

# Shocks

## GOV 1347 Lab: Week VIII

Matthew E. Dardet

Harvard University

October 23, 2024

# Check-In

- Questions? Predictions?

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- Questions? Predictions?

```
election.day <- as.Date("2024-11-05")
current.date <- Sys.Date()
cat(paste0("There are ", election.day-current.date, " days until election day"))

## There are 13 days until election day!
```

# Cool Event This Evening @ CAPS

[Who We Are](#)[What We Do](#)[Get Involved](#)

## CAPS Seminar: Inside the Decision Desk with Stephen Ansolabehere & Costas Panagopoulos

October 23, 2024

4:30 pm - 5:45 pm

CAPS Seminar

Add To: Google Calendar | Outlook | iCal File

Download iCal file for this event

# This Week

- ① Looking at Political Scientists' 2024 Forecasts
- ② Shocks: Sharks, Hurricanes, Protests, Supreme Court Cases

## Section 1

2024 Forecasts from Political Scientists

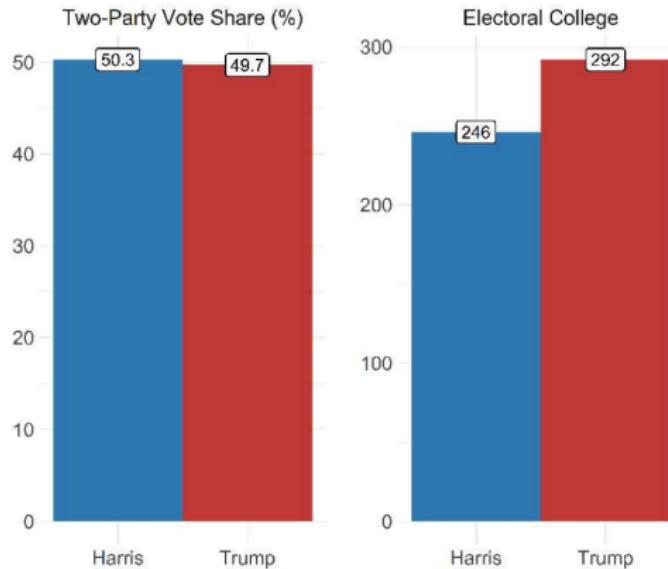
# 2024 Forecasts from Political Scientists

**Table 1.** US Presidential Election Forecasts, 2024

Forecasters	Model Name	Predicted Winner		Predicted Outcome for Kamala Harris		Level
		2P-PV	EC	2P-PV	EC	
Algara, Gomez, Headington, Liu and Nigri	Presidential Approval and Party Brands	Trump	Trump	47.2	168	National
Gruca and Rietz Lockerie	Iowa Electronic Markets Prospective Partisan-Bounded Economic	Harris Trump	— —	54.5 49.1	— —	National National
Saeki	Political Economy	Harris	Harris	52.4	318	National
Tien and Lewis-Beck DeSart	Long-Range State-Level State Presidential	Trump	— Harris	48.1 50.7	— 256	National State
Enns, Colner, Kumar and Lagodny	Approval/State Economy	Trump	Trump	49.7	226	State
Lindsay and Allen Mongrain, Nadeau, Jérôme and Jérôme	Dynamic State-by-State Political Economy	Harris	Harris	*	289	State
Cerina and Duch	PoSSUM Poll	Harris	Trump	50.4**	237	National and State
Thompson, Cadieux, Ouellet and Dufresne	Citizen Forecasting	Trump	—	45.0***	—	National and State
Graefe	PollyVote	Harris	Harris	50.8	276	NA

