

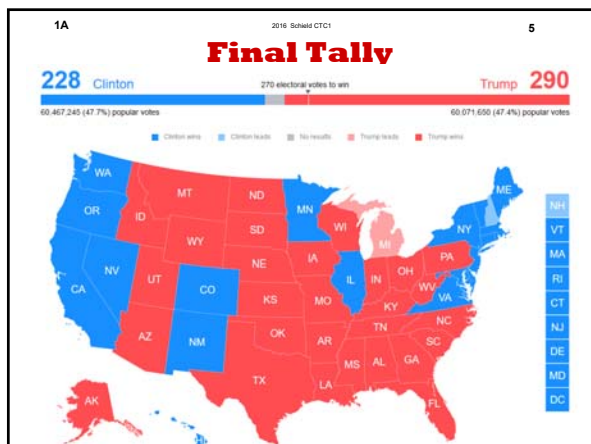
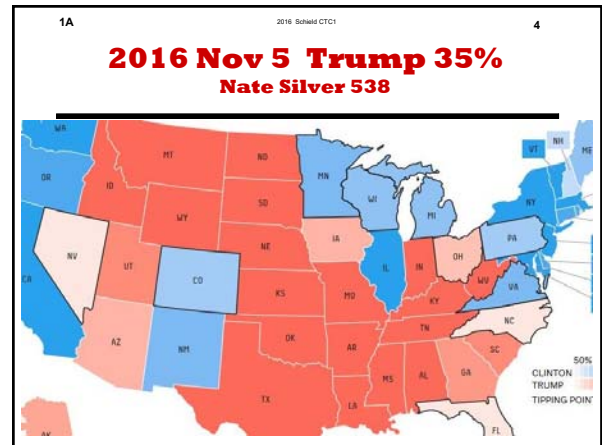
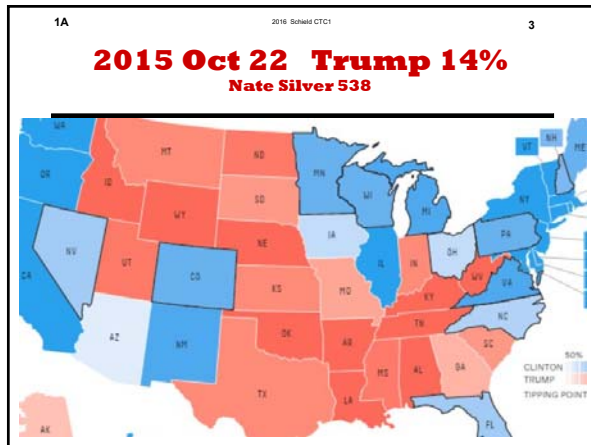
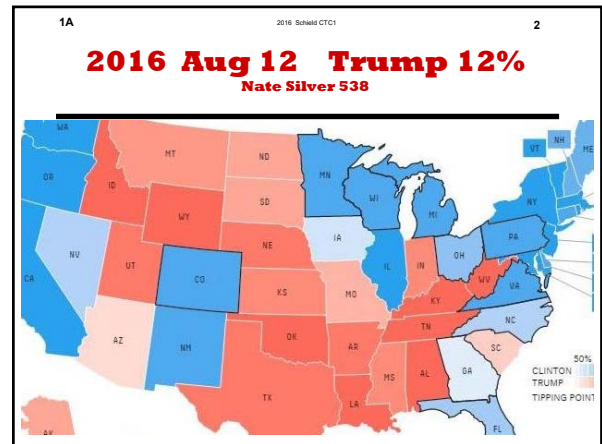
1A 2016 Schield CTC1 1

## 2016 US Presidential Election Why Are Polls So Wrong?

Milo Schield  
Augsburg College

Minneapolis  
Critical Thinking Club

Copy of these slides at:  
[www.StatLit.org/pdf/2016-Schild-CTC1-Slides.pdf](http://www.StatLit.org/pdf/2016-Schild-CTC1-Slides.pdf)



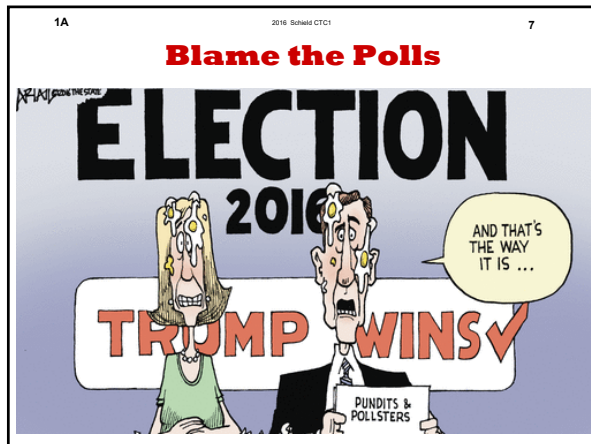
1A 2016 Schield CTC1 6

### How Far Off?

Trump consistently outperformed polls in key states

● Trump ● Clinton

	POLL AVERAGE	POPULAR VOTE COUNT	DIFFERENCE
National polls	+3	Even	+3
Missouri	+9	+19	+10
Wisconsin	+5	+1	+7
Ohio	+2	+9	+7
Iowa	+3	+10	+7
Maine	+9	+3	+6
Minnesota	+6	+1	+5
Michigan	+3	+1	+4
North Carolina	Even	+4	+4
Pennsylvania	+2	+1	+3



### Why the anti-Trump bias?

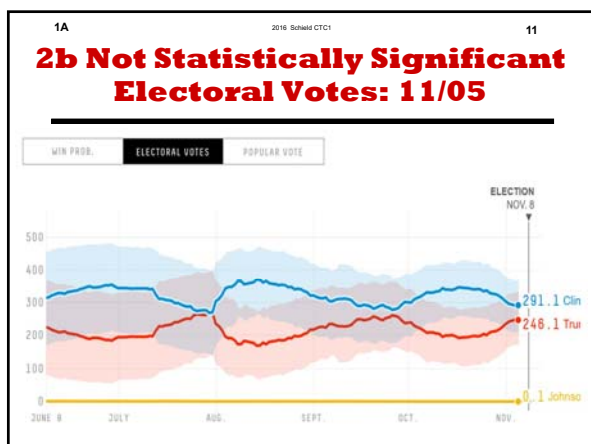
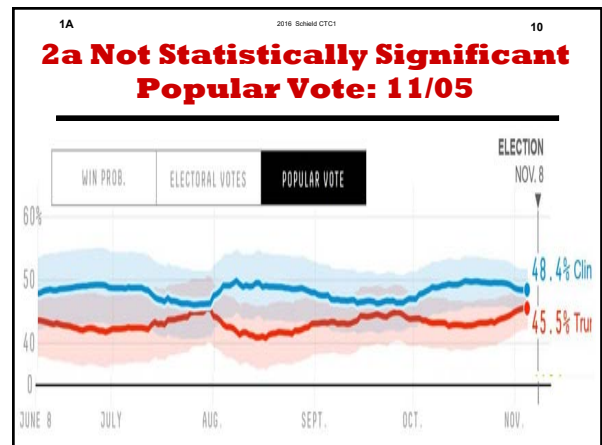
**Some Plausible Explanations:**

1. Pollsters are liberals or have a liberal bias.
2. Ignored statistical margin of error (plus/minus 3 points)
3. Ignored correlation between state margins.
4. Big "Undecided" up to election day. [Allocated 50/50]
5. Ignored time. Predicted using static analysis.
6. Actual election-prediction error
7. Selection bias by everyone.

