

THREE TESTS FOR BIAS ARISING FROM THE DESIGN OF PRIMARY ELECTION BALLOTS IN NEW JERSEY

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I. INTRODUCTION	24
A. How the County Line Works.....	28
B. Decision Heuristics Drive Mental Shortcuts	29
C. Bad Ballot Design and Visual Neuroscience	30
D. The County Line Creates a Visual Shortcut	32
II. THE COUNTY LINE MAY VIOLATE FEDERAL AND STATE VOTING RIGHTS	34
A. A Balancing Approach for Evaluating Undue Advantage	35
B. Test 1: Identify Facial Design Flaws Using Design and Visual Science	37
C. Test 2: Influence of Ballot Design on Election Outcomes	39
D. Test 3: How Much Does a Candidate Benefit from the County Line?.....	42
1. New Jersey Candidates Received an Advantage of Over Thirty Percentage Points by Being on the County Line..	42
2. For Major Parties, Ballot Primacy Effects Typically Amount to One to Five Percentage Points.....	45
III. CONCLUSION.....	47

I. INTRODUCTION

Pick a card, any card. Those words carry the promise of an entertaining deception. We know that a magician may very well identify the card or even produce it in an unexpected location, to the surprise and delight of all present. However, that delight can turn to consternation if the stakes have value. In street games such as three-

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card monte, a player bets money on the ability to visually track where a card has gone. In such a situation, an act of prestidigitation to make a card appear—or disappear—is an attempt to rook the participant.

Magic tricks and street cons depend on a principle of brain function: we can be fooled or even led to act against our interests by a canny manipulator. Illusionists and neuroscientists know that your brain lies to you, coming up with shortcuts for evaluating the world to allow you to survive in a world of uncertainty. Exploiting the brain’s heuristics can misdirect even rational people.

The principle of misdirection is at work in an unexpected place: New Jersey primary elections. Most primary ballots in New Jersey follow an unusual design in which candidates for a particular office do not appear in simple list form (sometimes called a “bubble ballot”), as other states do. Instead, the ballot is laid out with many blank spaces, overall forming a pattern that arranges candidates favored by party committees in a concentrated column or row.¹ The party county committee and local county clerks determine the pattern. Such an approach to ballot design is termed “bracketing,” or sometimes the “county line.” This is demonstrated in column A of Figure 1 below.

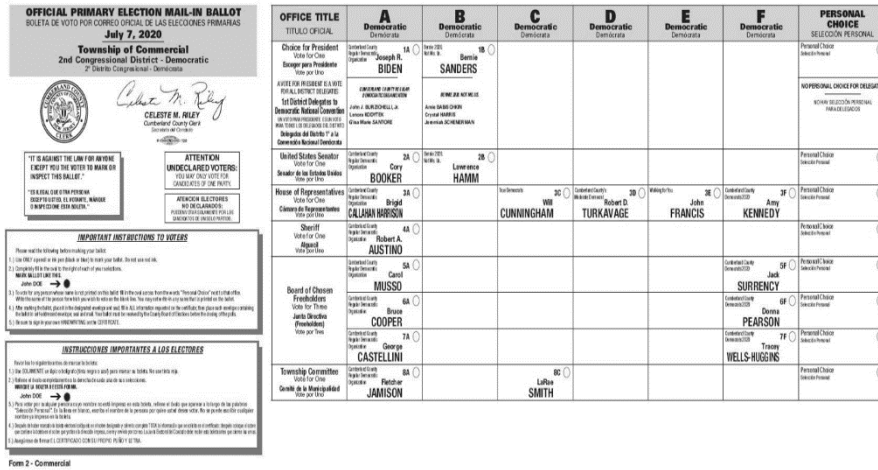


Figure 1: Example of a New Jersey primary ballot. The county line mechanism is implemented in column A.

Design scholars Theresa Reidy and Fiona Buckley have suggested an overriding principle that ballot design “should not . . . determine or

¹ In some counties, bracketing is done by rows. For simplicity, this article refers to columns. See Brett Pugach, *The County Line: The Law and Politics of Ballot Positioning in New Jersey*, 72 RUTGERS U.L. REV. 629, 655 (2020).

condition an election outcome . . . [t]here must be a level playing field.”² However, they note that “there is a sizeable body of evidence which demonstrates that in many circumstances the design of ballot papers and voting machines contravenes the normative assumption of electoral neutrality.”³

The unusual design of New Jersey primary ballots might be dismissed as a peculiarity. After all, ballot design has evolved over centuries to its modern form, and evolution can generate a diverse range of physical appearances.⁴ Design features that are holdovers of old mechanisms might be considered innocuous so long as their effects are incidental. It is essential to avoid conflating the consequences of ballot design with those of endorsement by the political party apparatus, which itself reflects advantages in “access to money, voter databases, field organizations, and other resources that may not be available to other candidates.”⁵ In this alternative narrative, the uncompetitiveness of New Jersey primaries is argued to be independent of ballot design: better candidates receive party endorsements and resources, leading to better performance at the ballot box, regardless of the unfair impact that a ballot design may yield. In other words, a key question is whether a difference in election results would arise from candidate quality alone.

In this article, we present evidence for the converse: the consequences of being placed on the county line are not incidental but instead systematically favor candidates who appear on the line and occur independently of either candidate quality or the support they are otherwise provided by political parties. Further, using the tools of cognitive and statistical science, we propose a multi-part test to distinguish the effects of the county line from the incidental effects of normal ballot design. In particular, these tests provide a way to demonstrate, “extrinsic evidence showing a discriminatory design to favor one individual or class over another not to be inferred from the action itself,” where the action is the implementation of a state statute.⁶ A demonstration of discriminatory effect opens the way to challenges

² Theresa Reidy & Fiona Buckley, *Ballot Paper Design: Evidence from an Experimental Study at the 2009 Local Elections*, 30 IR. POLIT. STUD. 619, 620 (2015), [<https://doi.org/10.1080/07907184.2015.1100802>].

³ *Id.* at 619.

⁴ See ERIK J. ENGSTROM & JASON M. ROBERTS, *THE POLITICS OF BALLOT DESIGN: HOW STATES SHAPE AMERICAN DEMOCRACY* (2020), [<https://doi.org/10.1017/9781108904254>]; Andrew Reynolds & Marco Steenbergen, *How the World Votes: The Political Consequences of Ballot Design, Innovation and Manipulation*, 25 ELECT. STUD. 570 (2006), [<https://doi.org/10.1016/j.electstud.2005.06.009>]. SEAN B. CARROLL, *ENDLESS FORMS MOST BEAUTIFUL: THE NEW SCIENCE OF EVO DEVO* (2006),

⁵ Pugach, *supra* note 1, at 655.

⁶ See Pugach, *supra* note 1, at 655.

2023]

WANG, GOLDBERG, SASS RUBIN

27

based on the Elections Clause of the Constitution,⁷ guaranteeing an election decided by the people, and the Fourteenth Amendment,⁸ guaranteeing equal protection under the law.

This article presents a three-part test. First, a ballot design may invite concern if design principles and cognitive science suggest that it systematically favors one candidate over others via the physical position of displayed information. Second, tests can determine that the ballot design benefits the favored candidate more than would be expected by chance mechanisms. These tests use “natural variation and basic concepts of statistics” to identify a disparate impact.⁹ Third, the resulting bias should take into consideration as a comparison that courts already recognize the unconstitutionality of the primacy effect, a well-known bias in ballot design that imposes a 1 to 5 percentage point advantage.¹⁰

Together, these three tests—design, statistical significance, and magnitude of impact—identify whether a ballot design violates the ability of voters and candidates to participate in a free and fair election. This question has high stakes; in the words of the Supreme Court, “[a] fundamental principle of our representative democracy is . . . ‘that the people should choose whom they please to govern them.’”¹¹

We diverge from past empirical work on ballot design by focusing on the usual system in New Jersey. Previous work has focused primarily on “distinguish[ing] what degree of inequity is allowable.”¹² By translating concepts of inequity into statistical tests and quantitative measures, we demonstrate a practical means of determining when unequal consequences of ballot design have exceeded normal limits.¹³ In doing so, we build upon work in ballot design, examining the impact of colors, labels, and symbols as heuristics and the relationship with election outcomes, as well as principles of visual neuroscience.¹⁴ New

⁷ U.S. CONST. art. I, § 4, cl. 1.