# 2024 Forecasts from Political Scientists

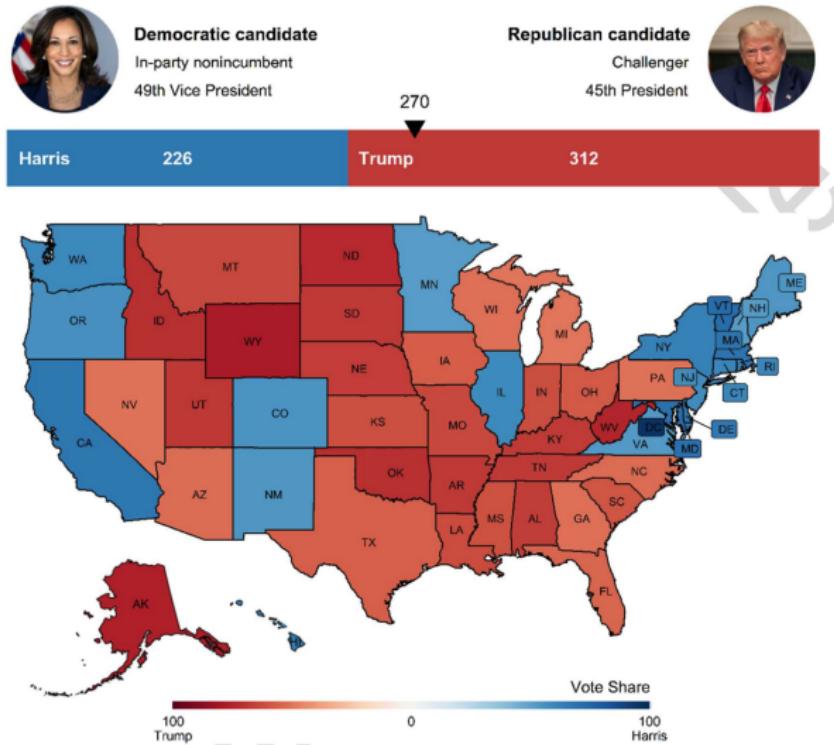
**Figure 1.** Average Two-Party Vote Share and Electoral College Forecasts



*Notes.* Average forecasts from all presidential models (see Table 1) with the exception of Thompson, Cadieux, Ouellet and Dufresne, who explicitly provided a forecast for Joe Biden. For the Electoral College, forecasts were rounded to the nearest integer.

