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Special Issue on Forecasting the 2024 US Elections

The PollyVote Forecast for the 2024 US Presidential Election

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Abstract

Originally founded in 2004 to improve election forecasting accuracy through evidence-based methods, the PollyVote applies the principle of combining forecasts to predict the outcome of U.S. presidential elections. The 2024 forecast continues the methodology used in previous elections by combining forecasts from four methods: polls, expectations, models, and naive forecasts. By averaging within and across these methods, PollyVote predicts a close race, giving Kamala Harris a slight edge over Donald Trump in both the two-party popular vote (50.8 vs. 49.2) and the Electoral College (276 vs. 262 votes). The forecast gives Harris a 65% chance of winning the popular vote and a 56% chance of winning the Electoral College, making both outcomes toss-ups. Compared to the combined PollyVote, component forecasts that rely on trial-heat polls tend to favor Harris, while methods that rely on alternative measures are less optimistic about the Democratic candidate's chances. The polls may be overestimating Harris' lead.

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Introduction

The PollyVote project was founded in 2004 with the aim of applying and validating findings from the general forecasting literature to the domain of election forecasting. While the initial focus was on applying the principle of combining forecasts, PollyVote has expanded its scope over the years to include a wide range of methodological advances. These include the development and incorporation of prospective index models into the combined forecast (Graefe et al. 2014), as well as other additions such as citizen forecasts (Graefe et al. 2016) and naive models (Graefe 2023). In addition, the PollyVote method has been applied to elections in Germany (Graefe 2022a) and France (Graefe 2022b).

The PollyVote is a long-term project. Apart from demonstrating the benefits of evidence-based forecasting for improving forecast accuracy, PollyVote tracks and evaluates the performance of election forecasting over time. The ability to analyze forecast accuracy and practice across multiple election cycles provides insights into the relative effectiveness of different forecasting approaches depending on the conditions and thus contributes to the evolution of election forecasting as a scientific discipline.

Combining Forecasts for Enhanced Accuracy

Combining forecasts is a well-established practice, known for its simplicity and effectiveness, with roots in forecasting research dating back to Bates and Granger (1969). Combining forecasts has long been applied successfully across various fields, including economics, meteorology, and sports (Clemen 1989). Three major benefits of this approach are:

1. **Enhancing accuracy:** The combined forecast usually outperforms most individual forecasts in a single election, and generally does so across many elections. Historical data from the PollyVote project for the five U.S. presidential elections from 2004 to 2020 shows that the combined forecast has provided more accurate predictions than any of its individual components, missing the final popular two-party vote by only 0.8 percentage points on average across the last 100 days prior to each election (Graefe 2023).
2. **Reducing bias:** Individual forecasts often fail to capture all relevant information due to methodological limitations. For instance, regression-based models are limited by the number of variables they can include. This is particularly true when historical data are limited, and the relationships between predictor variables are uncertain or correlated (Armstrong, Green, and Graefe 2015), as is the case in election forecasting. Combining multiple forecasts, using different methods and data, reduces the risk of bias due to omitted information.
3. **Avoiding picking poor forecasts:** People mistakenly believe that they know which forecast out of a set of forecasts will be best (Soll and Larrick 2009). For example, people may use simple heuristics such as relying on the forecast that was most accurate in the last election. However,

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the accuracy of individual methods can vary significantly across elections, and past accuracy is often a poor predictor future accuracy (Graefe et al. 2015). Combining forecasts ensures that the prediction is not overly reliant on any single, potentially flawed, forecast.

The 2024 PollyVote Methodology

To forecast the popular two-party vote in the 2024 U.S. presidential election, PollyVote used its established methodology of combining forecasts from different methods, using the same specification as in 2020 (Armstrong and Graefe 2021). Specifically, PollyVote first averaged forecasts within each of four different component methods—polls, expectations, models, and naive forecasts—and then averaged these aggregated forecasts across the four component methods. Each of these component methods can include different subcomponents, as detailed below and shown in Table 1. In addition, this paper reports combined forecasts not only for the popular vote but also for the Electoral College vote in presidential elections, using the same methodology.

Expectations

Judgment is often an integral part of forecasting, whether as an input to forecasting models (e.g., in the selection of data and/or variables) or as direct forecasts, hereafter referred to as expectations. Judgment can be particularly valuable in dealing with unusual events or structural breaks that statistical models may not capture effectively (Lawrence et al. 2006). However, a key challenge in using judgment is avoiding bias, which is common and often unconscious in forecasting (Armstrong, Green, and Graefe 2015). For the 2024 forecast, PollyVote averaged a range of expectation-based forecasts, which can be categorized into three subcomponents: expert judgement, crowd forecasting, and citizen forecasting.

