Exhibit 1

Expert Report

***Voto Latino, et al. v. Hobbs*, No 2:19-cv-05685-DWL (D.Ariz.)**

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February 20, 2020

I. Statement of Inquiry

1. I have been asked by Plaintiffs' counsel to examine the incidence of absentee ballots that were rejected because they were received after election day in the Arizona, to determine whether the deadline for receiving absentee ballots impacts all Arizona voters equally, or whether certain groups of voters face a particular burden as a result of the deadline. I have also been asked to examine the rate of absentee voting in the Arizona and the competitiveness of elections there to assess whether the impact of Arizona's absentee ballot deadline is consequential to elections.

2. I am compensated at a rate of $550 per hour, which is my standard consulting rate.

II. Summary of Findings

3. Absentee voting has grown rapidly in Arizona over the past decade and, today, more than three quarters of all votes cast are cast absentee. *See* Part V. Section A.

4. A large number of absentee voters in Arizona make up their minds as to who they will vote for in the final week of an election. In 2016, the most recent year in which the national media organizations conducted exit polls and absentee surveys in Arizona, approximately 120,000 absentee voters in Arizona reported that they made up their minds in the last week of the election. *See* Part V. Section A. Half of late absentees arrive at county recorders' offices within a week after Election Day; 98 percent arrive within two weeks. *See* Part V, Section C.

5. There were at least 3,175 absentee ballots in 2018 and at least 2,313 absentee ballots in 2016 in Arizona that were rejected because they arrived at the county recorders' offices after the election day deadline for receiving absentee ballots. That is a rate of 1.72 late rejected absentee votes for every 1,000 absentee ballots counted in 2018 statewide. *See* Part V. Section B.

6. The impact of Arizona's election day deadline for receiving absentee ballots is consequential. In almost every election cycle since 2008, important federal or state races have been decided by a very small number of votes, less than the rate of late rejected absentees. In the 2018-2019 election cycle, more than a dozen local contests were decided by a margin that was less than the rate of late restricted absentee ballots in the give jurisdiction. The inclusion of ballots that were postmarked before Election Day but were not counted solely because they arrived at the election office after Election Day could have affected the outcomes in these elections. *See* Part V. Section F.

7. My findings indicate that certain Arizona voters—Hispanic and Latino, Native American, and non-urban voters—are more likely to be impacted by Arizona's election day receipt deadline. The impact on these voters, and all voters whose votes are not counted, is consequential to Arizona elections. *See* Part V. Sections D and E.

8. The rate of late rejected absentee ballots is much lower in Maricopa County than in the rest of Arizona. The rate of late rejected absentee ballots was 1.3 per 1,000 absentee ballots counted in Maricopa County in 2018. Elsewhere in the state the rate of late rejected absentee ballots was 2.9 per 1,000 absentee ballots—more than double the rate in Maricopa County. *See* Part V. Section D.

9. The rate of late rejected absentee ballots is much lower in the four most populous counties than it is in the remainder of the state. The rate of late rejected absentee ballots was 1.4 per 1,000 absentee ballots counted in the four most populous counties in 2018. In the less populous counties there were 4.8 per 1,000 absentee ballots—a rate that is 3.4 times higher than in the most populous counties. *See* Part V. Section D.

10. The rate of late rejected absentee ballots in 2018 is four times higher in counties in which Hispanic and Native American people are a higher percent of the citizen voting age population (CVAP). The five counties with the highest percent Hispanic and Native American CVAP have a rate 6.1 late rejected absentees per 1,000 absentee ballots case. The five counties with the highest percent White have a rate of 1.4 late rejected absentees per 1,000 absentee ballots. *See* Part V. Section E.

11. Analysis of precinct-level data show the rate of late rejected absentees is much higher for Hispanic and Native American populations than for Whites. Specifically, analysis of precinct-level data reveals that the rate of late rejected absentees is approximately 3 times higher for Hispanics than for Whites and approximately 4 times higher for Native Americans than for Whites. *See* Part V. Section E.

12. The impact of Arizona's election day deadline receipt deadline has a disparate effect on Hispanic and Native Americans in rural counties, compared with Whites in urban counties. The rate of late rejected absentee ballots of Hispanics was 10 times higher in less populous counties than the rate of late rejected absentee ballots of Whites in Maricopa. *See* Part V. Section E.

III. Qualifications

13. I am the Frank G. Thompson Professor of Government in the Department of Government at Harvard University in Cambridge, MA. Formerly, I was an Assistant Professor at

the University of California, Los Angeles, and I was Professor of Political Science at the Massachusetts Institute of Technology, where I held the Elting R. Morison Chair and served as Associate Head of the Department of Political Science. I am the Principal Investigator of the Cooperative Congressional Election Study (CCES), a survey research consortium of over 250 faculty and student researchers at more than 50 universities, directed the Caltech/MIT Voting Technology Project from its inception in 2000 through 2004, and served on the Board of Overseers of the American National Election Study from 1999 to 2013. I am a consultant to CBS News' Election Night Decision Desk. I am a member of the American Academy of Arts and Sciences (inducted in 2007). My curriculum vitae is attached to this report as Appendix B.

14. I have worked as a consultant to the Brennan Center in the case of *McConnell v. FEC*, 540 U.S. 93 (2003). I have testified before the U.S. Senate Committee on Rules, the U.S. Senate Committee on Commerce, the U.S. House Committee on Science, Space, and Technology, the U.S. House Committee on House Administration, and the Congressional Black Caucus on matters of election administration in the United States. I filed an amicus brief with Professors Nathaniel Persily and Charles Stewart on behalf of neither party to the U.S. Supreme Court in the case of *Northwest Austin Municipal Utility District Number One v. Holder*, 557 U.S. 193 (2009) and an amicus brief with Professor Nathaniel Persily and others in the case of *Evenwel v. Abbott* 138 S.Ct. 1120 (2015). I have served as a testifying expert for the Gonzales intervenors in *State of Texas v. United States* before the U.S. District Court in the District of Columbia (No. 1:11-cv-01303); the Rodriguez plaintiffs in *Perez v. Perry*, before the U. S. District Court in the Western District of Texas (No. 5:11-cv-00360); for the San Antonio Water District intervenor in *LULAC v. Edwards Aquifer Authority* in the U.S. District Court for the Western District of Texas, San Antonio Division (No. 5:12cv620-OLG); for the Department of Justice in *State of Texas v. Holder*, before

the U.S. District Court in the District of Columbia (No. 1:12-cv-00128); for the Guy plaintiffs in *Guy v. Miller* in U.S. District Court for Nevada (No. 11-OC-00042-1B); for the Florida Democratic Party in *In re Senate Joint Resolution of Legislative Apportionment* in the Florida Supreme Court (Nos. 2012-CA-412, 2012-CA-490); for the Romo plaintiffs in *Romo v. Detzner* in the Circuit Court of the Second Judicial Circuit in Florida (No. 2012 CA 412); for the Department of Justice in *Veasey v. Perry*, before the U.S. District Court for the Southern District of Texas, Corpus Christi Division (No. 2:13cv00193); for the Harris plaintiffs in *Harris v. McCrory* in the U. S. District Court for the Middle District of North Carolina (No. 1:2013cv00949); for the Bethune-Hill plaintiffs in *Bethune-Hill v. Virginia State Board of Elections* in the U.S. District Court for the Eastern District of Virginia (No. 3: 2014cv00852); and for the Fish plaintiffs in *Fish v. Kobach* in the U.S. District Court for the District of Kansas (No. 2:16-cv-02105-JAR). I served as an expert witness and filed an Affidavit in the North Carolina State Board of Elections hearings regarding absentee ballot fraud in the 2018 election for Congressional District 9 in North Carolina.

15. My areas of expertise include American government, with particular expertise in electoral politics, representation, and public opinion, as well as statistical methods in social sciences and survey research methods. I have authored numerous scholarly works on voting behavior and elections, the application of statistical methods in social sciences, legislative politics and representation, and distributive politics. This scholarship includes articles in such academic journals as the Journal of the Royal Statistical Society, American Political Science Review, American Economic Review, the American Journal of Political Science, Legislative Studies Quarterly, Quarterly Journal of Political Science, Electoral Studies, and Political Analysis. I have published articles on issues of election law in the Harvard Law Review, Texas Law Review,

Columbia Law Review, New York University Annual Survey of Law, and Election Law Journal, for which I am a member of the editorial board. I have coauthored three scholarly books on electoral politics in the United States, The End of Inequality: Baker v. Carr and the Transformation of American Politics, Going Negative: How Political Advertising Shrinks and Polarizes the Electorate, and The Media Game: American Politics in the Media Age. I am coauthor with Benjamin Ginsberg, and Ken Shepsle of American Government: Power and Purpose.

IV. Data and Sources

16. In performing my analysis in this case, I relied on the data and sources described below. All data come from the county recorder offices, the Secretary of State of Arizona, the Election Assistance Commission, and from the U. S. Census Bureau. These are standard data and data sources in my field of academic research. As discussed below, in some instances the data available was partial, incomplete, or did not exist. I have followed standard practices in my field in analyzing the data available in this case.

- Data on election returns from the websites of the State of Arizona and each of the Arizona county recorder offices. This analysis focuses on the 2018 election, because there was a lack of available data from earlier years.
- Data on the racial composition of counties and precincts come from the US Census. Data on the Citizen Voting Age Population by County come from the American Community Survey, Five Year Average (2014-2018), available at https://www.census.gov/programs-surveys/acs/news/data-releases.html?#. Data on the racial composition of precincts come from the 2010 Census Enumeration.
- Data on numbers and rates of rejected late absentee ballots come from the counties and from the counties' reports to the Election Assistance Commission (EAC). Following each

federal election, the EAC collects data from every election administration office (county or town) in the United States about the conduct of the election. Data include information on votes cast, votes cast absentee and early, rejected absentee ballots and reasons for rejected absentee ballots. These data are reported in the Election Administration and Voting Survey (EAVS), available at: https://www.eac.gov/research-and-data/election-administration-voting-survey.

The EAC EAVS provides the number of late rejected absentee or mail ballots for 9 of 15 counties in 2018 in Arizona. The EAVS reports that data are not available for Apache, La Paz, and Pima Counties in 2018. Only 7 of 15 counties report these data to the EAC in 2016. *See* Appendix A, Table A.

- Data on absentee voting rates over-time come from reports of the EAC on the 2010, 2012, 2014, 2016, and 2018 EAVS, available at: https://www.eac.gov/sites/default/files/eac_assets/1/28/990-281_EAC_EAVS_508 _revised.pdf.
- Data on county-level and precinct-level late rejected absentees were collected through a Public Records Request. As of February 12, 2020, 14 of the 15 counties had responded to the request. Only Apache County had not. Of the 14 counties that provided information, 10 provided information on rejected late absentee ballots at the county-level for 2018. *See* Appendix A, Table B.

  Five counties provided information on late rejected absentee ballots and total absentee votes counted at the precinct level. They are Cochise, Coconino, Graham, Greenlee, and Santa Cruz. Those data are necessary to measure the incidence of late rejected absentee ballots among different racial groups. *See* Appendix A, Table B, column 2.