# 2024 Forecasts from Political Scientists

Figure 2. Average State-Level Vote Share Forecasts, State-Level Models Only

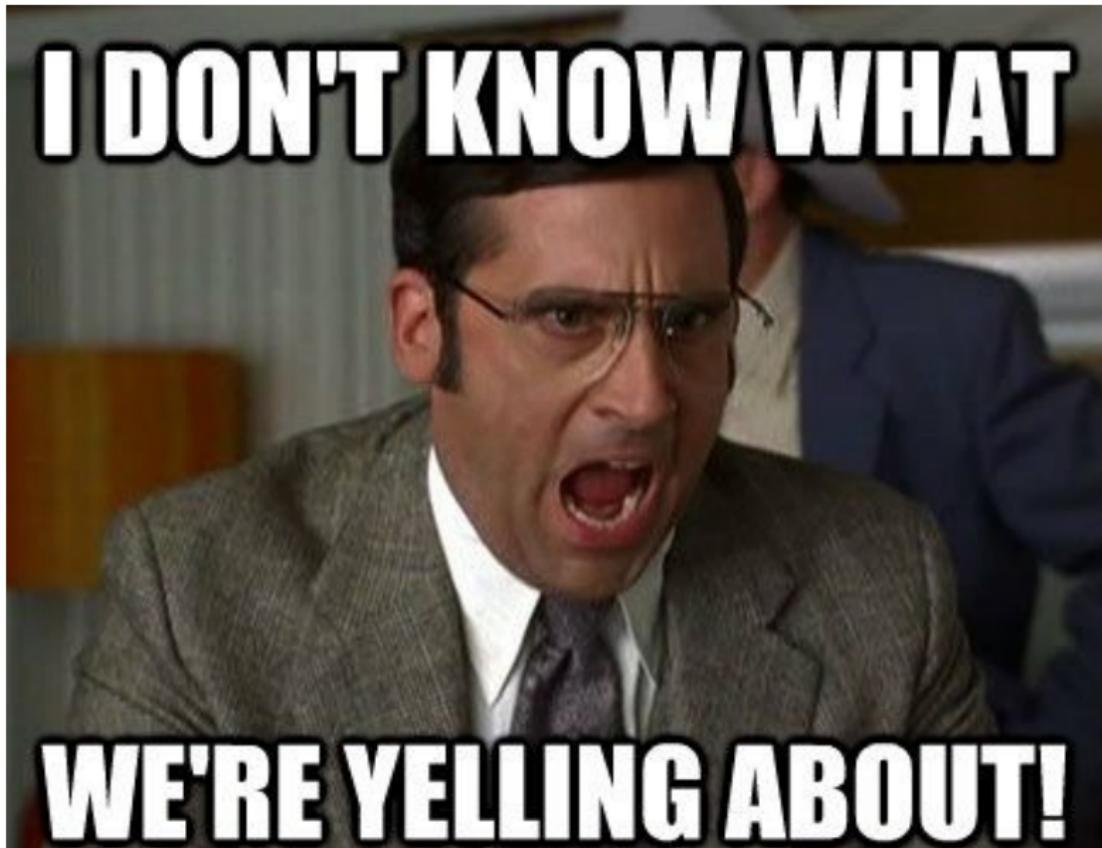


# 2024 Forecasts from Political Scientists

## Conclusion

As Campbell and Mann (1996, 27) noted regarding American presidential elections, “[t]he pattern of media coverage [...], which chronicles every unforeseen event and strategic choice by the candidates and their handlers and analyzes every blip of reaction in public opinion, reinforces the impression that each election is in flux and wildly unpredictable.” This observation likely applies to the majority of democratic regimes where the media and analysts often prolong the suspense until the results are revealed. Nevertheless, forecasters are not fortune tellers. Election forecasting is indeed a complex alchemy. Anyone seeking the perfect predictive equation will be quite disappointed. One cannot expect the combination of a few carefully selected variables to predict election outcomes without fail. Every now and then, models will be wrong. But we learn as much from inaccurate forecasts as we do from accurate ones. Forecasting models are a powerful tool to “field test” theories about electoral behavior. They have also recently become an equally powerful tool to infer collective behavior from the enormous amounts of information generated by our digital lives. The 2024 US election has the potential to be rich in lessons for election forecasters and, by extension, to the political science community. The articles included in this Special Issue tackle important theoretical and methodological questions—How can we use national-level data to produce state-level estimates? How should we measure economic performance? Is there wisdom in the crowd? Do financial incentives enhance accuracy? Do the digital traces we leave behind tell us something about the broader political landscape? How important is minority voting to understand election outcomes? And many more questions. In the end, we believe one should recognize that the forecasting process is more important than the forecast itself.

# 2024 Forecasts from Political Scientists



# Iowa Electronic Markets Forecast (Gruca & Reitz, 2024)

We present Iowa Electronic Markets (IEM) forecasts for the popular vote shares in the 2024 U.S. Presidential election. We discuss the differences between IEM forecasts and polls, the impact of the first Presidential debate, the changes resulting from Biden dropping out of the race, and the degree of uncertainty implied by IEM forecasts. On September 29, the IEM forecast a 9 percentage point Democratic popular vote margin according to a thinly traded vote-share market and an 85.7% chance the Democrat will receive more votes than the Republican in a thickly traded winner-takes-all market. Using a distribution derived from both markets, the forecasts are for a 6 to 7 percentage point Democratic margin and 87.0% chance of winning. However, significant uncertainty remains.

# Economic Pessimism Model (Lockerbie, 2024)

*Table 1: Forecasting Equations 1954-2024*

	Presidential Vote
Next Year Worse	-.49(.001)
Log of time in White House	-6.57(.01)
Open Seat Interaction	
Constant	68.90
R-squared	.59
Adjusted R-squared	.54
N	17
2024 forecast	49.09