### 1. Liberal Bias

*Thank you Yahoo, Facebook, CBS, NBC, ABC, MSNBC, CNN for all your polls, statistics and spin. At least now we know the American people are not fooled by you.*

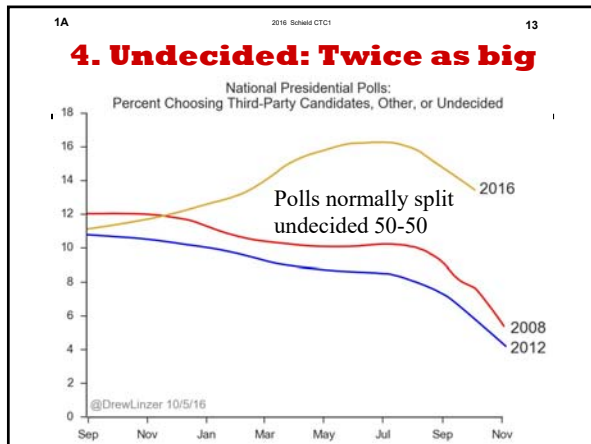
Comments: SilverWing [Viewed 11/11/16]  
<https://www.yahoo.com/news/elections>



### 3. State Margins: Correlated

	Maine	N. H.	Pennsylvania	Ohio	Michigan	Wisconsin	Minnesota	Iowa
<b>NORTHEAST</b>								
Maine		.58	.46	.61	.61	.63	.57	.63
N. H.	.58		.53	.63	.64	.69	.64	.70
Pennsylvania	.46	.53		.64	.61	.62	.72	.56
<b>MIDWEST</b>								
Ohio	.61	.63	.64		.90	.86	.81	.84
Michigan	.61	.64	.61	.90		.86	.79	.83
Wisconsin	.63	.69	.62	.86	.86		.80	.84
Minnesota	.57	.64	.72	.81	.79	.80		.78
Iowa	.63	.70	.56	.84	.83	.84	.78	

OH-MI: 0.90  
 OH-WI: 0.86  
 MI-WI: 0.86  
 IA-WI: 0.84  
 IA-OH: 0.84  
 IA-MI: 0.83  
 MN-OH: 0.81  
 MN-WI: 0.80  
 MN-MI: 0.79  
 PA-MN: 0.72



1A 2016 Schield CTC1 14

### 4. Undecided... Already Decided for Trump

Some "undecided" voters had already decided in favor of Trump, but didn't want to admit it.

- Some polls showed Trump getting 0% of the black vote in Pennsylvania and Ohio.
- In exit polls, Trump got about 8% of the black vote.

1A 2016 Schield CTC1 15

### 4. Last-Week Deciders

Voters who said they were "undecided" until the election (last-week deciders) typically voted for Trump.

And they did so – by big margins!

State	Clinton	Trump	Margin
Wisconsin	30%	59%	29
Minnesota	31%	53%	22
Utah	19%	41%	22
Iowa	34%	54%	20
PA	37%	54%	17
Florida	38%	55%	17
Maine	33%	49%	16

1A 2016 Schield CTC1 16

### 5. Late-Breaking "Change" Ignored time

Predict	Ohio	Wisc	Penn	MI	Iowa	FL	GA	NC	Trump
8/12	2	1	1	1	4	3	4	3	12%
10/22	4	2	2	1	4	4	5	4	14%
11/05	6	3	4	4	7	5	6	5	35%
11/07	8	8	8	5	8	8	8	8	100%

Democrat Color Scale Republican

Should have "predicted" next week for each state.

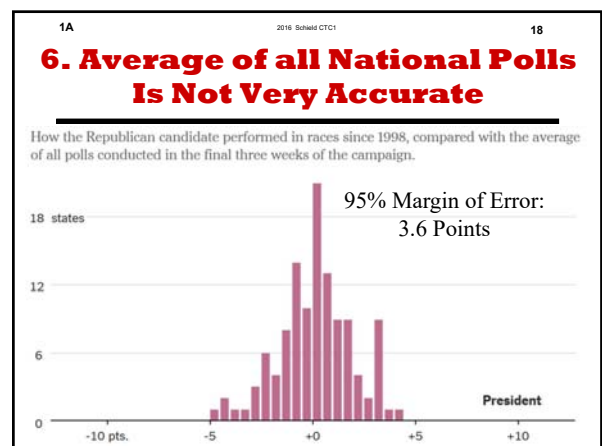
1A 2016 Schield CTC1 17

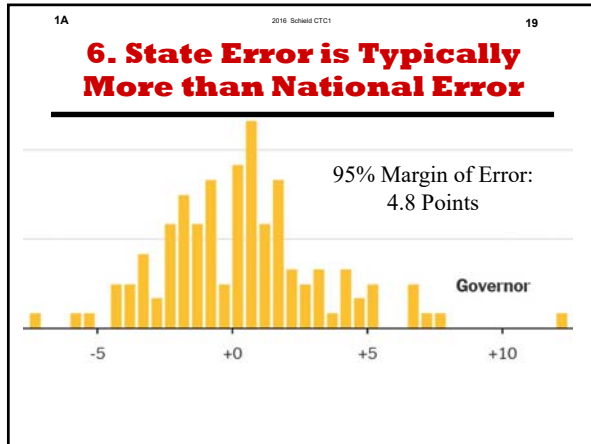
### 6. Average of all Polls Is Not Very Accurate

**SURVEY SAYS?**

When You Hear the Margin of Error Is Plus or Minus 3 Percent, Think 7 Instead

By DAVID RÖTHSCHILD and SHARAD GOEL  
OCT. 5, 2016





1A 2016 Schield CTC1 20

### 6. Election Polls are more 'Art' than 'Science'

We gave some good pollsters the same data.

Clinton +1	Clinton +4	Trump +1
Patrick Ruffini Echelon Insights	Margie Omero, Robert Green, Adam Rosenblatt Penn Schoen Berland Research	Sam Corbett-Davies, Andrew Gelman, David Rothschild Stanford University, Columbia University and Microsoft Research
67% white 14% Hispanic 12% black	65% white 15% Hispanic 12% black	70% white 13% Hispanic 14% black

They gave very different results!!!

1A 2016 Schield CTC1 21

### 7. Selection Bias. National Polls were OK

Nate Silver (11/08) predicted a 3.6 point margin for Hillary:

- Clinton: 48.5% Johnson 5.0%
- Trump: 44.9% Other: 0.6%

[http://projects.fivethirtyeight.com/2016-election-forecast/?ex\\_cid=rrpromo](http://projects.fivethirtyeight.com/2016-election-forecast/?ex_cid=rrpromo)

In fact, Hillary "won" by at least a 1.3 point margin:

- Clinton: 48.0% Other: 5.3%
- Trump: 46.7%

<http://cookpolitical.com/story/10174>

Readers are guilty of selection bias;

- Inferring Electoral-College win from Popular-Vote win.

1A 2016 Schield CTC1 22

### Conclusion

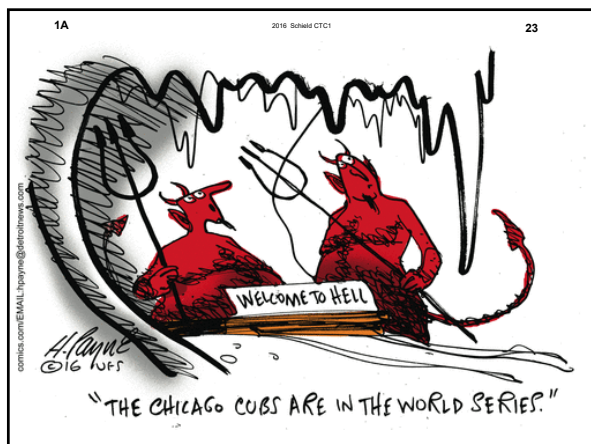
Election polls are closer to fortune telling to facts.  
Election polls are different (very different) from surveys!

