

Findings from a Decade of Polling on Ballot Measures Regarding the Legal Status of Same-Sex Couples

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June 15, 2010

Executive Summary

Since 1998, ballot measures regarding the legal status of same-sex couples have been placed before voters in 33 states. To what extent did vote intention change over the course of these campaigns? And how well did polls predict ultimate election results? An analysis of a new database incorporating every available survey on these measures finds:

- Those favoring and opposing the ballot measures have largely fought to a draw, in that **the share of the public saying they intend to vote for or against these measures typically changes very little over the course of these campaigns**. Neither side has been more successful than the other on average at changing voter sentiment between the beginning and the end of a campaign.
- Nevertheless, **survey data consistently underestimate voter opposition to legal recognition of same-sex couples**. The share of voters in pre-election surveys saying they will vote to ban same-sex marriage is typically seven percentage points lower than the actual vote on election day. By contrast, survey estimates of the proportion of voters intending to vote against same-sex marriage bans tend to be relatively accurate predictors of the ultimate share of “no” votes.
- **Voter surveys do not become appreciably more accurate as election day approaches**, meaning that even those polls conducted in a campaign’s final weeks understate the true share of the vote against legal recognition of same-sex couples. Support for a ban on same-sex marriage projected from final polling typically falls three percentage points short of actual results.
- **No support is found for two reasons—social desirability bias and voter confusion—typically offered to explain the gap between surveys and election results**. There is no immediate evidence indicating that the discrepancies are caused either by poll respondents’ reluctance to express anti-gay sentiment to survey researchers or respondents’ confusion about the meaning of a “yes” and “no” vote.

Since 1998, ballot measures about the legal status of same-sex couples have been placed before the voters in 33 states. Provisions regarding a statutory or constitutional ban on same-sex marriage have been the subject of all of these votes, except two ballot measures regarding domestic partnerships in Colorado and Washington State held in 2006 and 2009, respectively.¹ After more than a decade of state-by-state battles on this controversial issue, it is now possible to explore two important questions. First, to what extent did vote intention change over the course of these campaigns? Second, how well did polls predict ultimate election results? This study explores both of these questions with heretofore unavailable data and examines whether the answers to either of these questions have changed over time.

Data

This study employs a new database consisting of every pre-election poll available in the states holding votes on same-sex marriage and domestic partnership—a total of 167 surveys conducted in the six months before election day on 32 different ballot measures.² The vast majority of the polls are public surveys identified through news accounts, but in some states surveys also came from internal polling conducted by advocates in favor of legal recognition for same-sex couples. (All the results in this report hold if the analysis is limited only to public polls.)

Terminology

This report uses two measures of vote intention. The terms expressed support for and expressed opposition to a marriage ban refer to the share of a survey's participants expressing that they will vote "yes" or "no," respectively, on a ban on same-sex marriage (SSM). Typically, these percentages do not add up to 100 percent, as some share of respondents report that they are undecided or refuse to answer the question. By contrast, projected support for a marriage ban is the percentage of voters forecast to support a ban on same-sex marriage if undecided voters are allocated to "yes" and "no" positions in the same proportion found among decided voters. Analyses employing the two concepts are conducted throughout this report depending upon the research questions being explored.