⁸ U.S. CONST. amend. XIV.

⁹ Samuel S.-H. Wang, *Three Tests for Practical Evaluation of Partisan Gerrymandering*, 68 STAN. L. REV. 1263, 1283 (2016).

¹⁰ *Jacobson v. Lee*, 411 F. Supp. 3d 1249, 1269 (N.D. Fla. 2019), *vacated*, *Jacobson v. Fla. Sec’y*, 957 F.3d 1193 (11th Cir. 2020). For a review of the literature on primacy effects, see expert report of Jon Krosnick, ECF No. 112-1.

¹¹ *Powell v. McCormack*, 395 U.S. 486, 547 (1969).

¹² Wang, *supra* note 9 at 1283.

¹³ *See supra* note 10 (citing the expert report of Dr. Krosnick in *Jacobson v. Lee*, which includes a summary of the “1,086 unique tests reported in the literature, [which found] eighty-four percent manifested differences in the direction of primacy, a result which Dr. Krosnick calculated had a less than one one-thousandth of a percent chance (in fact, a 0.0001% chance) of occurring for some reason other than candidate name order.”).

¹⁴ *See Reynolds & Steenbergen, supra* note 4, at 575–81.

Jersey's case will demonstrate that intentional ballot design features can lead to consequences that exceed the primacy effect.

A. *How the County Line Works*

For a major political party's primary election in New Jersey, all candidates, including for President and governor, can align with candidates for other offices on the ballot. This process is known as bracketing.¹⁵ County clerks determine the placement of candidates on the ballot, and they exercise discretion under New Jersey law to select the office to draw for ballot position. The selected office then becomes the pivotal office around which other races' candidates are arranged. County clerks first draw names among all the candidates for that pivotal office to see who appears in each column. Co-bracketed candidates for other offices are then added to the resulting columns, as appropriate. Next, unbracketed candidates are drawn for placement in other columns further to the right. Using their discretion, county clerks can put unbracketed candidates in separate columns, pushing them further to the right or bottom of the ballot. Odd locations on the periphery of the ballot are often referred to as "ballot Siberia."¹⁶

The physical consequence of the county line mechanism is a thick, visually distinctive "line" of candidates bracketed together, usually in the form of a column near the left edge of the ballot. Figure 1 for the 2018 Camden County Democratic Primary is such an example. Unbracketed candidates appear in disorganized-looking patterns, often interspersed with significant whitespace or in hard-to-find locations. County bosses may put up "phantom candidates," candidates with no intention of making active efforts to win, to push serious but unbracketed candidates further away from the county line.¹⁷ If a candidate fails to obtain the county line, they may opt to drop out of the race before the primary. In cases with many freeholder candidates who

¹⁵ See Pugach, *supra* note 1, at 637–38.

¹⁶ See Sue Altman, *Altman*, YOUTUBE (Mar. 2, 2019), <https://www.youtube.com/watch?v=niDwzwmvMio>; South Jersey Times Editorial Board, *Rescue N.J. Upstarts from 'Ballot Siberia'*, NJ.COM (Mar. 25, 2016, 12:40 p.m.), https://www.nj.com/opinion/2016/03/rescue_nj_upstarts_from_ballot_siberia_editorial.html; Nikita Biryukov, *Al-Khatahtbeh Says She'll Pursue Legal Action Over Placement in Ballot Siberia*, N.J. GLOBE (July 5, 2020 2:36 pm), <https://newjerseyglobe.com/congress/al-khatahtbe-says-shell-pursue-legal-action-over-placement-in-ballot-siberia/>.

¹⁷ Matt Friedman, *Anti-Machine Democrats in Camden County Complain of "Phantom Candidates"*, POLITICO (Apr. 10, 2019, 5:00 AM), <https://www.politico.com/states/new-jersey/story/2019/04/09/anti-machine-democrats-in-camden-county-complain-of-phantom-candidates-960442>.

2023]

WANG, GOLDBERG, SASS RUBIN

29

are off the county line, candidates with nothing in common and who may not know one another can even end up bracketed together.¹⁸

The county line system has features suggesting that it may give voters a mental shortcut, which may drive their behavior. Here, we will describe features of human visual processing that may bias the choice made by voters presented with a ballot formatted according to the county line.

B. Decision Heuristics Drive Mental Shortcuts

Voters have many factors and preferences available to them when they select a candidate. They read or hear about candidates, watch the news, and consider past preferences. These factors may lead to an informed choice at the ballot. Alternatively, voters may be influenced by cues they are unaware of, which influence their choice. However, a choice is not necessarily a rational evaluation.

Biologically speaking, the brain is a survival machine that has been selected to get through life efficiently and maximize the odds of survival. As an adaptation to the speed and burdens of everyday life, mental shortcuts simplify the complexity of the world.¹⁹ Heuristics are shortcuts that work most of the time—but not always.²⁰ Therefore, decisions may approximate rationality in most situations, but can go astray under particular circumstances.²¹

Cognitive shortcuts can steer behavior.²² Social psychologists Susan Fiske and Shelley Taylor identified a guiding principle in how brains can be led astray and coined the phrase “cognitive miser” to encapsulate the idea that humans make judgments and choices that

¹⁸ *Id.*

¹⁹ SANDRA AAMODT & SAM WANG, WELCOME TO YOUR BRAIN: WHY YOU LOSE YOUR CAR KEYS BUT NEVER FORGET HOW TO DRIVE AND OTHER PUZZLES OF EVERYDAY LIFE 23 (2011); Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, 185 SCIENCE 4157, 1124, 1127 (1974), <https://doi.org/10.1126/science.185.4157.1124>; Gerd Gigerenzer & Wolfgang Gaissmaier, *Heuristic Decision Making*, 62 ANN. REV. PSYCH. 451, 457, 468 (2011), [<https://doi.org/10.1146/annurev-psych-120709-145346>].

²⁰ Tversky & Kahneman, *supra* note 19, at 1131.

²¹ Tversky & Kahneman, *supra* note 19, at 1131. Psychologists Daniel Kahnemann and Amos Tversky performed a series of well-known experiments in the 1970s and 1980s in which they demonstrated that under the right conditions, people take into account evidence that was unrelated to a rational choice. In one experiment, subjects were shown the outcome of the spin of a roulette-like wheel and then asked to guess the percentage of African countries in the United Nations. Participants who saw a lower number on the wheel guessed a lower percentage, and those with a higher number on the wheel guessed a higher percentage. This example shows that even an irrelevant random number can influence behavior.

²² For an overview of this literature, see Gigerenzer & Gaissmaier, *supra* note 19.

minimize mental effort.²³ They proposed that conserving mental effort—being a cognitive miser—can account for a variety of cognitive biases, including racial stereotyping, political polarization, and motivated reasoning.²⁴ In their model, mental resources are expended judiciously to serve any goal. This principle can account for observations in the evolution of animal behavior, cognitive neuroscience, social psychology, and behavioral economics. In each case, cognitive shortcuts can be a source of unintended bias.²⁵

C. Bad Ballot Design and Visual Neuroscience

The goal of sound ballot design principles is to minimize voting errors and bias.²⁶ The Election Assistance Commission has noted that patterns are very important in providing guidance to voters, especially those with limited literacy.²⁷ Intuition suggests that a good ballot design should follow certain principles of neutrality: the design should reduce errors, and errors that occur should not favor or disfavor a particular candidate. In other words, the features of a well-designed ballot should have effects on voter choice that are minimal and without bias.²⁸

New Jersey primary ballots are antithetical to these design principles. The geometric layout of a county line ballot can exploit decision heuristics to lead the voter's gaze. Like other visual primates, humans use the arrangement of objects to detect patterns and even

²³ SUSAN T. FISKE & SHELLEY TAYLOR, *SOCIAL COGNITION* 13 (2nd ed. 1991).

²⁴ *See id.*

²⁵ Buster Benson, *Cognitive Bias Cheat Sheet*, BETTER HUMANS (Sept. 1, 2016), <https://betterhumans.pub/cognitive-bias-cheat-sheet-55a472476b18> (last visited Aug. 27, 2023).