**Surveys report! Election polls predict.**

Surveys never (almost) adjust.  
Election polls always adjust

Polls have to adjust

- to match the profile of those that will vote.
- for (how to allocate) the undecided.
- the non-response bias.



# **2016 US Presidential Election Why Are Polls So Wrong?**

---

**Milo Schield**  
**Augsburg College**

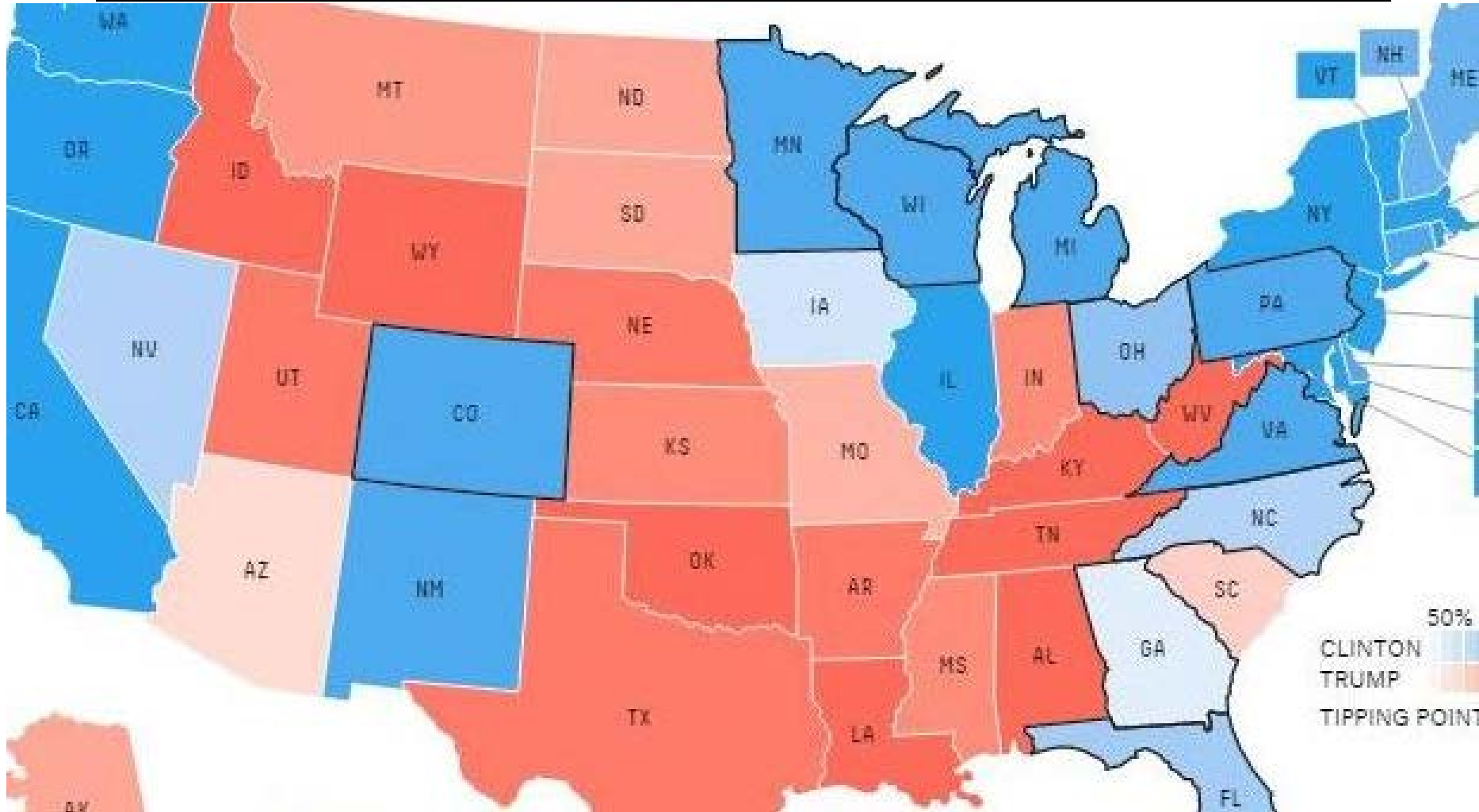
**Minneapolis**  
**Critical Thinking Club**