Significance levels in the parentheses

# Economic Pessimism Model (Lockerbie, 2024)

*Table 2: Out-of-Sample Presidential Forecasts and Errors*

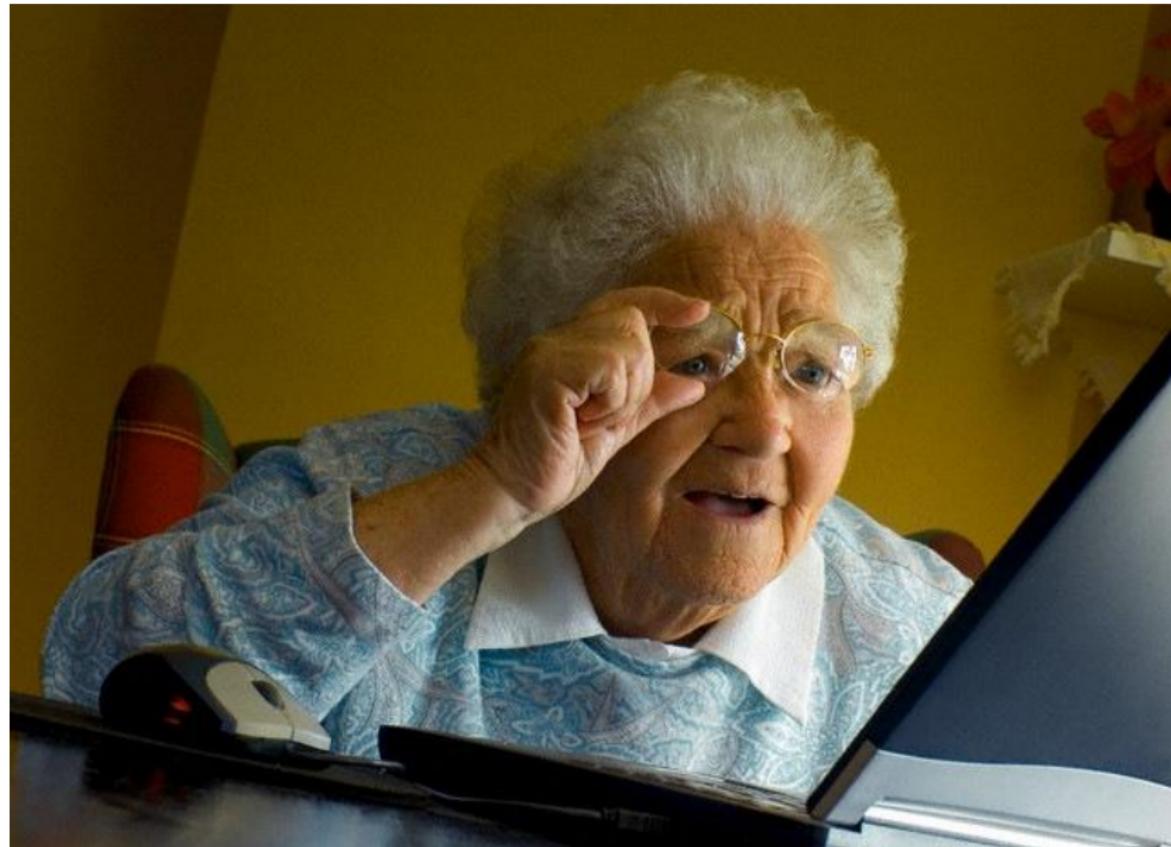
Year	Presidential Forecast	Actual Vote	Absolute Error
<b>1956</b>	56.7	57.8	1.1
1960	53.4	49.9	3.5
<b>1964</b>	56.6	61.3	4.7
1968	51.0	49.6	1.4
<b>1972</b>	56.0	61.8	5.8
<b>1976</b>	49.5	48.9	0.4
1980	50.2	44.7	5.5
<b>1984</b>	53.9	59.2	5.3
<b>1988</b>	50.0	53.9	3.9
<b>1992</b>	47.8	46.5	1.3
<b>1996</b>	55.5	54.7	0.8
<b>2000</b>	52.7	50.2	2.5
<b>2004</b>	54.8	51.2	3.6
<b>2008</b>	40.3	46.5	6.2
<b>2012</b>	52.6	51.8	0.8
<b>2016</b>	50.8	51.1	0.3
2020	56.9	48.8	8.1

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In the interest of humility and transparency, this forecast model was off by quite a bit in 2020. Donald Trump was forecast to be the victor by a comfortable margin. The actual result was a comfortable victory for Joe Biden. There are several potential explanations for this. The unprecedented nature of the pandemic may have heightened anxiety about the overall state of the economy. Even with the modest pessimism about the economy in 2020, the pandemic may have given many people pause about voting to return Trump to the White House.

# Economic Pessimism Model (Lockerbie, 2024)

## Conclusion:

When we look at the forecast for the 2024 election, it is essentially a jump ball. The Democratic party is likely to lose the presidency, and the House is likely to remain in the hands of the Republican party. If the forecasts of a Democrat losing the White House and not regaining control of the House of Representatives are correct, it will mean a return to unified government, at least as it regards the presidency and the House of Representatives.<sup>v</sup>

# Partisan-Bounded Economic Model (Saeki, 2024)

Table 2. Popular Vote Won by In-Party Candidates 1948-2020

	<i>Eq. 1 Party Vote</i>	<i>Eq. 2 Party Vote</i>	<i>Eq. 3 Total Vote</i>	<i>Eq. 4 Total Vote</i>
Approval	0.288 *** (0.057)	0.247 *** (0.047)	0.343 *** (0.073)	0.299 *** (0.067)
GDP	0.11 (0.083)		0.083 (0.106)	
GDP (Truncated)		0.767 ** (0.223)		0.734 * (0.313)
Partisan Shift	0.205 (0.156)	0.191 (0.124)	0.395 + (0.199)	0.382 * (0.174)
Constant	38.268 *** (2.876)	39.557 *** (2.292)	33.634 * (3.672)	35.137 ** (3.219)
R-squared	0.739	0.836	0.723	0.789
Adj. R-squared	0.687	0.803	0.668	0.747
S.E. of regression	2.898	2.299	3.699	3.229
F-statistic	14.213 ***	25.528 ***	13.104 ***	18.751 ***

+&lt;10, \*&lt;.05, \*\*&lt;.01, \*\*\*&lt;.001

# Partisan-Bounded Economic Model (Saeki, 2024)

As for economic growth, the Gross Domestic Product (GDP) growth in the second quarter (annualized) of the election year is used. For the secondary measurement of economic growth, values higher than 5 percent or lower than -5 percent in the original GDP growth data are recoded to 5 percent and -5 percent, respectively. Thus, the secondary measurement truncates GDP growth values to a fixed range of 5 percent to -5 percent. The threshold of 5 percent and -5 percent were determined based on the standard deviation of the sample and the Z-scores for outliers. The standard deviation of the original GDP growth measurement is 8.62, indicating

