

Measuring and Predicting Pre-Election Polling Error

Public Opinion Analytics Lab (POAL) Methods Brief Series

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Executive Summary

- This brief recommends using Mean Absolute Error (MAE) to study the evolution of electoral preferences over time. MAE can be calculated across pollsters for each election in each country at each time point, either at the party level or in the aggregate. It can also be leveraged as a direct and easily interpretable measure of polling accuracy.
- For example, scholars have used MAE to characterise how electoral preferences come into focus over the election “timeline” in different systems and for different parties (and elections) on each day before Election Day.
- Despite concerns about a “crisis in the accuracy of polling”, research using this approach has found that polling errors have remained relatively stable over time. The performance of polls in the last decade broadly aligns with what would be expected based on polling records from the 1960s onwards.
- Studies using the MAE further show that polling error declines as Election Day approaches, and that certain institutional and party characteristics matter both for the magnitude of poll errors as well as how they change over time, ultimately underscoring the importance of contextualising poll performance.

1 Introduction:

Understanding polling error

A crisis in the accuracy of polling was a narrative popularised by the media and political commentators after the 2015 UK and 2016 US elections (see [Sturgis et al. \[2018\]](#) and [Kennedy et al. \[2018\]](#), respectively). Beyond poor poll performance in those contests (and since, e.g., the 2020 and 2024 US elections, see [Clinton et al. \[2021\]](#) and [Pasek et al. \[2025\]](#)), broader concerns have emerged about changes in data collection and the weakening of traditional partisan identities and

alignments. Technological developments have led to a rise in online surveys and a corresponding decline in face-to-face interviewing, which is often treated as the “gold standard” of public opinion research. Even telephone polling, which replaced much face-to-face interviewing in the preceding decades, has largely vanished. These shifts have been compounded by worries about increasing reliance on non-probability samples and “professional survey respondents”, as well as the participation of bots in online panels given the rapid growth of AI. In addition, as voters increasingly move away from predictable socio-economic, religious, and agrarian voting patterns, estimating vote shares across areas and between social groups has become more difficult.

In direct response to this supposed crisis in polling, [Jennings and Wlezien \[2018\]](#) conducted an over-time and cross-national comparison of pre-election poll estimates and election outcomes. Their findings suggest, based on polling records from the 1960s onwards, that the performance of election polls over the past decade has not been unusual and broadly aligns with historical trends. They do find that poll errors vary across parties and countries in association with certain characteristics. Within any given election cycle, voters’ preferences crystallise as election day approaches, meaning that poll “error” (i.e., the difference between the polls and the actual election result) typically decreases the closer to Election day. The trajectory of polling error across the election timeline also varies systematically across political systems and parties.

2 The method:

Measuring polling error

To conduct their over-time and cross-national comparison of pre-election poll estimates and election outcomes, [Jennings and Wlezien \[2018\]](#) employ the MAE. MAE captures the average absolute difference between the vote share estimated by polls and the actual vote share observed. It can be calculated for all parties in a particular election. It can be calculated for different units of time. It also can be calculated for particular parties or party types, e.g., “families”. In practical terms, this involves taking the MAE across pollsters to evaluate poll performance in that year. It also can be calculated by pollster to compare their performance in particular elections.

To evaluate how preferences evolve within countries over time, it is possible to assess the MAE *across* multiple elections at different points in time. Using this method, [Wlezien et al. \[2017\]](#) demonstrate that the MAE provides a more informative measure of the correspondence between polls and election outcomes than alternative metrics such as R-squared and root mean squared error, both of which are derived from regressions of vote shares on poll estimates.

Mathematically, the mean of the absolute error $|\text{POLL}_i - \text{VOTE}_i|$ across n observations, where POLL_i is the poll share and VOTE_i is the vote share, is represented as follows:

$$\text{MAE} = \frac{1}{n} \sum_{i=1}^n |\text{POLL}_i - \text{VOTE}_i| \quad (1)$$

Beyond being the easiest to both calculate and interpret, the MAE most directly captures the degree to which the final vote is evident from a naïve reading of the polls. This, in turn, allows inferences about the extent of polling error and, viewed differently, how closely voters’

current preferences match the eventual election outcome at a given moment.

Polling accuracy at the 2024 UK General Election

Illustrating poll performance in a particular election year, Figure 1 displays the Total Absolute Error in implied vote shares (excluding ‘Other’) for each pollster in the week immediately prior to the 2024 UK General Election. The MAE across pollsters and parties for these final polls is 2.15, calculated by dividing the mean TAE across pollsters (12.89) by the number of parties (six). Figure 1 also reveals considerable variation in accuracy between pollsters. Interestingly, the BES emerges amongst the least accurate, despite its use of a face-to-face random probability sample. With sufficient data, we also could compare the performance of pollsters over the election timeline.

