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## Cost of Voting in the American States: 2022\*

Scot Schraufnagel, Michael J. Pomante II, and Quan Li

### ABSTRACT

The ease of voting across the American States is constantly changing. This research updates work that established the relative “cost of voting” during presidential election cycles, in each of the 50 states, from 1996 to 2020. A 2022 iteration is necessary to consider the flurry of new legislative initiatives that passed state legislatures after the 2020 election cycle. Many states made voting easier by codifying changes composed in response to the worldwide COVID-19 pandemic. Other states, over concerns about voter fraud and seemingly at the prompting of former President Donald Trump, took a step backward and made voting more difficult. We learn that Oregon, which has the most progressive automatic voter registration process and all-mail voting, maintains the first position as the easiest state to vote in. Mississippi (49th) and New Hampshire (50th) stay at the bottom of the rankings as the most difficult states for voting. Their failure to move is largely due to these states failing to keep pace with reforms like online voter registration, no excuse absentee voting, and automatic voter registration, which have taken place in other states. Voters in Vermont will find voting much less challenging in 2022 as the state has adopted nearly all the progressive reforms used in other states that make voting easier, not the least of which is an all-mail balloting process.

**Keywords:** Cost of voting, voter registration, early voting, automatic voter registration, photo ID laws, vote by mail

### INTRODUCTION

**I**N THE AFTERMATH OF THE *Shelby County v. Holder* Supreme Court decision, in 2013, legislatures in the American states, which needed preclear-

ance to change state election laws, went into overdrive and passed a series of measures that made voting more restrictive. In roughly the same period, other states began to take advantage of new technologies that negated the need for a voter registration deadline

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\*Erratum—Since the publication of the 2020 update in the *Election Law Journal* (Schraufnagel, Pomante, Li 2020), and making available a full replication dataset, third party researchers uncovered errors in our previous data collection efforts. We have made corrections and the new values are available as the “Final COVI” at [costofvotingindex.com](http://costofvotingindex.com). We base the comparisons presented in the 2022 update on the corrected 2020 values.

Scot Schraufnagel is a Professor in the Department of Political Science at Northern Illinois University in DeKalb, Illinois, USA. Michael J. Pomante II is a research associate with States United Democracy Center. Quan Li is a data scientist with Catalist in the Department of Public Administration at Wuhan University in Wuhan, China.

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and simplified the administration of absentee voting. Both changes make voting less costly.

Something similar happened in the aftermath of the 2020 presidential election. The year 2021 was particularly noteworthy, with 19 states passing at least 33 new laws that made voting more difficult, while 25 states passed 62 laws, which reduced the cost of voting.<sup>1</sup> We have researched voting law changes dating back to 1996, and in the aftermath of the 2016 election cycle, we published a comprehensive Cost of Voting Index (COVI) for all 50 states (Li, Pomante, Schraufnagel 2018). At the time, we felt comfortable providing quadrennial appraisals and values. However, the spate of changes in 2021, and early 2022, motivated us to provide a 2022 update to the COVI.

This latest version introduces some new considerations to our analysis. For comparison purposes, it would be nice to use the same set of variables each time we update the index. However, state legislatures are often creative and develop new laws, or sets of laws, in a way that compromises a static approach to index construction. What we would gain by consistency in measurement would come at the price of completeness. Throughout the different iterations of the COVI, we have always erred on the side of providing a comprehensive look and have sacrificed the value of a fixed comparison over time. What does not change, however, is our use of sub-indices, identified as issue areas, and the principal component analysis (PCA) applied to produce index values.<sup>2</sup> We score all variables, again, such that a larger number indicates greater cost.

In this latest update, we provide an Appendix, which presents an alternative version of the COVI that utilizes the insights of item response theory (IRT). Some recent scholarship has identified IRT as an appropriate method for measuring state variance in the difficulty of registering to vote (Jansa, Motta, and Herrick 2021). We find the two approaches produce index values that are very highly correlated. Considering state rank: a comparison of PCA and IRT measurement strategies produce a Pearson-R correlation coefficient equal to 0.917 ( $P < .001$ ;  $n = 50$ ) and when considering raw index values the correlation value grows even stronger (0.946;  $P < .001$ ;  $n = 50$ ). For consistency, we report the PCA values and ranks in the text of this paper and recommend the PCA values to researchers who wish to make use of the COVI to study other state-level phenomena.