Expert judgment

Expert judgment involves consulting with subject matter experts to predict election outcomes. Experts can contextualize polling data, account for campaign events, and provide historical perspectives. However, research suggests that expert forecasts are not necessarily more accurate than polling averages. A study comparing polling averages to 452 expert vote share forecasts across the U.S. presidential elections from 2004 to 2016 found that while roughly two out of three experts correctly identified the directional error of polls, their forecasts were typically 7% less accurate than polling averages (Graefe 2018). A similar study, analyzing 4,494 expert vote share forecasts across three German federal elections found that experts' forecasts were less accurate than polls in one out of three cases, and failed to identify the directional error of polls more than half of the time (Graefe 2024).

For forecasting the 2024 U.S. election, PollyVote conducted monthly expert surveys starting in mid-July. These surveys asked political science professors, some of which have participated in these

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surveys since 2004, to predict the popular and electoral vote outcomes (both vote shares and win probabilities) in this year's U.S. presidential election.[1] In addition, PollyVote incorporated forecasts from various expert sites listed in Table 1 (e.g., Larry Sabato's Crystal Ball, Cook Political Report). These sites provide qualitative ratings (e.g., Safe Democratic to Safe Republican) for the presidential election at the state level, which have been translated into Electoral College predictions.[2]

Crowd forecasting

Crowd forecasting involves aggregating the predictions or judgments of a - usually self-selected - group of individuals to arrive at a consensus or collective forecast. Participants usually have some kind of incentive to participate and make accurate predictions. One example is betting markets that allow participants to wager on election outcomes. For example, on PolyMarket, participants can bet money on who will win the popular vote and the Electoral College, and what the final vote margins will be. Participants are incentivized to make accurate predictions because of the financial stakes involved, although some markets, such as the Iowa Electronic Markets (IEM), allow only limited investments (Gruca and Rietz 2024). Another example is crowdsourcing sites such as Metaculus, where participants earn points for accurate predictions and lose points for inaccuracies. Leaderboards show participants' rankings, fostering competition and encouraging continued participation.

Citizen Forecasts

Citizen forecasts are derived from survey respondents' expectations of who will win the election, a question that more and more pollsters are asking in addition to the traditional vote intention question. Following Graefe (2014), PollyVote translates these expectations into two-party vote share forecasts using the incumbent's vote share as the dependent variable in a simple linear regression. An analysis of forecast errors across the last 100 days prior to the elections from 2004 to 2020 showed that these citizen forecasts were the most accurate single component forecast that entered the PollyVote, with an average error of only 1.2 percentage points (Graefe 2023).

Models

PollyVote classifies models for forecasting U.S. elections by the theories of retrospective voting, prospective voting, or a combination of both.

Retrospective Models

Retrospective models assume that voters reward or punish incumbents based on past performance. These models rely on national economic or political conditions, essentially assuming

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sociotropic voting, where voters evaluate the incumbent based on national conditions rather than personal circumstances. PollyVote distinguishes between two types of retrospective models:

- **Fundamentals-only** models use only structural (economic or political) variables, called fundaments, and ignore public opinion. Fundamentals-only models have become rare due to their limited accuracy, and only the Fair (2009) forecast was available for the 2024 election. This is unfortunate, as fundamentals-only models can provide insights into how fundamentals affect vote choice and can be useful in indicating the direction of election errors (Graefe 2018).
- **Fundamentals-plus** models incorporate retrospective public sentiment, such as presidential job approval, in addition to economic fundamentals (Mongrain et al. 2024; Enns et al. 2024; Tien and Lewis-Beck 2024; Saeki 2024). Although these models are historically more accurate than fundamentals-only models, their explanatory power is limited because they cannot distinguish between the impacts of economic and non-economic factors.

Prospective Models

Prospective models assume that voters are forward-looking, evaluating candidates based on their future promises and campaign platforms. Existing models assess factors such as candidates' perceived leadership abilities and issue-handling skills (Graefe 2021), or their potential to address the country's most important problems (Graefe and Armstrong 2012).

Mixed Models

Mixed models combine retrospective and prospective elements. This category includes most contemporary election forecasting models, such as those published by FiveThirtyEight or the Economics, which incorporate both economic data and polling averages in their forecast. While they offer high accuracy, their explanatory power is limited due to the confounding effects of combining economic fundamentals with public opinion data. That said, mixed models do not necessarily have to rely on trial-heat polls, as shown in various contributions to this special issue (Algara et al. 2024; DeSart 2024; Lockerbie 2024; Cerina and Duch 2024).