**Copy of these slides at:**

**[www.StatLit.org/pdf/2016-Schild-CTC1-Slides.pdf](http://www.StatLit.org/pdf/2016-Schild-CTC1-Slides.pdf)**

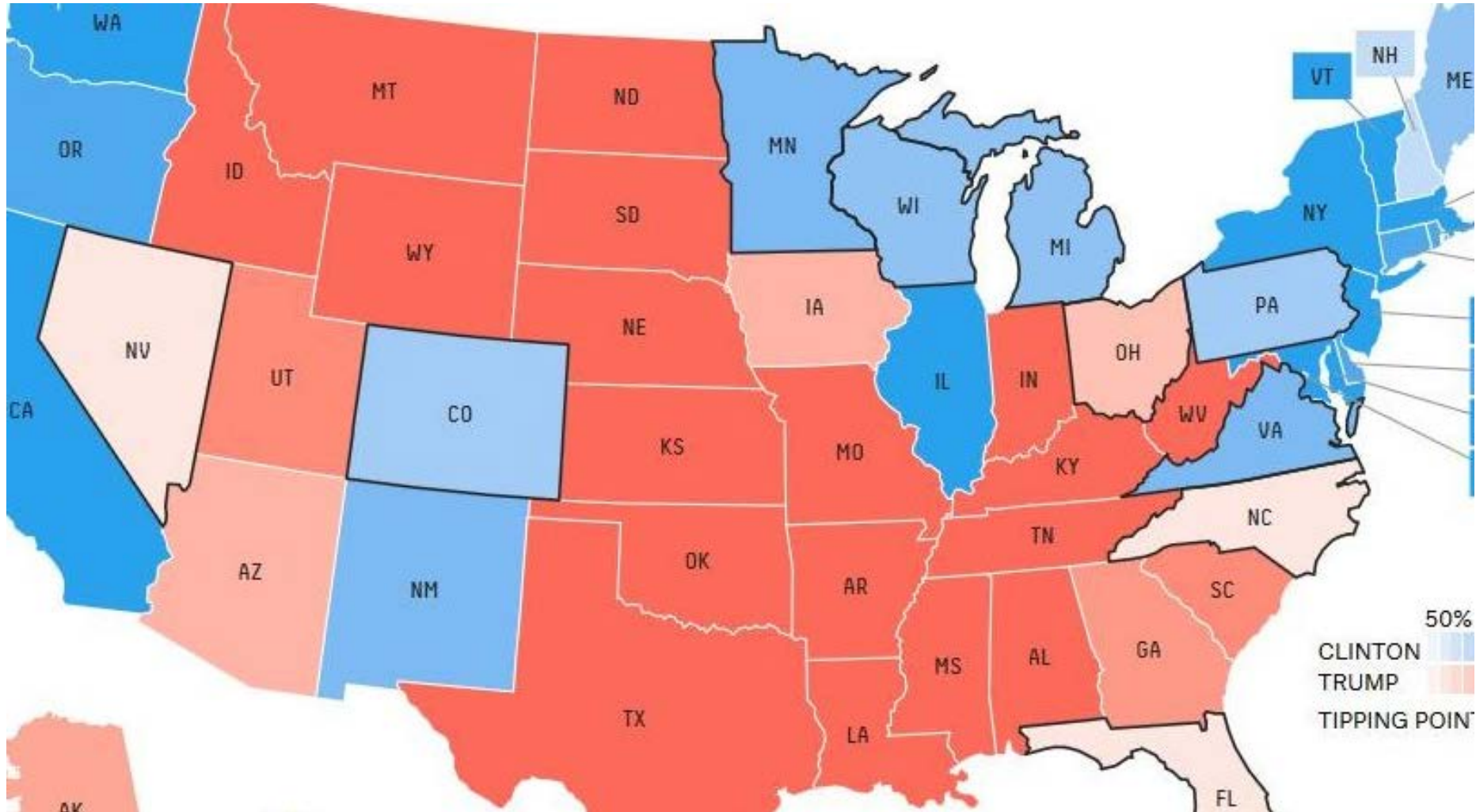
# 2016 Aug 12 Trump 12%

Nate Silver 538





# 2016 Nov 5 Trump 35% Nate Silver 538





# Final Tally

**228** Clinton

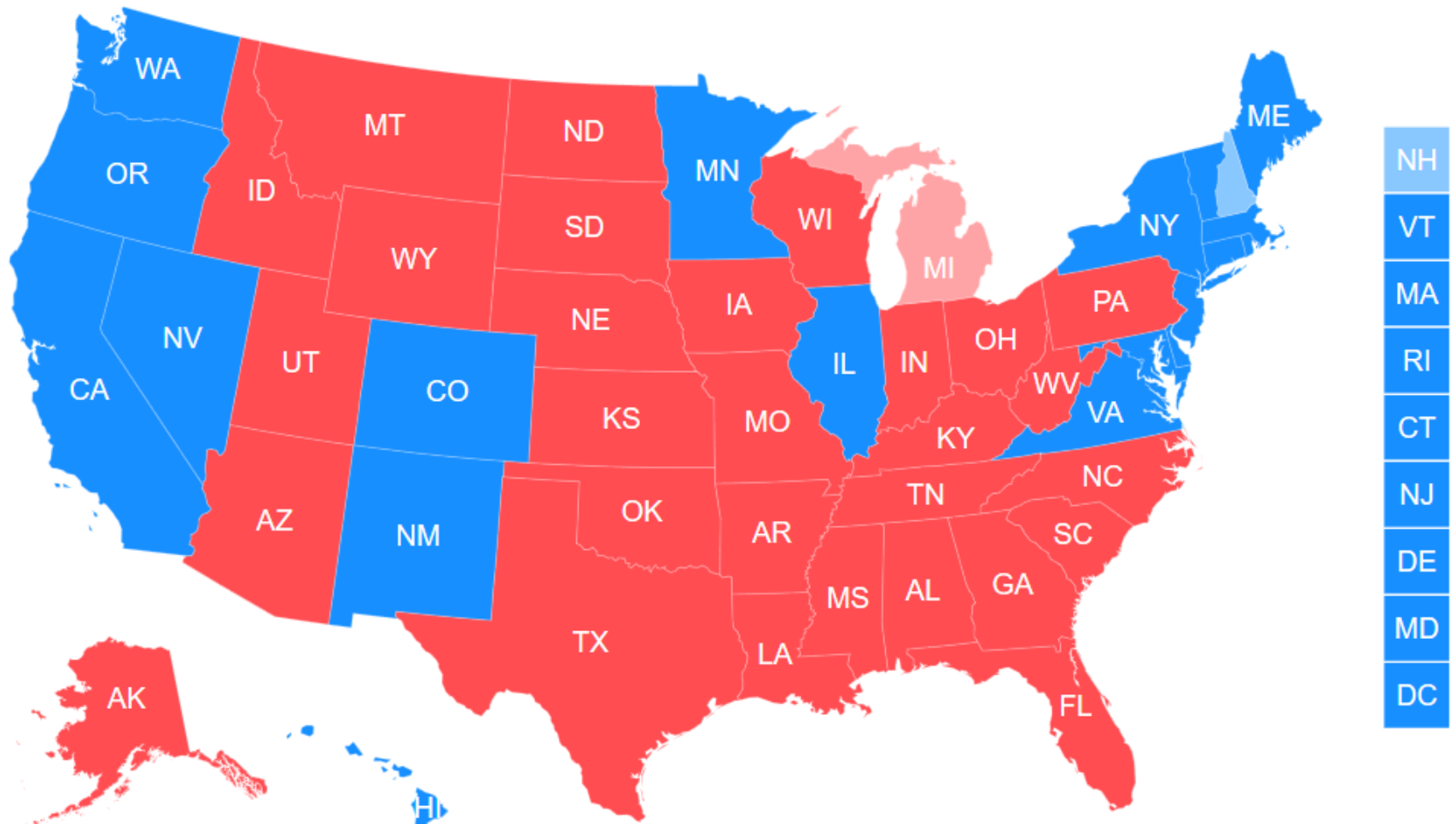
270 electoral votes to win

Trump **290**

60,467,245 (47.7%) popular votes

60,071,650 (47.4%) popular votes

■ Clinton wins ■ Clinton leads ■ No results ■ Trump leads ■ Trump wins































# How Far Off?

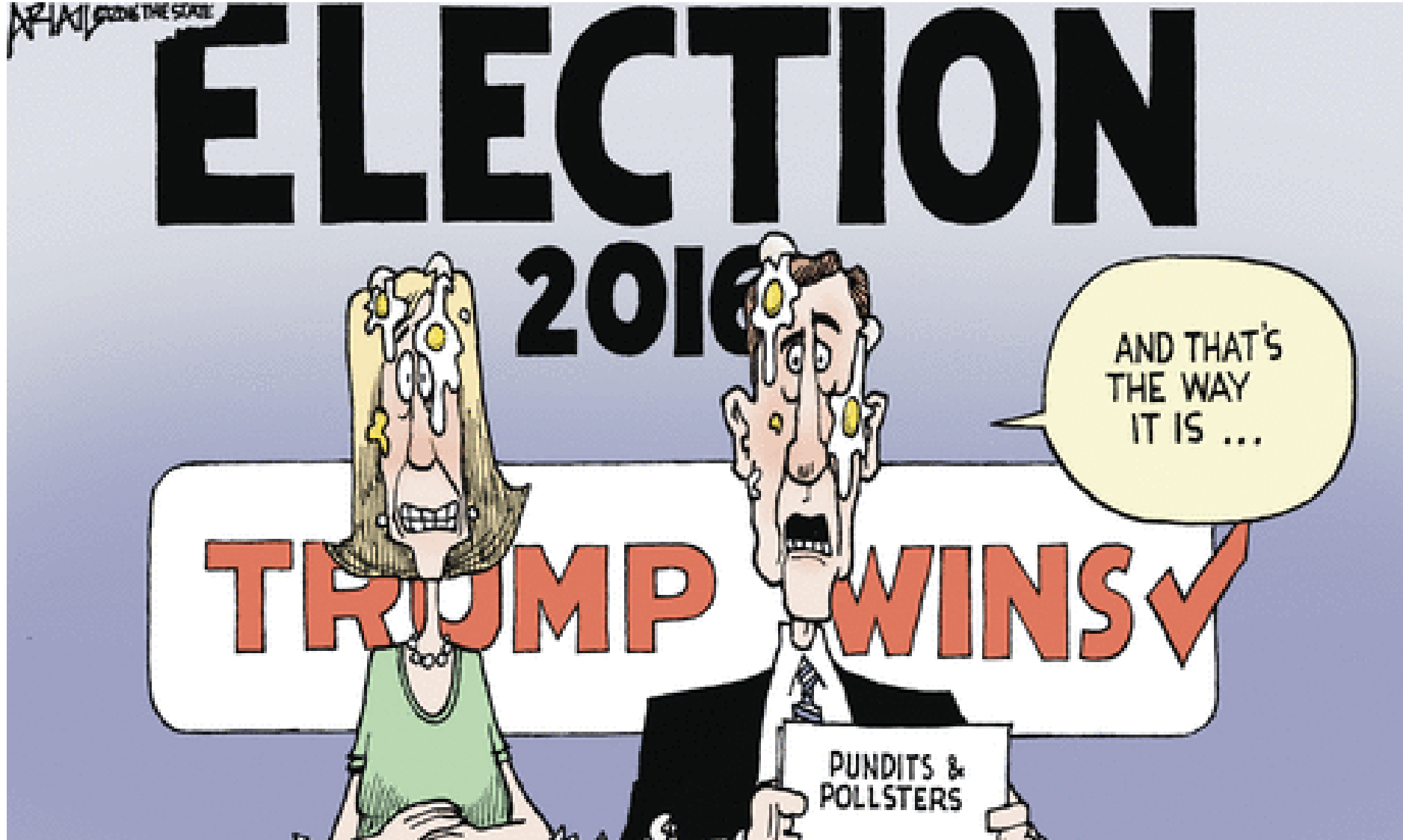
## Trump consistently outperformed polls in key states