## THE 2022 COVI

Before displaying the 2022 values, we discuss the new additions and changes to our measurement approach. Table 1 provides a comprehensive listing of all the considerations that go into creating the latest version of the COVI. Items in bold font represent new variables. The first change occurs because some new state laws require additional documentation to register to vote beyond the minimums established by the National Voter Registration Act of 1993 (NVRA). For instance, Kansas and, to a lesser extent, Arizona require proof of citizenship to register to vote. Six other states require a full Social Security number, even though the national standards established by NVRA (Sec. 9) do not compel this. We add this new item to the second issue area or the Voter Registration Restrictions sub-index, which grows from eight to nine distinct considerations.<sup>3</sup>

Considering the fourth issue area, which addresses state pre-registration laws, we find it important to distinguish between states that have a policy of allowing 16-year-olds to register to vote but have no state statute addressing pre-registration. Previously these states were lumped with states that had neither a state law nor a policy. Notably, allowing 16-year-olds to register, as a matter of policy, is distinct from a state statute addressing pre-registration. In the context of a pre-registration statute, there is often a mandate related to teaching civic education in public high schools, indicating a more inclusive electoral-institutional climate that values voting and civic engagement. Correspondingly, the new consideration of a policy but no statute receives a score of “5” on the ordered scale (see Table 1).

<sup>1</sup>See the Brennan Center breakdown at (<https://www.brennancenter.org/our-work/research-reports/voting-laws-roundup-december-2021>: last accessed 25 May 2022). Some of the 19 states with restrictions also passed ways to make voting easier. Eleven states passed only new restrictions, in 2021 (Alabama, Arizona, Arkansas, Florida, Georgia, Iowa, Idaho, Kansas, Texas, Utah, and Wyoming). Note, not all restrictions tracked by the Brennan Center are a part of Cost of Voting Index construction.

<sup>2</sup>Consistent with the 2020 index we use the first four components obtained and weigh each component by the proportion of variance explained before using a linear aggregation. The codebook available at [costofvotingindex.com](http://costofvotingindex.com) provides the weights used and all variable measurement decisions, which allow for replication of our approach.

<sup>3</sup>All data, and a comprehensive codebook, are available at [costofvotingindex.com](http://costofvotingindex.com).

TABLE 1. COMPONENT PARTS OF THE COST OF VOTING INDEX: 2022

Note: New Considerations in bold font

<i>Issue area (measurement)</i>	<i>Cost of voting consideration</i>
#1–Registration Deadline (Ratio-Level)	# of days prior to the election a voter must be registered to vote
#2–Voter Reg. Restrictions (9-Item Additive Sub-index)	Same day registration not allowed for all elections Same day registration not located at polling station Mental competency req. for voter registration No online voter registration Same day reg. not allowed for presidential election Felons not allowed to register while incarcerated Felons not allowed to register after incarceration Online voter reg. deadline greater than median <b>Additional documents req. beyond federal min.</b>
#3–Reg. Drive Restrictions (4-Item Additive Sub-index)	Official group certification required State mandated training required Group required to submit documents to state Penalty imposed for violation of deadlines or rules No registration drives allowed (scored “5”)
#4–Pre-Registration Laws (7-Item Ordered Scale)	0 = 16-year-olds can pre-register 1 = 17-year-olds can pre-register 2 = 17.5-year-olds can pre-register 3 = 90 days before 18th birthday can pre-register 4 = 60 days before 18th birthday can pre-register <b>5 = 16-year-old policy, no legal basis</b> 6 = no state law discusses pre-registration
#5–Automatic Voter Reg. (4-Item Ordered Scale)	0 = Citizen must opt out–“Back end AVR” 1 = Automatic reg. at more than one state agency 2 = Automatic registration at DMV, only 3 = No automatic voter registration
#6–Voting Inconvenience (12-Item Additive Sub-index)	No Election Day state holiday No early voting No all mail voting No Voting Centers No time-off from work for voting No time-off from work with pay for voting Mail voting but no Election Day polling option Reduced number of polling stations post- <i>Holder</i> Reduced # of polling stations >50% (some areas) <b>Excessive Election Day wait time</b> <b>No postage paid envelopes</b> <b>No passing out food/water to people in line to vote</b>
#7–Voter ID Laws (5-Item Ordered Scale)	0 = no ID required to cast a ballot, only signature 1 = non-photo ID required not strictly enforced 2 = photo ID required not strictly enforced 3 = non-photo ID required strictly enforced 4 = photo ID required strictly enforced
#8–Poll Hours (Ratio-Level)	Min. and Max. poll hours (averaged & reversed)
#9–Early Voting Days (Ratio-Level)	Number of early voting days (reversed)
#10–Absentee Voting (10-Item Additive Sub-index)	State-sanctioned excuse required to vote absentee No in-person absentee voting No permanent absentee status allowed <b>No online absentee application process</b> <b>Must include copy of ID to vote absentee</b> <b>No convenient absentee ballot drop-off locations</b> <b>Restriction on who can return an absentee ballot</b> <b>Restriction on timing/quantity of ballots returned</b> <b>No 3rd party dist. of absentee ballot applications</b> <b>No election official distribution of absentee ballots</b>

