<div align="center">Outline of Testimony</div>

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I serve as an economics professor at Sam Houston State University in Texas, where I received tenure ten years ago. Since receiving my Ph.D. in economics in 1995, I have published over twenty research studies in well-regarded, refereed academic journals, several of which concern elections and voting.[1] Some of this research, along with some ongoing research, explores the determination of candidate order on ballots and its effect on vote share.

The first such study, published in 2017 in the journal *Public Choice*, examines on the effect of ballot order on vote share in primary elections for statewide office in Texas. Texas uses a county-level randomization system in primary elections; such randomization approximates the "gold standard" in research, as for example is used in clinical studies for the effectiveness of pharmaceutical drugs. This study found relatively small effects on vote share in high profile elections for governor and lieutenant governor (an important office in Texas), such that first-listed candidates gained one or two percentage points in vote share over their last-listed counterparts. Effects for other executive positions (such as Land Commissioner or Comptroller) were around twice as large, and effects for judicial offices were twice as large still, approaching a gain of ten percentage points in vote share.

A second study on this topic is ongoing (with coauthors from Stanford University and the University of Wyoming), and explores the effect of ballot order on vote share in general elections for statewide office in Wyoming, where first ballot position in each county is allotted to the party with the most county-level votes in the previous cycle's Congressional race. This research finds no effect on vote share in the highest profile elections, for president and U.S. Senator, but an effect of two to three percentage points in vote share in all other races (such as U.S. House or Governor).

These findings are consistent with, if moderately stronger than, a reasonably large literature on ballot order effects in the U.S.[2] This literature generally finds sizeable ballot order effects in primary and general elections; these effects are larger in primary elections and in downballot races.

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[1] Grant, Sheridan, Michael Perlman, and Darren Grant. "Targeted Testing for Bias in Order Assignment, with an Application to Texas Election Ballots," *Journal of Statistical Planning and Inference*, 208:12-28 (2020). Grant, Darren. "The Ballot Order Effect is Huge: Evidence from Texas," *Public Choice* 172, 3:421–442 (2017). Grant, Darren, and Michael Toma. "Elemental Tests of the Traditional Rational Voting Model," *Public Choice*, 137,1:173-195 (2008). Grant, Darren. "Searching for the Downsian Voter with a Simple Structural Model," *Economics and Politics*, 10, 2: 107-126 (1998).

[2] Alvarez, R.M., B. Sinclair, and R. Hasen. "How Much Is Enough? The 'Ballot Order Effect' and the Use of Social Science Research in Election Law Disputes," *Election Law Journal* 5:40-56 (2006). Brockington, D. "A Low Information Theory of Ballot Position Effect," *Political Behavior* 25:1-27 (2003). Chen, E., G. Simonovits, J. Krosnick, and J. Pasek. "The Impact of

Additional research of mine focuses on the development of statistical techniques to detect ballot order "manipulation" in states, such as Florida, New Hampshire, or West Virginia, that require a local randomization system in primary or general elections. Research published with coauthors from the University of Washington in the *Journal of Statistical Planning and Inference* in 2020 uncovered evidence of such manipulation in several races in Texas, which served to favor popular incumbents. Ongoing research has uncovered evidence of similar (though not identical) manipulation in West Virginia. Especially in downballot primary races, such manipulation has the potential to alter electoral outcomes, which can in turn generate litigation. My techniques can be used in such litigation to determine whether such manipulation has indeed taken place.

In general, then, my research finds that ballot order, and the methods used to determine it, can have meaningful effects on the legitimacy of elections and their ultimate outcomes.

Candidate Name Order on Election Outcomes in North Dakota," *Electoral Studies* 35:115-122 (2014). Grant, Darren. "The Ballot Order Effect is Huge: Evidence from Texas," *Public Choice* 172, 3:421–442 (2017). Meredith, M., and V. Salant. "On the Causes and Consequences of Ballot Order Effects," *Political Behavior* 35:175-197 (2013). Krosnick, J., J. Miller, and M. Tichy. "An Unrecognized Need for Ballot Reform: The Effects of Candidate Name Order on Election Outcomes," in *Rethinking the Vote: The Politics and Prospects of American Election Reform*, Oxford University Press, pp. 51-73 (2004). Miller, J., and J. Krosnick. "The Impact of Candidate Name Order on Election Outcomes," *Public Opinion Quarterly* 62:291-330 (1998). Pasek, J., D. Schneider, J. Krosnick, A. Tahk, E. Ophir, and C. Milligan. "Prevalence and Moderators of the Candidate Name-Order Effect: Evidence from Statewide General Elections in California," *Public Opinion Quarterly*, 78:416-439 (2014). Koppell, J., and J. Steen. "The Effects of Ballot Position on Election Outcomes," *Journal of Politics* 66:267-281 (2004). Ho, D., and K. Imai. "Randomization Inference with Natural Experiments: An Analysis of Ballot Effects in the 2003 California Recall Election," *Journal of the American Statistical Association* 101: 888-900 (2006). Ho, D., and K. Imai. "Estimating Causal Effects of Ballot Order from a Randomized Natural Experiment." The study by Krosnick, Miller, and Tichy does not appear to be peer-reviewed. Also see Edwards, Barry. "Alphabetically Ordered Ballots and the Composition of American Legislatures," *State Politics and Policy Quarterly* 15,2:171-191 (2015).