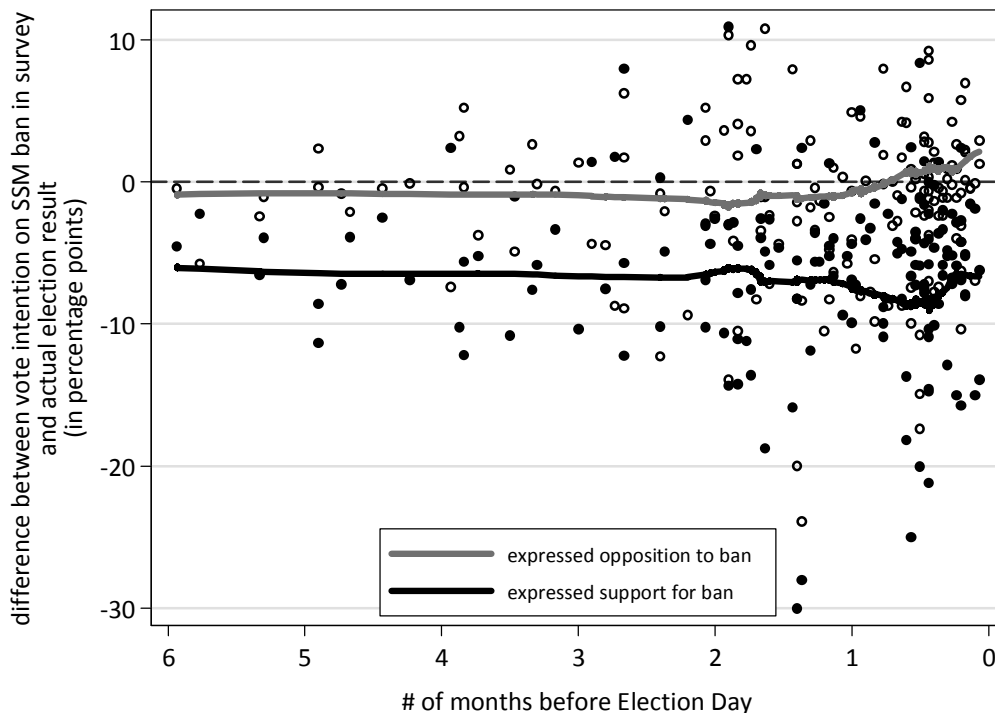
¹ For purposes of simplicity, in many places throughout this report the ballot measures as a whole are referred to as proposals to ban same-sex marriage. In all of the analyses, "yes" votes on Colorado and Washington's ballot measure regarding domestic partnerships are grouped with "no" votes on the other states' measures to ban same-sex marriage.

² Colorado voters considered separate measures to ban same-sex marriage (which passed) and to establish same-sex domestic partnership (which failed) in November 2006. This analysis treats the two votes separately. In figures and tables, the two elections are denoted CO_BAN and CO_DP, respectively.

2. Pre-election polls consistently underestimated support for same-sex marriage bans.

One question that has been of particular interest to both advocates and researchers is the extent to which pre-election polling is an accurate indicator of the ultimate share of the vote for ballot measures on the legal status of same-sex couples.³ Figure 2 explores this question in a straightforward way: it displays the difference between the percent of survey respondents saying they will vote in favor or against a same-sex marriage ban (that is, expressed support and expressed opposition to the ban) and the ultimate share of “yes” and “no” votes on election day.⁴ The surveys are again plotted over time in terms of the number of months they were conducted before election day. The black line traces the gap between the poll and the share of “yes” votes; the gray line traces the gap for “no” votes. (The lines are not mirror images of each other due to the presence of undecided survey respondents.)

Figure 2. Difference in Expressed Vote Intention and Actual Election Results on Statewide Same-Sex Marriage Bans, 1998-2009



³ See, for example, Enten (2009) and Lewis & Gossett (2009). Previous work by this author (Egan 2008), analyzed data collected by opponents of same-sex marriage on elections through 2006 (Protectmarriage.com-Yes on 8 2008), and found a smaller gap between polling and election results than identified here. As described later in this report, the gap grew in elections held in 2009. For an analysis of the related question of whether survey respondents underreport their opposition to black and female candidates, see Hopkins (2009).

⁴ For visual clarity, the figure excludes one tremendously inaccurate survey conducted three weeks before Hawaii’s vote to allow the state legislature to ban same-sex marriages in November 1998. It found opposition to the measure at 62 percent and support at 25 percent. The measure ultimately passed with 71 percent of the vote. This survey is included in the construction of the smoothed trend line and in the statistical analyses.

As shown in the figure, the share of survey respondents saying they would vote against same-sex marriage bans tended to be a highly accurate predictor of the ultimate share of “no” votes: the trend line tracing the difference between polls and results is near zero throughout the six months prior to election day. By contrast, a large gap exists between polls measuring support for the ballot measures and the vote in favor of them: typically this gap is roughly seven percentage points in size. Furthermore, the size of the gap does not change appreciably over the course of the campaign, meaning that even polling conducted in the final weeks before election day underestimates the extent of voter opposition to legal recognition for same-sex couples. (Statistical analyses confirm the lack of any significant change in the gap over the course of the campaign among either those in support or opposed; see Table 2 in the appendix for details.) The result is that the share of voters projected to support a ban on same-sex marriage (calculated by allocating undecided voters to “yes” and “no” positions in the same proportion found among decided voters) is typically about three percentage points less than the actual level of support on election day.