²⁶ For more on best practices of ballot design, *see* LAWRENCE NORDEN & SUNDEEP IYER, *DESIGN DEFICIENCIES AND LOST VOTES* 41 (2011); Lawrence Norden & Carson Whitelemons, *Better Design, Fewer Lost Votes: Part I*, BRENNAN CTR. FOR JUST.: ANALYSIS AND OPINION (June 12, 2013), <https://www.brennancenter.org/our-work/analysis-opinion/better-design-fewer-lost-votes-part-i> (last visited Aug. 27, 2023); Lawrence Norden et al., *Better Ballots* 1, BRENNAN CTR. FOR JUST.: ANALYSIS AND OPINION (2008), <https://www.brennancenter.org/our-work/research-reports/better-ballots> (last visited Aug. 27, 2023); MARCIA LAUSEN, *DESIGN FOR DEMOCRACY: BALLOT AND ELECTION DESIGN* (2007), [<https://doi.org/10.7208/chicago/9780226470634.001.0001>].

²⁷ U.S. ELECTION ASSISTANCE COMM'N, *EFFECTIVE DESIGNS FOR THE ADMINISTRATION OF FEDERAL ELECTIONS* 240 (2007), https://www.eac.gov/sites/default/files/eac_assets/1/1/EAC_Effective_Election_Design.pdf (last visited Aug. 27, 2023).

²⁸ *Gould v. Grubb*, 536 P.2d 1337, 1348 (Cal. 1975) (“[O]ur state and federal Constitutions mandate that the government must, if possible, avoid any feature that might adulterate or, indeed, frustrate, that free and pure choice; the state must eschew arbitrary preferment [sic] of one candidate over another In our governmental system, the voters' selection must remain untainted by extraneous artificial advantages imposed by weighted procedures of the election process.”).

2023]

WANG, GOLDBERG, SASS RUBIN

31

make decisions.²⁹ The use of patterns to guide action is well-known in the sciences and arts.³⁰ For example, objects lined up on a canvas can guide the eye toward an emphasis point in a painting.³¹ Furthermore, “individuals typically enter a picture at the left foreground and proceed along a specified path or ‘glance curve’ into the depth of the picture and over to its right-hand side.”³²

These well-known features of visual processing make it easier for a voter to make choices listed first, clustered near one another, or arranged in an orderly line. Such preferences could be independent of the merits of candidates while simply acting as a subtle encouragement of one choice over others. In this way, the designer of a county line ballot is nudging the voter toward one choice over others, much like a classic card force in which a subject can be induced to pick a particular card from a presented deck.

Such leading of the eye is anathema to good ballot design because “a confusing ballot . . . results in voter frustration” and “voters want ballots that are easy to understand to be confident that they have cast their votes as intended.”³³ Best practices include simplicity, clear instructions, and readable type.³⁴ Instructions should be accurate, type should be large, and font should only change to signify changes in meaning or information.³⁵ All candidates for a position should be listed

²⁹ The brain’s visual system is biased towards horizontal and vertical orientations relative to oblique orientations. R.J.W. Mansfield, *Neural Basis of Orientation Perception in Primate Vision*, 186 *SCIENCE* 1133, 1133–35 (1974), [<https://doi.org/10.1126/science.186.4169.1133>]. A bias that favors some candidates in the current ballot design may have its roots in visual experience, as seen by cross-cultural comparison, for example, with Cree Indians. Robert C. Annis & Barrie Frost, *Human Visual Ecology and Orientation Anisotropies in Acuity*, 182 *SCIENCE* 729, 729–31 (1973), [<https://doi.org/10.1126/science.182.4113.729>].

³⁰ Charles G. Gross & Marc H. Bornstein, *Left and Right in Science and Art*, 11 *LEONARDO* 29 (1978), [<https://doi.org/10.2307/1573500>].

³¹ *Id.* at 36.

³² *Id.* at 36.

³³ Lausen, *supra* note 26, at 11.

³⁴ LAWRENCE NORDEN ET AL., *BETTER BALLOTS* 16 (2008), [<https://www.brennancenter.org/our-work/research-reports/better-ballots>] (last visited Aug. 27, 2023); WENDY WEISER ET AL., *HOW TO FIX THE VOTING SYSTEM* 20 (2013), [<https://www.brennancenter.org/our-work/research-reports/how-fix-voting-system>] (last visited Aug. 27, 2023); *see generally* Andrew Reynolds & Marco Steenbergen, *How the World Votes: The Political Consequences of Ballot Design, Innovation and Manipulation*, 25 *ELECTORAL STUD.* 570–98 (2006), [<https://doi.org/10.1016/j.electstud.2005.06.009>].

³⁵ Weiser, *supra* note 34, at 20; Norden, *supra* note 34, at 16–17; Lausen, *supra* note 26, at 29, 151; U.S. ELECTION ASSISTANCE COMM’N, *EFFECTIVE DESIGNS FOR THE ADMINISTRATION OF FEDERAL ELECTIONS* 246 (2007), [https://www.eac.gov/sites/default/files/eac_assets/1/1/EAC_Effective_Election_Design.pdf] (last visited Aug. 27, 2023).

in a single row or column.³⁶ Most of all, candidates should receive equal treatment.³⁷ Using these principles, voters can be guided toward considering options equally, leading to a freely chosen vote. These best practices take advantage of the way in which the brain apprehends a visual scene, the eyes are drawn toward objects that form orderly structures such as clusters, straight lines, or patterns.³⁸

In contrast to these design principles, the county line ballot contains structures that guide the eye in ways that do not allow equal treatment of all candidates. Most prominent is a column featuring not all candidates for one office but one candidate for each, with their various opponents displayed elsewhere. This structure, termed the county line, conveys what is known as the “weight of the line.”

D. The County Line Creates a Visual Shortcut

Failure to follow best practices can lead to significant errors in completing ballots. Case law “demonstrates very clearly that a ballot design that is neutral on its face can be employed to manipulate election results.”³⁹ An advantage may even accrue simply from being listed first among multiple options, a phenomenon known as the primacy effect—the tendency to choose the first option presented.⁴⁰ When humans are presented with information, they are biased toward first impressions and resist change.⁴¹ In laboratory psychology experiments, participants given cues of similar validity at the start and in the middle of a decision scenario are more likely to select the primary cue.⁴²

³⁶ ANDREA CÓRDOVA McCADNEY, LAWRENCE NORDEN & WHITNEY QUESENBERY, COMMON BALLOT DESIGN FLAWS AND HOW TO FIX THEM (Feb. 3, 2020), <https://www.brennancenter.org/our-work/research-reports/common-ballot-design-flaws-and-how-fix-them> (last visited Aug. 27, 2023); Norden, *supra* note 30, at 20.

³⁷ Norden, *supra* note 34, at 17; see 42 U.S.C. § 12101 (Americans with Disabilities Act); N.J. STAT. ANN. § 19:8-3.2.

³⁸ Mansfield, *supra* note 29, at 1133–35; DAVID MARR, A COMPUTATIONAL INVESTIGATION INTO THE HUMAN REPRESENTATION AND PROCESSING OF VISUAL INFORMATION (2010).

³⁹ MICHAEL DIMINO, BRADLEY A. SMITH & MICHAEL E. SOLIMINE, VOTING RIGHTS AND ELECTION LAW: CASES, EXPLANATORY NOTES, AND PROBLEMS 535 (3rd ed. 2021).

⁴⁰ See Krosnick, *supra* note 10.

⁴¹ As another example, jurors engage in predecisional distortion, which is where they differentially weigh new evidence based on the tentative judgment the juror has reached at a given point during the trial. Kurt A. Carlson & J. Edward Russo, *Biased Interpretation of Evidence by Mock Jurors*, 7 J. EXP. PSYCH.: APPLIED 91 (2001), [<https://doi.org/10.1037/1076-898X.7.2.91>]; see also Juanita Todd et al., *Lasting First Impressions: A Conservative Bias in Automatic Filters of the Acoustic Environment*, 49 NEUROPSYCHOLOGIA 3399 (2011), [<https://doi.org/10.1016/j.neuropsychologia.2011.08.016>].