● Trump

● Clinton

	POLL AVERAGE	POPULAR VOTE COUNT	DIFFERENCE
National polls	+3 	Even	+3 
Missouri	+9 	+19 	+10 
Wisconsin	+6 	+1 	+7 
Ohio	+2 	+9 	+7 
Iowa	+3 	+10 	+7 
Maine	+9 	+3 	+6 
Minnesota	+6 	+1 	+5 
Michigan	+3 	+1 	+4 
North Carolina	Even	+4 	+4 
Pennsylvania	+2 	+1 	+3 

# Blame the Polls



# Why the anti-Trump bias?

---

## *Some Plausible Explanations:*

1. Pollsters are liberals or have a liberal bias.
2. Ignored statistical margin of error (plus/minus 3 points)
3. Ignored correlation between state margins.
4. Big “Undecided” up to election day. [Allocated 50/50]
5. Ignored time. Predicted using static analysis.
6. Actual election-prediction error
7. Selection bias by everyone.

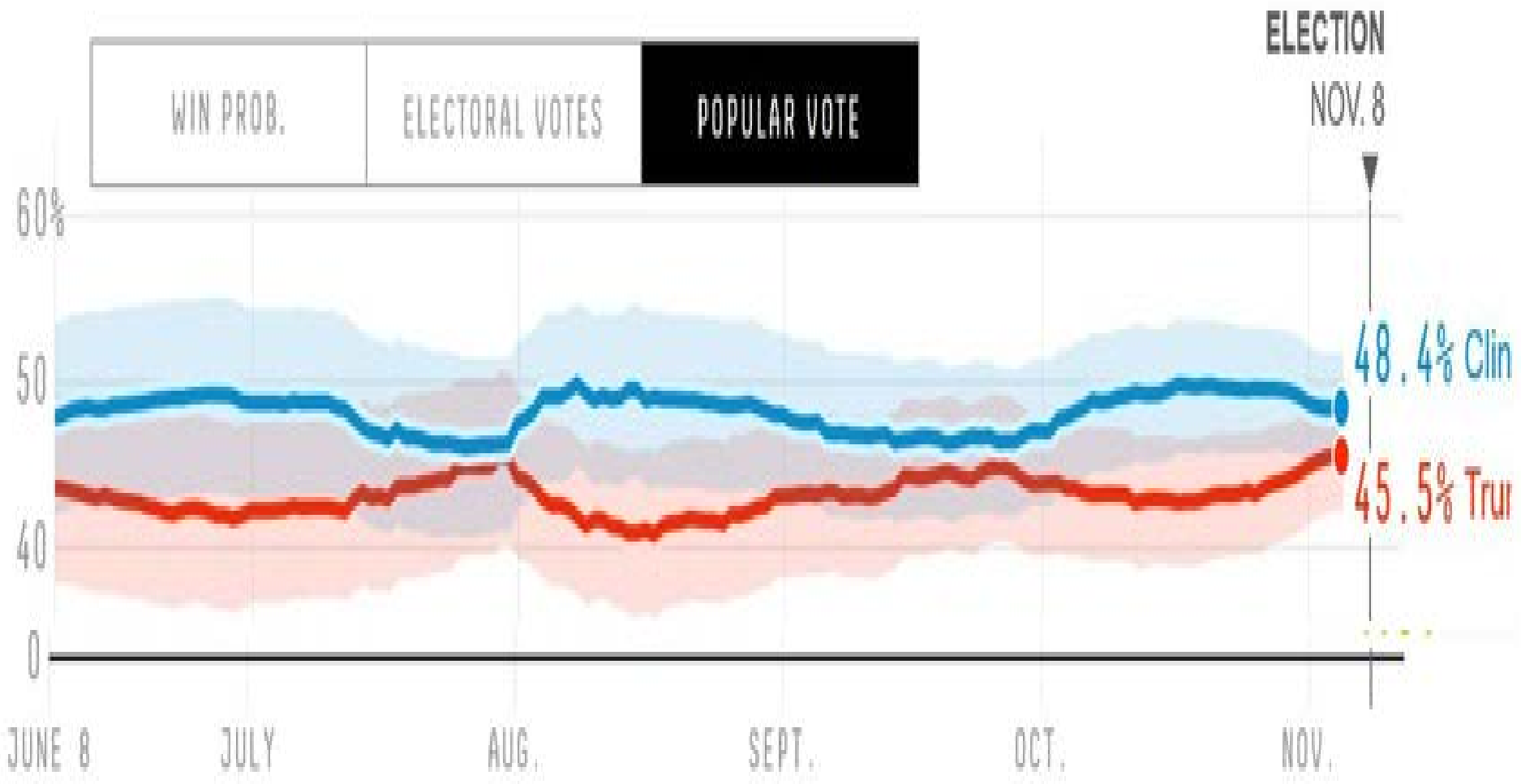
# 1. Liberal Bias

---

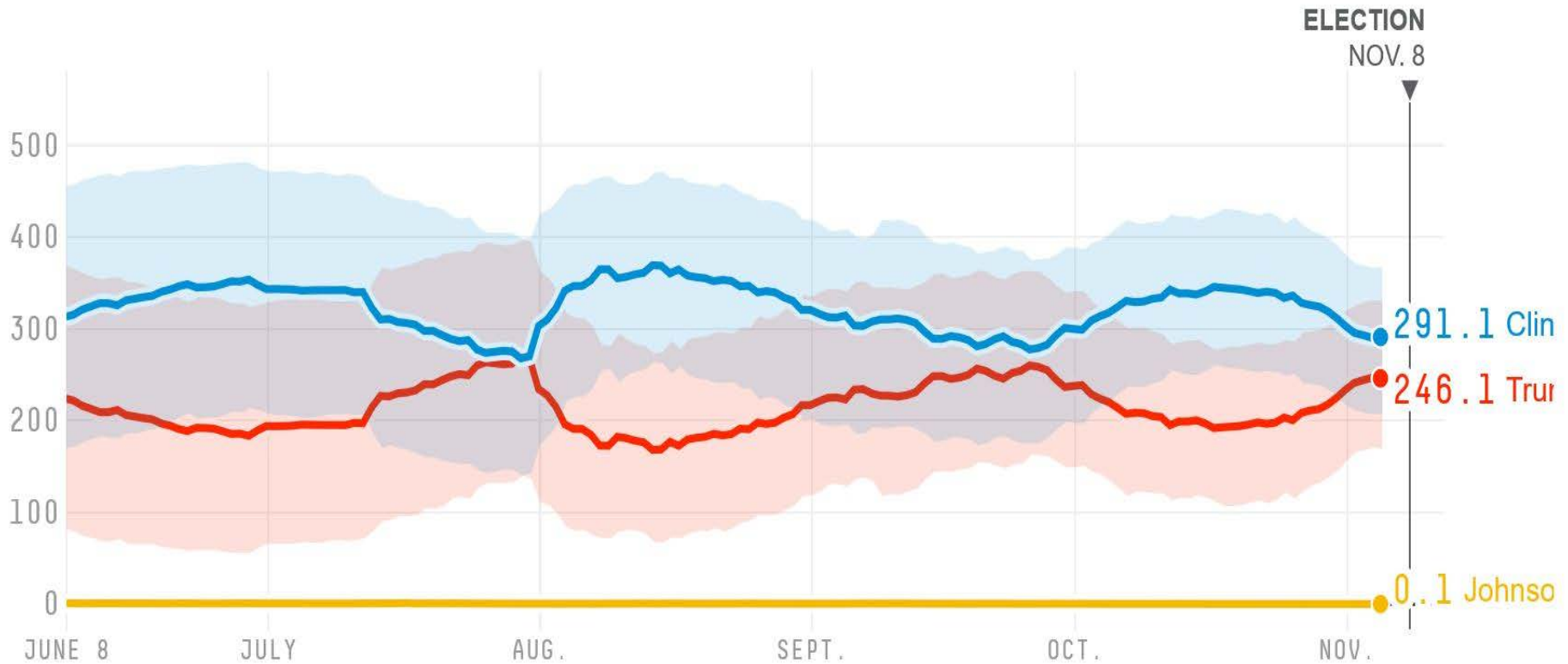
*Thank you Yahoo, Facebook, CBS, NBC, ABC, MSNBC, CNN for all your polls, statistics and spin. At least now we know the American people are not fooled by you.*

Comments: SilverWing [Viewed 11/11/16]  
<https://www.yahoo.com/news/elections>

