legislature can increase the compensation and expenses of its own members, only those of members of future legislatures. The amendment was adopted by a vote of 389,435 "yes" to 350,277 "no."

**1970 Con-Con**—Apparently there were no issues to statewide interest that were tied to the decennial proposal to revise the constitution. However, the question was defeated by a narrow margin, 204,517 "yes" to 214,663 "no."

Three amendments were approved by the voters at the 1970 general election:

(I) **County attorney.** This amendment repealed the constitutional provisions regarding the office of county attorney thus permitting the legislature to enact provisions for that office. The amendment was adopted by a vote of 243,628 "yes" to 169,969 "no."

(II) **Single member districts.** In creating new legislative districts, the legislature may not provide for the election of more than one senator or representative from any one district. This amendment was adopted by a vote of 289,200 "yes" to 132,590 "no."

(III) **Residency requirements.** This amendment changed the constitutional requirements for residency in the state for voting purposes to allow the legislature to set residency requirements that may not exceed six months in the state and sixty days in the county. The amendment was adopted by a vote of 300,119 "yes" to 141,091 "no."

**1972**—Three additional amendments were added to the state constitution by voters in the 1972 general election:<sup>15</sup>

(I) **Retirement of judges.** This amendment provides that "the Supreme Court shall have power to retire judges for disability and to discipline or remove them for good cause, upon application by a commission on judicial qualifications. The General Assembly shall provide by law for the implementation of this section." The amendment was adopted by a vote of 770,501 "yes" to 88,362 "no."

(II) **Four-year terms.** This amendment changes the terms of office of the Governor and other elected state executive officials from two years to four years. The proposal was adopted by a vote of 609,909 "yes" to 249,696 "no."

(III) **Repeal lottery provision.** This amendment repealed the previous constitutional ban on lotteries, thus leaving to the legislature the power to

define prohibited activities. It was adopted by a vote of 585,966 "yes" to 286,959 "no."

1974—Two amendments were adopted at the 1974 general election:

(I) **Call legislature into session.** This measure provides that the legislature may be called into special session by a petition signed by two-thirds the membership of both houses of the legislature. This amendment was approved by a vote of 364,556 "yes" to 178,116 "no."

(II) **Fines money.** This amendment repealed a constitutional provision that required that all fines and forfeitures should be paid into the school fund in each county. Repeal of this provision gave the legislature the power to determine what should be done with money collected from fines; see Chapter 9 for more details. The amendment was adopted by a vote of 272,792 "yes" to 270,244 "no."

1078—The amendment adopted by the voters in the 1978 general election extended to counties the same home rule powers that were given to cities a decade earlier. The vote for adoption of the amendment was 302,520 "yes" to 204,061 "no."

1980 **Con-Con**—No particular statewide concerns were evident for constitutional revision this year. The vote on the Con-Con question was 404,249 "yes" to 640,130 "no."

**ERA amendment.** Voters in the 1980 general election rejected a proposal that would have revised Article I, section 1, of the Constitution to read:

"All men and women are, by nature, free and equal, and have certain inalienable rights—among which are those of enjoying and defending life and liberty, acquiring, possessing and protecting property, and pursuing and obtaining safety and happiness. Neither the State nor any of its political subdivisions shall, on the basis of gender, deny or restrict the equality of rights under the law." The vote was 468,708 "yes" to 591,925 "no."

1984—Two amendments were adopted by the voters in the 1984 general election:

(I) **Administrative rules.** This amendment provides that the legislature may veto rules adopted by state administrative agencies. The vote for approval was 419,036 "yes" to 290,404 "no."

(II) **School lands.** This amendment repealed a section of the constitution relating to school funds and lands. The vote was 392,433 "yes" to 309,112 "no."

#### NOTES

1. John E. Briggs, "The Legislation of the Thirty-ninth General Assembly," *Iowa Journal of History and Politics*, vol. XIX, pp. 508-509 (October 1921)
2. *Des Moines Register*, October 31, 1920, p. 1, November 2, 1920, p. 1
3. Later developments revealed that the farm leaders were concerned about the constitutionality of empowering cooperatives to engage in collective bargaining. The 1921 session of the legislature passed acts broadening and liberalizing the laws regarding cooperatives. When it was discovered that the purposes desired by the farm organizations could be achieved by legislation, the leaders of these groups lost interest in a constitutional convention. The legislature failed to call the convention asked for by the vote of the people. Briggs, p. 586.
4. Laws 1921, ch. 332
5. Laws 1928 (special session 42nd G.A.), ch.2
6. *Clinton Herald*, November 1, 1928, p. 2
7. The constitutional amendment is listed first in this report because of its

more permanent nature. In those counties that voted the questions on a separate paper ballot, in all instances that could be determined, the amendment was printed below the bond issue. (Code 1983, sec. 49.48 requires that when two or more public measures are to be voted on at the same election, they must be printed on the same ballot.)

8. Laws 1933, chs. 1 and 2

9. Code 1983, sec. 55.15

10. Laws 1947, ch. 59

11. Laws 1955, ch. 61

12. John B. Schmidhauser, "Iowa's Campaign for a Constitutional Convention in 1980," *Eagleton Institute Cases in Practical Politics* No. 30, McGraw-Hill Book Company, Inc., 1963

13. Mary Osborn Bryant, "Five Constitutional Amendments Proposed to the Voters," Institute of Public Affairs, The University of Iowa, 1968

14. *Iowa Official Register*, 1983, pp. 408-409

15. James H. Kuklinski, "Three Constitutional Amendments Submitted to the Voters 1972," Institute of Public Affairs, The University of Iowa