⁴² Ashley Lawrence et al., *Long-term Serial Position Effects in Cue-Based Inference*, 13 PLoS ONE at 10 (2018)

2023]

WANG, GOLDBERG, SASS RUBIN

33

Additional errors may also arise from leading the eye astray. The butterfly format used in the presidential election of 2000 in Palm Beach County is a famous modern example of poor ballot design.⁴³ In this ballot, the second listed choice, Pat Buchanan, corresponded with the bubble physically aligned with the third-listed choice, Albert A. Gore Jr., leading to approximately 2000 mistakenly cast votes for Buchanan instead of Gore.⁴⁴ This error was several times larger than the reported final statewide margin of victory for George W. Bush.⁴⁵ Although the error induced was less than 0.01% of the total votes cast, it was decisive in determining the election outcome in Florida and nationally. In retrospect, such an error might rightly be regarded as unacceptably large.

In light of the butterfly-ballot example, any flaw in ballot design that leads to a detectable shift in votes might be regarded critically. A ballot design that leads to directional bias that (dis)favors one candidate in voter choice would be a systematic violation of the rights of both candidates and voters.

The county line ballot combines several forms of visual misdirection. It contains an extreme version of the primacy effect, in which the first choice appears at the left of the ballot, coupled with the weight of the line, and separated by multiple blank spaces from later choices. In this case, the eyes must travel far to reach later choices. The primacy effect has been recognized by courts as having an impermissibly large impact on ballots.⁴⁶

In addition, the scattershot placement of other candidates makes it difficult for the voter to match a candidate's name with the corresponding office or voting instructions. For example, depending on how county clerks place two candidates for the same office (e.g., locating them in the same box), they introduce voter confusion, thereby inducing overvoting.⁴⁷ Alternatively, party leaders may run "phantom

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0200821>
[<https://doi.org/10.1371/journal.pone.0200821>].

⁴³ Jonathan N. Wand et al., *The Butterfly Did It: The Aberrant Vote for Buchanan in Palm Beach County, Florida*, 95 AM. POL. SCI. REV. [https://doi.org/10.1017/S000305540040002X].

⁴⁴ *Id.* at 795.

⁴⁵ *Id.*

⁴⁶ See *McLain v. Meier*, 637 F.2d 1159, 1166 n. 15 (8th Cir. 1980) ("[M]any studies report a finding of some ballot advantage in the top position."). These electoral advantages are referred to as "primacy effects;" see also W. James Scott Jr., *California Ballot Position Statutes: An Unconstitutional Advantage to Incumbents*, 45 S. CAL. L. REV. 365 (1972).

⁴⁷ See Pugach, *supra* note 1 at 699; Julia Sass Rubin, *Does the County Line Matter? An Analysis of New Jersey's 2020 Primary Election Results*, N.J. POL'Y PERSP. at 13 (Aug. 13,

candidates” to make the ballot larger and more confusing.⁴⁸ The county line is thus “[a] ballot design that lines candidates into party columns encourag[ing] straight-ticket voting.”⁴⁹ In this way, party bosses may intuitively understand the effectiveness of visual misdirection even if they are not aware of the principles of cognitive bias.

II. THE COUNTY LINE MAY VIOLATE FEDERAL AND STATE VOTING RIGHTS

The New Jersey county line system may run afoul of guarantees in the U.S. Constitution, including free association in the First Amendment and equal protection provided in the Fourteenth Amendment.⁵⁰ Both guarantees also appear in the New Jersey Constitution, providing an additional basis for unconstitutionality.⁵¹ Since both federal and state elections use the county line, state lawmakers are constrained by both constitutions. These guarantees are judicially enforceable, as recently reinforced by the U.S. Supreme Court in *Moore v. Harper*, which stated that, “fashioning regulations governing federal elections’ unquestionably calls for the exercise of lawmaking authority.’ And the exercise of such authority in the context of the Elections Clause is subject to the ordinary constraints on lawmaking in the state constitution.”⁵²

State law has long constrained ballot design on the basis of giving undue preference to one candidate. Even inadvertent bias may be subject to limitations. For example, a rule with seemingly benign intent, such as alphabetical listing of candidate names, was found to confer an unconstitutional systematic advantage to candidates with earlier-appearing names.⁵³ Such advantage is predicted by the cognitive

2020), <https://www.njpp.org/publications/report/does-the-county-line-matter-an-analysis-of-new-jerseys-2020-primary-election-results>; Julia Sass Rubin, *The Impact of New Jersey’s County Line Primary Ballots on Election Outcomes, Politics, and Policy*, 48 SETON HALL J. LEGIS. & PUB. POL’Y, 101, 104 (forthcoming 2023) (noting that 32% of voters overvoted in Mercer County in 2020 and 19% undervoted in Atlantic County).

⁴⁸ See Pugach, *supra* note 1 at 661–63; see also Friedman, *supra* note 17.

⁴⁹ ENGSTROM & ROBERTS, *supra* note 4 at 27.

⁵⁰ U.S. CONST. amends. I, XIV.

⁵¹ See N.J. CONST. art. I ¶ 18 (freedom of assembly); see also N.J. CONST. art. I ¶ 1 (equal protection); *Greenberg v. Kimmelman*, 494 A.2d 294, 302, (N.J. 1985) (“Nonetheless, article I, paragraph 1, like the fourteenth amendment, seeks to protect against injustice and against the unequal treatment of those who should be treated alike. To this extent, article I safeguards values like those encompassed by the principles of due process and equal protection.”).

⁵² *Moore v. Harper*, 143 S. Ct. 2065, 2085 (2023) (internal citations omitted).

⁵³ See *Akins v. Sec’y of State*, 904 A.2d 702, 708 (N.H. 2006); see also *Elliott v. Sec’y of State*, 294 N.W. 171, 173 (Mich. 1940); *Kautenburger v. Jackson*, 333 P.2d 293, 295 (Ariz. 1958); *Weisberg v. Powell*, 417 F.2d 388, 392–93 (7th Cir. 1969) (en banc rehearing denied).

2023]

WANG, GOLDBERG, SASS RUBIN

35

principle of primacy, the tendency to prefer the first item on a list.⁵⁴ The Michigan Supreme Court has expressly stated that such an advantage is significant, “[i]t is a commonly known and accepted fact that in an election, either primary or general, where a number of candidates or nominees for the same office are before the electorate, those whose names appear at the head of the list have a distinct advantage.”⁵⁵

In the case of candidate incumbency, courts in multiple states have struck down laws advantaging incumbent candidates at the expense of independent parties and new parties.⁵⁶ In *McLain*, the 8th Circuit found that a North Dakota statute giving preferential treatment in the form of the first column or row on a ballot to the incumbent party was unconstitutional. The Court noted that “such favoritism burdens the fundamental right to vote possessed by supporters of the last-listed candidates, in violation of the Fourteenth Amendment.”⁵⁷ Furthermore, courts have struck down laws in other states that provided an unfair and undue advantage to specific candidates in general elections.⁵⁸ A similar practice is potentially at play in New Jersey with the county line, which may give the endorsed candidate preferential treatment on the ballot.

A. A Balancing Approach for Evaluating Undue Advantage

Federal courts have jurisdiction to hear cases regarding the election administration of federal offices, including the interpretation of state laws.⁵⁹ Such laws are subject to constraints emanating from the Equal Protection Clause and the First Amendment.⁶⁰ These constraints can be far-reaching; the Supreme Court has noted that “[e]lections are

⁵⁴ See *supra* note 10.

⁵⁵ *Elliott*, 294 N.W. at 173.

⁵⁶ *Gould v. Grubb*, 536 P.2d 1337, 1338-1339 (Cal. 1975); *Holtzman v. Power*, 313 N.Y.S.2d 904, 908 (Sup. Ct. 1970), *aff'd mem.*, 34 A.D.2d 917 (N.Y. App. Div. 1970); *McLain v. Meier*, 637 F.2d 1159, 1166-67 (8th Cir. 1980) (finding a 5% advantage to being listed first on the ballot based on an expert witness); *Culliton v. Bd. of Election Comm'rs. of DuPage Cnty.*, 419 F.Supp. 126, 128 (N.D.Ill. 1976), *aff'd in part and remanded in part sub nom.*, *Sangmeister v. Woodard*, 565 F.2d 460, 468 (7th Cir. 1977), *cert. denied and app. dismissed sub nom.*, *Ill. State Bd. of Elections v. Sangmeister*, 435 U.S. 939 (1978) (finding a 5% advantage to being listed first on the ballot).