# 2a Not Statistically Significant Popular Vote: 11/05



# 2b Not Statistically Significant Electoral Votes: 11/05



# 3. State Margins: Correlated

**OH-MI: 0.90**

**OH-WI: 0.86**

**MI-WI: 0.86**

**IA-WI: 0.84**

**IA-OH: 0.84**

**IA-MI: 0.83**

**MN-OH: 0.81**

**MN-WI: 0.80**

**MN-MI: 0.79**

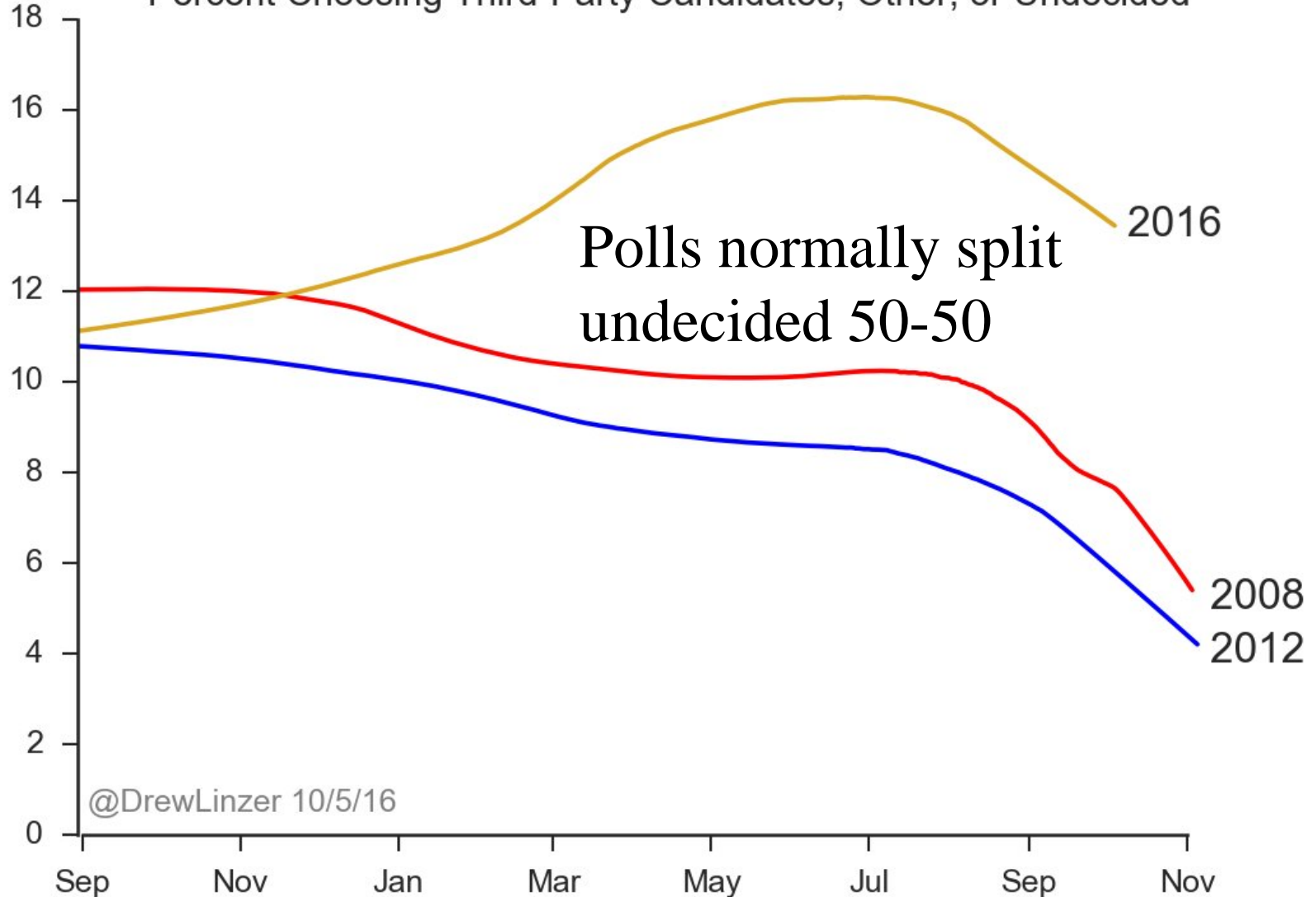
**PA-MN: 0.72**

		Maine	N. H.	Pennsylvania	Ohio	Michigan	Wisconsin	Minnesota	Iowa
NORTHEAST	Maine		.58	.46	.61	.61	.63	.57	.63
	N. H.	.58		.53	.63	.64	.69	.64	.70
	Pennsylvania	.46	.53		.64	.61	.62	.72	.56
MIDWEST	Ohio	.61	.63	.64		<b>.90</b>	.86	.81	.84
	Michigan	.61	.64	.61	<b>.90</b>		.86	.79	.83
	Wisconsin	.63	.69	.62	.86	.86		.80	.84
	Minnesota	.57	.64	.72	.81	.79	.80		.78
	Iowa	.63	.70	.56	.84	.83	.84	.78	



# 4. Undecided: Twice as big

National Presidential Polls:  
Percent Choosing Third-Party Candidates, Other, or Undecided



## **4. Undecided... Already Decided for Trump**

---

Some "undecided" voters had already decided in favor of Trump, but didn't want to admit it.