# Partisan-Bounded Economic Model (Saeki, 2024)

For the variable of partisan shift, the percentages of Democratic and Republican voters during an election year (second or third quarter), as reported by Pew Research Center and Gallup Poll are recorded. The change in the party of the incumbent president from four years prior is then calculated. Independent voters leaning to the Democratic or Republican parties are excluded from the calculation. For instance, during the 2020 election, the percentage of partisan voters supporting the Republican Party was 26 percent, which represented a 1 percent decrease from 27 percent in 2016. As for the 2024 election, the percentage of Democratic voters was 30 percent, reflecting a 2 percent decline from 32 percent in 2020.

# The Political Economy Model (Tien & Lewis-Beck, 2024)

Our political economy model, as it has come to be called, has offered up forecasts of the American presidential election outcome since the early 1980s. The model, based on referendum theory, as measured by the job performance of the president and the economy (1948 to the present), yields a forecast from data available in the summer of the election year. We consider alternative specifications of this parsimonious model, examining the possible effects of other economic measures, Covid-19, and incumbency advantage on forecasting. The current point estimate of the core political economy model predicts the Democratic candidate will receive 48 percent of the two-party popular vote, which translates into a narrow Electoral College loss for the incumbent party. This point forecast, however, comes with a considerable amount of uncertainty. There is an 11-point spread around our point estimate, which effectively means we have a horserace on our hands, with both horses close to the finish line.

# The Political Economy Model (Tien & Lewis-Beck, 2024)



Our presidential election model, conceptually, reads as follows:

$$\text{Incumbent Party Vote} = \text{Presidential Popularity} + \text{Economic Growth} \quad \text{Eq.1}$$

with the variables operationalized as Presidential Vote = the two-party share of the national popular vote for the incumbent party, Popularity = Gallup's July job approval rating for the

3

president, and Growth = change in Gross National Product (GNP) growth over first two quarters of the election year (We prefer GNP over GDP because the former measures foreign as well as domestic holdings, and thus appears more comprehensive. Empirically, the two variables correlate at .99 from 1948 to 2020.)

# The Political Economy Model (Tien & Lewis-Beck, 2024)

$$\text{Vote} = 37.60 + .28 \times \text{Popularity} + 0.78 \times \text{Growth}$$

Eq. 2

$$(15.34) \quad (5.18) \quad (2.14)$$

R-squared = .75. Adj. R-squared = .72. Root Mean Squared Error = 2.76.

Durbin-Watson = 2.30. N = 19 elections, 1948-2020. Figures in parentheses = t-ratios. \* = statistical significance = .05, two-tail. (The raw 2020 GNP number was an extreme outlier, at -5.4. To render it more tractable, we winsorized it downward, to -4.14, only three times the previous most extreme negative value, of -1.38).<sup>1</sup>

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**Graphics: [0/2]: Don't make "tables" like this!**

# The Political Economy Model (Tien & Lewis-Beck, 2024)



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Table 2. Forecasting the 2024 U.S. Presidential Election: A Comparison of Predictors