The next three changes come in the sixth issue area or the Voting Inconvenience sub-index. Specifically, we add a consideration of Election Day wait times. We use survey data provided by the MIT Election Data Science Lab (MEDSL) related to the 2020 presidential election. MEDSL reports the percentage of respondents who waited more than one hour, among other considerations. After scoring states that vote by mail “0,” the median percentage of voters, by state, who waited more than one hour to vote in 2020, is 5.86. We code any state where more than 5.86 percent of the voting population reported waiting for more than an hour “1,” and other states “0.”<sup>4</sup>

The second consideration scores a state “1” if the state does not provide a postage-paid return envelope to early and absentee voters. In 2022, only 18 states provide state voters this convenience, and we score these states “0.” Third, we measure whether states ban food and water distribution to people standing in line to vote. One can easily imagine someone getting off work in the early evening, standing in line to vote, being hungry or thirsty. Banning groups from encouraging people to stay in line with food and water arguably increases the cost of voting. Georgia recently passed such a ban, and this restriction also exists in Montana and New York.<sup>5</sup>

Last, we found it necessary to create a tenth issue area, which deals exclusively with state absentee voting laws. In response to the COVID-19 global pandemic, most states relaxed absentee voting procedures for the 2020 presidential election cycle. Subsequently, some states codified the easier processes while others developed new absentee voting restrictions. This legislative maneuvering causes us to create the new issue area.

In all, we count ten unique absentee voting considerations. Three items had previously been a part of the sixth issue area, the voting inconvenience sub-index. Those who follow state law changes closely will recognize the new efforts to restrict who can return ballots, but also the distribution of absentee ballots. In some instances, these laws existed and were simply modified to aid enforcement. All considerations in the new tenth issue area appear in Table 1, and the seven new variables are in bold font. Considering ballot drop boxes, the third new consideration listed in the table, we score states “1” if voters must drop off their ballot at an election administration office during regular business hours. We believe the labeling of the other considerations in the table makes clear the intention of the legislation.

## THE 2022 VALUES

With the new considerations included, we present Figure 1, which displays the 2022 state ranks and provides the COVI raw values. Note, Oregon maintains its place as the state that has the fewest obstacles to voting. Mississippi and New Hampshire uphold the bottom positions and are the states where voting is most costly in terms of the time and effort required to get and stay registered to vote and cast a ballot. Vermont makes the most significant move toward a more inclusive electoral-institutional process. The state moves from the middle of the pack in 2020 (23rd most accessible state to vote) to the third easiest state by 2022. The single most important change in Vermont is the adoption of a statewide vote-by-mail process. Now citizens of the Green Mountain State can vote while sitting at their kitchen table, insert the ballot in a pre-paid envelope, and drop it off at the nearest mailbox.

Moving the farthest in the other direction is the state of Wisconsin (38th to 47th). Once America’s Dairy Land began to require proof of residency with their registration application and no longer sanctioned special voter registration deputies, who previously conducted voter registration drives, the state joins New Hampshire and Wyoming as the only states to, effectively, ban voter registration drives.<sup>6</sup> The state also strictly enforces its photo ID law and has no provision for pre-registration.