- Some polls showed Trump getting 0% of the black vote in Pennsylvania and Ohio.
- In exit polls, Trump got about 8% of the black vote.

## 4. Last-Week Deciders

Voters who said they were “undecided” until the election (last-week deciders) typically voted for Trump.

And they did so – by big margins!

State	Clinton	Trump	Margin
Wisconsin	30%	59%	29
Minnesota	31%	53%	22
Utah	19%	41%	22
Iowa	34%	54%	20
PA	37%	54%	17
Florida	38%	55%	17
Maine	33%	49%	16

# 5. Late-Breaking “Change” Ignored time

Predict	Ohio	Wisc	Penn	MI	Iowa	FL	GA	NC	Trump
8/12	2	1	1	1	4	3	4	3	12%
10/22	4	2	2	1	4	4	5	4	14%
11/05	6	3	4	4	7	5	6	5	35%
11/07	8	8	8	5	8	8	8	8	100%
	Democrat			Color Scale				Republican	
	1	2	3	4		5	6	7	8

Should have “predicted” next week for each state.

# 6. Average of all Polls Is Not Very Accurate

---

## SURVEY SAYS?

When You Hear the Margin  
of Error Is Plus or Minus 3  
Percent, Think 7 Instead

---

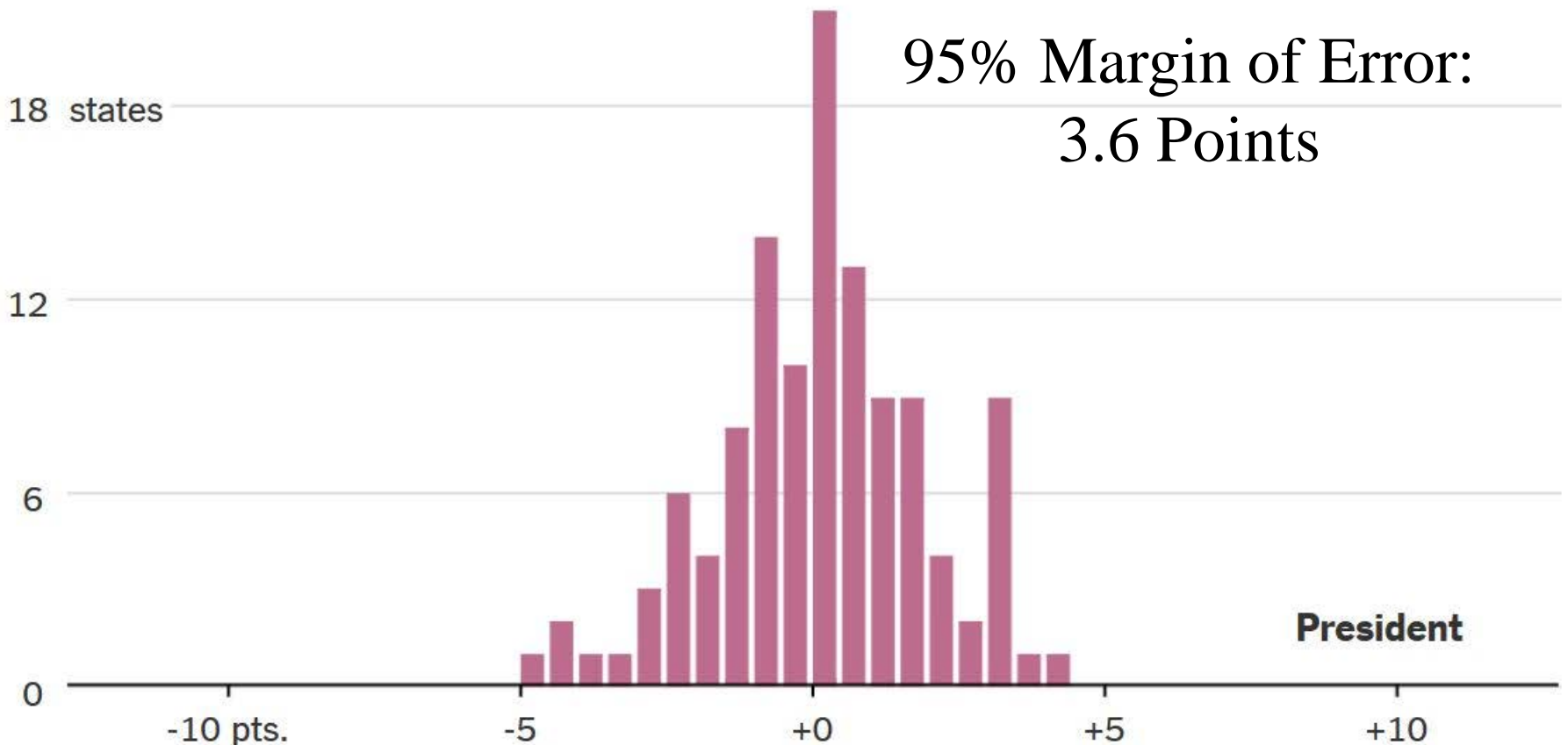
By **DAVID ROTHSCHILD** and **SHARAD GOEL**