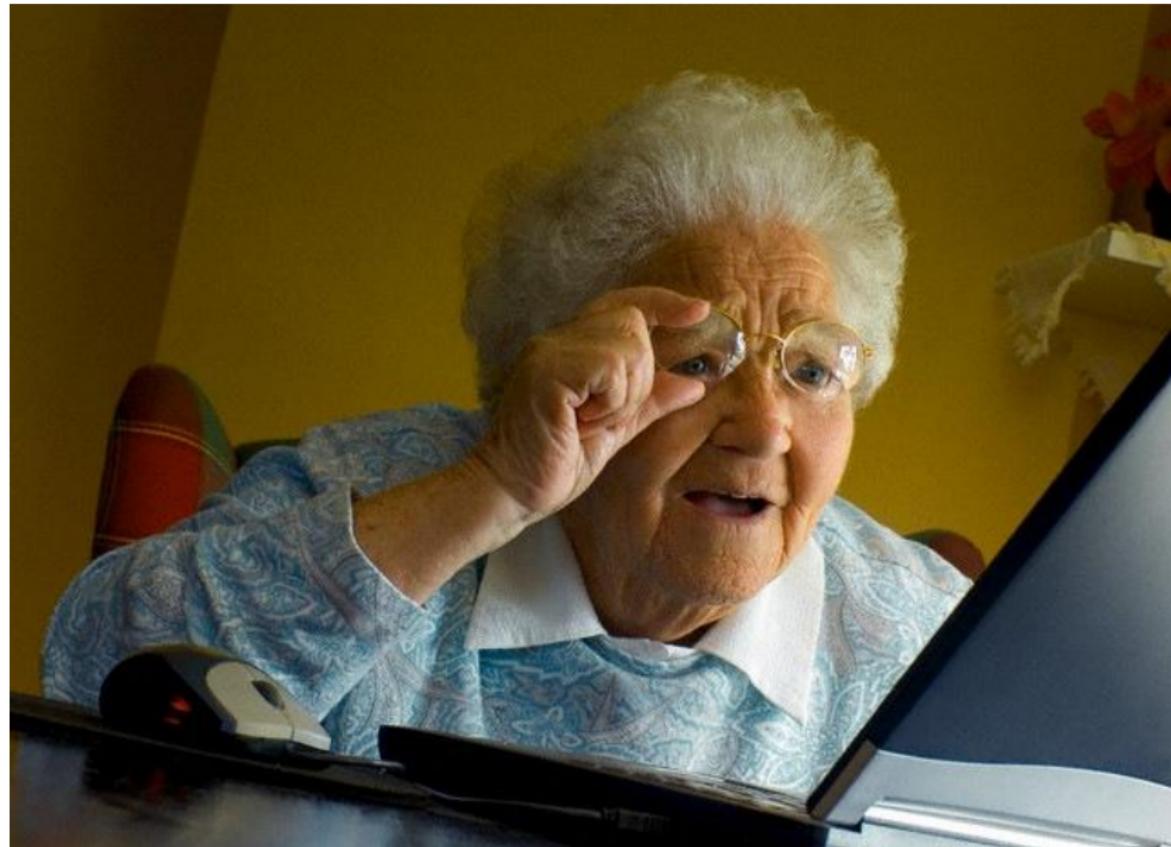
2024 value	Pol-Econ (1)	Unemplymnt (2)	Infla-tion (3)	DPI (4)	GNP* Covid (5)	Appro v* Covid (6)	Elected Incmbnt Advant g (7)	Incmbnt Close-ness (8)
July presidential approval	.28 * (5.18)	.31 * (5.57)	.36 * (5.76)	.33 * (6.11)	.26 * (4.73)	.26 * (4.73)	.28 * (6.09)	.28 * (6.79)
GNP change	.78 * (2.14)				1.17 * (2.25)	1.18 * (2.25)		
Unemployment rate change		.01 (-0.84)						
Inflation rate change			.54 (1.11)					
Disposable Personal Income change				.87 (.97)				
GNP change * Covid dummy					-1.04 (-1.06)			
Pres approval * Covid dummy						.10 (1.06)		
GNP * Elect							.98 * (2.88)	.91 * (3.01)
Elected pres. running							4.02 * (1.82)	
Incumbent party advantage								1.89 * (2.89)
Constant	37.6 * (15.34)	37.18 * (13.32)	33.39 * (8.75)	34.27 * (9.91)	37.50 * (15.37)	37.50 * (15.37)	34.75 * (12.80)	36.95 * (19.33)
R-squared	.75	.70	.70	.70	.77	.77	.82	.86
Adj. R-squared	.72	.66	.67	.66	.72	.72	.79	.83
RMSE	2.76	3.06	3.01	3.04	2.75	2.75	2.40	2.12
D-W	2.30	2.08	2.04	1.97	2.39	2.39	1.48	2.12
2024 forecast*	48.1	48.5	47.8	48	47.4	47.4	47.1	49.1

\*= this row bases itself on the final GNP numbers released on August 29, 2024

Dependent variable = incumbent president's party share of the two-party vote.

Presidential approval = presidential approval rating, as measured by the first Gallup Poll in July

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## Table 2. Forecasting the 202

2024 value	Pol-Econ (1)
July presidential approval	0.28 * (5.18)
GNP change	0.78* (2.14)

# PollyVote Forecast (Graefe, 2024)

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.

# PoSSUM Poll Forecast (Cerina & Duch, 2024)

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Not the o-possum poll forecast!