It is not by chance that the eight states ranked as the easiest to vote each has institutionalized an all vote-by-mail process. This voting method, which has existed statewide in Oregon since 2000, makes

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<sup>4</sup>Assuming the election lab at MIT continues to conduct these surveys, we will adjust our measurement to account for changes in wait time. For instance, if average state wait times change in 2024, we will use these results to modify state values on this variable in 2026 and 2028.

<sup>5</sup>Florida also considered a ban of this sort but the legislature pulled the provision from SB 90 just before passage.

<sup>6</sup>The Fair Elections Center reports: “Since the adoption of online voter registration, Wisconsin no longer has special registration deputies. Given the documentary proof of residence requirement, voter registration drives can assist people in filling out a registration application, but they cannot collect and submit a registration application unless the applicant has a photocopy of their proof of residence and is willing to provide it to the drive volunteer for submission along with the voter registration application. As a result, conducting a successful voter registration drive has become extremely difficult in Wisconsin” (<https://www.fairelectionscenter.org/voter-registration-drive-guides>: last accessed 20 May 2022)

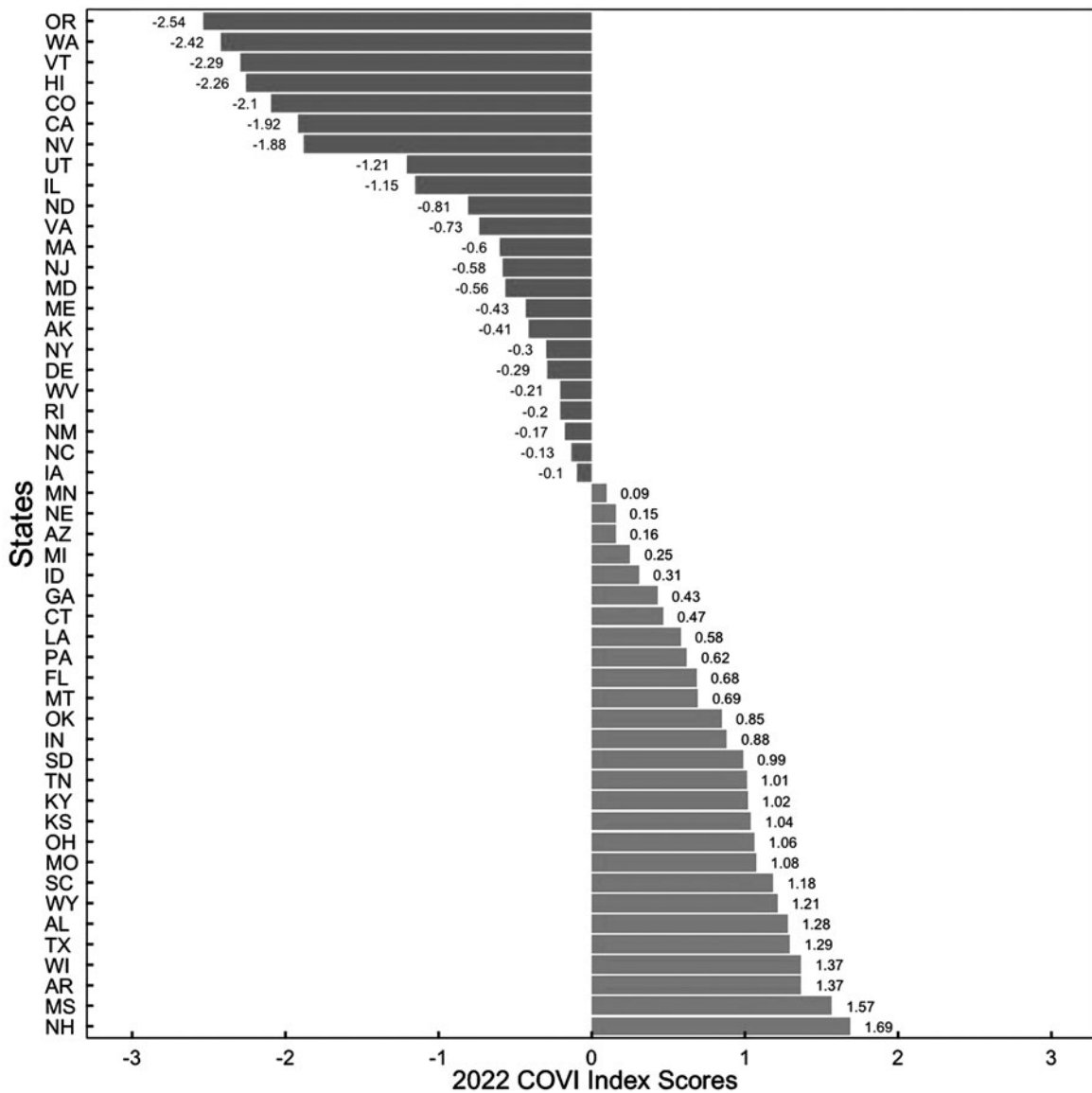


FIG. 1. 2022 COVI rank and values.

voting very convenient—and secure. Arguably, vote-by-mail is a barrier to voter fraud (Auerbach and Pierson 2021) because there can be more careful bipartisan or nonpartisan deliberation of signature matches, ballot authenticity, and other issues related to ballot integrity.

The eight vote-by-mail states displace Illinois (3rd to 9th), Massachusetts (5th to 12th), and New Jersey (8th to 13th) in the top eight, in large part, because of the new tenth issue area, which relates to absentee voting. We score all vote-by-mail states “0” on most absentee voting considerations, assuming that voting by mail precludes the need to vote absentee. California, Colorado, Oregon, and

Nevada, however, do restrict either who can turn in a ballot for someone else or limit the volume of ballots one can turn in for others, which are two of the new absentee voting restriction considerations. Illinois maintains three of the ten absentee voting limitations, Massachusetts has six, and New Jersey has four.

Considering changes in state rank, from 2020 to 2022, it is relatively easy to explain the moves. Beyond Vermont, we can also note considerable movement toward making voting easier in Colorado (12th to 5th) and Nevada (15th to 7th). For example, Colorado adopted the most progressive automatic voter registration (AVR) process. A state citizen