3. The evidence does not support standard explanations for the gap between polls and election results.

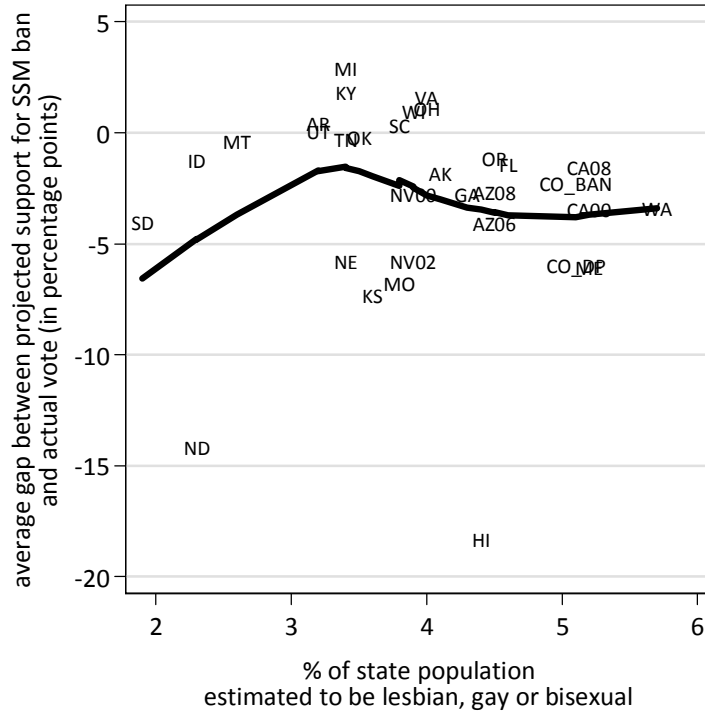
As researchers have attempted to explain the persistent difference between polls and election results regarding same-sex marriage bans, they have focused on two explanations: social desirability bias and voter confusion.

Social desirability bias: are survey respondents reluctant to tell interviewers that they intend to vote against same-sex marriage?

Social desirability bias occurs when survey respondents are reluctant to provide a response that they believe is socially undesirable to a survey interviewer, thus biasing the results. Survey experiments have confirmed the presence of social desirability bias regarding white respondents’ reporting of attitudes regarding race (e.g. Kinder & Sanders 1996) and scholars have speculated that similar bias may be present in surveys regarding attitudes on gay rights (e.g. Berinsky 2004). However, a careful study of survey respondents on California’s Proposition 8 found no evidence of this sort of bias at work among vote-intention surveys on that ballot measure (Lewis & Gossett 2009).

The present dataset provides a unique opportunity to search for signs of social desirability bias across states. To the extent that social desirability bias is present, we should expect it to be stronger in places, at times, and in interpersonal contexts where the social norm of tolerance toward gay people is itself stronger. The following analyses indicate that by these standards, social desirability bias fails to explain the gap between polling and election results.

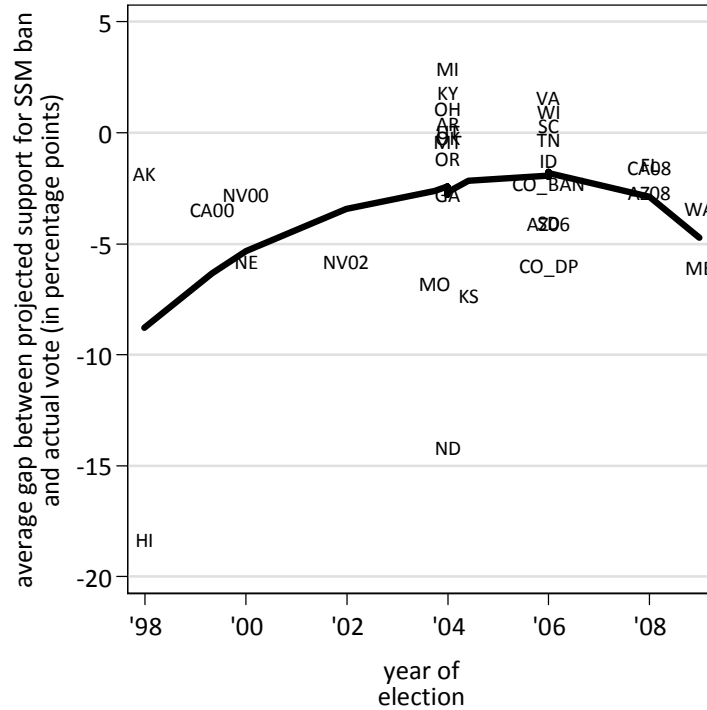
Figure 3. The survey-election result gap and the size of state gay population



Tolerant social norms (as measured by the size of each state's openly gay population) are not associated with the size of the gap between surveyed vote intention and actual election returns.