- The website of the election office of Maricopa County provides data on precinct-level absentee ballots and rejected absentee ballots. I relied on those data to measure the rate of rejected late absentee ballots in Maricopa. The specific report consulted for the accounting of rejected absentees in Maricopa in 2018 is available at: https://recorder.maricopa.gov/electionarchives/2018/11-06-2018%20EV36B_REJECTS_DETAILED_1341_NOV%202018.pdf.

17. Appendix A Tables A and B provide an accounting of the information that counties reported information to the EAC EAVS and in response to the public records request.

18. In most instances, the data provided by the counties through the Public Records Request are consistent with the data reported by the counties to the EAC in the EAVS. However, there are some cases where the numbers differ. When they differ, I use the data provided by the counties to the Public Records Request.

19. Not all counties treat late ballots the same way in their accounting of the election returns. Most counties include late absentee ballots in their overall count of rejected absentees. Pinal and Navajo Counties evidently do not, at least in the information reported to the EAC. The EAVS data for Navajo County reports 128 rejected late absentee ballots in 2018, but only 21 rejected absentee ballots, and Pinal County reports 163 rejected late absentee ballots in 2018, but 0 rejected absentee ballots. This report focuses on rejected late absentee ballots, and I rely on that count, rather than the count of all rejected absentee ballots.

20. Information on rejected late absentees takes two forms. First, the counties report the number of absentees that were rejected *because they were late*. Second, some counties provided data on *all rejected absentees* with the date that absentees were received and the reason that they were rejected. Often the records showed that counties rejected late absentees for reasons other

than lateness, such as missing or mis-matched signatures. In the analysis of data at the county-level I use the first measure of late rejected absentees. It is a conservative measure of the rate of late absentee ballots because it excludes ballots that may have come in late but were coded as rejected for some other reason.

21. Cochise County, for example, provided us with detailed data on the time of receipt and reasons for rejection of all absentee ballots. 227 ballots in those data were rejected because they were late, but a total of 384 absentee ballots were in fact received late. There were 157 late absentee ballots (384 minus 227) that were rejected for another reason, such as discrepancies in signatures, in addition to being late. Those cases are not included in my analysis. These data consist of ballots rejected solely for being late. The number of late absentee ballots is likely larger than the number of late absentee ballots rejected solely because they are late, which I will refer to as "late rejected absentee ballots."

22. Appendix A Table C reports the number of late rejected ballots by county and year in Arizona.

23. As is typical in my field, I relied on and supervised a research assistant to develop and manage the data used in this report. All analyses are my own.

V. Findings

A. Absentee Voting in Arizona

24. Arizona has one of the highest rates of absentee voting in the United States. More than three in four votes in Arizona are cast absentee. In 2016, there were 2,661,497 total votes cast, according to Arizona's Official Canvass. Of these, 75 percent (1,991,684 ballots) were cast absentee by mail. In 2018, there were 2,409,910 ballots cast. Of these 78 percent (1,874,489) were cast absentee by mail. The only states with higher rates of absentee and early voting,

according to the EAVS data, are Colorado, Oregon, and Washington, and those states have adopted voting systems that provide all voters with an absentee or early vote.

25. The rate of absentee voting has grown considerably in Arizona. According to figures reported to the EAC, the percent of total votes counted that were cast absentee by mail in Arizona was 45 percent in 2008, 52 percent in 2010, 72 percent in 2016, and 78 percent in 2018. That represents a 30 percentage-point growth in absentee votes as a percent of total votes in 10 years.

26. The Permanent Early Vote List has contributed to the growth of voting by mail in Arizona. In 2007, Arizona changed its election law allowed voters to register for Permanent Early Voting. In the 2018 election, there were a total of 2,672,384 mail ballots. Of these, 2,545,199 (95.2 percent) were sent to registrants on the Permanent Early Voting List.

27. Maricopa County, the most populous county in the state, had 2,254,596 registered voters as of November 6, 2018. The county recorded 1,454,103 ballots cast in the November 6, 2018, general election. Eighty-one percent (1,184,261) of votes cast in Maricopa County in the November 2018 election were cast early or absentee. Maricopa accounted for nearly two-thirds of all absentee ballots in the state of Arizona in 2018.

28. The remaining 955,807 votes in Arizona in 2018 were cast in the 14 counties other than Maricopa. In those counties, 73 percent of ballots cast (693,396) were absentee.

B. Rates of Late Rejected Absentee Ballots

29. Arizona law requires that all absentee ballots be received at the county recorder's office or other eligible drop-off location by 7:00 p.m. on Election Day to be counted. A.R.S. § 16-548(A).

30. In 2018, there were at least 3,175 absentee ballots in Arizona that were rejected because they were not received by the 7:00 p.m. election day receipt deadline. The true statewide

figure is likely higher, as Apache, La Paz, and Yuma Counties did not report information on late rejected absentee ballots to the EAC's EAVS survey or in response to a public records request. The 3,175 late rejected absentee ballots imply that there are 1.72 late rejected absentee ballots per 1,000 absentee ballots counted.

31. In 2016, there were at least 2,313 absentee ballots in Arizona that were rejected because they were not received by the 7:00 p. m. election day receipt deadline. That figure is a lower bound because it is based on the reports of the 7 counties from which I was able to get information on late rejected absentee ballots. They are Cochise, Coconino, Graham, Maricopa, Mohave, Navajo, Santa Cruz, and Yavapai Counties.

32. There were at least 3,313 late rejected absentee ballots in 2014; 4,107, in 2012; 2,944 in 2010; and 1,611 in 2008 in Arizona. These figures understate the numbers of late rejected absentees as some counties did not report data to the EAC or in response to the public records request. *See* Appendix A, Table C.

33. The incidence of late rejected absentee ballots varies considerably across counties. Table 1 reports the number and rates of late rejected absentees in each of Arizona's 15 counties in 2018 and 2016. The analysis that follows focuses on 2018, as the data are nearly complete and because half of the counties did not report late rejected absentees in 2016 to the EAC or in response to a public record request. In 2018, 12 of 15 counties reported the number of late absentees that were rejected. *See* Appendix A, Table 1.

34. Santa Cruz County had the highest rate of late rejected absentee ballots in 2018 in the state, with 7.6 per 1,000 absentee ballots counted. Cochise County had the second highest rate of such ballots in 2018, at 6.7 per 1,000 absentee ballots counted. Navajo County had the third highest rate of late rejected absentee ballots in 2018 of 5.8 per 1,000 absentee ballots counted. In 2016,

only 7 counties reported data on late rejected absentee ballots to the EAC or through a public records request. Navajo County reported a very high rate of late rejected absentee ballots in 2016 – 20.8 per 1,000 absentee ballots. Coconino County had 3 late rejected absentee ballots per 1,000. The other five counties that reported information on late absentees had 2 late rejected absentees or fewer per 1,000 absentees.

35. Among the counties that reported the rate of rejected late absentee ballots, the overall rate of rejections in 2018 was 1.7 per 1,000 absentee ballots counted. However, the average county had a rate of 4.3 rejected late absentees per 1,000 absentee ballots counted. That discrepancy arises because, as discussed below, the more populous counties have lower rates of late rejected absentees.

C. Timing of Late Absentee Ballots

36. The timing of late absentee ballots is important because many voters decide for whom to vote in the last week or even last few days of a campaign. According to national exit polls conducted for the 2016 general election, 6 percent of absentee voters in Arizona decided for whom to vote for President in the last week of the election.[1] That translates into 119,501 people in Arizona who decided for whom to vote and cast their ballots absentee in the last week of the election in 2016. Most of those ballots arrived in a timely manner, but some did not.

37. Almost all late rejected absentee ballots arrive at county recorders' offices over a two-week interval following Election Day, but the arrival times vary across counties. Figure 1A displays late rejected absentee ballots by the number of days after Election Day that these ballots

[1] Source: National Election Pool (ABC News, Associated Press, CBS, CNN, Fox News, NBC). National Exit and Absentee Survey, Conducted by Edison Research, field dates: November 8, 2016, sample: Absentee/early voters in Arizona
https://ropercenter.cornell.edu/exit-polls/state-election-day-exit-polls

were received for in the six counties for which I was provided information on dates of receipt of ballots. These are Cochise, Coconino, Graham, Greenlee, Pima, and Santa Cruz Counties. Figure 1B displays the patterns for each county individually.

Figure 1A. Date of Receipt of Late Rejected Absentees for Cochise, Coconino, Graham, Greenlee, Pima, and Santa Cruz Counties Combined

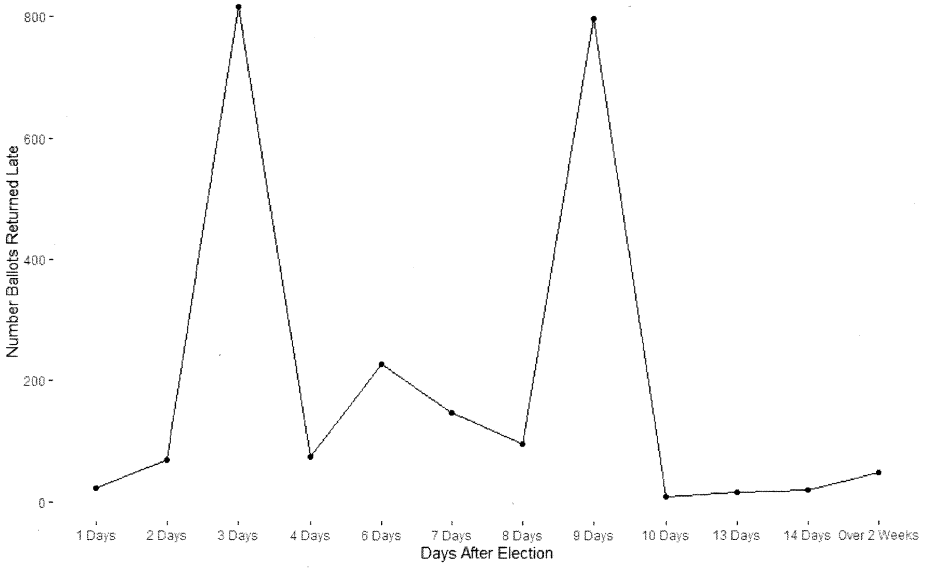
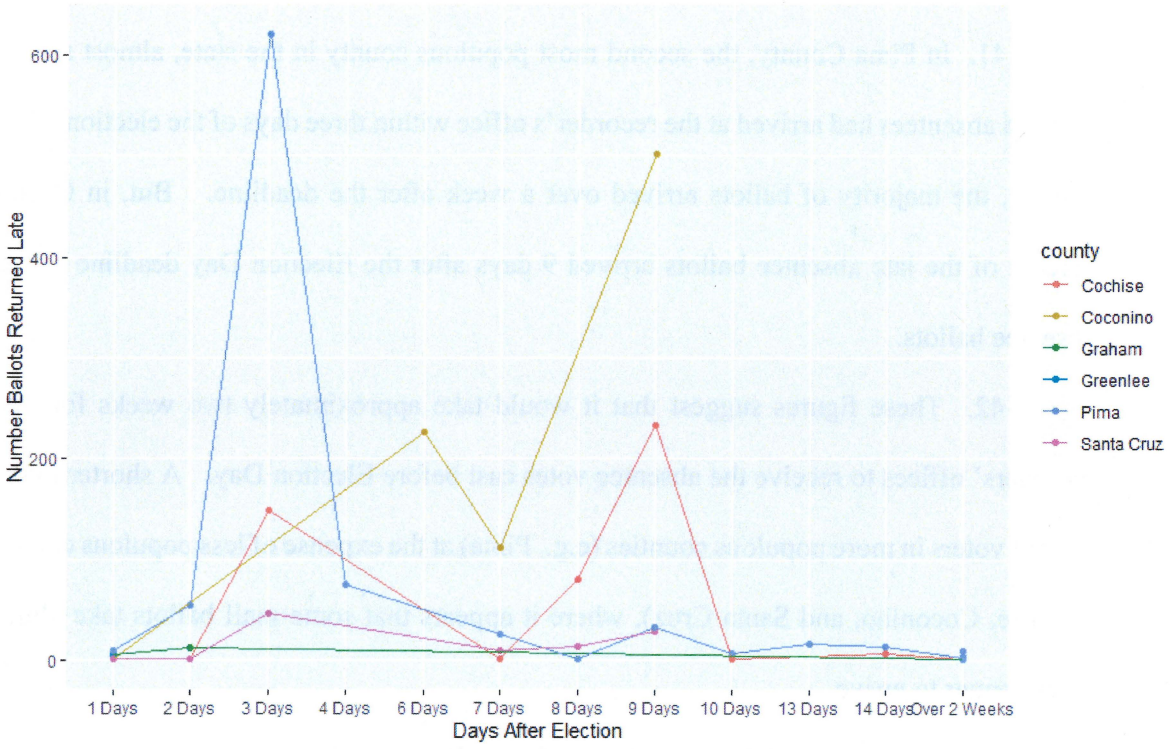