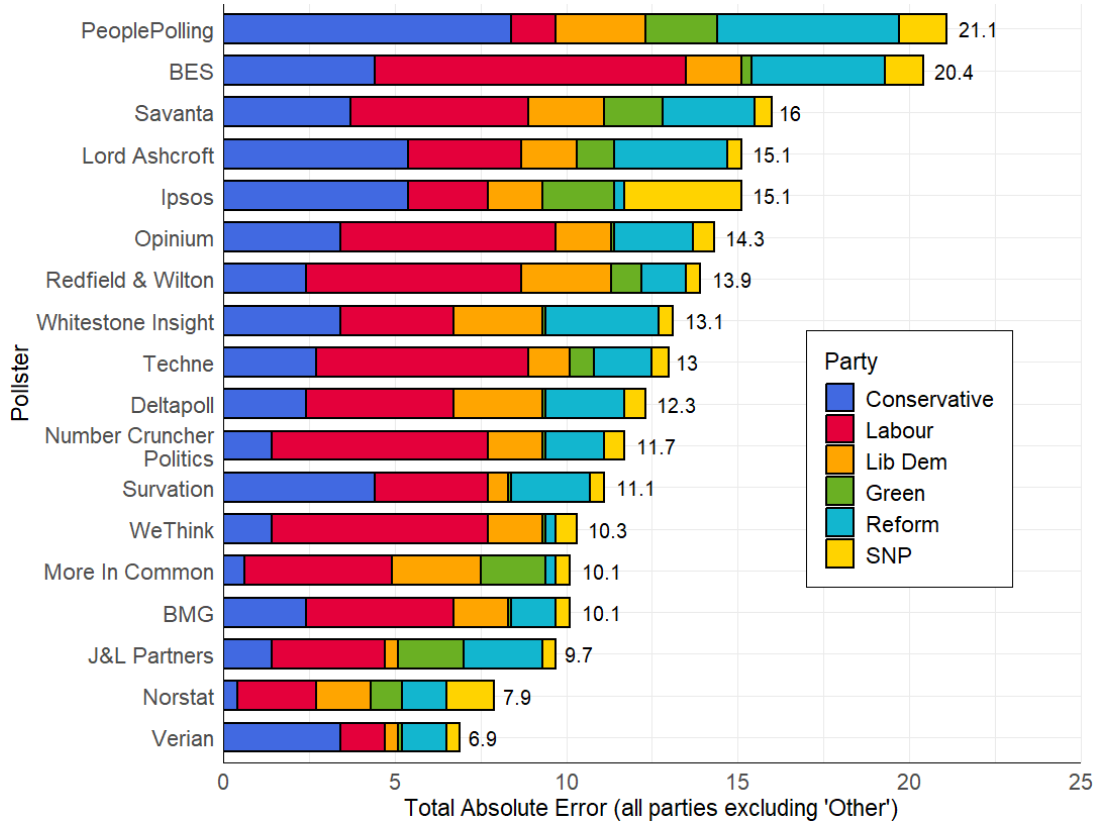


Figure 1: Total Absolute Error of Pollster Estimates for the 2024 General Election

The timeline method

To evaluate poll performance across elections within a particular country, we can compare the MAE from the final week in each election. We also can compare the MAE at different points in time in each election year. This allows insight into how preferences come into focus over the election timeline in particular countries (Erikson and Wlezien [2012]; Wlezien et al. [2013]). This involves calculating the MAE across parties *and elections* on each day before Election Day. For example, for the set of elections between 1945 and 2024 in the UK, first the day before,

two days before, and so on.

This is preferred to a time series model due to feasibility issues arising out of the sparsity of polls variable missingness. There are, however, additional considerations when implementing this cross-sectional approach; such as the use of linear interpolation to address missingness and decisions about whether to apply corrections for sampling error. For readers seeking a more comprehensive account of these (and other) issues, please see [Wlezien et al. \[2017\]](#).

Predicting polling error

To identify predictors of polling error, one can calculate the MAE– or absolute error (AE) to distinguish it from the cross-party counterpart– for each party for the week immediately prior to each election. This statistic can then be used as the dependent variable in a regression equation that estimates the simultaneous effects of various independent variables relating to institutional and party-level features. This method is implemented by [Jennings and Wlezien \[2018\]](#), who predict the AE for the week immediately prior to 763 elections across 45 countries from a model including type of election (presidential vs. parliamentary, electoral system (proportional vs. majoritarian), effective number of parties (ENP), party size (as measured by vote share), candidate-centricity (for legislative elections), incumbency, and election year, displayed as follows:

$$|\text{POLL}_{jT} - \text{VOTE}_j| = a + b_1T + b_2X_j + b_3(X_j \times T) + b_4\text{ElectionType}_j + b_5\text{System}_j + b_6\text{ENP}_j + b_7\text{Size}_j + b_8\text{CandidateCentric}_j + b_9\text{Year}_j + \varepsilon_j. \quad (2)$$

They find greater errors for larger parties and for presidential (compared to legislative) elections, but lesser error for proportional representation systems (compared to single-member district systems), all else being equal. Importantly, there is no significant effect of year, supporting the conclusion that poll performance over the last decade has been neither better nor worse than in preceding decades (if anything, errors seem to decline slightly, but not significantly). That errors do vary– and substantially so– across systems and parties implies that it is difficult to strictly compare poll errors, and that we might perhaps expect levels and changes that are unrelated to polling practices and methods. Looking to future elections within the UK, these findings suggest that if the Green Party and Reform UK gain support at the expense of the Conservatives and Labour– and the party system fragments, with party size decreasing as vote share is distributed across a wider set of competitors– average polling error *should* decline.