To the extent that social desirability bias is present, we should expect it to be stronger in states where there are more openly gay people. Of course, the size of a state's openly gay population is an imperfect indicator of statewide social norms, but we would expect this population to be increasing in both the extent to which gay people feel comfortable being open about their sexual orientation and to which openly gay people are drawn to states with more tolerant social norms. In Figure 3, the polling-election gap is plotted against the size of each state's lesbian, gay and bisexual population estimated with data from the U.S. Census Bureau's 2005 American Community Survey by Gates (2006). The figure shows that there is no relationship between the size of a state's LGB population and the gap found between a state's survey and election results.

Figure 4. The survey-election result gap and year of election

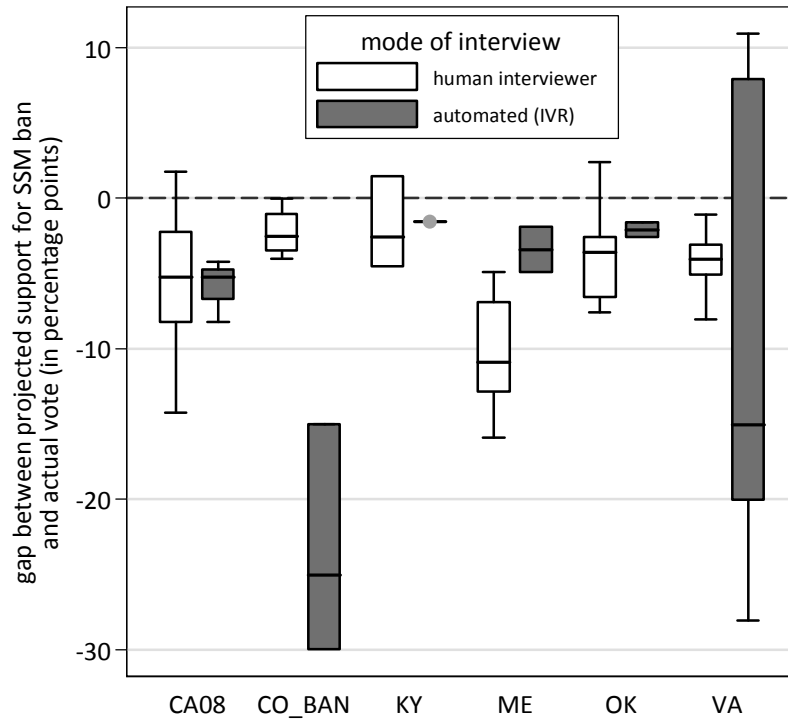


As Americans have become more tolerant of gay people over time, the size of the gap between surveyed vote intention and actual election returns has become smaller, not larger.

To the extent that social desirability bias is present, we should also expect it to be growing over time, as national norms about homosexuality became remarkably more tolerant over the past ten years (e.g. Egan, Persily & Wallsten 2008). In Figure 4, the average size of each state’s survey-election gap is plotted against the year in which each election was held. The graph indicates that if anything, just the opposite has occurred: the gap between surveys and election results has grown smaller, not larger, over time.

An additional opportunity to detect social desirability bias is provided by the fact that a significant number of the surveys in the dataset were conducted via Interactive Voice Response (IVR) technology. In surveys conducted using the IVR mode, participants are asked survey questions by a recorded voice, and they provide their responses through their telephone keypad. Researchers have found that survey respondents are more likely to be candid about socially sensitive topics to the extent that the interview is removed from the interpersonal context (e.g. Tourangeau & Smith 1996). Thus to the extent that social desirability bias is present, it should be lower in surveys conducted via IVR than in traditional telephone surveys that require interaction with a human interviewer.

Figure 5. The survey-election result gap and mode of interview



No difference is found between surveys conducted by human interviewers and those conducted by automated systems (where we would expect social desirability bias to be less prevalent).