Figure 1B. Date of Receipt of Late Rejected Absentees for Cochise, Coconino, Graham, Greenlee, Pima, and Santa Cruz Counties Separately



38. Based on data from these counties, it appears that almost all of the late rejected absentee ballots came to the county recorders' offices over a two-week period following Election Day. The average date for arrival of late rejected absentees was 6.2 days after Election Day. Thirty-four percent arrived at the recorders' offices within 3 days of Election Day; 58 percent had arrived within 7 days of Election Day; and 98 percent arrived within 14 days of Election Day.

39. There are two spikes in the arrival dates of late absentee ballots in these six counties—one at 3 days and the other at 9 days after Election Day. 816 late absentees arrived at the recorders' offices 3 days after the deadline, and 797 late absentees arrived 9 days after the deadline. These two days account for over two-thirds of all late absentees.

40. There are important variations across the counties that suggest that a longer deadline would be helpful in the less populous counties.

41. In Pima County, the second most populous county in the state, almost all of the late rejected absentees had arrived at the recorder's office within three days of the election. In Cochise County, the majority of ballots arrived over a week after the deadline. But, in Coconino, 70 percent of the late absentee ballots arrived 9 days after the Election Day deadline for receiving absentee ballots.

42. These figures suggest that it would take approximately two weeks for the county recorders' offices to receive the absentee votes cast before Election Day. A shorter interval may benefit voters in more populous counties (e.g., Pima) at the expense of less populous counties (e.g., Cochise, Coconino, and Santa Cruz), where it appears that some mail ballots take almost a full week longer to arrive.

D. County Population and Rates of Late Rejected Absentees

43. The most populous counties have lower incidences of rejected late absentees than the less populous counties.

44. First, consider Maricopa County. It is, by far, the most populous and most urbanized county in Arizona. According to the most recent estimates of the US Census Bureau, Maricopa County has 4.3 million of Arizona's 7 million residents. It contains Phoenix, the largest city in Arizona, as well as Mesa, Tempe, Chandler, Glendale, Gilbert, and Scottsdale.

45. Half of the late rejected absentees in Arizona occur in Maricopa County. In 2018, the year for which the most complete accounting statewide is available, Maricopa county accounted for 48 percent (i.e., 1535/3175) of late rejected absentees in Arizona, even though the county accounted for over 60 percent of the vote statewide. According to information provided by the

Office of the Maricopa County Recorder in response to a public records request, the number of late rejected absentee ballots in the County has averaged 2,045 over the past six federal general elections. The number of late rejected absentee ballots was 1,485 in 2008; 2,680 in 2010; 2,701 in 2012; 2,330 in 2014; 1,536 in 2016, and 1,535 in 2018.

46. Voters in Maricopa County have a lower rate of late rejected absentee ballots than the voters in the rest of Arizona. In Maricopa County, the rate of rejected late absentees in 2018 was 1.3 per 1,000 counted absentees.

47. In the other 11 counties for which data are available, the rate of rejected late absentees in 2018 was 2.9 per 1,000 counted absentees, more than twice the rate in Maricopa.

48. The other three most populous counties also have lower incidences of rejected late absentees than the counties in the rest of Arizona as well.

49. Pima County, the second most populous county in the state, has 1 million residents and contains Tucson, a city of over 500,000. It has an eligible electorate of 393,352 adult citizens. In 2018, Pima County had 621 late rejected absentees, or 2.05 late rejected absentees per 1,000 absentees counted.

50. Pinal County, south of Maricopa County, has over 430,000 residents, and is the third most populous county in Arizona. It has an eligible electorate of 118,345 adult citizens. It recorded 163 late recorded absentees, or 1.87 late rejected absentees per 1,000 absentees counted in 2018.

51. Yavapai has 225,000 residents and an eligible electorate of 109,551 adult citizens. It is the fourth most populous county in the State. The Office of the Yavapai County Recorder reported 0 late rejected absentee ballots in 2018.

52. The rate of late rejected absentees among Maricopa, Pima, Pinal, and Yavapai (pooled) was 1.40 per 1,000 absentee ballots counted.

53. The 11 less populous counties—Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Mohave, Navajo, Santa Cruz and Yuma Counties—have rural populations and smaller cities and towns. The cities of Yuma in Yuma County and Flagstaff in Coconino County, with approximately 97,000 and 75,000 residents, respectively, are the largest cities in theses counties. The Office of Rural Health Policy, relying on US Census Bureau data, classifies Apache, Gila, Graham, Greenlee, La Paz, Navajo, and Santa Cruz as Rural, Non-metro Counties.[2]

54. In the less populous counties, the rate of late rejected absentee ballots was more than three times higher than in the four most populous counites. The 8 less populous counties that reported late rejected absentee ballots in 2018 are Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Mohave, Navajo, and Santa Cruz. Combined, they recorded 854 late rejected absentee ballots in 2018, and 212,310 absentee votes counted. That is a rate of 4.8 late rejected absentee ballots for every 1,000 ballots counted in 2018. *See* Appendix A, Table 1. The rate of late rejected absentee ballots, then, was 3.4 times higher in the 8 less populous counties than in the four most populous counties.

55. The data are much sparser in 2016 than in 2018, but they show a similar pattern. The two populous counties for which I have data in 2016 are Maricopa and Yavapai Counties. Combined, they recorded 1,683 late rejected absentee ballots and 1,337,361 absentee ballots counted, for a rate of 1.25 late rejected absentees per 1,000 absentees counted. The six less populous counties for which I have data in 2016 are Cochise, Coconino, Graham, Mohave, Navajo, and Santa Cruz Counties. They totaled 622 late rejected absentee ballots, or 3.76 per 1,000 absentee ballots cast in 2016. In other words, based on the data available, the rate of late rejected

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[2] Office of Rural Health Policy, "List of Rural Counties and Designated Eligible Census Tracts in Metropolitan Counties," https://www.hrsa.gov/sites/default/files/hrsa/ruralhealth/resources/forhpeligibleareas.pdf. Accessed February 18, 2020.

absentee ballots was 3 times higher in the less populous counties than in the more populous counties in 2016.

56. The contrast between Maricopa County and Navajo County highlights the disparities between the populous counties and the highly rural counties. Maricopa County, the most populous county in the State, had 1,536 late rejected absentee ballots in 2016, or 1.23 per 1,000 ballots. Navajo County had 470 late rejected absentee ballots, out of 22,634 absentee ballots—20.8 late rejected absentee ballots per 1,000 absentee ballots counted.

E. Rates of Late Rejected Absentee Ballots among White, Hispanic, and Native American Populations in Arizona

E.1. County Groups

57. The rates of late rejected absentee ballots are much lower among White populations in Arizona than among Hispanic and Native American populations. Table 2 presents data on the CVAP, overall and by racial group in the 15 counties in Arizona.

58. There are substantial differences in rates of late rejected absentees in 2018 between people who live in the counties with the lowest percent White CVAP (and highest minority percent) and those who live in the counties with the highest White CVAP (and lowest minority percent). Consider three groups of counties. First, there are five majority non-White counties. They are Apache, Greenlee, Navajo, Santa Cruz, and Yuma. They have White CVAP of 50 percent or less. There are also five counties where at least two thirds of the eligible electorate are White. They are Gila, La Paz, Maricopa, Mohave, and Yavapai Counties, and they range from 66 percent White CVAP to 81 percent White CVAP. The five counties with the lowest White CVAP are Apache, Santa Cruz, Yuma, Navajo, and Greenlee. The remaining five counties lie between these two extremes. They are Graham, Coconino, Pima, Cochise, and Pinal, and the White CVAP ranges from 54 percent to 64 percent.

59. For each of these groups of counties—Lowest White CVAP, Mid-Level White CVAP, and Highest White CVAP—I calculated the rate of late rejected absentees per 1,000 counted absentees among the counties for which data are available. *See* Appendix A, Table 3.

60. People in counties with the highest Hispanic and Native American populations had the highest rates of late rejected absentees. Among the counties with the lowest White CVAP (and highest Hispanic and Native American CVAP), 6.12 of every 1,000 absentees were rejected because they arrived to the recorder's office late. Among the counties with the mid-level White CVAP, 2.37 of every 1,000 absentees were rejected because they arrived to the recorder's office late. Among the counties with the highest White CVAP (and highest Hispanic and Native American CVAP), 1.39 of every 1,000 absentees were rejected because they arrived at the recorder's office late.

61. These results indicate that people who lived in the counties with the Lowest White CVAP were 4.4 times (i.e., 6.12/1.39) more likely to have a late rejected absentee than people who lived in the counties with the Highest White CVAP.[3]

62. This indicates that Hispanic and Native Americans are more likely to send absentee ballots that will arrive late and, therefore, be rejected under Arizona law.

E.2. County-Level Ecological Regression Analysis

63. Ecological regression analysis provides more precise estimation of the rate of late rejected absentees ballots among White, Hispanic, and Native Americans than does comparison across county groups. Ecological regression measures how much differences between county rates of late rejected absentee ballots correlate with differences in the racial composition of counties, and uses that relationship to measure the rate of late rejected absentees among each of the racial

[3] That is calculated as the ratio of the two rates, i.e., 6.12/1.39.

groups. Ecological regression is a standard technique for estimating patterns of voting behaviors of different types of racial groups. It is widely used and accepted in voting rights litigation.[4]

64. I conducted two sets of ecological regression analyses. Both are consistent with each other and with the comparison of County Groups. They show that Hispanics and Native Americans have much higher rates of late rejected absentee votes than Whites.