⁵⁷ *McLain*, 637 F.2d at 1167.

⁵⁸ See *Sangmeister*, 565 F.2d at 460; see also *Graves v. McElderry*, 946 F. Supp. 1569, 1581-82 (W.D. Okla. 1996); *Akins*, 904 A.2d 702, 707-08; *Gould*, 536 P.2d at 1347-48; *Holtzman*, 313 N.Y.S.2d at 1024-25.

⁵⁹ *Moore v. Harper*, 143 S. Ct. 2065, 2072 (2023).

⁶⁰ See *Williams v. Rhodes*, 393 U.S. 23, 30-31 (1968); see also *McLain*, 637 F.2d at 1167 (“However, a finding that advantage accrued to the incumbent party on the 1976 North Dakota ballot does not end our inquiry. The unequal effect flowing from the ballot design gives rise to the equal protection question whether the inequality is such as offends the fourteenth amendment.”).

complex affairs, demanding rules that dictate everything from the date on which voters will go to the polls to the dimensions and font of individual ballots.”⁶¹

However, the harms that arise from a specific method of conducting an election may be balanced against the benefits that may accrue from existing election rules, or the burden that may arise from changing an election procedure.⁶² The facts related to election administration are to be weighed using the *Anderson-Burdick* balancing test:

[A] court considering a challenge to a state election law must weigh “the character and magnitude of the asserted injury to the rights protected by the First and Fourteenth Amendments that the plaintiff seeks to vindicate” against “the precise interests put forward by the State as justifications for the burden imposed by its rule,” taking into consideration “the extent to which those interests make it necessary to burden the plaintiff’s rights.”⁶³

Under the *Anderson-Burdick* balancing test, courts weigh the “character and magnitude” of a rule or regulation about voting against the “precise interests put forward by the State.”⁶⁴ Burdens can either be “severe,” in which case they are subject to strict scrutiny, or they can be “reasonable, nondiscriminatory restrictions” and are subject to the rational basis test (a lower standard).⁶⁵ These lower burdens can be justified by “the State’s important regulatory interests.”⁶⁶ When balancing State and plaintiff’s interests, courts are to consider “the extent to which those [State] interests make it necessary to burden the plaintiff’s rights.”⁶⁷ The State’s considerations when designing a ballot include simplicity, ease of use, and ease of counting votes.

⁶¹ *Moore*, 143 S. Ct. at 2071 (citing *Smiley v. Holm*, 285 U.S. 355, 367 (1932)).

⁶² *Anderson v. Celebrezze*, 460 U.S. 780, 789 (1983); *Burdick v. Takushi*, 504 U.S. 428, 434 (1992).

⁶³ *Burdick*, 504 U.S. at 434 (quoting *Anderson*, 460 U.S. at 789.); *see also* *Tashjian v. Republican Party of Conn.*, 479 U.S. 208, 213–14 (1986).

⁶⁴ *Burdick*, 504 U.S. at 434.

⁶⁵ *Burdick*, 504 U.S. at 434 (1992) (“The rigorousness of our inquiry into the propriety of a state election law depends upon the extent to which a challenged regulation burdens First and Fourteenth Amendment rights. Thus, as we have recognized when those rights are subjected to severe restrictions, the regulation must be narrowly drawn to advance a state interest of compelling importance. But when a state election law provision imposes only ‘reasonable, nondiscriminatory restrictions’ . . . the State’s important regulatory interests are generally sufficient to justify the restrictions.”) (internal quotations and citations omitted).

⁶⁶ *Id.* (quoting *Anderson*, 460 U.S. at 788).

⁶⁷ *Anderson*, 460 U.S. at 789.

2023]

WANG, GOLDBERG, SASS RUBIN

37

The county line emerged as the result of several court interpretations of federal and state laws.⁶⁸ The Anderson-Burdick test suggests that judicial intervention in the county line or a similar ballot design would require a demonstration of severe harm to voters or candidates. Generally, the state is interested in the stability of its political systems. However, “[t]his interest does not permit a State to completely insulate the two-party system from minor parties’ or independent candidates’ competition and influence, nor is it a paternalistic license for States to protect political parties from the consequences of their own internal disagreements.”⁶⁹

More generally, the Supreme Court has stated that “[i]f the State has open to it a less drastic way of satisfying its legitimate interests, it may not choose a legislative scheme that broadly stifles the exercise of fundamental personal liberties.”⁷⁰ Indeed, a substantial simplification is possible. A clerk could, for example, put all candidates into the same draw for the first column instead of only considering those who are bracketed to begin with. Alternatively, the clerk could move to a more traditional bubble ballot, which is already used within two of New Jersey’s twenty-one counties and in almost all other states.⁷¹ Furthermore, by removing white space on the ballot to make it more compact, election administration would likely become less expensive. In short, it would appear to be in the state’s regulatory and administrative interest to remove the county line.

B. Test 1: Identify Facial Design Flaws Using Design and Visual Science

A first step in identifying biased design is to apply basic principles of decision heuristics and visual neuroscience. The physical arrangement of candidate names may treat candidates unequally to a greater extent than that arising from a simple listing. The presence of unusual geometric arrangements, which tend to guide the eye, may be taken as an indication of particularly large potential bias. These facial indications of bias identify favored candidates.

⁶⁸ See Pugach, *supra* note 1.

⁶⁹ *Timmons v. Twin Cities Area New Party*, 520 U.S. 351, 367 (1997) (internal citations omitted).

⁷⁰ *Kusper v. Pontikes*, 414 U.S. 51, 59 (1973).

⁷¹ Julia Sass Rubin, *Toeing the Line: New Jersey Primary Ballots Enable Party Insiders to Pick Winners*, N.J. POL’Y PERSP. 15 n.4 (June 29, 2020), <https://www.njpp.org/publications/report/toeing-the-line-new-jersey-primary-ballots-enable-party-insiders-to-pick-winners/>; Julia Sass Rubin, *The Impact of New Jersey’s County Line Primary Ballots on Election Outcomes, Politics, and Policy*, 48 SETON HALL J. LEGIS. & PUB. POL’Y, 101, 104 (forthcoming 2023).

In “[e]mpirical analyses . . . with a larger number of candidates on the ballot, voters may be more likely to resort to shortcuts to identify and select their preferred electoral option. Hence, differences in the way in which information is displayed and accessed across technologies could have a considerable effect on vote choice in multiparty systems.”⁷² Voting patterns may be influenced by politically substantive heuristics such as party identification and slogans, thus “shaping [voters’] political judgments.”⁷³

How people access, process, and integrate shortcuts into their decision-making process also influences voting behavior. Scholars have shown that the ease or difficulty of finding particular cues and their relative prominence can affect the nature and quality of the vote.⁷⁴ Since the English language is read from left to right and top to bottom, a county line that appears near the left or top edge of a ballot may provide a strong, prominent cue. Alignment in a row or column of names (what we call the “weight of the line”) constitutes a simple visual shortcut. Identical ballot slogans reinforce this visual shortcut by aligning better-known candidates at the top of the ballot with candidates below.⁷⁵

Once it has been determined that display on a distinct row or column on a ballot is potentially problematic because of visually-guided effects, a key question arises as to whether the visual weight of the county line has effects that are larger than those of ballot primacy arising from candidate order alone. We will next present two ways of identifying those effects: an unusually high success rate for candidates running on the line, and unusually large vote shares arising specifically from placement on the county line compared with ordinary political and ballot mechanisms.

C. Test 2: Influence of Ballot Design on Election Outcomes

To determine whether a facially suspect ballot design has meaningfully influenced election outcomes, it is desirable to have the outcomes of many elections conducted using that design. In the case of the New Jersey ballot line, such outcomes are available in two recent

⁷² Gabriel Katz et al., *Assessing the Impact of Alternative Voting Technologies on Multi-Party Elections: Design Features, Heuristic Processing and Voter Choice*, 33 POL. BEHAV. 247, 248 (2011) (internal citations omitted), [<https://doi.org/10.1007/s11109-010-9132-y>].