Figure 5 is a boxplot displaying the survey-election results gap in the six elections where both modes of interview—human and IVR—were fielded at least once during the campaign. If social desirability bias is present, we would expect this state-by-state comparison to show that IVR surveys (grey boxes) produced results more similar to election results than human interviews (white boxes). But no systematic difference across states was found: neither mode is significantly more accurate, on average.⁵

On the whole, these analyses fail to pin the blame for the inaccuracy of polling on same-sex marriage bans on social desirability bias. The gap persists regardless of the strength of social

⁵ State-by-state *t*-tests found significant differences between the two modes at the 95-percent level of confidence only in Colorado (where surveys conducted by human interviewers were significantly more accurate) and Maine (where IVR surveys were more accurate). Across the six states, the survey-election result gap averaged -0.9 percentage points for surveys conducted by human interviews and -1.4 points for IVR—a statistically insignificant difference.

norms that we would expect to make it harder or easier to express opposition to same-sex marriage across places, times and interpersonal contexts.⁶

Voter confusion: are voters simply misunderstanding the meaning of “yes” and “no” votes and thus unwittingly misreporting their vote intention?

A second explanation for the gap between polling and actual election returns is that many voters are confused about what “no” and “yes” votes mean until they actually begin to pay attention to the campaign, leading many survey respondents to mistakenly report that they will vote “no,” particularly early on in the campaign (e.g., Yuen 1998, Lewis & Gossett 2009). In order for this dynamic to contribute to systematic underestimates of support for same-sex marriage bans, it would have to be the case that true supporters of same-sex marriage were consistently more likely to be confused (and mistakenly tell interviewers they planned to vote “no”) than true opponents.

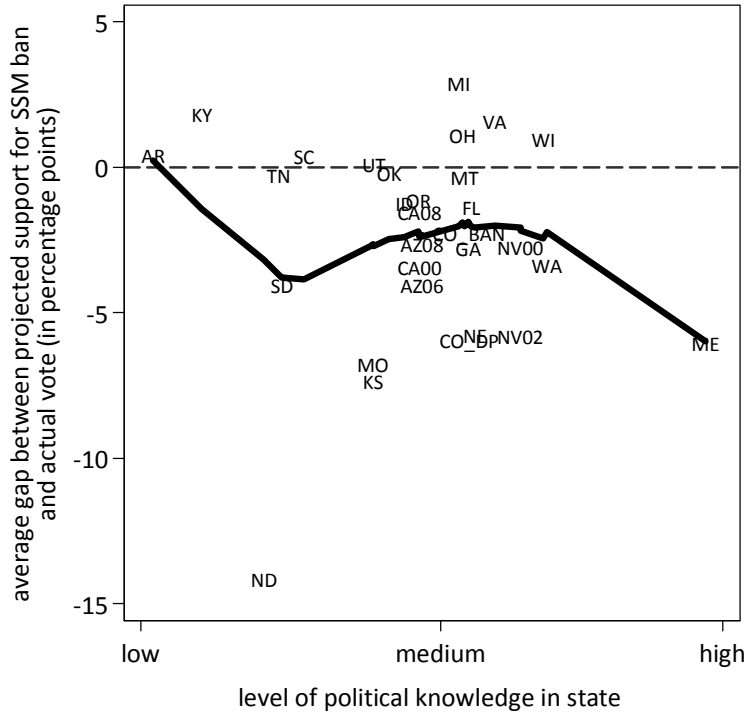
The dataset assembled here provides some new opportunities to look for evidence of voter learning. One result already discussed that casts doubt on the learning hypothesis is shown in Figure 2: polls do not become more accurate predictors of the ultimate result as election day draws near. Thus if survey respondents are confused about the meaning of a “no” and “yes” vote, it must be that they are just as confused at the end of a ballot measure campaign as they are at the beginning.

Another way to explore this question is to see if there is any relationship between the level of awareness and knowledge about public affairs in each state and the size of the polling-results gap. If voter confusion is causing the gap, it should be larger in states whose citizens are less knowledgeable about politics. The best measure of state-by-state political awareness comes from the National Annenberg Election Survey, which in 2004 rated each of its respondents on a scale regarding their knowledge of politics and public affairs. The rating was assigned by the interviewer at the conclusion of the interview. Ratings like these are of course subjective, but previous research has found there to be a high correlation between interviewer ratings as more objective measures of political knowledge (such as batteries of factual questions about politics). Figure 6 plots the average size of each state’s survey-election results gap against its average level of political knowledge (ranked from low to high). As shown in the figure, no relationship exists between the two measures, further casting doubt on the voter learning hypothesis.⁷

⁶ An OLS analysis in which the polling-result gap in each poll was regressed on the three indicators of the strength of social norms—percent of state population estimated to be openly gay, year of election, and mode of survey—found the three variables to be jointly insignificant predictors of the gap ($F_{3,163}=1.15, p = .33$).