65. One analysis was conducted at the county-level and measures the rate of late absentee votes for racial groups implied by variation in racial composition of the electorate and rates of late rejected absentee ballots across all counties for which data are available (i.e., 12 of 15 Arizona counties in 2018). A second set of analyses examines the relationship between racial composition and late rejected absentee ballots across precincts within counties for which the appropriate data are available. The counties for which I was able to obtain the data for this analysis are Cochise, Coconino, Graham, Greenlee, Maricopa, and Santa Cruz. Graham, Greenlee, and Santa Cruz are very sparsely populated counties. Cochise and Coconino have citizen voting-age populations of 46,000 and 56,000 people, respectively. Comparison of the Ecological Regression analysis in these five less populous counties with the Ecological Regression in Maricopa is highly instructive about the rates of late rejected ballots in high populous counties in Arizona and in less populous counties in the State.

66. I performed an ecological regression analysis across counties, predicting the incidence of late rejected ballots with the racial composition of the counties. I measure the percent of each racial group in the electorate using the White, Hispanic, and Native American CVAP. I use data

[4] Ecological regression finds the best fitting line relating the dependent variable, i.e., rate of late rejected absentee ballots, to the independent variable, i.e., White CVAP Percent, Hispanic CVAP Percent, and Native American CVAP Percent. The estimated intercept and slope parameters of that line are used to estimate the rate of late rejected absentee ballots for each type of voter.

from the 2018 election to measure the rate of late rejected absentee ballots. These data consist of rates of late rejected absentees in 2018 reported by counties in response to a public records request. For counties for which those data were not reported, I used the information that the counties reported to the EAC in the EAVS.

67. The results of that analysis show the rate of late rejected absentees is much lower for Whites than for Hispanics and Native Americans. Specifically, the ecological regression analysis across counties estimates that the rate of late rejected absentees is 0.9 per 1,000 counted absentees among Whites. Hispanics and Native Americans have similar rates of late rejected absentee ballots, and that rate for both groups is much higher than for Whites. The estimated rate of late rejected absentees is 7.1 per 1,000 counted absentees among Hispanics and 7.9 per 1,000 counted absentees among Native Americans. The rate of late rejected absentees for Hispanics and Native Americans (pooled) is 7.3 per 1,000 counted absentees, and is statistically significantly higher than the rate of late rejected absentee ballots of Whites.[5]

68. County-level ecological regressions reveal that the rate of late rejected absentees in Arizona is 8 times higher for Hispanics and Native Americans than it is for Whites. These county-level estimates are not highly precise, but they have sufficient accuracy to conclude that the rate of late rejected absentee ballots for Hispanics and Native Americans is higher than the rate of late rejected ballots for Whites.[6]

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[5] The rate of late absentee ballots for Hispanic and Native Americans combined is 7.3 per 1,000 absentee ballots counted, with a standard error of 2.8. This effect is statistically significantly larger than the rate for Whites at the 99 percent level (i.e., the probability of a false positive is less than 1 percent).

[6] The precision of the county-level estimates is driven by the number of observations (12) and the variation across counties in the White, Hispanic, and Native American CVAP. The precinct-level data offer greater variation in the racial composition and a larger number of observations on which to estimate the late rejected absentee ballots of the various groups.

E.3. Precinct-level (within County)

69. Analysis of precinct-level data offers more precise estimates of the racial differences in the incidence of late rejected absentee ballots. Table 5 presents the estimated rates of late rejected absentees for six counties pooled (Cochise, Coconino, Graham, Greenlee, Maricopa, and Santa Cruz), for Maricopa alone, and for the remaining five counties for which I have the precinct-level data.

70. Among all six counties pooled (the first column of Table 5), the rate of late rejected absentees is significantly lower among Whites than among Hispanics or Native Americans. The estimated rate of late rejected absentees is 1.50 per 1,000 absentee votes case by White voters; it is 4.07 per 1,000 for Hispanic voters, and it is 5.67 per 1,000 for Native American voters. The rate of late rejected absentees is 2.7 times higher among Hispanics, and 3.8 times higher among Native Americans.

71. The precinct-level analysis allows for comparison of racial differences across high populous (Maricopa) and low populous (Cochise, Coconino, Graham, Greenlee, and Santa Cruz) counties. The racial differences are not due to population, nor are the population differences due to race. Both factors affect the rate of late rejected absentee ballots.

72. Consider, first, the racial differences within high populous and within low populous counties.

73. In Maricopa County, there are significant differences between the rate of late rejected absentee ballots of Whites and the rates of late rejected absentee ballots of Hispanics and Native Americans. I estimate that the rate of late rejected absentees is 0.84 per 1,000 absentee votes cast by White voters; it is 3.25 per 1,000 for Hispanic voters, and it is 4.70 per 1,000 for Native American voters. The rate of late rejected absentees is almost four times higher among Hispanics

in Maricopa County, and five and a half times higher among Native Americans in that County. *See* Appendix A, Table 5.

74. The differences between the rate of late rejected absentee ballots of Whites and of Hispanics and Native Americans in Maricopa County are statistically significant, meaning those differences are highly unlikely to have arisen by chance. The difference between the rates of late rejected ballots of Hispanics and Whites is 2.4 points, with a margin of error (or 95 percent confidence interval) of plus or minus 0.48. The probability that the observed difference arose by chance is less than 0.0001. *See* Appendix A, Table 5.

75. The difference between the rates of late rejected ballots of Native Americans and Whites in Maricopa is 3.9 points, and that difference is also highly unlikely to have arisen by chance. The estimated difference of 3.9 points has a margin of error (or 95 percent confidence interval) of 1.78. The probability that the observed difference arose by chance is less than 0.001. *See* Appendix A, Table 5.

76. Cochise, Coconino, Graham, Greenlee, and Santa Cruz Counties also show statistically significant differences between rates of late rejected absentee ballots of Whites and of Hispanics and Native Americans. The difference between the rates of late rejected ballots of Hispanics and Whites among these counties is 4.2 points, and that the probability that the observed difference arose by chance is less than 0.01. The difference between the rates of late rejected ballots of Native Americans and Whites among these counties is 2.2 points, and that the probability that the observed difference arose by chance is less than 0.05. *See* Appendix A, Table 5.

77. Hence, there are significant differences between Whites and Hispanics and between Whites and Native Americans within high populous counties and within low populous counties.

Hispanics and Native Americans have rates of late rejected ballots per 1,000 ballots cast that are 2 to 4-points higher than Whites, both within Maricopa and among the five less populous counties.

78. Consider, second, the differences between high and low populous counties within racial groups.

79. The rate of late rejected absentee ballots is higher among each of the racial groups who live in Cochise, Coconino, Graham, Greenlee, and Santa Cruz Counties than it is among the corresponding racial group in Maricopa County. Among Whites in Maricopa, the rate of rejected late absentee ballots is 0.8 per 1,000 ballots cast. Among Whites in the five less populous counties, the rate of rejected late absentee ballots is 3.1 per 1,000 ballots cast. Among Hispanics, the rate of late rejected absentee ballots is 3.3 in Maricopa but it is 7.3 in the five less populous counties. Among Native Americans, the rate of late rejected absentee ballots is 4.7 in Maricopa, but it is 5.3 in the five less populous counties.

80. Across different levels of aggregation (county and precinct) and across different counties we observe consistent evidence that Hispanic and Native American populations have significantly higher rates of late rejected absentees than Whites. It is also the case that the rate of late rejected absentees is much higher in less populous counties.

81. Population and race work in tandem. There are substantial and statistically significant differences between racial groups within Maricopa and within the five less populous counties for which I have precinct-level data. In addition, within racial groups the rates of late rejected absentee ballots are much higher in rural counties than in Maricopa. Because Hispanics and Native American are a higher percent of the populations of more rural counties, the effects of population and race on rates of late rejected absentee ballots have compound effects.

82. Compare Whites in Maricopa with Hispanics and Native Americans in the less populous counties. As already discussed, Whites in Maricopa had a rate of late rejected absentee ballots in 2018 of 0.8, slightly less than 1 per 1,000 absentee ballots counted. Native Americans who live in Cochise, Coconino, Graham, Greenlee, and Santa Cruz Counties had a rate of late rejected absentee ballots in 2018 of 5.3 per 1,000 ballots cast. Hispanics who live in these rural counties had a rate of late rejected absentee ballots in 2018 of 7.3 per 1,000 ballots cast. Hence, an Hispanic absentee voter in one of these rural counties is almost 10 times more likely to have a late rejected absentee ballot than a White living in Maricopa County.

83. In sum, I have conducted three sorts of analyses to discern the effects of race and population on rates of late rejected absentee ballots. They are the comparison of county groups, the ecological regression analyses at the county-level, and the ecological regression analysis at the precinct-level. All three point to the same conclusion. White voters have significantly lower rates of late rejected absentee ballots than do Hispanic and Native American voters. An Hispanic or Native American voter's absentee ballot is 3 to 7 times less likely to be counted than a White voter's absentee ballot. That contrast is starker still comparing Whites in the highly urbanized Maricopa County with Hispanics and Native Americans in the highly rural counties Cochise, Coconino, Graham, Greenlee, and Santa Cruz.

F. Closeness of Elections in Arizona

84. In every election in Arizona there are elections sufficiently close such that late rejected absentee ballots might have altered the outcome. For example,

- In 2010, Proposition 112 was defeated by 194 votes statewide. In Maricopa County alone there were 2,680 late rejected absentee ballots that year.

- In 2012, in the Democratic Primary for the Fourth Congressional District, Johnnie Robinson received 10,183 votes and Mikel Weisser received 10,164 votes—a margin of just 19 votes.
- In 2014, Martha McSally won 109,714 votes to win the Second Congressional District election, defeating Ron Barber by 167 votes. That is a margin of 0.8 percent (eight-tenths of one percent). This district includes all of Cochise and part of Pima County. Cochise reported 137 late rejected absentee ballots in that year, and Pima County reported 604 late rejected absentees county-wide.
- In 2016, in the Republican Primary for the Fifth Congressional District, Andy Biggs won 25,244 votes—only 27 votes more than the 25,217 votes won by his opponent Christine Jones.

85. While only a small percent of races are very close, every election has approximately a dozen close contents in which late rejected absentee ballots may hold the balance. In 2018 there were 20 (of 335) races in Arizona decided by less than 1 percent of the vote. In 2016 there were 10 (of 454) races that were decided by less than 1 percent of the vote. *See* Appendix A, Table 7. The rate of late rejected absentees at the county-level in 2018 and 2016 was as high as 2 percent of ballots cast (in Navajo County in 2016). *See* Appendix A, Table 1.

86. Close examination of election results in the four counties with the highest rates of late rejected absentees reveals a considerable number of elections, especially for local offices, that are won by less than the number of late rejected absentees. Cochise, Mohave, Navajo, and Santa Cruz Counties have the highest rates of late rejected absentees in 2018. *See* Appendix A, Table 1.

87. Table 8 lists races in 2018 general and primary elections and 2019 in Cochise, Mohave, Navajo, and Santa Cruz Counties where the margin was less than the number of late rejected

absentees. There are 13 such instances in these four counties in the 2018-2019 election season. Commonly, a local or state body that elects multiple candidates at once has a very close margin between the person who won with the least number of votes possible and the person who lost with the most votes.

