

The Middle Opinion. USA 2020.

<https://sites.google.com/site/gordonburtmathsocsci/the-middle-opinion-usa-2020>

Chapter 3a

The will of the people, 2020

Introduction

The will of the people
Ordinary language and under-conceptualisation ...
... surface words and underlying concepts
“Devaluing the debate” about opinion polls
Ordinary language and under-conceptualisation ...
... surface numbers and underlying concepts

Statistical analysis
Opinions in political space
The whole population
Subgroups: opinions in social space
Opinions over time

Nate Silver’s 538, November 3rd and November 7th
US elections: Trump’s statement in full, 4th November 2020

Perceptual bias, parties and winners/losers: free and fair elections, 1992-2020

Introduction

I shall be producing a full analysis of the election results in due course and this will form Chapter 3 of the book. In the meantime ...

The will of the people

“... no clear answer to the question of what a majority favours ...”

The Will of the People: a Modern Myth
Albert Weale. Cambridge, Polity Press: 2018.
<https://www.amazon.co.uk/Will-People-Modern-Myth/dp/1509533265>

“Democracies today are in the grip of a myth: the myth of the will of the people. Populist movements use the idea to challenge elected representatives. Politicians, content to invoke the will of the people, fail in their duty to make responsible and accountable decisions. And public contest over political choices is stifled by fears that opposing the will of the people will be perceived as elitist. In this book Albert Weale dissects the idea of the will of the people, showing that it relies on a mythical view of

participatory democracy. As soon as a choice between more than two simple alternatives is involved, there is often no clear answer to the question of what a majority favours. Moreover, because governments have to interpret the results of referendums, the will of the people becomes a means for strengthening executive control - the exact opposite of what appealing to the people's will seemed to imply. Weale argues that it's time to dispense with the myth of the will of the people. A flourishing democracy requires an open society in which choices can be challenged, parliaments strengthened and populist leaders called to account.”

Ordinary language and under-conceptualisation surface words and underlying concepts

‘The will of the people’ is a phrase of words in ordinary language. What Albert Weale’s book shows is that it is a phrase of words that is under-conceptualised. Other phrases in ordinary language are also under-conceptualised. There is a need to go beyond these surface words and identify the underlying concepts.

Similar in form to the phrase ‘the will of the people’ is the phrase ‘the soul of the nation’. A key notion in international relations is ‘the national interest’. In its most abstract form the underlying concept involved here is as follows: an attribute variable X and a set S of individuals; each individual i has attribute a_i ; so set S has a distribution of attributes $\{a_i\}$.

A society has a distribution of opinions.
A society has a distribution of wills.
A society/nation has a distribution of souls.
A nation has a distribution of interests.

The question then is: how might we move from a distribution of attribute values to a single attribute? ... how might we define the attribute – the single attribute - of the set? How might we define ... ‘the will of the people’? ... ‘the soul of the nation’? We might refer to a rule by which this is done as a *social attribution function*. A particular case of this is the social choice function which is a central concept in social choice theory.

Consider now the phrase ‘we the people’. Following the line of reasoning above, what one can say is that ‘we the people’ have a distribution of opinions. Similarly ‘all the people’ have a distribution of opinions ... ‘all Americans’ have a distribution of opinions. ‘The people have chosen’ ... the people have expressed a distribution of opinions D and a social choice function specifies that a distribution D gives rise to a selected option C .

“Devaluing the debate” about opinion polls

“US election polls

Sir, It is clear that the errors made by US polls last week need to be investigated. However, those errors should not be exaggerated. The national polls predicted on average that Joe Biden would win the popular vote by 54-46 per cent of the two-party

vote; it now looks as if he has won by 52-48%. The two point error is politically very significant but statistically less so.

Assuming Biden wins Arizona and Georgia the polls also predicted the right winner in 48 out of 50 states (admittedly overstating Biden's lead in most of the battleground states).