⁷³ *Id.* at 249–50 (internal citations omitted).

⁷⁴ *Id.* at 250 (citing Jeffery Mondak, *Public Opinion and Heuristic Processing of Source Cues*, 15 POL. BEHAV. 167 (1993), [<https://doi.org/10.1007/BF00993852>]; RICHARD LAU & DAVID REDLAWSK, *HOW VOTERS DECIDE: INFORMATION PROCESSING DURING ELECTION CAMPAIGNS* (2006)).

⁷⁵ Pugach, *supra* note 1, at 655, 661.

2023]

WANG, GOLDBERG, SASS RUBIN

39

publications.⁷⁶ We will now examine this data to determine the probability that the outcomes arose by chance.

New Jersey has twenty-one counties, which leads to variation in how elections are administered—and how ballots are designed.⁷⁷ This creates a natural experiment, as is done in social sciences, in which features of interest vary in a manner that allows the effects of particular features to be studied.⁷⁸ County clerks administer elections and design ballots, while they themselves are also elected officials who benefit from the county line.⁷⁹ Those clerks administer primary elections in cooperation with party committees, which have their own bylaws governing their endorsement process.⁸⁰ Thus, in the normal practice of election administration, the county line is determined by processes that vary across counties.⁸¹ Because of this variation, it is possible to compare the same candidate's performance in different counties or with different ballot designs.

To test whether such placement is consequential to the outcome of the election, it is possible to statistically determine whether the identity of the winner is affected by the physical placement of candidates on the ballot. Identification of the candidate who may potentially benefit in the first test provides a specific hypothesis to be tested: whether or not the potentially favored candidate has benefited in the primary from their placement on the county line. And since the vast majority of legislative

⁷⁶ Julia Sass Rubin, *Does the County Line Matter? An Analysis of New Jersey's 2020 Primary Election Results*, N.J. POL'Y PERSP. (Aug. 13, 2020), <https://www.njpp.org/publications/report/does-the-county-line-matter-an-analysis-of-new-jerseys-2020-primary-election-results>; Julia Sass Rubin, *The Impact of New Jersey's County Line Primary Ballots on Election Outcomes, Politics, and Policy*, 48 SETON HALL J. LEGIS. & PUB. POL'Y (forthcoming 2023).

⁷⁷ N.J. REV. STAT. § 19:9-2 (2013). (“The county board of elections shall prepare and distribute on or before April 1 in each year, registration and voting instructions . . . All other books, ballots, envelopes and other blank forms which the county clerk is required to furnish under any other section of this Title . . . for the general election, the primary election for delegates and alternates to national conventions and the general election, shall be furnished, prepared and distributed by the clerks of the various counties.”).

⁷⁸ HANK JENKINS-SMITH ET AL., QUANTITATIVE RESEARCH METHODS FOR POLITICAL SCIENCE, PUBLIC POLICY, AND PUBLIC ADMINISTRATION WITH APPLICATIONS IN R 19 (3d ed. 2017), [<https://doi.org/10.15763/11244/52244>].

⁷⁹ See Pugach, *supra* note 1, at 661; N.J. STAT. ANN. § 19:9-2.

⁸⁰ See Pugach, *supra* note 1, at 658–59.

⁸¹ See *id.*, at 677.

districts have a strong partisan lean,⁸² the nominating race is the critical contest.⁸³

A statistically powerful comparison can be derived from existing officeholders who seek re-election to their seat. These candidates would presumptively win their nomination because of the advantages of incumbency which include name recognition and standing connections to the community, party, and donors, making a loss in the primary an unlikely event. However, candidates may vary in how they appear on the primary ballot.⁸⁴ A candidate may fail to appear on the line because the county party did not select them or if they were redistricted into the same district as another incumbent, in which case only one of them could receive the county line.⁸⁵

Between 2003 and 2023, 1033 incumbent state legislators ran for re-election and 227 of them faced opponents in the primary. Of those,

⁸² See *Margin of Victory Analysis for the 2021 State Legislative Elections*, BALLOTPEDIA, https://ballotpedia.org/Margin_of_victory_analysis_for_the_2021_state_legislative_elections (last visited August 27, 2023). In 2021, only eighteen out of eighty state assembly races and eight out of forty state senate races were decided by a margin of ten points or less.

⁸³ The lack of competitive races reflects the gradual sorting of voters into Democratic- and Republican-leaning communities which has been observed nationally via a phenomenon called “The Big Sort.” See BILL BISHOP, *THE BIG SORT: WHY THE CLUSTERING OF LIKE-MINDED AMERICA IS TEARING US APART* 1, 5–15 (2008); see also Jesse Sussell, *New Support for the Big Sort Hypothesis: An Assessment of Partisan Geographic Sorting in California, 1992–2010*, 46 PS: POL. SCI. & POL. 768, 768 (2013), [<https://doi.org/10.1017/S1049096513001042>] (providing new empirical support for the Big Sort hypothesis and addressing the authors’ critique in Samuel J. Abrams & Morris P. Fiorina, “*The Big Sort*” That Wasn’t: A Skeptical Reexamination, 45 PS: POL. SCI. & POL. 203, 203–09 (2012)); Wendy K. Tam Cho et al., *Voter Migration and the Geographic Sorting of the American Electorate*, 103 ANNALS ASS’N AM. GEOGRAPHERS 856, 860 (2013), [<https://doi.org/10.1080/00045608.2012.720229>]; Ron Johnston et al., *Spatial Polarization of Presidential Voting in the United States, 1992–2012: The “Big Sort” Revisited*, 106 ANNALS AM. ASSOC. GEOGRAPHERS 1047, 1047 (2016), [<https://doi.org/10.1080/24694452.2016.1191991>]; Jacob R. Brown & Ryan D. Enos, *The Measurement of Partisan Sorting for 180 Million Voters*, 5 NATURE HUM. BEHAV. 998, 1006 (2021), [<https://doi.org/10.1038/s41562-021-01066-z>].

⁸⁴ See *Culliton v. Bd. of Election Comm’rs of DuPage Cnty.*, 419 F. Supp. 126, 128–29 (N.D. Ill. 1976), *aff’d and remanded sub nom*, *Sangmeister v. Woodard*, 565 F.2d 460 (7th Cir. 1977) (“Of course, candidates on the bottom of the ballot may still prevail where they have significant popularity. Nonetheless, elections have been frequently decided by far less than a 6% margin, and it would be a denial of equal protection to arbitrarily give one candidate such a head start towards victory.”).

⁸⁵ See Pugach, *supra* note 1, at 655. Assm. Joe Howarth lost the county line in 2019, contributing to his loss. Julia Sass Rubin, *The Impact of New Jersey’s County Line Primary Ballots on Election Outcomes, Politics, and Policy*, 48 SETON HALL J. LEGIS. & PUB. POL’Y, 101, 104 Figure 6 (forthcoming 2023); Charles Stile, *NJ incumbents hold a firm grip, thanks to coveted party ballot lines*, NORTHJERSEY.COM (June 11, 2021, 4:30 AM), <https://www.northjersey.com/story/news/columnists/charles-stile/2021/06/11/nj-primary-election-results-incumbents/7621437002/>.

2023]

WANG, GOLDBERG, SASS RUBIN

41

208 incumbents ran on the county line in all the counties in their districts that used a county line ballot. Only three of those 208 were defeated. Nineteen lost the line in at least one of the counties in their district. Of those nineteen, only nine won their nomination bids.⁸⁶ In addition, at least five incumbents lost the county line and withdrew before the primary.⁸⁷ Truly, not being on the line is consequential for New Jersey incumbents' political careers. Statistically, the probability that the two winning track records, 205 out of 208 fully on the line compared with 9 out of 19 that did not have the county line in all of their counties, arose by chance from a population with the same odds of re-nomination is 1 in 3 billion.⁸⁸ Such a low probability is consistent with the interpretation that the county line, or some other variable that tracks it closely, is responsible for the ability of incumbents to be renominated.