88. Consider the first example in Table 8, the Board for the Palominas Fire District, which elects 3 people. The top three vote recipients in 2018 were Valerie Rice, Robert Montgomery, and Tommy Stoner. Stoner won 752 votes for 22.10 percent of votes cast. Tom R. Felix was the next highest vote getter, and he lost to Stoner by 6 votes. Felix received 746 votes for 21.92 percent of votes cast. In this and the other twelve cases in 2018 and 2019, the late absentees could have determined the outcome.

89. In the most recent election cycle in Arizona, at least a dozen races were determined by margins smaller than the number of late rejected absentee ballots. It is not possible to know how those who cast uncounted late absentees actually voted, but in such close elections the late absentees could affect the outcomes of the elections. Such elections occur every election cycle in the Arizona.

VI. Conclusions

90. Absentee voting has become the norm in Arizona. Twelve years ago, half of all votes were cast absentee by mail. Today three quarters of all votes are cast absentee by mail. The growing reliance on mail as a system of delivery of votes creates new challenges for conveying and counting votes, including the speed and reliability of the postal system.

91. Under Arizona statute, absentee ballots that arrive at the county recorders' offices after 7:00 p.m. on Election Day are rejected. In 2018, at least 3,175 mail ballots arrived too late to be counted. That is 1.72 late rejected absentee ballots per 1,000 absentee ballots counted. In 2016,

there were at least 2,313 late rejected absentee ballots. That is approximately two percent of the estimated 119,500 absentee ballots cast in the final week of the 2016 election.

92. Almost all of these ballots arrive within two weeks after Election Day: one-third arrive by the third day after Election Day, and 96 percent have arrived by the tenth day after Election Day. Late absentee ballots arrive later in less populous counties.

93. The absentee ballot deadline disproportionately affects people living in the less populous counties in Arizona and Hispanic and Native American voters. These groups have three to five times higher the rate of late rejected absentees as people living in the most populous counties or as Whites. Population density and race have compound effects. Hispanics living in rural counties

have rates of late rejected absentee ballots that are 10 times the rate of Whites living in Maricopa County.

94. Exclusion of late absentee ballots that were mailed on or before Election Day is consequential for the outcomes of elections in Arizona. A dozen or so local, state, and federal contests every election cycle are decided by margins less than the number of late rejected absentee ballots. The late rejected absentee ballots could have altered the outcomes of these contests, but the preferences of those voters were not recorded because, even though their ballots were cast before Election Day, they did not arrive by the deadline.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Stephen Ansolabehere, Ph.D.

APPENDIX A

Table 1. Total Votes, Absentee Votes, and Rejected Late Absentee Votes in Arizona Counties, In 2016 and 2018 General Elections

	2018				2016		
COUNTY	Total Votes	Absentee/ Early Total Counted	Rejected Late Absentee/ Early (per 1,000)		Total Votes	Absentee/ Early Total Counted	Rejected Late Absentee/ Early (per 1,000)
Apache	25,559	n.d.	n.d. (--)		28,492	12,715	n.d.
Cochise	45,927	34,144	227 (6.65)		50,601	33,615	0 (0.00)
Coconino	55,948	37,112	101 (2.72)		60,744	40,220	129 (3.18)
Gila	20,825	17,144	61 (3.55)		22,953	16,946	n.d.
Graham	10,786	7,204	0* (0.00)		12,535	7,779	0* (0.00)
Greenlee	2,599	1,905	2 (1.05)		3,376	2,310	n.d.
La Paz	5,164	3,367	n.d. (--)		6,056	3,721	n.d.
Maricopa	1,454,103	1,181,093	1,535 (1.30)		1,608,875	1,245,795	1,536 (1.23)
Mohave	72,545	50,131	265** (5.28)		81,114	50,855	1 (0.00)
Navajo	37,172	21,643	126 (5.82)		41,288	22,634	470 (20.77)
Pima	393,352	302,770	621 (2.05)		427,102	320,867	n.d.
Pinal	118,345	87,228	163 (1.87)		131,628	89803	n.d.
Santa Cruz	13,668	9,434	72 (7.63)		16,769	10,488	22 (2.10)
Yavapai	109,551	91,176	0 (0.00)		116,053	91,566	147 (1.61)
Yuma	44,362	30,226	n.d. (--)		53,911	42,369	n.d.

n.d. means no data.

* According to a letter in response to the Public Data Request there were zero late rejected absentee ballots in Graham County in 2018 and 2016. The EAVS reports 18 late rejected absentee ballots (or 2.5 per 1,000) in 2018 and 8 (or 1.0 per 1,000) in 2016 in Graham County.

** The number of late rejected absentees reported by Mohave Country Recorder in the Public Records Request is higher than the figures reported in the EAVS.

Table 2. Citizen Voting Age Population of Arizona Counties, Total and by Racial Group

COUNTY	Total Citizen Voting Age Population	White Alone Number (Percent)	Hispanic Number (Percent)	Native American Number (Percent)
Apache	50,980	10,365 (20.3)	2,340 (4.6)	37,340 (73.2)
Cochise	92,465	58,060 (62.8)	25,970 (28.1)	1,410 (1.5)
Coconino	106,670	63,765 (59.8)	12,135 (11.4)	26,125 (24.5)
Gila	41,515	28,690 (69.1)	6,450 (15.5)	5,860 (14.1)
Graham	26,650	14,400 (54.0)	8,045 (30.2)	3,345 (12.6)
Greenlee	6,660	3,360 (50.5)	2,950 (44.3)	239 (3.6)
La Paz	15,770	10,540 (66.8)	2,960 (18.8)	1,885 (12.0)
Maricopa	2,860,360	1,904,525 (82.7)	612,970 (21.4)	61,880 (2.2)
Mohave	162,400	134,270 (82.7)	19,565 (9.3)	4,389 (2.7)
Navajo	77,555	35,910 (46.3)	7,195 (9.3)	34,190 (44.1)
Pima	738,065	450,120 (61.0)	216,525 (29.3)	21,360 (2.9)
Pinal	300,405	191,295 (63.7)	71,970 (24.0)	15,870 (5.3)
Santa Cruz	27,590	6,155 (22.3)	20,990 (76.1)	165 (0.6)
Yavapai	180,365	155,120 (86.0)	17,440 (9.7)	3,715 (2.1)
Yuma	125,310	53,015 (42.3)	64,590 (51.5)	2,005 (1.6)

Source: American Community Survey Five Year Average, 2014-2018.

Table 3. Late Rejected Absentees in 2018 by Racial Composition of Counties			
	Percent White CVAP	Late Rejected Absentees (per 1000 Absentees Counted)	Total Absentee Vote
LOWEST PERCENT WHITE CVAP Apache*, Greenlee, Navajo, Santa Cruz, Yuma*	37.8%	6.12	63,208
MID-LEVEL PERCENT WHITE CVAP Cochise, Coconino, Graham, Pima, Pinal	61.5%	2.37	468,458
HIGHEST PERCENT WHITE CVAP Gila, La Paz*, Maricopa, Mohave, Yavapai	68.5%	1.39	1,339,544
*No Data on Late Rejected Absentees			

Table 4. Estimated Rate of Late Rejected Absentees
County-Level Ecological Regression of the Relationship Between Race and The Incidence of Late Rejected Absentees in 2018

	Estimated Rate of Late Rejected Absentees (Standard Error) *t-statistic*
White	**0.91** (1.86) *t=0.49*
Hispanic	**7.13*** (3.22) *t=2.21*
Native American	**7.88** (5.72) *t=1.38*
R-Squared N	.20 12

Table 5. Estimated Rate of Late Rejected Absentees: Precinct-Level Ecological Regressions of the Relationship Between Race and The Incidence of Late Rejected Absentees in 2018			
	All Available Data Pooled	Maricopa County Only	Cochise, Coconino, Graham, Greenlee, and Santa Cruz Counties
	Estimate (Standard Error)	Estimate (Standard Error)	Estimate (Standard Error)
White	**1.50** (0.26)	**0.84** (0.10)	**3.09** (0.80)
Hispanic	**4.07** (0.51)	**3.25** (0.21)	**7.28** (1.74)
Native American	**5.67** (0.60)	**4.70** (0.88)	**5.32** (1.03)
R-Squared Number of Observations	.06 854	.16 586	0.02 268

Table 6. Closeness of Elections in Arizona in 2016 and 2018				
Year	Number of Contests	Median Ratio of Votes Won By Second to First Place Candidates	Number of Contests Within 1%	Number of Contests Within 3%
2016	454	76.1%	10	35
2018	335	89.8%	20	52
Source: Secretary of State of Arizona				

Table 7. Examples of Very Close Elections in 2018 and 2019 in Cochise, Mohave, Navajo, and Santa Cruz Counties	
Cochise County (227 late rejected absentees in 2018) (6.7 per 1,000)	
2018 Board Palominas Fire District (Elect 3)	
Valerie Rice	1,008 (29.62 percent)
Robert Montgomery	870 (25.57 percent)
Tommy R. Stoner	752 (22.10 percent)
Tom R. Felix	746 (21.92 percent)
2018 Democratic Primary – Corporation Commissioner (Elect 2)	
Sandra Kennedy	6,921 (45.29 percent)
William Mundell	4,188 (27.40 percent)
Kiana Maria Sears	4,088 (26.75 percent)
2018 Democratic Primary – Judge of Superior Court Division (Elect 1)	
Laura A. Cardinal	4,442 (49.93 percent)
Sara Xochitl Orozco	4,410 (49.57 percent)
2018 Democratic Primary – Council Member, City of Willcox (Elect 4)	
Rebecca Akes	274 (17.52 percent)
Timothy Bowlby	273 (17.46 percent)
Michael Laws	231 (17.52 percent)
Steve Denny	197 (17.52 percent)
G. Sam Lindsey	195 (17.52 percent)

Mohave County (265 late rejected absentees in 2018) (5.3 per 1,000)	
2019 Proposition 415 For Against	 4,799 (50.41 percent) 4,720 (49.59 percent)
2018 Board Member Kingman Hospital (Elect 2) Penny White Stephen Pebley Daniel Del Monaco	 12,447 (40.18 percent) 9,279 (29.96 percent) 9,069 (29.28 percent)
2018 Republican Primary – Superintendent of Public Instruction (Elect 1) Bob Branch Diane Douglas	 6,403 (24.92 percent) 6,397 (24.90 percent)
2018 Non-Party Primary – Council Member Colorado City (Elect 4) Donald Richter Alma Hammon Jeffry Jessop Marion Timpson Joanne Shapley	 168 (12.86 percent) 154 (11.79 percent) 149 (11.41 percent) 146 (11.18 percent) 144 (11.03 percent)
Navajo County (128 late rejected absentees in 2018) (5.9 per 1,000)	
2018 Board Member Timber Mesa FMD (Elect 2) Dennis Hughes Lynn Browne-Wagner Dustin Graham	 4,407 (38.22 percent) 3,567 (30.93 percent) 3,492 (30.28 percent)
2018 Board Member Pinon USD 4 (Elect 2) Ramona Nalwood	 1,220 (38.55 percent)

Mark Little Evelyn Mike	979 (30.93 percent) 952 (30.08 percent)
2018 Republican Primary – Justice of the Peace (Elect 1) Shirley Patterson Jarom Lewis	 1,180 (35.37 percent) 1,168 (35.01 percent)
Santa Cruz County (72 late rejected absentees in 2018) (7.6 per 1,000)	
2019 Question 2 Yes No	 1,348 (49.76 percent) 1,361 (50.24 percent)
2018 Republican Primary – Corporation Commissioner (Elect 2) Justin Olsso James O'Connor Rodney Glassman	 650 (23.91 percent) 634 (23.33 percent) 610 (22.44 percent)