Of course the polls should be held to account for their mistakes but we need to get away from crude judgments of whether polls are right or wrong. Polls are seldom precisely accurate and seldom totally wrong. Veering between blind faith in their figures before an election and outright condemnation afterwards is a mistake. It devalues the debate we need about how to assess data that, for all their faults, provide the least bad way of assessing public opinion.

Peter Kellner

Former president, YouGov"¹

Ordinary language and under-conceptualisation surface numbers and underlying concepts

What Peter Kellner is arguing is that the ordinary language discussion of the numbers produced by opinion polls is under-conceptualised. Other discussions of numbers in ordinary language are also under-conceptualised. There is a need to go beyond the surface discussion of numbers and identify the underlying concepts.

Turnout

Still counting ...

Some of the numbers mentioned in the discussion of the election related to turnout. Over 140 million people voted. This is the largest number in the history of the USA. The number here concerns size ...

"The sheer number of votes also set records, although that's a **less remarkable milestone** given the country's growing population. So far 148 million votes have been tallied, with Democrat Joe Biden winning more than 75 million — the highest number for a presidential candidate in history. Trump received more than 70 million — the highest total for a losing candidate."

... going beyond the surface notion of size and underlying concept is the relative size: the turnout was 62%. The turnout was the largest since 1968.²

One of the candidates tells us that they have received over 70 million votes. This is a one-sided number because it does not tell us how many votes the other candidate received. In fact the other candidate also received over 70 million votes. Of interest is the relative size of the vote, firstly as a difference: one candidate gained 4 million votes more than the other candidate ... and secondly as a percentage.

The point is that there are conceptual relationships between the numbers and these relationships in some sense explain the numbers. The equations below show how the

¹ Kellner, Peter, "Letters to the Editor. US election polls." *The Times*, November 10, 2020: 32.

² AP News, Nov 9 2020, Nicholas Riccardi, <https://apnews.com/article/referendum-on-trump-shatter-voter-record-c5c61a8d280123a1d340a3f633077800>

vote for a candidate depends on candidate's share of the vote, the percentage turnout and the size of the electorate. Citing just one of the numbers on its own can be misleading if its relationship to the other numbers is not known.

vote for candidate A = candidate A share x turnout
turnout = % turnout x size of the electorate

vote for candidate A = candidate A share x % turnout x size of the electorate

One-term presidents

News commentary suggested the rarity of one-term presidents. However the sample size is small and so one-term presidents are not as rare as it might seem – see Chapter 3.

Consider the statement: for the first time in 28 years an incumbent president has failed to be re-elected. The numbers 1 in 28 sounds a lot, but in a sense it is just 1 in 4. The percentage of one-term presidents is 25%. In 1993 George HW Bush failed to get re-elected. Since then Bill Clinton, George W Bush and Barack Obama were successful in being re-elected. So, out of the last four presidents, one has been one-term ... For the fourth time in 107 years an incumbent president has failed to be re-elected. The numbers 4 in 107 sounds a lot, but the proportion is the same as 1 in 28. In 1913 William Howard Taft failed to get re-elected. Since then four have failed to get re-elected: Herbert Hoover in 1933 and Jimmy Carter in 1981; and George W Bush in 1993 and now Donald Trump in 2020.³

Election night claims

On election night many statements were made before all the votes had been counted. President Trump was not by any means alone in making claims that would turn out to be false or inaccurate when the counting had been completed. Indeed it is very difficult not to watch the numbers coming in and not be irrationally influenced by them.

Voting, when and how

Roughly a third voted in each of the three main ways: 30% in person on election day; 30% voted in person early; and 41% voted by mail. These groups voted 33% for Biden and 65% for Trump; 47% for Biden and 52% for Trump; and 67% for Biden and 31% for Trump, respectively.⁴

The consequence was that early vote counts favoured Trump but then Biden caught up as the mailed votes were counted. This was a widely anticipated phenomenon and had been identified in opinion polls which asked people how they intended to vote and was referred to as 'the blue wave'.