⁷ Statewide political knowledge is highly correlated with educational attainment—which itself is correlated with tolerance of homosexuality. To ensure that educational attainment was not suppressing a relationship between knowledge and the survey-election results gap, the gap in each poll was regressed on both statewide educational attainment and political knowledge. The two variables were jointly insignificant predictors of the gap ($F_{160,1}=.66, p = .52$).

Figure 6. The survey-election result gap and statewide political knowledge



The gap is no larger in states whose residents have low levels of political knowledge than those with high levels of knowledge.

Conclusion

State-by-state battles over the legal recognition of same-sex partnerships yielded some of the most hotly contested ballot measures of the past decade. Despite the tremendous attention paid to these initiatives and the level of resources devoted to them by both sides, expressed voter sentiment changed little over the course of the typical campaign. However, polling consistently under-predicted the level of opposition to the legal recognition of same-sex couples, with the actual vote in favor of banning same-sex marriage typically running about three percentage points ahead of projections drawn from pre-election surveys.

Evidence is scant for the explanations offered so far by scholars and advocates for the gap between polling and election results. It does not appear that voters are particularly reluctant to express their support for banning same-sex marriage, and no support is found for the hypothesis that the gap is due to confusion among survey respondents about the meaning of a “yes” and “no” vote. Therefore an understanding of the reasons for this gap remains outside our grasp, and more investigation is needed.

Perhaps more than any other group in American politics, lesbians, gays and bisexuals have witnessed their rights determined at the ballot box. This has been true since at least 1977, when voters in Dade County, Florida repealed an ordinance banning discrimination on the basis of sexual orientation. And additional battles loom on the horizon, as social conservatives have begun to use direct democracy to prohibit gay people from adopting children (as they did successfully in Arkansas in 2008). A sound empirical understanding of exactly what happens when these measures are contested is thus necessary—both for comprehending the past and adequately planning for the future.

APPENDIX

Table 1. Vote Intention on Ballot Measures, 1998-2009 (OLS Estimates)

	I. Projected support for same-sex marriage ban		II. Expressed support for same-sex marriage ban		III. Expressed opposition to same-sex marriage ban	
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI
# of months survey conducted before Election Day	- .23	[-.16, .61]	- .25	[-.18, .68]	.21	[-.58, .17]
<u>State fixed effects:</u>						
state_AK	66.4	[66.3, 66.4]	63.0	[63.0, 63.1]	32.0	[31.9, 32.0]
state_AR	75.6	[67.0, 84.2]	73.5	[65.6, 81.5]	23.8	[15.3, 32.4]
state_AZ06	44.4	[33.8, 55.1]	40.0	[28.8, 51.2]	49.4	[41.9, 56.9]
state_AZ08	54.2	[53.1, 55.4]	49.8	[48.3, 51.2]	41.9	[40.7, 43.0]
state_CA00	58.4	[56.7, 60.2]	54.6	[52.0, 57.1]	38.7	[37.5, 39.9]
state_CA08	51.0	[48.9, 53.0]	46.9	[45.3, 48.5]	45.2	[42.9, 47.6]
state_CO_BAN	53.0	[49.5, 56.4]	43.9	[34.6, 53.3]	38.0	[33.0, 43.0]
state_CO_DP	46.6	[42.1, 51.0]	43.4	[39.2, 47.7]	49.8	[44.9, 54.7]
state_FL	61.0	[59.6, 62.3]	56.8	[55.3, 58.3]	36.3	[34.5, 38.1]
state_GA	73.5	[73.4, 73.6]	69.1	[69.0, 69.2]	24.9	[24.8, 25.0]
state_HI	52.7	[37.2, 68.1]	47.2	[33.0, 61.3]	42.1	[29.1, 55.1]
state_ID	62.2	[62.0, 62.4]	59.1	[58.9, 59.3]	35.9	[35.7, 36.1]
state_KS	62.7	[62.6, 62.7]	62.0	[62.0, 62.1]	37.0	[36.9, 37.0]
state_KY	76.9	[73.8, 79.9]	73.3	[71.1, 75.4]	22.1	[18.9, 25.3]
state_ME	47.1	[44.9, 49.3]	43.9	[41.2, 46.6]	49.2	[47.5, 50.9]
state_MI	61.9	[57.6, 66.1]	57.7	[53.9, 61.6]	35.6	[31.4, 39.8]
state_MO	63.9	[57.3, 70.6]	59.1	[54.4, 63.8]	33.4	[26.4, 40.4]
state_MT	66.7	[63.8, 69.5]	61.8	[59.1, 64.5]	30.8	[28.1, 33.5]
state_ND	59.2	[59.0, 59.4]	52.1	[51.9, 52.3]	35.9	[35.7, 36.1]
state_NE	64.6	[63.4, 65.8]	59.8	[59.1, 60.5]	32.8	[31.4, 34.2]
state_NV00	67.4	[63.7, 71.1]	62.6	[58.8, 66.4]	30.2	[26.8, 33.5]
state_NV02	61.8	[60.1, 63.4]	59.4	[56.2, 62.6]	36.7	[35.8, 37.6]
state_OH	63.1	[57.8, 68.5]	58.8	[54.4, 63.2]	34.4	[29.0, 39.9]
state_OK	75.6	[72.7, 78.5]	72.7	[70.1, 75.2]	23.5	[20.4, 26.6]
state_OR	55.9	[52.9, 58.8]	52.7	[49.8, 55.6]	41.5	[38.7, 44.4]
state_SC	78.6	[75.4, 81.7]	74.2	[73.8, 74.6]	20.3	[16.5, 24.1]
state_SD	48.1	[46.4, 49.9]	44.4	[42.1, 46.7]	47.7	[46.8, 48.6]
state_TN	81.6	[77.1, 86.0]	75.1	[72.1, 78.2]	17.0	[12.6, 21.4]
state_UT	66.4	[64.7, 68.0]	62.4	[60.7, 64.2]	31.6	[29.9, 33.3]
state_VA	59.0	[55.2, 62.8]	50.8	[42.9, 58.8]	35.1	[29.7, 40.6]
state_WA	43.8	[42.0, 45.5]	40.5	[39.2, 41.8]	52.0	[49.5, 54.6]
state_WI	57.0	[54.1, 59.8]	52.0	[50.1, 53.9]	39.4	[35.3, 43.5]
Standard Error of the Estimate	4.8		5.8		4.7	