In an alternative explanation of these results, it may simply be that re-election is easier for incumbents. This too can be tested by comparing the re-election performance of New Jersey incumbents receiving the county line with legislative incumbents across the other forty-nine states. These incumbents provide a clear comparison group against which to measure the re-election performance of New Jersey legislators. From 2010 to 2022, of over 34,000 primary contests nationally in even-numbered years in which incumbents ran for re-election, they lost 1,121 races, a failure rate of 3.29%. We compared this with the 669 New Jersey state legislative races where the incumbent was listed on every county line in their district that used a county line ballot, whether the incumbent was opposed or not.⁸⁹ All were renominated, giving a failure rate of 0.00%. The probability that this difference arose by chance is less than 1 in 500,000.⁹⁰

The possibility remains that incumbents may fail to get the county line for substantive reasons, which county committees may identify when screening candidates. For example, local party officials and

⁸⁶ Julia Sass Rubin, *The Impact of New Jersey's County Line Primary Ballots on Election Outcomes, Politics, and Policy*, 48 SETON HALL J. LEGIS. & PUB. POL'Y (forthcoming 2023).

⁸⁷ 2023 New Jersey General Assembly Election, WIKIPEDIA, https://en.wikipedia.org/wiki/2023_New_Jersey_General_Assembly_election (last visited Oct. 24, 2023); 2021 New Jersey General Assembly election, WIKIPEDIA, https://en.wikipedia.org/wiki/2021_New_Jersey_General_Assembly_election (last visited Oct. 24, 2023); *Incumbents defeated in state legislative elections, 2022*, BALLOTPEdia (Aug. 31, 2023), https://ballotpedia.org/Incumbents_defeated_in_state_legislative_elections,_2022

⁸⁸ This statistical comparison was done by the Fisher exact test.

⁸⁹ 679 incumbent state legislators who ran for reelection between 2011 and 2023. Ten of them lost the county line in at least one of the counties in their district.

⁹⁰ This statistical comparison was done by the Fisher exact test.

activists will likely be aware of candidate quality, funding, and issue stands. In this explanation, voters might eventually detect the reasons in due time, even without the county line mechanism. However, this explanation is still consistent with the idea that incumbents become fated to lose office at the moment that they fail to attain the county line. In either scenario, voters have no meaningful say in the election outcome.

D. Test 3: How Much Does a Candidate Benefit from the County Line?

The first two tests we have described ascertain first, whether a ballot design is likely to unduly favor some candidates over others, as determined from well-known principles of ballot design and visual neuroscience, and second, whether the outcomes of elections held using the ballot design deviate from the patterns expected from other elections of the same type.

We now present the third test, which starts from the idea that each race is, in a sense, best compared to itself. Any individual race features unique local conditions and candidates who have unique merits and demerits. In this regard, it may be helpful to compare outcomes that occur naturally within individual races. Such within-race comparisons give a direct estimate of the effect of the county line.

1. New Jersey Candidates Received an Advantage of Over Thirty Percentage Points by Being on the County Line.

Within any given primary race in New Jersey, a natural experiment may arise if an incumbent has the line on one county's ballot but not in another county. This could happen for a variety of reasons. Different county committees may reach different decisions about who they wish to support. A candidate may win the endorsement of a county committee, but the ballot did not have county lines and followed a more traditional layout. Finally, during the COVID-19 pandemic, some mail ballots did not follow the same format as the in-person ballot.⁹¹ These circumstances, arising for different reasons, provide a variety of means for measuring the effect of the ballot line.⁹² The variety of districts and

⁹¹ Rubin, *supra* note 86, at 2-3; *see generally* Exec. Order No. 177 (2020), <https://nj.gov/infobank/eo/056murphy/pdf/EO-177.pdf>.

⁹² Not included in this analysis is another circumstance in 2020 where incumbent United States Senator Cory Booker bracketed with Brigid Callahan Harrison in all counties except for Atlantic and Ocean. In these two counties, no Senatorial candidate appeared in Column A. In Atlantic County, the rate at which people voted for senator was substantially lower than that for Congressperson or President. Ocean County did

2023]

WANG, GOLDBERG, SASS RUBIN

43

candidates helps to rule out individual factors, such as a candidate residing in one county,⁹³ spending more time there, or advertising more.⁹⁴

Well-matched comparisons have arisen repeatedly in primary elections for federal office. One of us (J.S.R.) gathered such natural experiments for elections spanning two decades, from 2002 to 2022, focusing on the 45 contests in which different candidates received the county line in different counties in the same congressional district or U.S. Senate race.⁹⁵ This is illustrated in Figure 2. Every candidate received a higher vote share when they were on the line than when they were not. The smallest performance differences for those 45 contests was 13 percentage points and the largest was 79 percentage points, with a mean difference of 38 percentage points. The probability that such a difference occurred by chance (i.e., differs from an average of zero) is less than 1 in 1 quintillion (i.e., 1 billionth of a billionth).

not have the same drop off, in part because Congressional candidates also did not show in Column A. See Rubin, *supra* note 86.

⁹³ See V.O. KAY, SOUTHERN POLITICS; IN STATE AND NATION, 37 (1949); Gregory G. Brunk et al., *Contagion-Based Voting in Birmingham, Alabama*, 7 POLIT. GEOGR. Q. 39 (1988), [[https://doi.org/10.1016/0260-9827\(88\)90034-1](https://doi.org/10.1016/0260-9827(88)90034-1)]; Marc Meredith, *Exploiting Friends-and-Neighbors to Estimate Coattail Effects*, 107 AM. POLIT. SCI. REV. 742 (2013), [<https://doi.org/10.1017/S0003055413000439>]; Tom W. Rice & Alisa A. Macht, *Friends and Neighbors Voting in Statewide General Elections*, 31 AM. J. POLIT. SCI. 448 (1987), [<https://doi.org/10.2307/2111084>].

⁹⁴ Gary C. Jacobson, *How Do Campaigns Matter?*, 18 ANN. REV. POLIT. SCI. 31, 35 (2015) (for advertising) [<https://doi.org/10.1146/annurev-polisci-072012-113556>]; see also Bernardo S. Da Silveira & João M. P. De Mello, *Campaign Advertising and Election Outcomes: Quasi-Natural Experiment Evidence from Gubernatorial Elections in Brazil*, 78 REV. ECON. STUD. 590 (2011), [<https://doi.org/10.1093/restud/rdq012>].

⁹⁵ Rubin, *supra* note 86.

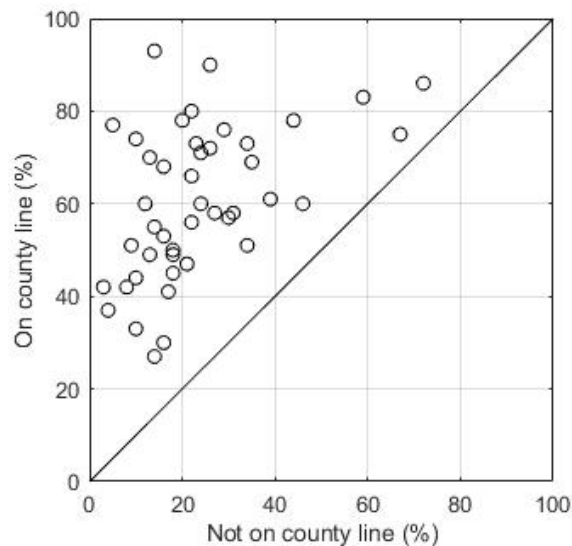


Figure 2: The advantage of being on the county line in 2002-2022 federal elections in New Jersey. The horizontal axis represents a candidate's vote share when not on the county line, and the vertical axis shows the vote share when on the line. The diagonal line represents equality. All the candidates received a higher voter share if they were on the county line than if they were not.