Polls

Polls ask respondents for which candidate they will vote on Election Day do not provide true forecasts; they capture vote preferences at a particular time, which can change before the election. Not surprisingly then, polls are less accurate the further away they are from the election date. In addition, poll results obtained at the same time can vary widely among pollsters due to differing methodologies (Erikson and Wlezien 2012). While aggregating polls can improve accuracy by cancelling out random

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errors of individual polls, poll aggregation cannot correct for systematic polling errors, such as those due to nonresponse (Gelman et al. 2016).

Poll aggregators report poll numbers for each candidate, including third-party candidates that poll at significant levels, while excluding undecided voters. PollyVote converts these numbers into two-party vote shares by normalizing the support for the major party candidates relative to their combined total, effectively redistributing the third-party and undecided votes proportionally between the two main candidates.

Naive Forecasts

Complex models often reduce forecast accuracy, while simple models, such as a naive no-change model, can be surprisingly effective (Green and Armstrong 2015). Naive models assume either that the situation will remain the same or that the direction of change is unpredictable. This approach acknowledges inherent uncertainty and adheres to the principle of conservatism in forecasting (Armstrong, Green, and Graefe 2015). Additionally, naive forecasts tend not to correlate with other forecasts, which is expected to improve the accuracy of combined forecasts (Graefe 2023).[3]

PollyVote Forecasts of the 2024 U.S. Elections

At the time of writing (October 8, one month before the election), the combined PollyVote forecast predicts a close presidential race with a slight edge for Harris (see Table 1). Harris leads the popular vote by 1.6 percentage points (50.8 to 49.2) and the Electoral College by 14 votes (276 to 262). However, with an estimated 65% chance that Harris will win the popular vote and 56% chance that she will win the electoral vote, both outcomes are considered toss-ups.

The components of the PollyVote show that poll-based methods tend to be more optimistic about Harris' prospects than alternative methods. For example, the polling averages show her with a lead of about 3 percentage points in the popular vote and 40 votes in the Electoral College. When it comes to model-based forecasts, models that rely on trial-heat polls (e.g., FiveThirtyEight, Economist, JHK, Race to the White House, DeSart & Holbrook) tend to be more optimistic about Harris's chances than models that do not incorporate trial-heat polls. For example, the models in this special issue by X, Y, and X, which are also in the mixed models category but do not rely on trial-heat polls tend to be more favorable for Trump. The same is true for retrospective models that either ignore public opinion altogether (fundamentals-plus) or incorporate retrospective public opinion only in the form of the incumbent president's approval rating (fundamentals-plus).

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Table 1: Presidential election forecasts by the PollyVote and its component methods

	Popular Vote (two-party)			Electoral College		
	Harris	Trump	Chance of Harris win	Harris	Trump	Chance of Harris win
POLLYVOTE	**50.8**	**49.2**	**65%**	**276**	**262**	**56%**
- Polls	**51.5**	**48.5**	**80%**	**289**	**249**	**69%**
- 270toWin	51.5	48.5	79%	289	249	69%
- Cook Political Report	51.3	48.7	76%			
- Economist	51.7	48.3	83%			
- FiveThirtyEight	51.4	48.6	77%			
- JHK	51.5	48.5	79%			
- RealClearPolitics	51.1	48.9	65%			
- Race to White House	51.6	48.4	81%			
- Silver Bulletin	51.6	48.4	81%			
- Expectations	**51.2**	**48.8**	**65%**	**277**	**262**	**56%**
- Citizens	49.5	50.5	36%			
- Crowd	52.2	47.8	80%	273	265	52%
- IEM (Gruca and Rietz 2024)*	53.4	46.6	86%			
- Metaculus				278	260	56%
- Polymarket	51.0	49.0	74%	267	271	47%
- Experts	52.0	48.0	78%	278	260	59%
- Cook Political Report				275	263	57%
- Elections Daily				272	266	53%
- Fox News				280	258	62%
- Inside Elections				280	258	62%
- PollyVote Pundit Poll	52.0	48.0	78%	284	254	62%
- Sabato's Crystal Ball				275	263	57%
- U.S. News				275	263	57%
- Models	**50.4**	**49.6**	**64%**	**260**	**278**	**41%**
- Prospective	50.6	49.4	74%			
- Big-issue	51.1	48.9	97%			
- Issues and Leaders	50.1	49.9	52%			
- Retrospective	49.8	50.2	47%	256	283	25%
- *Fundamentals-only*	49.3	50.7	42%			
- *Fundamentals-plus*	50.4	49.7	52%	256	283	25%
- Time-for-change	51.3	48.7	75%	281	257	
- Enns et al. (2024)*	49.7	50.3		226	312	25%
- Tien and Lewis-Beck (2024)*	48.1	51.9	28%			
- Mongrain et al. (2024)*				197	341	
- Saeki (2024)*	52.4	47.6	68%	318	220	
- Mixed	50.8	49.2	71%	264	274	56%
- Algara et al. (2024)*	47.2	52.8		168	370	
- DeSart (2024)*	50.7	49.3	64%	256	282	26%
- Holbrook and DeSart (1999)	52.0	48.0	89%	287	251	75%
- Economist				272	266	53%
- FiveThirtyEight	51.5	48.5	72%	279	259	55%
- JHK	51.2	48.8	69%	282	256	56%
- Keys to the White House	53.3	46.7	96%			
- Spencer and Allen (2024)*				289	249	57%
- Lockerbie (2024)*	49.1	50.9	43%			
- Cerina and Duch (2024)*	50.4	49.6	62%	237	301	
- Race to White House	51.6	48.4	74%	285	253	57%
- SplitTicket				286	252	68%
- Naive	**49.9**	**50.1**	**51%**	**279**	**259**	**58%**