Building upon this, in more recent work, [Wlezien and Jennings \[2023\]](#) propose an integrated regression framework that models the AE for each party, in each election, on each day of the election timeline as the outcome of an interaction between time and institutional and party-level features. This general approach expands on the above by capturing how voters’ support comes into focus at different rates across political systems and parties within a given election cycle, in addition to modelling the level of polling error at the end of the campaign. Mathematically, this is represented as follows:

$$|\text{POLL}_{jT} - \text{VOTE}_j| = a + b_1T + b_2X_j + b_3(X_j \times T) + \varepsilon_j. \quad (3)$$

where the absolute poll-vote error for a given party or candidate (j) on a given day of the timeline is a function of some intercept (a) plus time (T), representing the number of days before Election Day, plus a given independent variable (X) and its interaction with time ($X \times T$).

3 Implementation guidelines

Recommended Practice

1. Use the MAE across pollsters at the end of the election cycle to quantify polling error in each election.
2. Use the MAE in different elections to compare poll performance in different election years.
3. Calculate the MAE across multiple elections at different points in the electoral cycle within the same country to enable analysis of how polling accuracy changes over the election timeline.
4. Treat the AE for each party within each country at the end of each election cycle as the dependent variable in a regression model to evaluate the effects of various party and system-level characteristics on poll error.
5. Use the AE for each party at different points in the election cycle within each election year to evaluate how time moderates the effects of system- and party-level characteristics on the correspondence between polls and election outcomes.
6. Scholars also can incorporate effects of characteristics of elections as well.

References

- Joshua Clinton, jennifer agiesta, Megan Brennan, Camille Burge, Marjorie Connelly, Ariel Edwards-Levy, Bernard Fraga, Emily Guskin, D. Hillygus, Chris Jackson, Jeff Jones, Scott Keeter, Kabir Khanna, John Lapinski, Lydia Saad, Daron Shaw, Andrew Smith, David Wilson, and Christopher Wlezien. Aapor task force on 2020 pre-election polling report fnl. Report, American Association for Public Opinion Research, 07 2021.
- Robert S. Erikson and Christopher Wlezien. *The Timeline of Presidential Elections: How Campaigns Do (and Do Not) Matter*. University of Chicago Press, 2012.
- Will Jennings and Christopher Wlezien. Election polling errors across time and space. *Nature Human Behaviour*, 2(4):276–283, March 2018. doi: 10.1038/s41562-018-0315-6.
- Courtney Kennedy, Mark Blumenthal, Scott Clement, Joshua D Clinton, Claire Durand, Charles Franklin, Kyley McGeeney, Lee Miringoff, Kristen Olson, Douglas Rivers, Lydia Saad,

G Evans Witt, and Christopher Wlezien. An Evaluation of the 2016 Election Polls in the United States. *Public Opinion Quarterly*, 82(1):1–33, March 2018. ISSN 0033-362X. doi: 10.1093/poq/nfx047.

Josh Pasek, Andrew Mercer, Ariel Edwards-Levy, Scott F. Clement, Ruth Igielnik, Jonathan Ladd, Emily Swanson, Jeff Horwitt, Charles Franklin, Chris Jackson, Kabir Khanna, Matthew Knee, Angela X. Ocampo, Tasha Philpot, Elliott Morris, and Samara M. Klar. 2024 pre election polling: An evaluation of the 2024 general election polls. Report, American Association for Public Opinion Research, 2025.

Patrick Sturgis, Jouni Kuha, Nick Baker, Mario Callegaro, Stephen Fisher, Jane Green, Will Jennings, Benjamin E. Lauderdale, and Patten Smith. An Assessment of the Causes of the Errors in the 2015 UK General Election Opinion Polls. *Journal of the Royal Statistical Society Series A: Statistics in Society*, 181(3):757–781, June 2018. ISSN 0964-1998. doi: 10.1111/rssa.12329.

Christopher Wlezien and Will Jennings. Institutions, parties and the evolution of electoral preferences. *European Journal of Political Research*, 62(4):1347–1368, November 2023. doi: 10.1111/1475-6765.12579.

Christopher Wlezien, Will Jennings, Stephen Fisher, Robert Ford, and Mark Pickup. Polls and the vote in Britain. *Political Studies*, 61(S1):66–91, 2013. doi: <https://doi.org/10.1111/1467-9248.12008>.

Christopher Wlezien, Will Jennings, and Robert S. Erikson. The “timeline” method of studying electoral dynamics. *Electoral Studies*, 48:45–56, August 2017. doi: 10.1016/j.electstud.2017.03.003.