registers to vote by simply visiting a state agency and must opt-out if they do not want to be on the voter registration roll. This new kind of law, which some refer to as “back-end” or “opt-out” AVR,<sup>7</sup> was first used in Oregon and Alaska. Now six states have this low cost voter registration process.

Nevada, for its part, is now using convenient Voting Centers with an electronic poll book securely connected to the county registration database, which accesses real-time voter records. As a result, Nevada voters are no longer required to vote in one specific location if they wish to forego voting by mail and show up in person on Election Day.<sup>8</sup>

Yet another state making it relatively easier to vote in 2022 than in 2020 is Indiana (48th to 36th). The Hoosier State benefits from the new variables added to index construction. Specifically, Indiana does not require additional ID beyond the federal minimum to register to vote and has a *policy* of allowing 16-year-olds to register to vote. Additionally, it provides postage-paid envelopes to mail voters while only having four of the 10 absentee voting restrictions in the new tenth issue area. Scoring “0’s” on many new considerations causes Indiana to move up the rankings appreciably.

Besides Wisconsin, Florida (28th to 33rd), Georgia (25th to 29th), and Iowa (19th to 23rd) will each make it more difficult to vote, relatively speaking, than was the case in 2020. Neither Florida nor Iowa have adopted an automatic voter registration process, something many states have been doing. Georgia maintains strict enforcement of a photo identification law for balloting and it bans food and water distribution to people waiting in line to vote. All three states have eliminated ballot drop-off locations or the convenient drop boxes used during the 2020 election cycle and have laws restricting who can turn in an absentee ballot for someone else. Still more, in the aftermath of the 2020 election, each of these states has codified that they will not allow state citizens permanent absentee voter status. Interestingly, legislators in Florida and Georgia had proposed even greater restrictions than what ultimately passed and became law.<sup>9</sup>

Considering Texas (45th to 46th), voting in the state, relatively speaking, will not be much more difficult in 2022 than in 2020, despite the passage of SB1, legislation that produced a myriad of election law changes. Specifically, the state banned practices that made it easier to vote in 2020 in response to the global pandemic, such as drive-thru

voting and 24-hour voting. However, as best as we can tell, there was no intention to make the 2020 provisions permanent, so banning them is curious. Importantly, the changes will limit the state’s ability to respond to another health crisis. Moreover, voting still is not easy in Texas. The state, previously ranked 45th, did not have a lot of room to fall. The state does relatively better than four other states, principally, because it provides citizens a full 13 days of early voting.