# PoSSUM Poll Forecast (Cerina & Duch, 2024)

## Protocol for Surveying Social-media Users with Multimodal LLMs

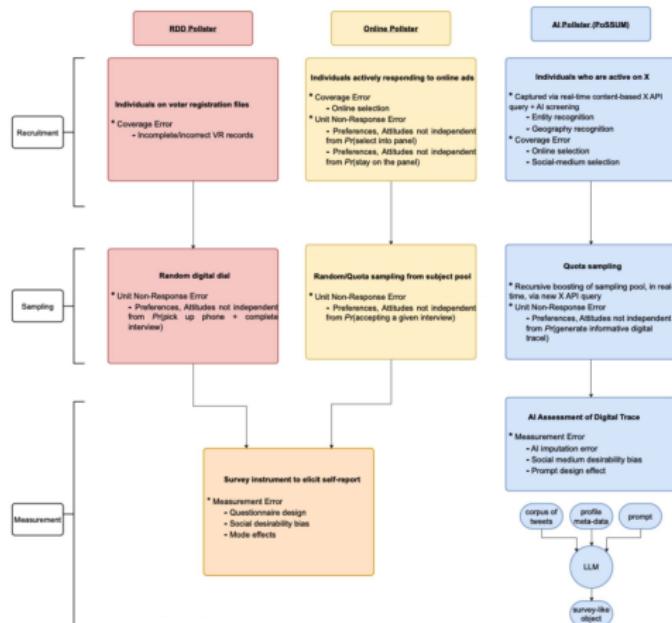
# PoSSUM Poll Forecast (Cerina & Duch, 2024)

## Protocol for Surveying Social-media Users with Multimodal LLMs

### Abstract

The initial predictions presented in this essay confirm that presidential candidate vote share estimates based on AI polling are broadly exchangeable with those of other polling organizations. We present our first two bi-weekly vote share estimates for the 2024 U.S. presidential election, and benchmark against those being generated by other polling organizations. Our post-Democratic convention national top-line estimates for Trump (47%) and Harris (46%) closely track measurements generated by other polls during the month of August. The subsequent early September (post-debate) PoSSUM vote share estimates for Trump (47%) and Harris (48%) again closely track other national polling being conducted in the U.S. An ultimate test for the PoSSUM polling method will be the final pre-election vote share results that we publish prior to election day November 5, 2024.

# PoSSUM Poll Forecast (Cerina & Duch, 2024)



# How Would You Evaluate the Political Scientists' Model?



We did it, Joe.

## Section 2

### Shocks: Shark Attacks

# Shocks?

What are *examples* of **apolitical shocks** that would affect elections?

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Why do we care about apolitical shocks?

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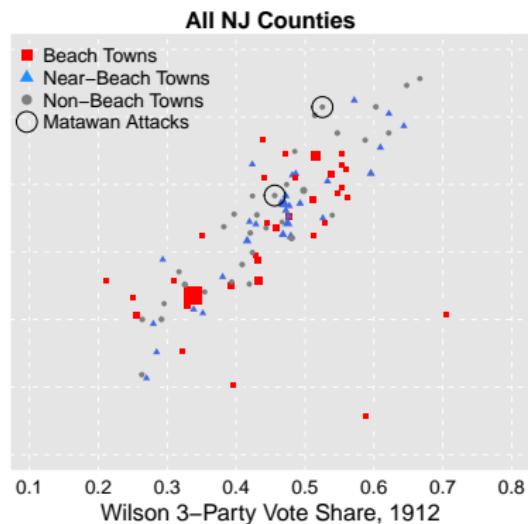
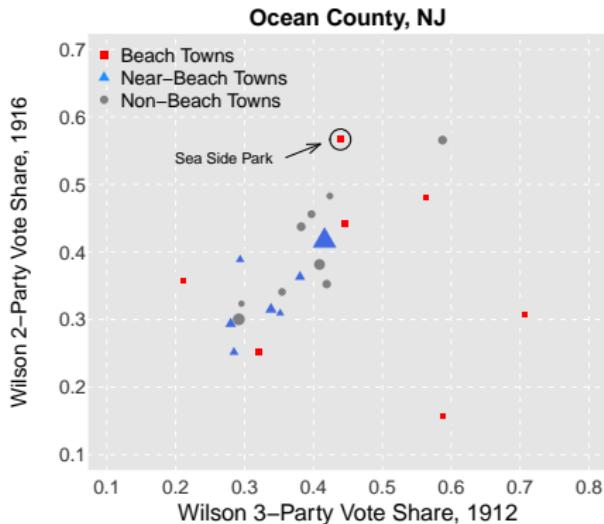
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- Including Sea Side Park (that was omitted) dampens the effect.
- Including all counties shows that (1) the two beach counties were very unusual outliers (2) beach towns and near-beach/non-beach towns voted similarly.

# Discussion

If shocks have effects, does that mean voters are irrational and incompetent?