Table A. Data Reported in the 2018 EAC EAVS				
COUNTY	Rejected Late Absentee Ballots in County	Rejected Absentee Ballots In County	Total Number of Votes by Mail or Absentee In County	Total Number of Votes In County
Apache	No	Yes	No	Yes
Cochise	Yes	Yes	Yes	Yes
Coconino	Yes	Yes	Yes	Yes
Gila	Yes	Yes	Yes	Yes
Graham	Yes	Yes	Yes	Yes
Greenlee	Yes	Yes	Yes	Yes
La Paz	No	Yes	Yes	Yes
Maricopa	Yes	Yes	Yes	Yes
Mohave	Yes	Yes	Yes	Yes
Navajo	Yes	Yes	Yes	Yes
Pima	No	Yes	Yes	Yes
Pinal	Yes	Yes	Yes	Yes
Santa Cruz	Yes	Yes	Yes	Yes
Yavapai	Yes	Yes	Yes	Yes
Yuma	No	Yes	Yes	Yes

Table B. Data for 2018 Elections Reported in Response to Public Records Request				
COUNTY	Rejected Late Absentee Ballots in County	Rejected Late Absentee Ballots by Precinct or Voter	Rejected Absentee Ballots	Total Number of Votes by Mail or Absentee
Apache	No	No	No	No
Cochise	Yes	Yes	Yes	Yes
Coconino	Yes	Yes	Yes	Yes
Gila	No	No	No	Yes
Graham	Yes	Yes	Yes	Yes
Greenlee	Yes	Yes	Yes	Yes
La Paz	No	No	No	Yes
Maricopa	Yes	Yes	Yes	Yes
Mohave	Yes	No	No	No
Navajo	No	No	No	No
Pima	Yes	No	No	No
Pinal	Yes	No	No	No
Santa Cruz	Yes	Yes	Yes	Yes
Yavapai	Yes	No	Yes	Yes
Yuma	No	No	Yes	Yes

Table C. Number of Late Rejected Absentee Ballots by in Arizona Counties, 2008-2018

COUNTY	2008	2010	2012	2014	2016	2018
Apache	n.d.	82*	0*	2*	n.d.	n.d.
Cochise	16**	0**	5**	136**	0*	227*
Coconino	44*	n.d.	121*	112**	129**	101**
Gila	n.d.	7*	0*	53*	n.d.	61*
Graham	6*	n.d.	n.d.	n.d.	0**	0**
Greenlee	0*	n.d.	n.d.	n.d.	n.d.	2*
La Paz	2*	n.d.	n.d.	n.d.	n.d.	n.d.
Maricopa	1,485*	2,680*	2,701*	2,321*	1,536**	1,535**
Mohave	0*	n.d.	1	73*	1*	265**
Navajo	60*	n.d.	n.d.	1*	470**	128*
Pima	n.d.	n.d.	931*	604*	n.d.	621**
Pinal	0*	149*	n.d.	0**	0**	163*
Santa Cruz	4*	26*	21*	11*	22*	72*
Yavapai	n.d.	n.d.	n.d.	0*	147*	0*
Yuma	n.d.	n.d.	328	0*	n.d.	n.d.
STATE OF ARIZONA*** (N of Counties Reporting)	1,611 (N=11)	2,944 (N=5)	4,107 (N=9)	3,313 (N=11)	2,313 (N=9)	3,175 (N=12)

n.d. = no data available
* Source: EAC EAVS
** Source: County Recorder Response to Public Record Request
*** These figures are lower bounds, as they do not include counties that did not report data.

APPENDIX B

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EDUCATION

Harvard University	Ph.D., Political Science	1989
University of Minnesota	B.A., Political Science	1984
	B.S., Economics	

PROFESSIONAL EXPERIENCE

ACADEMIC POSITIONS

2016-present	Frank G. Thompson Professor of Government, Harvard University
2008-present	Professor, Department of Government, Harvard University
2015-present	Director, Center for American Politics, Harvard University
1998-2009	Elting Morison Professor, Department of Political Science, MIT (Associate Head, 2001-2005)
1995-1998	Associate Professor, Department of Political Science, MIT
1993-1994	National Fellow, The Hoover Institution
1989-1993	Assistant Professor, Department of Political Science, University of California, Los Angeles

FELLOWSHIPS AND HONORS

American Academy of Arts and Sciences	2007
Carnegie Scholar	2000-02
National Fellow, The Hoover Institution	1993-94

Harry S. Truman Fellowship	1982-86

PUBLICATIONS

Books

2019 *American Government*, 15th edition. With Ted Lowi, Benjamin Ginsberg and Kenneth Shepsle. W.W. Norton.

2014 *Cheap and Clean: How Americans Think About Energy in the Age of Global Warming*. With David Konisky. MIT Press. Recipient of the Donald K. Price book award.

2008 *The End of Inequality: One Person, One Vote and the Transformation of American Politics*. With James M. Snyder, Jr., W. W. Norton.

1996 *Going Negative: How Political Advertising Divides and Shrinks the American Electorate*. With Shanto Iyengar. The Free Press. Recipient of the Goldsmith book award.

1993 *Media Game: American Politics in the Television Age*. With Roy Behr and Shanto Iyengar. Macmillan.

Journal Articles

2020 "Unilateral Action and Presidential Accountability," *Presidential Studies Quarterly* 50 (March): 129-145.

2019 "Backyard Voices: How Sense of Place Shapes Views of Large-Scale Energy Transmission Infrastructure" *Energy Research & Social Science* forthcoming(with Parrish Bergquist, Carley Sanya, and David Konisky)

2019 "Are All Electrons the Same? Evaluating support for local transmission lines through an experiment" *PLOS ONE* 14 (7): e0219066 (with Carley Sanya and David Konisky) https://doi.org/10.1371/journal.pone.0219066

2018 "Policy, Politics, and Public Attitudes Toward the Supreme Court" *American Politics Research* (with Ariel White and Nathaniel Persily). https://doi.org/10.1177/1532673X18765189

2018 "Measuring Issue-Salience in Voters' Preferences" *Electoral Studies* (with Maria Socorro Puy) 51 (February): 103-114.

2018 "Divided Government and Significant Legislation: A History of Congress," *Social Science History* (with Maxwell Palmer and Benjamin Schneer).42 (1).

2017 "ADGN: An Algorithm for Record Linkage Using Address, Date of Birth Gender and Name," *Statistics and Public Policy* (with Eitan Hersh)

2017 "Identity Politics" (with Socorro Puy) *Public Choice*. 168: 1-19. DOI 10.1007/s11127-016-0371-2

2016 "A 200-Year Statistical History of the Gerrymander" (with Maxwell Palmer) *The Ohio State University Law Journal*

2016 "Do Americans Prefer Co-Ethnic Representation? The Impact of Race on House Incumbent Evaluations" (with Bernard Fraga) *Stanford University Law Review* 68: 1553-1594

2016 Revisiting Public Opinion on Voter Identification and Voter Fraud in an Era of Increasing Partisan Polarization" (with Nathaniel Persily) *Stanford Law Review* 68: 1455-1489

2015 "The Perils of Cherry Picking Low Frequency Events in Large Sample Surveys" (with Brian Schaffner and Samantha Luks) *Electoral Studies* 40 (December): 409-410.

2015 "Testing *Shaw v. Reno*: Do Majority-Minority Districts Cause Expressive Harms?" (with Nathaniel Persily) *New York University Law Review* 90

2015 "A Brief Yet Practical Guide to Reforming U.S. Voter Registration, *Election Law Journa*l, (with Daron Shaw and Charles Stewart) 14: 26-31.

2015 "Waiting to Vote," *Election Law Journa*l, (with Charles Stewart) 14: 47-53.

2014 "Mecro-economic Voting: Local Information and Micro-Perceptions of the Macro-Economy" (With Marc Meredith and Erik Snowberg), *Economics and Politics* 26 (November): 380-410.

2014 "Does Survey Mode Still Matter?" *Political Analysis* (with Brian Schaffner) 22: 285-303

2013 "Race, Gender, Age, and Voting" *Politics and Governance*, vol. 1, issue 2. (with Eitan Hersh) http://www.librelloph.com/politicsandgovernance/article/view/PaG-1.2.132

2013 "Regional Differences in Racially Polarized Voting: Implications for the Constitutionality of Section 5 of the Voting Rights Act" (with Nathaniel Persily and Charles Stewart) 126 *Harvard Law Review* F 205 (2013) http://www.harvardlawreview.org/issues/126/april13/forum_1005.php

2013 "Cooperative Survey Research" *Annual Review of Political Science* (with Douglas Rivers)

2013 "Social Sciences and the Alternative Energy Future" *Daedalus* (with Bob Fri)

2013 "The Effects of Redistricting on Incumbents," *Election Law Journal* (with James Snyder)

2012 "Asking About Numbers: How and Why" *Political Analysis* (with Erik Snowberg and Marc Meredith). doi:10.1093/pan/mps031

2012 "Movers, Stayers, and Registration" *Quarterly Journal of Political Science* (with Eitan Hersh and Ken Shepsle)

2012 "Validation: What Big Data Reveals About Survey Misreporting and the Real Electorate" *Political Analysis* (with Eitan Hersh)

2012 "Arizona Free Enterprise v. Bennett and the Problem of Campaign Finance" *Supreme Court Review* 2011(1):39-79

2012 "The American Public's Energy Choice" *Daedalus* (with David Konisky)

2012 "Challenges for Technology Change" *Daedalus* (with Robert Fri)

2011 "When Parties Are Not Teams: Party positions in single-member district and proportional representation systems" *Economic Theory* 49 (March) DOI: 10.1007/s00199-011-0610-1 (with James M. Snyder Jr. and William Leblanc)

2011 "Profiling Originalism" *Columbia Law Review* (with Jamal Greene and Nathaniel Persily).

2010 "Partisanship, Public Opinion, and Redistricting" *Election Law Journal* (with Joshua Fougere and Nathaniel Persily).

2010 "Primary Elections and Party Polarization" *Quarterly Journal of Political Science* (with Shigeo Hirano, James Snyder, and Mark Hansen)

2010 "Constituents' Responses to Congressional Roll Call Voting," *American*

Journal of Political Science (with Phil Jones)

2010 "Race, Region, and Vote Choice in the 2008 Election: Implications for the Future of the Voting Rights Act" *Harvard Law Review* April, 2010. (with Nathaniel Persily, and Charles H. Stewart III)

2010 "Residential Mobility and the Cell Only Population," *Public Opinion Quarterly* (with Brian Schaffner)

2009 "Explaining Attitudes Toward Power Plant Location," *Public Opinion Quarterly* (with David Konisky)

2009 "Public risk perspectives on the geologic storage of carbon dioxide," *International Journal of Greenhouse Gas Control* (with Gregory Singleton and Howard Herzog) 3(1): 100-107.

2008 "A Spatial Model of the Relationship Between Seats and Votes" (with William Leblanc) *Mathematical and Computer Modeling* (November).