## SUMMARY THOUGHTS

It is important to consider the optics surrounding state legislative efforts to restrict voting. It is common for restriction reformers to claim a desire to promote election integrity and prevent fraud. On the one hand, their efforts may appease some Republican voters, particularly supporters of former President Trump, causing them to believe elections are fairer and more legitimate. This would be a welcomed development. However, these same efforts are likely to cause many Democrats and Independents to imagine rigged elections via voter suppression, which will delegitimize the electoral process in their minds.

We hold all citizens must grow their approval of election processes. Unfortunately, state election law maneuvering, liberalizing efforts in blue states and restricting efforts in red states, collectively is doing little to appease either group. Unfortunately, many American citizens live in “echo chambers” (Iyengar and Hahn 2009; Sunstein 2009), and accurate information about electoral processes never reaches them. Consequently, on average, all the law changes may do little to boost confidence in elections.

<sup>7</sup>See (<https://www.americanprogress.org/article/case-back-end-opt-avr/>: last accessed 20 May 2022).

<sup>8</sup>See ([https://www.clarkcountynv.gov/government/departments/elections/services/election\\_day\\_voting.php](https://www.clarkcountynv.gov/government/departments/elections/services/election_day_voting.php): last accessed 20 May 2022).

<sup>9</sup>The 2022 COVI does not capture all the election law changes in these states, which possibly represent “restrictions.” For instance, the adoption of an election police force in Florida, arguably, represents an indirect cost. The new police force may lead to election interference and voter intimidation. We will wait to learn more the effect election interference laws have on the cost of voting after these have been in place for at least one election cycle. The same can be said for the new law in Texas that empowers poll watchers and gives them “free movement” around polling stations (SB-1).

Another consideration confounding state legislative efforts regarding election law is the presumption that making voting more or less costly provides an opportunity for partisan advantage. This assumption occurs partly because Democrats in the 2020 election were more likely to vote absentee, vote at early voting sites, and use secure ballot drop boxes (Rackey and Camarillo 2022). However, this development occurs because Democrats, on average, took a more cautious approach to the pandemic (Hunt et al. 2020). Both old (Denardo 1980) and new research (Thompson, Wu, Yoder, and Hall 2020) do not find a partisan advantage to more accessible voting. Historically, Democrats were the party more concerned about state efforts to make voting easier, assuming that blue-collar workers would be less likely to be able to avail themselves of the more convenient voting options adopted by some states (Auerbach and Pierson 2021).

Further, many of the new laws are unnecessary, lack substance, and create confusion. Many county election officials are scrambling to keep up with the changes. In one-party dominant states, passing election law changes is often much easier than administering those laws effectively. The various legislative efforts are placing additional burdens on local election officials, especially when the changes come in the form of unfunded mandates. That is, states often fail to provide funds to administer the changes. Additionally, many of the changes will perplex voters and possibly discourage voter turnout.

Perhaps even more concerning, many changes can potentially scare off the low-paid employees and volunteers who local election administrators depend on to assist with election supervision. Election management historically has been a nonpartisan issue but has become controversial and adversarial. This reduces any sense that election employees are part of a group of trusted citizens working to ensure that democratic institutions are preserved and supported.