It could be claimed that the county line simply reflects an endorsement, which is the prerogative of a political party. Therefore, it is desirable to evaluate the contribution that arises specifically from the county line, as opposed to the normal effects of having a party's endorsement. To estimate the specific effect of the county line, Rubin compared the performance of 2020 federal primary candidates with both the endorsement and the county line, in contrast to the same candidate with an endorsement but not the county line. In 2020, this occurred for seven candidates: Brigid Callahan Harrison (Democratic candidate, Second District, 23 percentage points), Thomas Kean, Jr. (Republican candidate, Seventh District, 14 percentage points), Jeff Van Drew (Republican incumbent candidate, Second District, 13 percentage points), Rikin Mehta (Republican candidate, U.S. Senate, 15 percentage points), Cory Booker (Democratic incumbent candidate, U.S. Senate, 2 percentage points), Bill Pascrell (Democratic incumbent candidate, Ninth District, -6 percentage points), Josh Gottheimer (Democratic incumbent candidate, Fifth District, 3 percentage points). In these seven cases, the average difference was 9.1 percentage points. The difference for non-incumbents averaged 17.3 percentage points. (For incumbents,

2023]

WANG, GOLDBERG, SASS RUBIN

45

who have other advantages or disadvantages that may outweigh ballot effects, the average benefit was smaller, 3.0 percentage points.) These differences provide an estimate of the advantage arising from the county line that comes on top of the party endorsement.⁹⁶

The size of the effects of the county line may be compared with the effects of ballot primacy. Courts nationwide have struck down laws granting the first position on the ballot to the first person alphabetically,⁹⁷ to the incumbent,⁹⁸ and to candidates belonging to a specific party.⁹⁹ Many states allocate candidate order randomly or by rotating the order to list each name first on the ballot the same number of times,¹⁰⁰ so as not to generate a primacy effect that consistently benefits one candidate.¹⁰¹ Thus, while courts nationwide have cabined laws that produce ballot primacy effects, New Jersey continues to use a system that has a considerably larger effect. We now turn to a brief review of the size of primacy effects.

2. For Major Parties, Ballot Primacy Effects Typically Amount to One to Five Percentage Points.

Ballot primacy effects are well-measured.¹⁰² Candidates listed first on a list outperform later-listed candidates by 1 to 5 percentage points, enough to swing a close election.¹⁰³ In the 1992 Ohio elections, the

⁹⁶ Julia Sass Rubin, *Does the County Line Matter? An Analysis of New Jersey's 2020 Primary Election Results*, N.J. POL'Y PERSP. 15 n.4 (Aug. 13, 2020), <https://www.njpp.org/publications/report/does-the-county-line-matter-an-analysis-of-new-jerseys-2020-primary-election-results>.

⁹⁷ *Supra* note 56; *Gould v. Grubb*, 536 P.2d 1337, 1345-46 (Cal. 1975) (collecting cases)

⁹⁸ *Gould v. Grubb*, 536 P.2d 1337, 1338-1339 (Cal. 1975); *McLain v Meier*, 637 F.2d 1159, 1166 (8th Cir. 1980) (finding a 5% advantage conveyed by being listed first).

⁹⁹ *Graves v. McElderry*, 946 F. Supp. 1569, 1581-82 (W.D. Okla. 1996) (striking down an Oklahoma law requiring Democratic candidates to be listed at the top of ballots for general elections); *Sangmeister v. Woodard*, 565 F.2d 460, 463 (7th Cir. 1977) ("on the average first place garners 3.3 percent more votes than second place").

¹⁰⁰ Laura Miller, Note, *Election by Lottery: Ballot Order, Equal Protection, and the Irrational Voter*, 13 N.Y.U. J. LEGIS. & PUB. POL'Y 373, 382 (2010).

¹⁰¹ *See, e.g., Koppell v. New York State Board of Elections*, 8 F. Supp. 2d 382 (S.D.N.Y. 1998) (upholding a New York law that assigned first position by lottery, where the first candidate listed had a 4.7% advantage).

¹⁰² Krosnick, *supra* note 10 (summarizing the literature and finding, "1,086 unique tests reported in the literature, [which found] eighty-four percent manifested differences in the direction of primacy, a result which Dr. Krosnick calculated had a less than one one-thousandth of a percent chance (in fact, a 0.0001% chance) of occurring for some reason other than candidate name order.").

¹⁰³ MICHAEL R. DIMINO ET AL., *VOTING RIGHTS AND ELECTION LAW: CASES, EXPLANATORY NOTES, AND PROBLEMS* 525 (3d ed. 2020); *see also* Darren Grant, *The Ballot Order is Huge: Evidence From Texas*, 172 PUB. CHOICE 421, 423 (2017) (Table 1 summarizes the size of the effect found in ten recent articles), [<https://doi.org/10.1007/s11127-017-0454-8>].

candidate listed first had a vote share that was 2.5 percentage points higher on average.¹⁰⁴ A study examining twenty-four years' worth of California elections found that in nonpartisan primaries, being listed first led to a 3 percentage point increase in vote share.¹⁰⁵ In California, the further down a ballot a candidate appeared, the larger the advantage (compared to the expected vote share) a candidate listed first obtained.¹⁰⁶ This, "statistical study verifies the presence of a positional bias in virtually all California elections . . . [the results] indicate that one can attribute at least a five percent[age point] increase in the first listed candidate's vote total to a positional bias."¹⁰⁷ This effect holds across general elections and primaries, and minor parties and nonpartisan candidates experienced statistically significant changes in vote share by being listed first. In primaries, all candidates experienced significant boosts, as much as 6.5 percentage points in the Libertarian primary.

When candidate names were randomized in a New York City primary, the candidate listed first won in 71 of 79 precincts.¹⁰⁸ In the statewide senatorial race, the candidate listed first had an advantage of 1.8 percentage points on average.¹⁰⁹ Other statewide candidates had advantages ranging from 1.6 to 2.8 percentage points.¹¹⁰ Further down the ballot, being listed first gave candidates advantages of up to 11.4 percentage points, an exceptionally large advantage that may have arisen from the low information about the race available to voters. Based on these examples and many others, the typical ballot primacy effect is a 1 to 5 point advantage.

Accordingly, we conclude that the effect of the county line, whose average magnitude in 2020 was 9 points above and beyond that of the party endorsement, and 38 percentage points compared with an opponent having the county line, is considerably larger than the advantage from ballot primacy effects.

¹⁰⁴ Joanne M. Miller & Jon A. Krosnick, *The Impact of Candidate Name Order on Election Outcomes*, 62 PUB. OP. Q. 291 (1998), [<https://doi.org/10.1086/297848>].

¹⁰⁵ Daniel E. Ho & Kosuke Imai, *Estimating Causal Effects of Ballot Order from a Randomized Natural Experiment: The California Alphabet Lottery, 1978-2002*, 72 PUB. OP. Q. 216, 232 tbl.4, 234-35 tbl.5 (2008).

¹⁰⁶ W. James Scott Jr., *California Ballot Position Statutes: An Unconstitutional Advantage to Incumbents*, 45 S. CAL. L. REV. 365, 375 (1972).

¹⁰⁷ See Scott, *supra* note 106, at 376.

¹⁰⁸ Jonathan G. Koppell & Jennifer Steen, *The Effects of Ballot Position on Election Outcomes*, 66 J. POL. 267, 272 (2004), [<https://doi.org/10.1046/j.1468-2508.2004.00151.x>].

¹⁰⁹ *Id.*

¹¹⁰ *Id.* at 274.

2023]

WANG, GOLDBERG, SASS RUBIN

47

III. CONCLUSION

In this article we have presented statistical evidence that the effect of the New Jersey ballot line considerably exceeds that of ballot primacy effects found elsewhere in U.S. elections. In light of this finding, we suggest a three-part test for identifying unconstitutional biases in ballot design. First, does the ballot design contain elements that are unnecessary for the efficient conduct of elections that cognitive science or design principles suggest would tend to unduly favor one or more candidates? Second, does the ballot design lead to a pattern of outcomes that deviates from expectations based on other designs at a statistically significant level? Third, is the size of the bias arising from ballot design comparable to previous instances in which the ballot design invited scrutiny? If these three conditions are met, then we suggest that the ballot design exerts impermissible bias on the freedom of voters and candidates to participate in a free and fair election.

New Jersey ballot's county line is associated with an advantage that accrues to both new candidates and incumbents and is nine points larger than a party endorsement by itself, and thirty-eight points larger than having an opponent on the county line. A parsimonious explanation is that the physical arrangement of candidate names on the county line acts as a powerful force to steer voter behavior toward choices made by the county party chair. These findings suggest that New Jersey politicians use these suboptimal design principles to influence the behavior of voters. Removal of the ballot-line system would bring New Jersey into conformance with other states and fulfill the intent of direct voter involvement in selecting party nominees.