³ *The Observer*, November 6, p. 6.

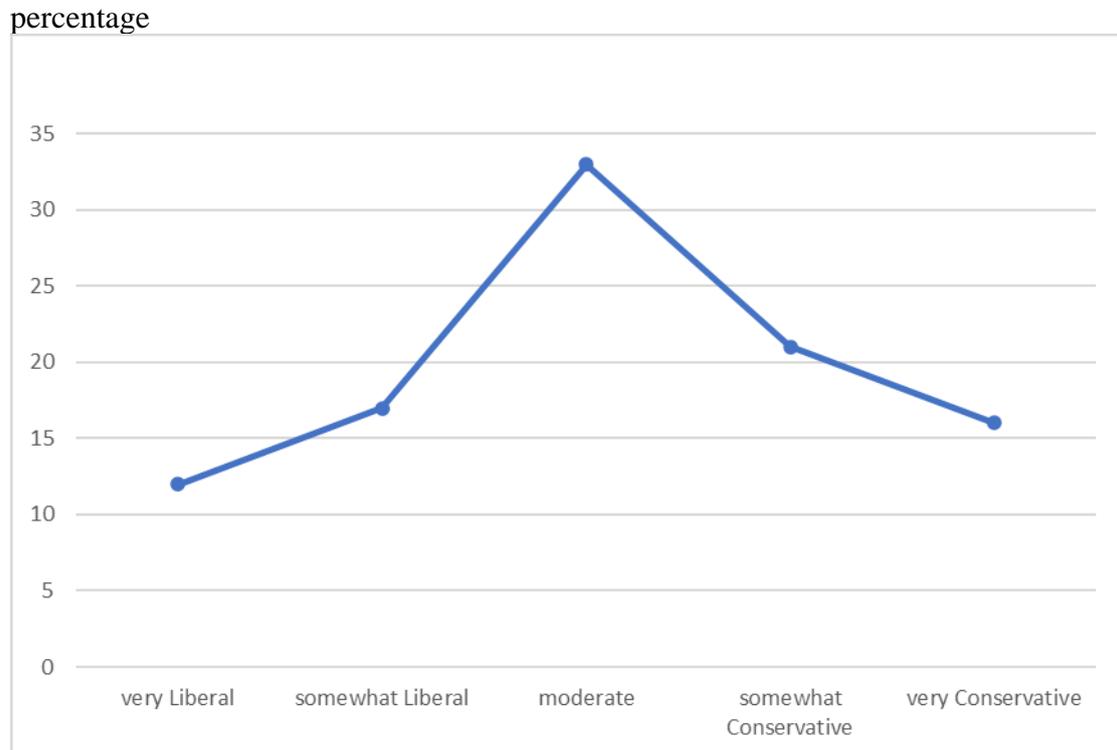
⁴ *The Times*, November 7, p. 6.

Statistical analysis

Opinions in political space⁵

The distribution of opinion over the political spectrum is shown in Figure 1. It is single-peaked with the peak in the middle option, 'moderate', somewhat skewed to the positive end.