## REFERENCES

- Allcott, Hunt, Levi Boxell, Jacob Conway, Matthew Gentzkow, Michael Thaler, and David Yang. 2020. "Polarization and Public Health: Partisan Differences in Social Distancing During the Coronavirus Pandemic." *Journal of Public Economics* 191: doi.org/10.1016/j.jpubeco.2020.104254
- Auerbach, Johnathan and Steve Pierson. 2021. "Does Voting by Mail Increase Fraud? Estimating the Change in Reported Voter Fraud When States Switch to Elections by Mail." *Statistics and Public Policy* 8(1):18-41.
- Delli Carpini, Michael X, and Scott Keeter. 1993. "Measuring Political Knowledge: Putting First Things First." *American Journal of Political Science* 37(4): 1179-1206.
- DeNardo, James. 1980. "Turnout and the Vote: The Joke's on the Democrats." *American Political Science Review* 74(2): 406-20.
- Iyengar, Shanto, and Kyu S. Hahn. 2009. "Red Media, Blue Media: Evidence of Ideological Selectivity in Media Use." *Journal of Communication* 59: 19-39.
- Jansa, Joshua M., Matthew Motta, and Rebekah Herrick. 2021. "Finding DORI: Using Item Response Theory to Measure Difficulty of Registration in the U.S. and Its Impact on Voters." *American Politics Research* 50(3): 336-52
- Li, Quan, Michael J. Pomante, and Scot Schraufnagel. 2018. "The Cost of Voting in the American States." *Election Law Journal* 17(3): 234-47.
- McGann, Anthony J. 2014. "Estimating the Political Center from Aggregate Data: An Item Response Theory Alternative to the Stimson Dyad Ratios Algorithm." *Political Analysis* 22(1): 115-29
- Rackey, J.D., Camarillo, C.T.G. 2022. "Stress Test: Three Case Studies on Vote by Mail During a Global Pandemic." In Sean D. Foreman, Marcia L. Godwin, and Walter Clark Wilson, editors. *The Roads to Congress 2020*. London, UK: Palgrave Macmillan.
- Ramirez, Mark D. 2015. "Racial Discrimination, Fear of Crime, and Variability in Blacks' Preferences for Punitive and Preventative Anti-Crime Policies." *Political Behavior* 37(2): 419-39.
- Sunstein, Cass R. 2009. *Republic.com 2.0*. Princeton, New Jersey: Princeton University Press.
- Thissen, David. 2016. "Bad Questions: An Essay Involving Item Response Theory." *Journal of Educational and Behavioral Statistics* 41(1): 81-89.
- Thompson, Daniel M., Jennifer A. Wu, Jesse Yoder, and Andrew B. Hall. 2020. "Universal Vote-by-Mail has No Impact on Partisan Turnout or Vote Share." *PNAS* 117(25): 14053-56.

Address correspondence to:

Scot Schraufnagel  
 Department of Political Science  
 Northern Illinois University  
 Zulauf 407  
 DeKalb, IL 60115  
 USA

E-mail: sschrauf@niu.edu

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(Appendix follows →)

### Appendix

An item response theory cost of voting index. Item response theory (IRT) is a common way to analyze responses to test questions or questionnaires with the goal of improving measurement accuracy and reliability. If a teacher wants to make sure their test captures student learning, they can

use the insights of IRT to ensure that is happening.<sup>10</sup> Political scientists have effectively used item response theory to measure political knowledge (Delli Carpini and Ketter 1993) but also to gain insights into the preferences of the median voter (McGann 2014) and to measure attitudes