OCT. 5, 2016

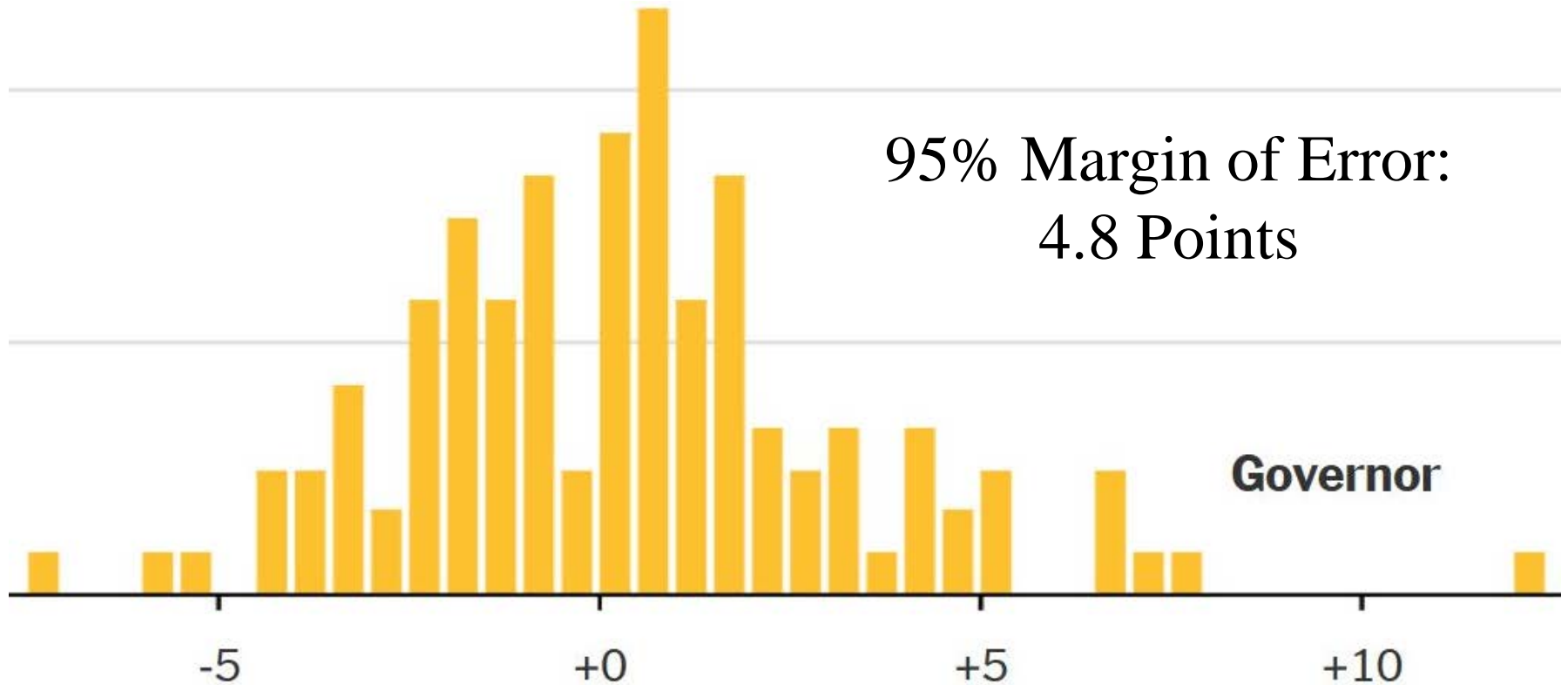


# 6. Average of all National Polls Is Not Very Accurate

How the Republican candidate performed in races since 1998, compared with the average of all polls conducted in the final three weeks of the campaign.





# 6. State Error is Typically More than National Error



# 6. Election Polls are more 'Art' than 'Science'

We gave some good pollsters the same data.

They gave very different results!!!

		
<b>Clinton +1</b>	<b>Clinton +4</b>	<b>Trump +1</b>
Patrick Ruffini Echelon Insights	Margie Omero, Robert Green, Adam Rosenblatt  Penn Schoen Berland Research	Sam Corbett-Davies, Andrew Gelman, David Rothschild  Stanford University, Columbia University and Microsoft Research
67% white 14% Hispanic 12% black	65% white 15% Hispanic 12% black	70% white 13% Hispanic 14% black



## **7. Selection Bias. National Polls were OK**

---

Nate Silver (11/08) predicted a 3.6 point margin for Hillary:

- Clinton: 48.5%                      Johnson 5.0%
- Trump: 44.9%                      Other: 0.6%

[http://projects.fivethirtyeight.com/2016-election-forecast/?ex\\_cid=rrpromo](http://projects.fivethirtyeight.com/2016-election-forecast/?ex_cid=rrpromo)

In fact, Hillary “won” by at least a 1.3 point margin:

- Clinton: 48.0%                      Other: 5.3%
- Trump: 46.7%

<http://cookpolitical.com/story/10174>

Readers are guilty of selection bias;

- Inferring Electoral-College win from Popular-Vote win.

# Conclusion

---

Election polls are closer to fortune telling to facts.

Election polls are different (very different) from surveys!

**Surveys report! Election polls predict.**

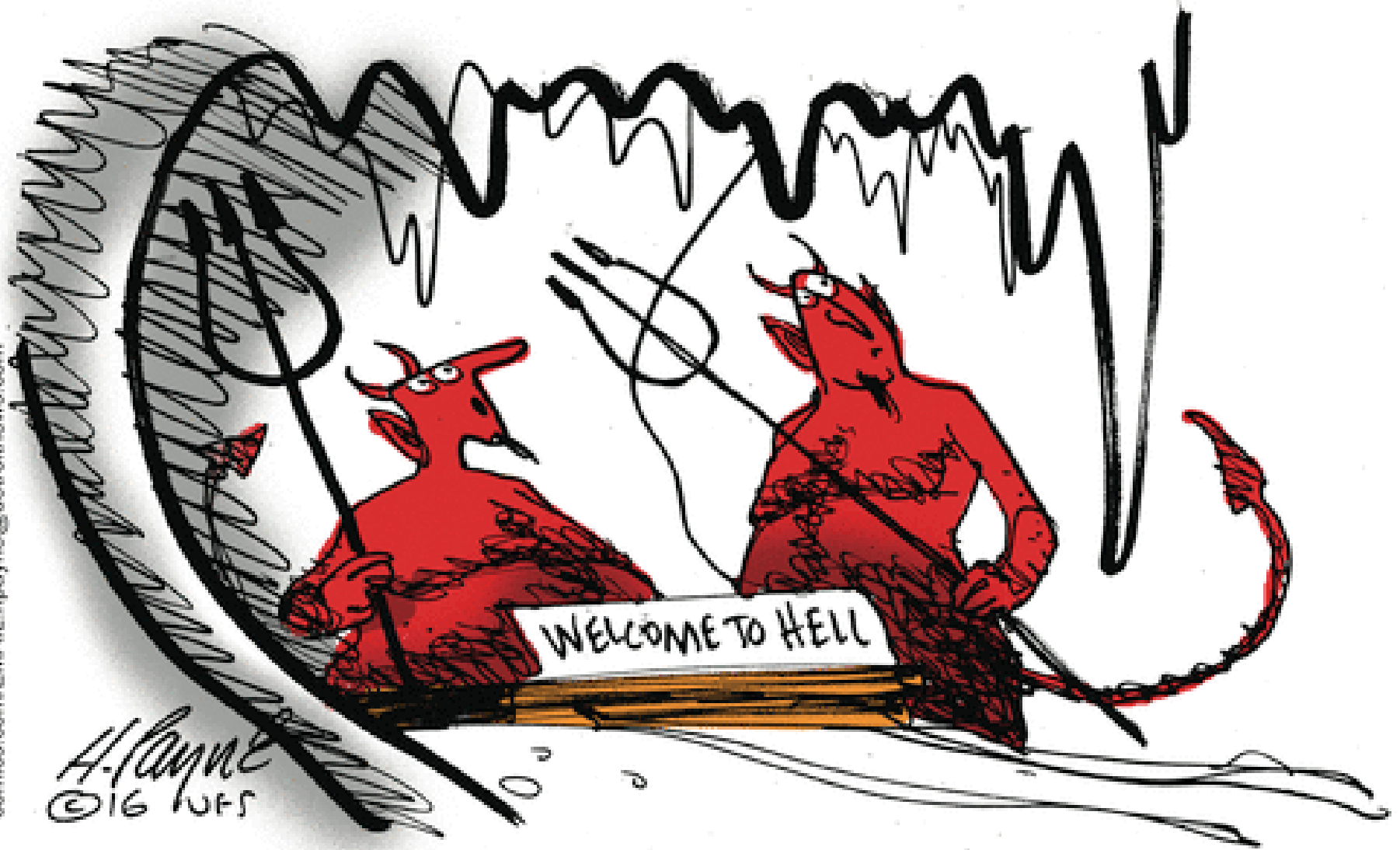
Surveys never (almost) adjust.

Election polls always adjust

Polls have to adjust

- to match the profile of those that will vote.
- for (how to allocate) the undecided.
- the non-response bias.

comics.com/EMAIL:hpayne@detroitnews.com



H. Payne  
©16 WFS

"THE CHICAGO CUBS ARE IN THE WORLD SERIES."

# Best Predictor? Halloween Mask Sales

---