Number of surveys in each analysis: 167. For details about the analyses, see the notes on following page.

Notes to Table 1

Table 1 displays a series of least squares analyses in which the unit of analysis is each of the 167 surveys conducted in the six months prior to Election Day during campaigns on statewide ballot measures regarding the legal status of same-sex couples between 1998 and 2009.⁸

In each model, explanatory variables are the number of months remaining before Election Day when the survey was conducted and a series of indicator variables for each election (that is, election “fixed effects”). These variables control for any non-random variation in the dates that surveys were conducted in each state. In the analyses, surveys from elections in which more surveys happened to be conducted are downweighted so that each election contributes equally to analysis.

- In Model I, the dependent variable is the projected support for a ban on same-sex marriage: the percentage of voters forecast to support a ban on same-sex marriage if undecided voters are allocated to “yes” and “no” positions in the same proportion found among decided voters. This analysis fails to reject the null hypothesis that absolute support for marriage bans did not change to a statistically significant degree over the course of the ballot measure campaigns. The estimate of any over-time change is quite small: on average, absolute support for the bans grew by two-tenths of a percentage point per month.
- In Models II and III, the dependent variables are the expressed support for (Model II) and opposition to (Model III) a ban on same-sex marriage. These analyses find there was no such movement to a statistically significant degree in these measures over the course of the campaigns, and that any movement that took place was quite small.

No intercept term was incorporated in these analyses, and thus by construction the election fixed effects are survey-date-adjusted estimates of projected support, expressed support and expressed opposition. R^2 statistics are not reported for these analyses, as they are not meaningful in regressions estimated without an intercept. R^2 statistics for comparable models estimated in which one fixed effect was dropped and an intercept was estimated are (respectively, for Models I, II and III): .85, .82, and .81 .

Analyses limited to publicly available polls (available upon request) yield similar results. State-by-state analyses found that significant over-time change occurred in only four of the 22 elections in which enough data were available to explore the within-state relationships between time and vote intention.

⁸ Surveys were conducted earlier than six months before Election Day in only a few elections. Data from these surveys were excluded in the analyses here, as including them would give those elections an unrepresentative influence on the results.