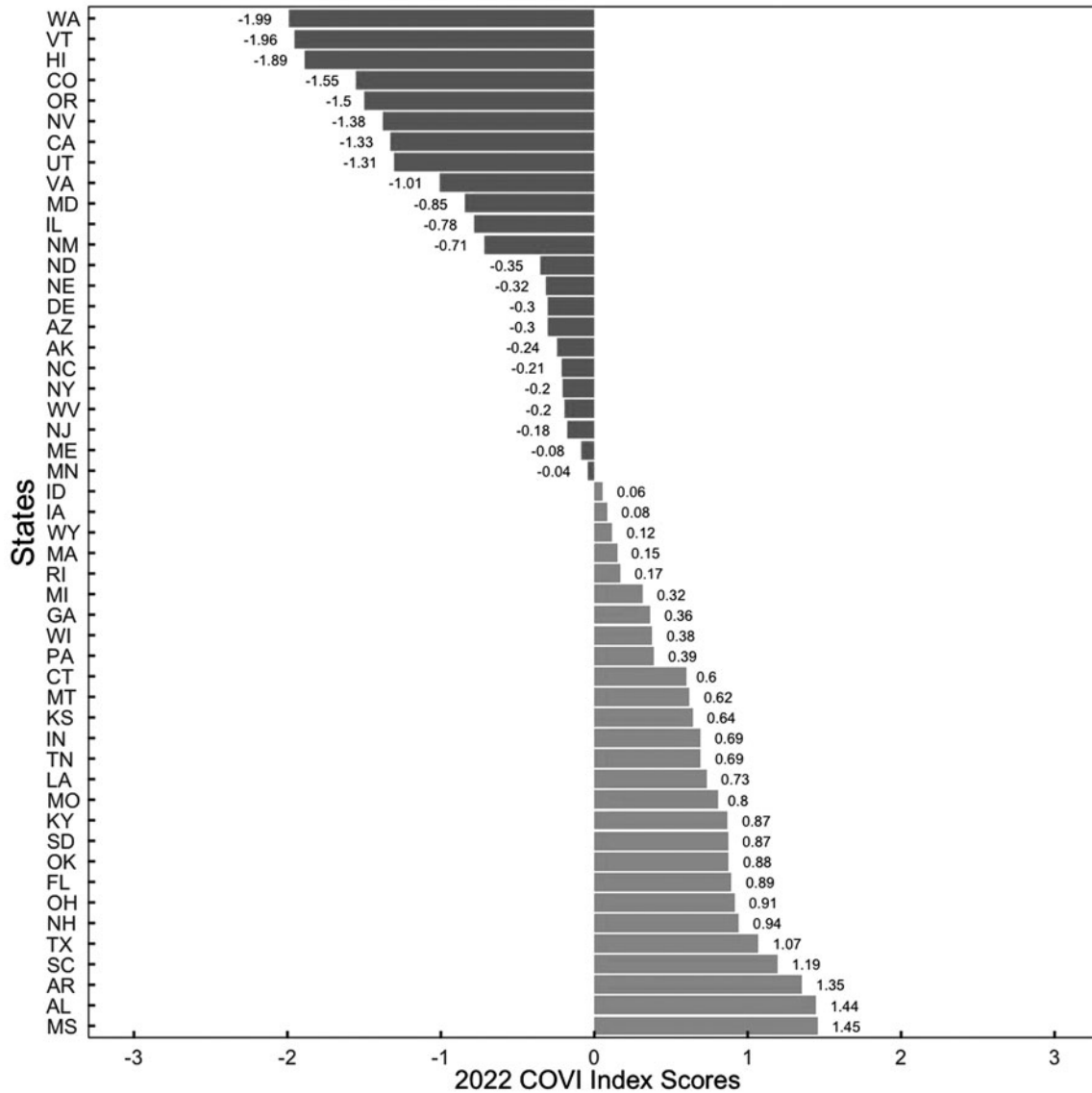


FIG. A.1. 2022 COVI ranks and values using an item response theory method.

<sup>10</sup>For an interesting survey of the history of Item Response Theory and a critical look at suitable applications, see Thissen (2016).



related to racial discrimination and crime (Ramirez 2015). Recent work by Joshua Jansa, Matthew Motta, and Rebekah Herrick (2021) uses IRT to measure across state variation in the difficulty of voter registration. This prompts us to take a closer look at the applicability of IRT as an alternative to our current use of Principal Component Analysis (PCA). We provide the values of an alternative version of the Cost of Voting Index (COVI), which uses IRT, in Table A.1. The two approaches produce values that are highly correlated (Pearson- $R = .95$ ;  $P < .001$ ;  $n = 50$ ).

At the bottom of the index, one can notice that Mississippi replaces New Hampshire as the state where voting is the costliest. Importantly, the eight states that provide all registered voters a ballot through the mail are still in the top eight using the IRT measurement approach. However, the precise

ranking of these states does change some. One distinct variation occurring at the top is that Washington replaces Oregon as the state where it is easiest to vote. Oregon drops to fifth. Washington is second when using PCA. We can note that Oregon still does not have same day voter registration, and Washington does. Arguably, the IRT approach is picking this up. On the other hand, Washington still has a voter ID law, Oregon does not, and the PCA approach seems to prioritize this fact. In all, we have always known the precise ranking of states is sensitive to measurement assumptions. For this reason, in our public discussions of the COVI, we refer to states as appearing in different quintiles. That is, “the state is in the bottom 10” or “it is a top 10 state.” Conducting a myriad of robustness checks, each with their own postulations, we rarely find states jumping quintiles.