Figure 1 The distribution of opinion over the political spectrum



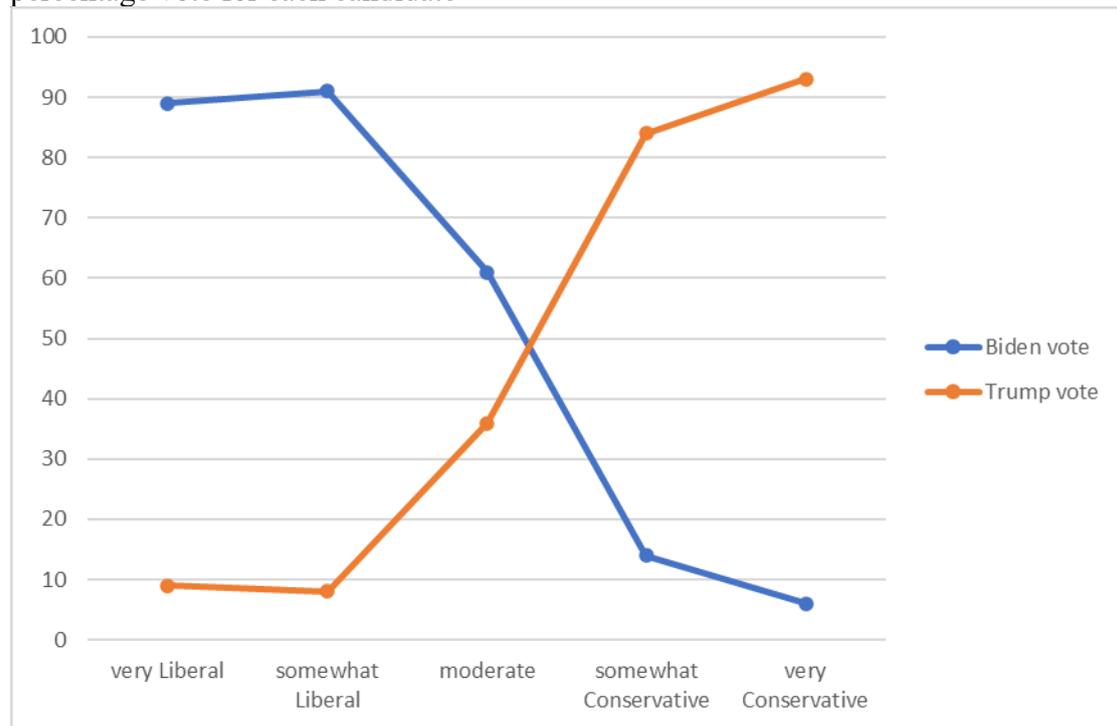
The presidential vote depends on position in political space. The Biden vote decreases as one goes from Left to Right; and the Trump vote increases as one goes from Left to Right. See Figure 2.

⁵ APvotecast

<https://www.npr.org/2020/11/03/929478378/understanding-the-2020-electorate-ap-votecast-survey?t=1605001762378>

Figure 2 The presidential vote depends on position in political space

percentage vote for each candidate



We now apply our customary *underlying distribution approach*. The options are bipolar and so we take $[-1,+1]$ as the underlying scale. Five options give five intervals on the scale. The scale is of length 2 and so the intervals are of length 0.4. These intervals have five midpoints. Thus:

very Liberal	somewhat Liberal	Moderate	somewhat Conservative	very Conservative
$[-1,-0.6]$	$[-0.6,-0.2]$	$[-0.2,+0.2]$	$[+0.2,+0.6]$	$[+0.6,+1.0]$
-0.8	-0.4	0	+0.4	+0.8

The percentage responses to these options were:

very Liberal	somewhat Liberal	Moderate	somewhat Conservative	very Conservative
12	17	33	21	16

The mean is $+0.048$. This is very close to the mean of $+0.06$ obtained in a quite independent survey in August 2020. This comparison shows how the underlying distribution approach allows us to make comparisons between studies even when as here different studies use different numbers of options (five options here and seven options in the August 2020 study).

The standard deviation is 0.49 which is about half the maximum possible. The skewness is low at -0.12 , reflecting the fairly symmetric aspect of the distribution. The polarisation $s^*=s=0.49$ which is the single-peaked side of the uniform distribution (which has $s^*=2/3$), again as evidenced by Figure 1.