Table 2. Difference in Expressed Vote Intention and Actual Election Results on Statewide Same-Sex Marriage Bans, 1998-2009 (OLS Estimates)

	I.		II.	
	Difference between expressed support in survey and percentage of "yes" votes		Difference between expressed opposition in survey and percentage of "no" votes	
	<u>Estimate</u>	<u>95% CI</u>	<u>Estimate</u>	<u>95% CI</u>
# of months survey conducted before Election Day	-.25	[-.18, .68]	.21	[-.58, .17]
<u>State fixed effects:</u>				
state_AK	-5.1	[-5.1, -5.0]	0.1	[0.0, 0.1]
state_AR	-1.4	[-9.4, 6.6]	-1.2	[-9.8, 7.3]
state_AZ06	-8.2	[-19.4, 3.0]	-2.4	[-9.9, 5.1]
state_AZ08	-6.4	[-7.9, -5.0]	-1.9	[-3.1, -0.8]
state_CA00	-6.8	[-9.4, -4.2]	0.0	[-1.2, 1.2]
state_CA08	-5.4	[-7.0, -3.7]	-2.6	[-4.9, -0.2]
state_CO_BAN	-11.1	[-20.5, -1.8]	-7.0	[-12.0, -2.0]
state_CO_DP	-8.9	[-13.1, -4.7]	2.2	[-2.7, 7.1]
state_FL	-5.2	[-6.7, -3.7]	-1.8	[-3.6, 0.1]
state_GA	-7.1	[-7.2, -7.0]	1.1	[1.0, 1.2]
state_HI	-23.6	[-37.8, -9.4]	12.9	[-0.1, 25.9]
state_ID	-4.2	[-4.4, -4.0]	-0.8	[-0.9, -0.6]
state_KS	-7.9	[-8.0, -7.8]	6.9	[6.9, 7.0]
state_KY	-1.3	[-3.4, 0.8]	-3.4	[-6.6, -0.2]
state_ME	-9.0	[-11.7, -6.3]	2.1	[0.4, 3.8]
state_MI	-0.9	[-4.7, 2.9]	-5.8	[-10.0, -1.5]
state_MO	-11.5	[-16.2, -6.8]	4.0	[-3.0, 11.0]
state_MT	-4.8	[-7.5, -2.1]	-2.6	[-5.3, 0.1]
state_ND	-21.1	[-21.3, -20.9]	9.1	[9.0, 9.3]
state_NE	-10.3	[-11.0, -9.6]	2.9	[1.5, 4.3]
state_NV00	-7.0	[-10.9, -3.2]	-0.2	[-3.6, 3.2]
state_NV02	-7.8	[-11.0, -4.6]	3.9	[3.0, 4.8]
state_OH	-2.9	[-7.3, 1.4]	-3.9	[-9.3, 1.6]
state_OK	-2.9	[-5.5, -0.3]	-0.9	[-4.0, 2.2]
state_OR	-4.0	[-6.9, -1.1]	-1.8	[-4.7, 1.0]
state_SC	-3.8	[-4.1, -3.4]	-1.7	[-5.5, 2.1]
state_SD	-7.5	[-9.8, -5.2]	-0.5	[-1.4, 0.4]
state_TN	-6.1	[-9.1, -3.1]	-1.8	[-6.2, 2.6]
state_UT	-3.4	[-5.2, -1.7]	-2.5	[-4.2, -0.8]
state_VA	-6.2	[-14.2, 1.8]	-7.8	[-13.3, -2.4]
state_WA	-6.4	[-7.7, -5.1]	-1.1	[-3.7, 1.4]
state_WI	-3.5	[-5.4, -1.7]	-5.1	[-9.1, -1.0]
Standard Error of the Estimate	5.3		4.7	

Number of surveys in each analysis: 167. For details about the analyses, see the notes on following page.

Notes to Table 2

Table 2 displays two least squares analyses with the same unit of analysis and independent variables found in the models in Table 1. Surveys were again weighted to reflect the number of surveys conducted per election (see notes to Table 1).

In Model I, the dependent variable is the difference in expressed support for a ban on same-sex marriage and the percentage of “yes” votes actually cast (as reported by state election officials). In Model II, the dependent variable is the difference between expressed opposition and the percentage of “no” votes cast. Neither analysis detects a significant change over the course of the campaign: voters’ expressed support or opposition does not more accurately reflect the ultimate vote result as election day approaches.

No intercept term was incorporated in these analyses, and thus by construction the election fixed effects are survey-date-adjusted estimates of the average difference between election results and polling among each state’s voters. R^2 statistics are not reported for these analyses, as they are not meaningful in regressions estimated without an intercept. R^2 statistics for comparable models estimated in which one fixed effect was dropped and an intercept was estimated are .50 for each of the two models.

Analyses limited to publicly available polls (available upon request) yield similar results.

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