2008 "The Strength of Issues: Using Multiple Measures to Gauge Preference Stability, Ideological Constraint, and Issue Voting" (with Jonathan Rodden and James M. Snyder, Jr.) *American Political Science Review* (May).

2008 "Access versus Integrity in Voter Identification Requirements." *New York University Annual Survey of American Law,* vol 63.

2008 "Voter Fraud in the Eye of the Beholder" (with Nathaniel Persily) *Harvard Law Review* (May)

2007 "Incumbency Advantages in U. S. Primary Elections," (with John Mark Hansen, Shigeo Hirano, and James M. Snyder, Jr.) *Electoral Studies* (September)

2007 "Television and the Incumbency Advantage" (with Erik C. Snowberg and James M. Snyder, Jr). *Legislative Studies Quarterly.*

2006 "The Political Orientation of Newspaper Endorsements" (with Rebecca Lessem and James M. Snyder, Jr.). *Quarterly Journal of Political Science* vol. 1, issue 3.

2006 "Voting Cues and the Incumbency Advantage: A Critical Test" (with Shigeo Hirano, James M. Snyder, Jr., and Michiko Ueda) *Quarterly Journal of Political Science* vol. 1, issue 2.

2006 "American Exceptionalism? Similarities and Differences in National Attitudes

Toward Energy Policies and Global Warming" (with David Reiner, Howard Herzog, K. Itaoka, M. Odenberger, and Fillip Johanssen) *Environmental Science and Technology* (February 22, 2006), http://pubs3.acs.org/acs/journals/doilookup?in_doi=10.1021/es052010b

2006 "Purple America" (with Jonathan Rodden and James M. Snyder, Jr.) *Journal of Economic Perspectives* (Winter).

2005 "Did the Introduction of Voter Registration Decrease Turnout?" (with David Konisky). *Political Analysis.*

2005 "Statistical Bias in Newspaper Reporting: The Case of Campaign Finance" *Public Opinion Quarterly* (with James M. Snyder, Jr., and Erik Snowberg).

2005 "Studying Elections" *Policy Studies Journal* (with Charles H. Stewart III and R. Michael Alvarez).

2005 "Legislative Bargaining under Weighted Voting" *American Economic Review* (with James M. Snyder, Jr., and Michael Ting)

2005 "Voting Weights and Formateur Advantages in Coalition Formation: Evidence from Parliamentary Coalitions, 1946 to 2002" (with James M. Snyder, Jr., Aaron B. Strauss, and Michael M. Ting) *American Journal of Political Science.*

2005 "Reapportionment and Party Realignment in the American States" *Pennsylvania Law Review* (with James M. Snyder, Jr.)

2004 "Residual Votes Attributable to Voting Technologies" (with Charles Stewart) *Journal of Politics*

2004 "Using Term Limits to Estimate Incumbency Advantages When Office Holders Retire Strategically" (with James M. Snyder, Jr.). *Legislative Studies Quarterly* vol. 29, November 2004, pages 487-516.

2004 "Did Firms Profit From Soft Money?" (with James M. Snyder, Jr., and Michiko Ueda) *Election Law Journal* vol. 3, April 2004.

2003 "Bargaining in Bicameral Legislatures" (with James M. Snyder, Jr. and Mike Ting) *American Political Science Review,* August, 2003.

2003 "Why Is There So Little Money in U.S. Politics?" (with James M. Snyder, Jr.) *Journal of Economic Perspectives*, Winter, 2003.

2002 "Equal Votes, Equal Money: Court-Ordered Redistricting and the Public

Spending in the American States" (with Alan Gerber and James M. Snyder, Jr.) *American Political Science Review*, December, 2002.
Paper awarded the Heinz Eulau award for the best paper in the American Political Science Review.

2002 "Are PAC Contributions and Lobbying Linked?" (with James M. Snyder, Jr. and Micky Tripathi) *Business and Politics* 4, no. 2.

2002 "The Incumbency Advantage in U.S. Elections: An Analysis of State and Federal Offices, 1942-2000" (with James Snyder) *Election Law Journal,* 1, no. 3.

2001 "Voting Machines, Race, and Equal Protection." *Election Law Journal*, vol. 1, no. 1

2001 "Models, assumptions, and model checking in ecological regressions" (with Andrew Gelman, David Park, Phillip Price, and Larraine Minnite) *Journal of the Royal Statistical Society,* series A, 164: 101-118.

2001 "The Effects of Party and Preferences on Congressional Roll Call Voting." (with James Snyder and Charles Stewart) *Legislative Studies Quarterly* (forthcoming).
Paper awarded the *Jewell-Lowenberg Award* for the best paper published on legislative politics in 2001. Paper awarded the *Jack Walker Award* for the best paper published on party politics in 2001.

2001 "Candidate Positions in Congressional Elections," (with James Snyder and Charles Stewart). *American Journal of Political Science* 45 (November).

2000 "Old Voters, New Voters, and the Personal Vote," (with James Snyder and Charles Stewart) *American Journal of Political Science* 44 (February).

2000 "Soft Money, Hard Money, Strong Parties," (with James Snyder) *Columbia Law Review* 100 (April):598 - 619.

2000 "Campaign War Chests and Congressional Elections," (with James Snyder) *Business and Politics*. 2 (April): 9-34.

1999 "Replicating Experiments Using Surveys and Aggregate Data: The Case of Negative Advertising." (with Shanto Iyengar and Adam Simon) *American Political Science Review* 93 (December).

1999 "Valence Politics and Equilibrium in Spatial Models," (with James Snyder), *Public Choice.*

1999 "Money and Institutional Power," (with James Snyder), *Texas Law Review* 77 (June, 1999): 1673-1704.

1997 "Incumbency Advantage and the Persistence of Legislative Majorities," (with Alan Gerber), *Legislative Studies Quarterly* 22 (May 1997).

1996 "The Effects of Ballot Access Rules on U.S. House Elections," (with Alan Gerber), *Legislative Studies Quarterly* 21 (May 1996).

1994 "Riding the Wave and Issue Ownership: The Importance of Issues in Political Advertising and News," (with Shanto Iyengar) *Public Opinion Quarterly* 58: 335-357.

1994 "Horseshoes and Horseraces: Experimental Evidence of the Effects of Polls on Campaigns," (with Shanto Iyengar) *Political Communications* 11/4 (October-December): 413-429.

1994 "Does Attack Advertising Demobilize the Electorate?" (with Shanto Iyengar), *American Political Science Review* 89 (December).

1994 "The Mismeasure of Campaign Spending: Evidence from the 1990 U.S. House Elections," (with Alan Gerber) *Journal of Politics* 56 (September).

1993 "Poll Faulting," (with Thomas R. Belin) *Chance* 6 (Winter): 22-28.

1991 "The Vanishing Marginals and Electoral Responsiveness," (with David Brady and Morris Fiorina) *British Journal of Political Science* 22 (November): 21-38.

1991 "Mass Media and Elections: An Overview," (with Roy Behr and Shanto Iyengar) *American Politics Quarterly* 19/1 (January): 109-139.

1990 "The Limits of Unraveling in Interest Groups," *Rationality and Society* 2: 394-400.

1990 "Measuring the Consequences of Delegate Selection Rules in Presidential Nominations," (with Gary King) *Journal of Politics* 52: 609-621.

1989 "The Nature of Utility Functions in Mass Publics," (with Henry Brady) *American Political Science Review* 83: 143-164.

Special Reports and Policy Studies

2010 *The Future of Nuclear Power*, Revised.

2006 *The Future of Coal.* MIT Press. Continued reliance on coal as a primary power source will lead to very high concentrations of carbon dioxide in the atmosphere, resulting in global warming. This cross-disciplinary study – drawing on faculty from Physics, Economics, Chemistry, Nuclear Engineering, and Political Science – develop a road map for technology research and development policy in order to address the challenges of carbon emissions from expanding use of coal for electricity and heating throughout the world.

2003 *The Future of Nuclear Power*. MIT Press. This cross-disciplinary study – drawing on faculty from Physics, Economics, Chemistry, Nuclear Engineering, and Political Science – examines the what contribution nuclear power can make to meet growing electricity demand, especially in a world with increasing carbon dioxide emissions from fossil fuel power plants.

2002 "Election Day Registration." A report prepared for DEMOS. This report analyzes the possible effects of Proposition 52 in California based on the experiences of 6 states with election day registration.

2001 *Voting: What Is, What Could Be.* A report of the Caltech/MIT Voting Technology Project. This report examines the voting system, especially technologies for casting and counting votes, registration systems, and polling place operations, in the United States. It was widely used by state and national governments in formulating election reforms following the 2000 election.

2001 "An Assessment of the Reliability of Voting Technologies." A report of the Caltech/MIT Voting Technology Project. This report provided the first nationwide assessment of voting equipment performance in the United States. It was prepared for the Governor's Select Task Force on Election Reform in Florida.

Chapters in Edited Volumes

2016 "Taking the Study of Public Opinion Online" (with Brian Schaffner) *Oxford Handbook of Public Opinion*, R. Michael Alvarez, ed. Oxford University Press: New York, NY.

2014 "Voter Registration: The Process and Quality of Lists" *The Measure of American Elections*, Barry Burden, ed..

2012 "Using Recounts to Measure the Accuracy of Vote Tabulations: Evidence from New Hampshire Elections, 1946-2002" in Confirming Elections, R. Michael Alvarez, Lonna Atkeson, and Thad Hall, eds. New York: Palgrave, Macmillan.

2010 "Dyadic Representation" in Oxford Handbook on Congress, Eric Schickler, ed., Oxford University Press.

2008 "Voting Technology and Election Law" in *America Votes!,* Benjamin Griffith, editor, Washington, DC: American Bar Association.

2007 "What Did the Direct Primary Do to Party Loyalty in Congress" (with Shigeo Hirano and James M. Snyder Jr.) in *Process, Party and Policy Making: Further New Perspectives on the History of Congress*, David Brady and Matthew D. McCubbins (eds.), Stanford University Press, 2007.

2007 "Election Administration and Voting Rights" in *Renewal of the Voting Rights Act*, David Epstein and Sharyn O'Hallaran, eds. Russell Sage Foundation.

2006 "The Decline of Competition in Primary Elections," (with John Mark Hansen, Shigeo Hirano, and James M. Snyder, Jr.) *The Marketplace of Democracy*, Michael P. McDonald and John Samples, eds. Washington, DC: Brookings.

2005 "Voters, Candidates and Parties" in *Handbook of Political Economy*, Barry Weingast and Donald Wittman, eds. New York: Oxford University Press.

2003 "Baker v. Carr in Context, 1946 – 1964" (with Samuel Isaacharoff) in *Constitutional Cases in Contex*t, Michael Dorf, editor. New York: Foundation Press.

2002 "Corruption and the Growth of Campaign Spending"(with Alan Gerber and James Snyder). *A User's Guide to Campaign Finance*, Jerry Lubenow, editor. Rowman and Littlefield.

2001 "The Paradox of Minimal Effects," in Henry Brady and Richard Johnston, eds., *Do Campaigns Matter*? University of Michigan Press.

2001 "Campaigns as Experiments," in Henry Brady and Richard Johnson, eds., Do *Campaigns Matter*? University of Michigan Press.

2000 "Money and Office," (with James Snyder) in David Brady and John Cogan, eds., *Congressional Elections: Continuity and Change*. Stanford University Press.