Mathematics

Note: $s^*=s/\max(s)$ where s is the standard deviation and $\max(s)$ is the maximum possible standard deviation. So $0 \leq s^* \leq 1$. A uniform (flat) distribution gives $s^*=2/3$. Below $s^*=2/3$, a distribution is more single-peaked than flat;

and above $s^*=2/3$, a distribution is more polarised than flat. If the interval is $[0,1]$, $\max(s)=1/2$. If the interval is $[-1,+1]$, $\max(s)=1$. A flat distribution can be regarded as the borderline case between single-peaked distribution and polarised distributions. So the measure s^* can be used as an index of polarisation with $s^*=2/3$ as a borderline between ‘polarised’ and ‘non-polarised’.
 PS in earlier work, I used a different definition of polarisation. Other chapters need correcting and updating.

Location of candidates on the Liberal-Conservative continuum

An opinion poll in August also provided evidence about locations in political space. On a liberal-conservative rating scale from 1, ‘very liberal’ (L), to 7, ‘very conservative’ (C), the mean respondent places Biden B at 2.8 (was 3.2); their ideal candidate at 4.2 (was 4.3); and Trump T at 5.7 (was 5.6) ... in July 9 (was March 1) 2020. The ideal candidate X* is in the middle M of the scale (just 0.2 to the right) and the two candidates are equidistant from that (distant 1.4 and 1.5 respectively) and about halfway between the middle and the extreme (1.8 and 1.4 from the extreme respectively, respectively).⁶

Transforming the scale to the interval $[-1,+1]$ and taking the seven ratings 1, 2, 3, 4 ... 7 to be the midpoints -0.86, -0.58, -0.29, 0, ... of the intervals $[-1,-0.72]$, $[0.72,-0.43]$, $[-0.43,-0.14]$, $[-0.14,+0.14]$, ... etc., gives the following:

L	B	M	X*	T	C
-1	-0.34	0	0.06	+0.49	+1

The whole population

There is talk about a divided society, a lack of consensus. How much consensus or agreement is there? Total consensus would be 100% vote for one of the candidates. Total lack of consensus would be the vote evenly split between the candidates.

There is almost total consensus that Trump and Biden are the two main candidates: together they have a combined percentage of above 95% of the vote. Between the two main candidates there is an almost total lack of consensus with Biden slightly more than 50% and Trump somewhat less than 50%. This situation however is no different from any other USA election – although the ‘other candidates’ percentage does vary over different elections; as does the gap between the two main candidates. See Chapter 4.

Subgroups: opinions in social space⁷

Social categories divide the population into social groups. There is variation within groups and variation between groups.

⁶ Source: Morning Consult ... *The Times* 20 August 2020, p. 30.

⁷ APvotecast

<https://www.npr.org/2020/11/03/929478378/understanding-the-2020-electorate-ap-votecast-survey?t=1605001762378>

How much consensus or agreement is there within groups? As with the whole population which was discussed in the previous section, in many groups there is an almost total lack of consensus. There are 21 groups with Biden percentages in the range 40-59 (underlined below); 10 groups with Biden percentages in the range 30-39 or 60-69; 4 groups with Biden percentages in the range 20-29 or 70-79; no groups with Biden percentages in the range 10-19 or 80-89; and 3 groups with Biden percentages in the range 0-10 or 90-100, almost total consensus. Greater consensus is to be found in smaller groups, in particular in ‘intersection groups’ (combining two attributes such as ‘white and male’).

The groups with greater within group agreement (in other words being more one-sided for one of the candidates) are: gender other (70% for Biden), African American or Black (90), Asian (70), Mormon (24), Religion none (72), Democrat/Lean Democrat (95) and Republican/Lean Republican (8).

Percentages for Biden in various subgroups are:

- . gender age ethnicity
46, 55, 70*; 61, 54, 48, 48; 43, 90*, 63, 70*, 45, 36, 51;
- . education income urban/rural religion
46, 48, 56, 58; 53, 48, 51; 65, 54, 43, 33; 38, 49, 24*, 41, 68, 64, 61, 72*;
- . party affiliation
95*, 8*, 51.