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  - Ex: the speed of recovery from global economic crisis compared to other countries
- **Forward-looking voting** (Leininger and Schaub 2020): Germans **vote to align local incumbents with higher levels of government**—with expectation that this will help them through the COVID crisis

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  - Finding: The answer depends on the partisanship
- **Myopic voting**: do not respond to policies related to disaster **preparedness**.
  - Respond only to policies and relief right after the crisis has already happened (Healy and Malhotra 2009) ↪ create **perverse incentives** to (i) invest less on (more effective + less expensive) preventive measures and (ii) claim credit on performative ex-post measures

## Section 3

# Shocks: Hurricanes, Protests, Supreme Court Cases

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# Hurricanes



# Hurricane Helene 2024



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## 26 people remain unaccounted for in North Carolina following Hurricane Helene

Helene is the deadliest storm in North Carolina's history.

By [Ahmad Hemingway](#) and [Emily Shapiro](#)

October 21, 2024, 3:41 PM



An aerial view of flood damage wrought by Hurricane Helene along the Swannanoa River, Oct. 3, 2024, in Asheville, North Carolina.

Mario Tama/Getty Images

Twenty-six people remain unaccounted for in hard-hit North Carolina, weeks after the devastation unleashed by [Hurricane Helene](#), officials said Monday.

### Popular Reads



'Central Park 5' members sue Donald Trump

Oct 21, 12:30 PM



Walz says Trump is 'spiraling down'

Oct 21, 2:20 PM



McDonald's agreed to Trump event but not endorsing

Oct 21, 3:19 PM



Details from Liam Payne's partial autopsy revealed

Oct 21, 10:09 AM



Baby shot and killed by toddler: Police

Oct 21, 6:38 PM

• ABC News Live

# Hurricane Helene 2024

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Updates

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Electoral College Paths

Senate Races

House Races



5 hours ago

Michael Gold Reporting from Doral, Fla.



Donald Trump just took the stage for a rally in Greensboro, N.C., his fourth stop in this critical battleground state in two days. And he once again opened his remarks by criticizing the federal response to Hurricane Helene, an issue his campaign is hoping will give it an edge in a battleground state where polls show a tight race.



# Protests

Sections

The Harvard Crimson

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## Protesters Interrupt Mass. Chief Climate Officer at Radcliffe Institute Talk



Radcliffe Yard is located on Garden Street. Protesters interrupted Massachusetts Climate Chief Melissa Hoffer at a Radcliffe event on Monday. By [Ryan N. Gajrawala](#)

By Caroline E. Curran, Mohan A. Hathi, and Summer E. Rose, Contributing Writers  
a day ago

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5. FAS Endows 3 New Professorships at Harvard in Civil Discourse and AI

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# Protests



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ANTISEMITISM EXPOSED

## Anti-Israel protesters take over University of Minnesota admin building, 11 arrested

Anti-Israel protesters demanded University of Minnesota divest from businesses that support Israel

By Stephen Sorace · Fox News

Published October 22, 2024 9:53am EDT



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# Supreme Court Cases

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Live updates 1 hour ago

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## Harris to hold a rally in Texas on Friday focusing on abortion rights

Visiting a politically unfriendly state can be a way to make a splash and send a message about taking on a fight.

4 min



334



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1 Early-voting data shows Republican reversal appears to be paying off

2 Trump attacks Harris with racist stereotype, eyes 'extreme power' as



# Shocks Datasets & Exercise

## Datasets:

- `hurricanes_1996_2016.csv`: NOAA dataset of hurricanes and hurricane affected locations between 1996-2016.
- `protests.csv`: Dataset of protests in the US between 2017-2024.
- `supreme_court_precedents.csv`: Court cases in which Supreme Court has overturned precedents.
- `supreme_court_congressional_reviews.csv`: Court cases in which Supreme Court has used judicial review to overturn laws passed by Congress.

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**<sup>1</sup>N.B.** I am currently sampling from the updated **October** voterfile with the predicted party ID, so stay tuned for when that is posted (hopefully by tomorrow evening)!

# Shocks Datasets & Exercise

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**Exercise:** In the next 10-15 minutes, brainstorm and try to generate some data visualizations, descriptive analyses, and/or predictions based on one or more of these datasets/shock types in order to determine whether and how shocks might affect the results of the 2024 election.<sup>1</sup>

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# Blog Extensions (Optional)

- ① **(Shocking)** Should we be thinking about any particular shocks this election cycle? If so, which ones, and can they be incorporated into our forecasting models?

**N.B.** This will be our last blog post before the final election prediction assignment. Make sure that you have forecasting models for the NPV, state-level PV/Electoral College, or both, and that you are happy with your prediction models. If you have issues with these, please contact Ethan, Yusuf, or I for help *before* election week.