1996 "The Science of Political Advertising," (with Shanto Iyengar) in *Political Persuasion and Attitude Change*, Richard Brody, Diana Mutz, and Paul Sniderman, eds. Ann Arbor, MI: University of Michigan Press.

1995 "Evolving Perspectives on the Effects of Campaign Communication," in Philo Warburn, ed., *Research in Political Sociology*, vol. 7, JAI.

1995 "The Effectiveness of Campaign Advertising: It's All in the Context," (with Shanto Iyengar) in *Campaigns and Elections American Style*, Candice Nelson and James A. Thurber, eds. Westview Press.

1993 "Information and Electoral Attitudes: A Case of Judgment Under Uncertainty," (with Shanto Iyengar), in *Explorations in Political Psychology*, Shanto Iyengar and William McGuire, eds. Durham: Duke University Press.

Working Papers

2009 "Sociotropic Voting and the Media" (with Marc Meredith and Erik Snowberg), American National Election Study Pilot Study Reports, John Aldrich editor.

2007 "Public Attitudes Toward America's Energy Options: Report of the 2007 MIT Energy Survey" CEEPR Working Paper 07-002 and CANES working paper.

2006 "Constituents' Policy Perceptions and Approval of Members' of Congress" CCES Working Paper 06-01 (with Phil Jones).

2004 "Using Recounts to Measure the Accuracy of Vote Tabulations: Evidence from New Hampshire Elections, 1946 to 2002" (with Andrew Reeves).

2002 "Evidence of Virtual Representation: Reapportionment in California," (with Ruimin He and James M. Snyder).

1999 "Why did a majority of Californians vote to lower their own power?" (with James Snyder and Jonathan Woon). Paper presented at the annual meeting of the American Political Science Association, Atlanta, GA, September, 1999.
Paper received the award for the best paper on Representation at the 1999 Annual Meeting of the APSA.

1999 "Has Television Increased the Cost of Campaigns?" (with Alan Gerber and James Snyder).

1996 "Money, Elections, and Candidate Quality," (with James Snyder).

1996 "Party Platform Choice - Single- Member District and Party-List Systems,"(with James Snyder).

1995 "Messages Forgotten" (with Shanto Iyengar).

1994 "Consumer Contributors and the Returns to Fundraising: A Microeconomic Analysis," (with Alan Gerber), presented at the Annual Meeting of the American Political Science Association, September.

1992 "Biases in Ecological Regression," (with R. Douglas Rivers) August, (revised February 1994). Presented at the Midwest Political Science Association Meetings, April 1994, Chicago, IL.

1992 "Using Aggregate Data to Correct Nonresponse and Misreporting in Surveys" (with R. Douglas Rivers). Presented at the annual meeting of the Political Methodology Group, Cambridge, Massachusetts, July.

1991 "The Electoral Effects of Issues and Attacks in Campaign Advertising" (with Shanto Iyengar). Presented at the Annual Meeting of the American Political Science Association, Washington, DC.

1991 "Television Advertising as Campaign Strategy: Some Experimental Evidence" (with Shanto Iyengar). Presented at the Annual Meeting of the American Association for Public Opinion Research, Phoenix.

1991 "Why Candidates Attack: Effects of Televised Advertising in the 1990 California Gubernatorial Campaign," (with Shanto Iyengar). Presented at the Annual Meeting of the Western Political Science Association, Seattle, March.

1990 "Winning is Easy, But It Sure Ain't Cheap." Working Paper #90-4, Center for the American Politics and Public Policy, UCLA. Presented at the Political Science Departments at Rochester University and the University of Chicago.

Research Grants

1989-1990 Markle Foundation. "A Study of the Effects of Advertising in the 1990 California Gubernatorial Campaign." Amount: $50,000

1991-1993 Markle Foundation. "An Experimental Study of the Effects of Campaign Advertising." Amount: $150,000

1991-1993 NSF. "An Experimental Study of the Effects of Advertising in the 1992 California Senate Electoral." Amount: $100,000

1994-1995 MIT Provost Fund. "Money in Elections: A Study of the Effects of Money on Electoral Competition." Amount: $40,000

1996-1997 National Science Foundation. "Campaign Finance and Political Representation." Amount: $50,000

1997 National Science Foundation. "Party Platforms: A Theoretical Investigation of Party Competition Through Platform Choice." Amount: $40,000

1997-1998	National Science Foundation. "The Legislative Connection in Congressional Campaign Finance. Amount: $150,000
1999-2000	MIT Provost Fund. "Districting and Representation." Amount: $20,000.
1999-2002	Sloan Foundation. "Congressional Staff Seminar." Amount: $156,000.
2000-2001	Carnegie Corporation. "The Caltech/MIT Voting Technology Project." Amount: $253,000.
2001-2002	Carnegie Corporation. "Dissemination of Voting Technology Information." Amount: $200,000.
2003-2005	National Science Foundation. "State Elections Data Project." Amount: $256,000.
2003-2004	Carnegie Corporation. "Internet Voting." Amount: $279,000.
2003-2005	Knight Foundation. "Accessibility and Security of Voting Systems." Amount: $450,000.
2006-2008	National Science Foundation, "Primary Election Data Project," $186,000
2008-2009	Pew/JEHT. "Measuring Voting Problems in Primary Elections, A National Survey." Amount: $300,000
2008-2009	Pew/JEHT. "Comprehensive Assessment of the Quality of Voter Registration Lists in the United States: A pilot study proposal" (with Alan Gerber). Amount: $100,000.
2010-2011	National Science Foundation, "Cooperative Congressional Election Study," $360,000
2010-2012	Sloan Foundation, "Precinct-Level U. S. Election Data," $240,000.
2012-2014	National Science Foundation, "Cooperative Congressional Election Study, 2010-2012 Panel Study" $425,000
2012-2014	National Science Foundation, "2012 Cooperative Congressional Election Study," $475,000
2014-2016	National Science Foundation, "Cooperative Congressional Election Study, 2010-2014 Panel Study" $510,000

2014-2016	National Science Foundation, "2014 Cooperative Congressional Election Study," $400,000
2016-2018	National Science Foundation, "2016 Cooperative Congressional Election Study," $485,000
2018-2020	National Science Foundation, "2018 Cooperative Congressional Election Study," $844,784.
2019-2022	National Science Foundation, RIDIR: "Collaborative Research: Analytic Tool for Poststratification and small-area estimation for survey data." $942,607

Professional Boards

Editor, Cambridge University Press Book Series, Political Economy of Institutions and Decisions, 2006-2016

Member, Board of the Reuters International School of Journalism, Oxford University, 2007 to present.

Member, Academic Advisory Board, Electoral Integrity Project, 2012 to present.

Contributing Editor, *Boston Review*, The State of the Nation.

Member, Board of Overseers, American National Election Studies, 1999 - 2013.

Associate Editor, Public Opinion Quarterly, 2012 to 2013.

Editorial Board of Harvard Data Science Review, 2018 to present.
Editorial Board of American Journal of Political Science, 2005 to 2009.
Editorial Board of Legislative Studies Quarterly, 2005 to 2010.
Editorial Board of Public Opinion Quarterly, 2006 to present.
Editorial Board of the Election Law Journal, 2002 to present.
Editorial Board of the Harvard International Journal of Press/Politics, 1996 to 2008.
Editorial Board of Business and Politics, 2002 to 2008.
Scientific Advisory Board, Polimetrix, 2004 to 2006.

Special Projects and Task Forces

Principal Investigator, Cooperative Congressional Election Study, 2005 – present.

CBS News Election Decision Desk, 2006-present

Co-Director, Caltech/MIT Voting Technology Project, 2000-2004.

Co-Organizer, MIT Seminar for Senior Congressional and Executive Staff, 1996-2007.

MIT Energy Innovation Study, 2009-2010.
MIT Energy Initiative, Steering Council, 2007-2008
MIT Coal Study, 2004-2006.
MIT Energy Research Council, 2005-2006.
MIT Nuclear Study, 2002-2004.
Harvard University Center on the Environment, Council, 2009-present

Expert Witness, Consultation, and Testimony

2001	Testimony on Election Administration, U. S. Senate Committee on Commerce.
2001	Testimony on Voting Equipment, U.S. House Committee on Science, Space, and Technology
2001	Testimony on Voting Equipment, U.S. House Committee on House Administration
2001	Testimony on Voting Equipment, Congressional Black Caucus
2002-2003	*McConnell v. FEC*, 540 U.S. 93 (2003), consultant to the Brennan Center.
2009	Amicus curiae brief with Professors Nathaniel Persily and Charles Stewart on behalf of neither party to the U.S. Supreme Court in the case of *Northwest Austin Municipal Utility District Number One v. Holder*, 557 U.S. 193 (2009).
2009	Testimony on Voter Registration, U. S. Senate Committee on Rules.
2011-2015	*Perez v. Perry*, U. S. District Court in the Western District of Texas (No. 5:11-cv-00360). Exert witness on behalf of Rodriguez intervenors.
2011-2013	*State of Texas v. United States,* the U.S. District Court in the District of Columbia (No. 1:11-cv-01303), expert witness on behalf of the Gonzales intervenors.
2012-2013	*State of Texas v. Holder*, U.S. District Court in the District of Columbia (No. 1:12-cv-00128), expert witness on behalf of the United States.
2011-2012	*Guy v. Miller* in U.S. District Court for Nevada (No. 11-OC-00042-1B), expert witness on behalf of the Guy plaintiffs.
2012	*In re Senate Joint Resolution of Legislative Apportionment*, Florida Supreme Court (Nos. 2012-CA-412, 2012-CA-490), consultant for the Florida Democratic Party.
2012-2014	*Romo v. Detzner*, Circuit Court of the Second Judicial Circuit in Florida (No. 2012 CA 412), expert witness on behalf of Romo plaintiffs.
2013-2014	*LULAC v. Edwards Aquifer Authority*, U.S. District Court for the Western District of Texas, San Antonio Division (No. 5:12cv620-OLG,), consultant and expert witness on behalf of the City of San Antonio and San Antonio Water District
2013-2014	*Veasey v. Perry*, U. S. District Court for the Southern District of Texas, Corpus

	Christi Division (No. 2:13-cv-00193), consultant and expert witness on behalf of the United States Department of Justice.
2013-2015	*Harris v. McCrory,* U. S. District Court for the Middle District of North Carolina (No. 1:2013cv00949), consultant and expert witness on behalf of the Harris plaintiffs. (later named *Cooper v. Harris*)
2014	Amicus curiae brief, on behalf of neither party, Supreme Court of the United States, *Alabama Democratic Conference v. State of Alabama.*
2014- 2016	*Bethune-Hill v. Virginia State Board of Elections*, U. S. District Court for the Eastern District of Virginia (No. 3:2014cv00852), consultant and expert on behalf of the Bethune-Hill plaintiffs.
2015	Amicus curiae brief in support of Appellees, Supreme Court of the United States, *Evenwell v. Abbott*
2016-2017	*Perez v. Abbott*, U. S. District Court in the Western District of Texas (No. 5:11-cv-00360). Exert witness on behalf of Rodriguez intervenors.
2017-2018	Fish v. Kobach, U. S. District Court in the District of Kansas (No. 2:16-cv-02105-JAR). Expert witness of behalf of the Fish plaintiffs.