The Biden percentages for the three income subgroups are 53, 48 and 51. The between group range is 5, taking the difference between 48 and 53.

Percentages for Trump in various subgroups are:

- . gender age ethnicity
52, 44, 24*; 36, 43, 51, 51; 55, 8*, 35, 28*, 52, 59, 44;
- . education income urban/rural religion
52, 50, 42, 40; 45, 50, 47; 33, 44, 55, 65; 61, 50, 71*, 57, 30, 35, 36, 26*;
- . party affiliation
4*, 91*, 37.

The percentage p provides one measure of within-group agreement/disagreement. Another measure is the standard deviation $s = \sqrt{pq}$, where $q = (1-p)$.

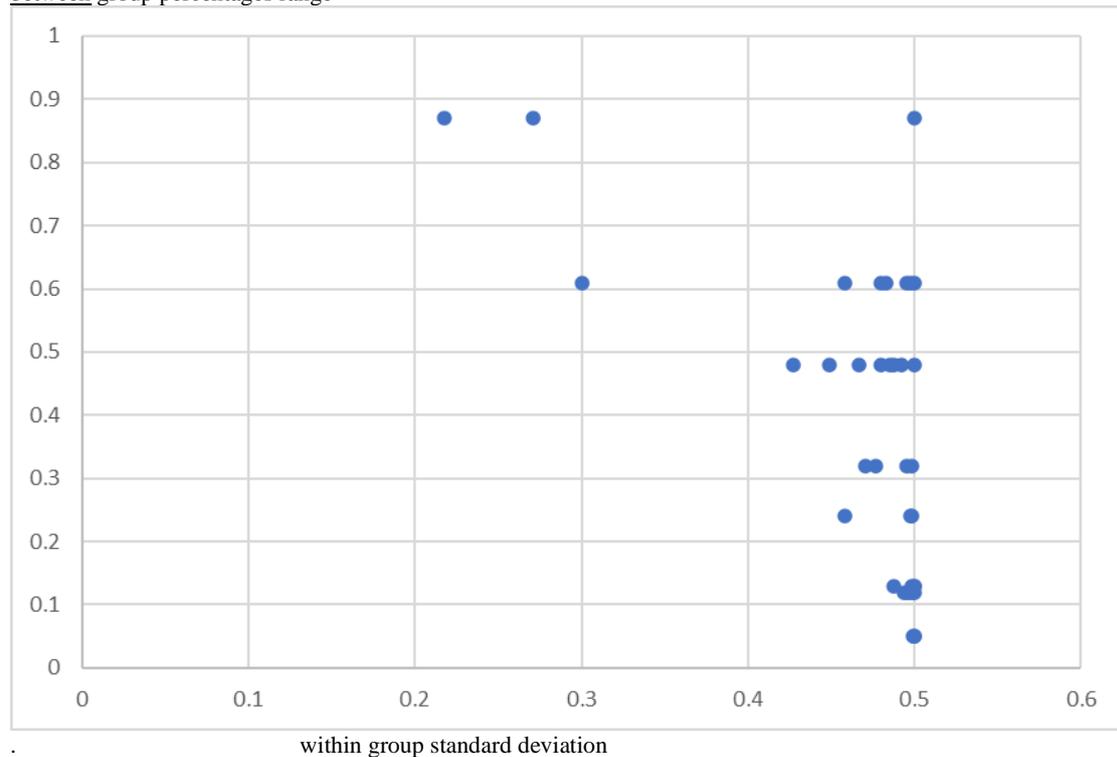
The social dimensions with greater between group agreement (in other words having lower between group percentages range) are: income (5)*, education (12), age (13), gender (8 or 24), urban-rural (32), religion, (45), ethnicity (64) and party (87).

*The Biden percentages for the three income subgroups are 53, 48 and 51. The between group range is 5, taking the difference between 48 and 53.