Notes:
- PollyVote forecast calculated by averaging within and across forecasts.
- Win probabilities, if available, as reported in the original forecasts. Where win probabilities are not provided, they are calculated from historical forecast errors where data is available.
- Forecasts marked with an asterisk (*) are part of this special issue.
- Other forecasts: Big-issue model based on Graefe and Armstrong (2012), Issues and Leader model based on Graefe (2021). Time-for-change model based on Abramowitz (2016). Fundamentals-only forecast is the forecast from Fair (2009). The Keys to the White House (Lichtman 2008) were translated to a forecast of the two-party vote following Armstrong and Cuzán (2006).
- Naive forecasts calculated as follows: Popular vote: Electoral cycle, 50/50; Electoral vote: Electoral cycle, random walk

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Among expectation-based methods, expert and crowd forecasters, who are likely to rely heavily on polls, are either in line with the PollyVote or slightly more optimistic about Harris's chances. Interestingly, citizen forecasters, who may be more likely to take cues from their social circles than polls, see a slight advantage for Trump in the popular vote. The latter is particularly interesting, given that citizens provided the most accurate individual component forecasts in the PollyVote across the five U.S. presidential elections from 2004 to 2020. While it seems unlikely that Trump will win the popular vote, given the preponderance of forecasts pointing to a Harris victory, the citizen forecast may suggest that current polls are overestimating Harris' chances, and thus help identify the directional error of polls.

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DATA AVAILABILITY STATEMENT

Research documentation and data that support the findings of this study have not yet been verified by PS's replication team. Data will be openly available at the Harvard Dataverse upon publication of the final article.

CONFLICTS OF INTEREST

The author declares no ethical issues or conflicts of interest in this research.

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Endnotes

[1] To determine popular vote shares, experts provided the predicted vote shares for the major party candidates and the combined share for all other candidates. PollyVote then converted these numbers into two-party vote shares by normalizing the support for the major party candidates relative to their combined total, effectively redistributing third-party votes proportionally between the two main candidates. For the Electoral College, experts were asked to provide the estimated electoral votes for both major party candidates and all other candidates combined. In addition, experts were asked to estimate the likelihood for Kamala Harris to get elected.

[2] PollyVote turned expert ratings about the likelihood of each party winning state elections into probabilities using the following system: *Safe R* **(**Republicans: 90% chance of winning, Democrats: 10% chance of winning), *Likely R* (R:80%, D:20%), *Leans R* (R:67%, D:33%), *Tilt R* (R:55%, D:45%), *Toss-up* (R:50%, D:50%), *Tilt D* (R:45%, D:55%), *Leans D* (R:33%, D:67%), *Likely D* (R:20%, D:80%), *Safe D* (R:10%, D:90%). These probabilities were averaged across forecasters for each race. Treating these probabilities as independent forecasts, PollyVote conducted 100,000 simulations to generate forecasts for Electoral College votes.

[3] PollyVote averaged forecasts from two models for forecasting the popular vote: the electoral cycle model (Norpoth 2014), which uses incumbent vote shares from the two most recent elections as predictors, and (B) a 50/50 model, assuming an equal split of the popular vote between the two major-party candidates, reflecting political polarization. For forecasting the Electoral College, PollyVote used the electoral cycle and a random walk to estimate vote-share results at the state-level before using Monte Carlo simulation to generate Electoral College forecasts.

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