We now compare within-group agreement and between-group agreement. In most cases, within-group agreement is low with standard deviations being between 0.4 and 0.5, with 0.5 being a maximum (in percentages between 40% and 50%). Given the percentages in the previous paragraph, in many cases within group differences are greater than between group differences.

Figure 3 Within group standard deviations and between group percentages range

between group percentages range



Opinions over time⁸

Sometimes the past is the best prediction of the future. This is the case here: the best prediction of the voting in 2020 is the voting in 2016. Table 1 gives the transition matrix. Almost all Trump and Clinton/Democrat voters stayed loyal, 93% and 96% respectively. Most defectors went to the opposite side, 6% of Trump to Biden; and 3% of Clinton to Trump – with just 1% going elsewhere. Of those who voted for someone else in 2016, 17% stay loyal to some third candidate in 2020, but of the rest twice as many went to Biden (56%) as to Trump (27%). Of those who did not vote in 2016 more went to Biden (56%) than to Trump (41%) and just 3% to some other candidate. Note: the sample slightly under-represents Clinton voters in 2016 as against Trump voters in 2016 (38% v. 41%).

Table 1 Transition matrix for voting between 2016 and 2020.

	voting in 2016	voting in 2020			total
		Biden	Trump	other	
Clinton	38	96	3	1	100
Trump	41	6	93	1	100
other	6	56	27	17	100
didn't vote	15	56	41	3	100
total	100				

⁸ APvotecast

<https://www.npr.org/2020/11/03/929478378/understanding-the-2020-electorate-ap-votecast-survey?t=1605001762378>

Nate Silver's 538, November 3rd and November 7th

Nate Silver's 538 has a number of interesting web pages ...

... on November 3rd 538 gave Joe Biden an 89% chance of winning the college votes:

Latest news

NOV. 3, 2020

Our 2020 forecasts — presidential, Senate, House — are all now officially frozen, meaning we won't be ingesting any new polls or updating the odds in any race. Instead, follow along [on our Election Day Live blog](#) as we track results in real-time. At the end of a loooooong campaign, here's where we stand: [Joe Biden is favored to beat President Trump](#) (though Trump still has a 1-in-10 chance); [Democrats have a 3-in-4 shot at taking back the Senate](#); and the [House will most likely remain under Democratic control](#) (Democrats might even expand their majority by a few seats). The big picture is clear: [The overall electoral environment favors Democrats](#), which is one reason they have decent odds of controlling the presidency, Senate and House (a 72 percent chance, according to our forecast). Of course, there's always the chance of a polling error, which tends to be [correlated from state to state](#) when it happens. Trump [needs a bigger-than-normal error](#) in his favor, but the real possibility that polls are underestimating Trump's support is why he still has [a path to win reelection](#). A 10 percent chance of winning is not a zero percent chance. In fact, that is roughly the same odds that it's raining in downtown Los Angeles. And it *does* rain there. (Downtown L.A. has [about 36 rainy days per year](#), or about a 1-in-10 shot of a rainy day.)

- According to our final presidential forecast, Pennsylvania is the most likely tipping-point state, and a lot of Biden's chances in the Electoral College hinge on what happens in the Keystone State. He leads Trump there [by about 5 points in our polling average](#), but it's not as large a margin as Biden might like.

... and on 7th November 538 said it was a pretty convincing win for Biden in the end https://fivethirtyeight.com/features/a-pretty-convincing-win-for-biden-and-a-mediocre-performance-for-down-ballot-democrats/?cid=referral_taboola_feed

US elections: Trump's statement in full; 4th November 2020⁹

"With millions of legitimate ballots left to count, Donald Trump has declared an unsupported victory. "Frankly we did win this election," he claims, speaking in subdued tone. He suggests - without evidence - that election "fraud" has occurred. "This is an embarrassment to our country," he says, adding that he plans to go to the Supreme Court to fight election results. Millions of votes in the 2020 election are yet to be counted and the president has no credibility in claiming a victory.

Trump has taken the podium in the White House's East Room. He starts by thanking his family, and the millions of supporters who turned out for him tonight. "We were getting ready for a big celebration," he says. "We were winning everything." Taking a triumphant tone, Trump celebrates his big win of the night in Florida. "We didn't win it, we won it by a lot," he says. He also claims a lead in Pennsylvania - just like rival Joe Biden did earlier on election night. It is still too early to determine a winner in the state."

⁹ BBC <https://www.youtube.com/watch?v=KtNZV7gezMM>

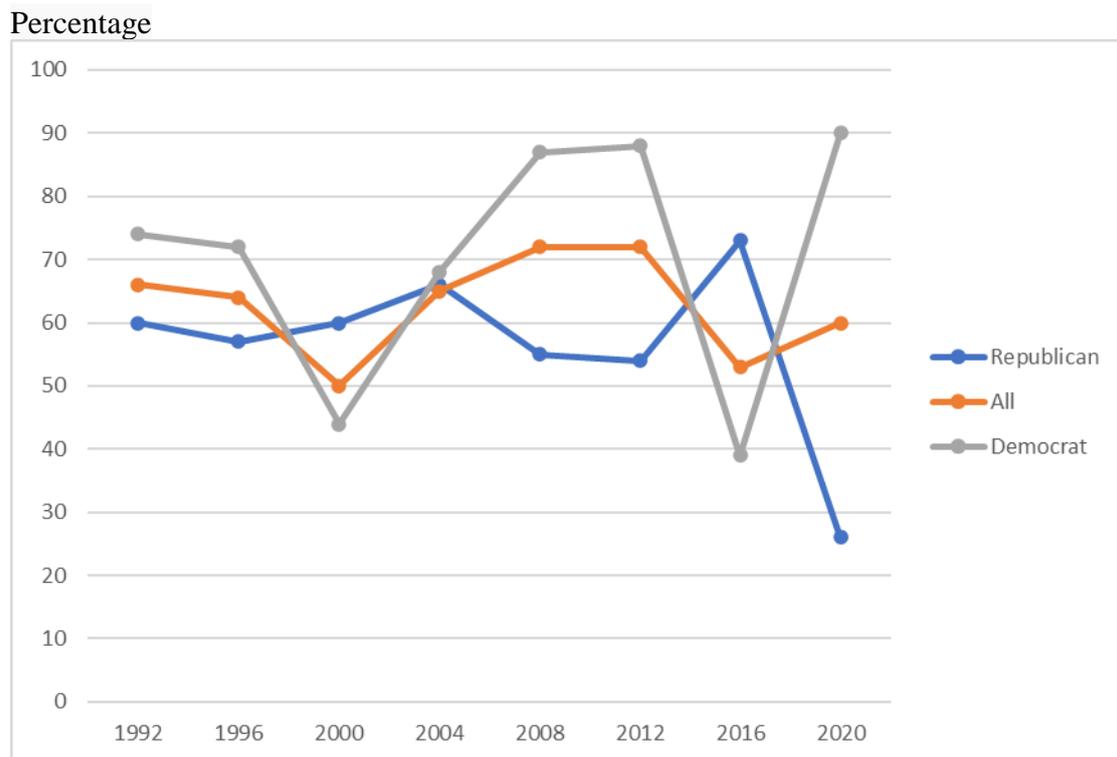
Perceptual bias, parties and winners/losers: free and fair elections, 1992-2020

The Times today reports on two opinion polls. A Reuters/Ipsos poll reports that nearly 80% of Americans say Biden won. A Morning Consult poll asks whether the election was free and fair.¹⁰

Looking back at the eight elections since 1992, between 50% and 72% say it has been free and fair.

Republican perceptions have been within the same range except in the last two elections, 73% in 2016 and 26% now in 2020. In contrast Democrat perceptions have only twice been within that range in 1996 and 2004. See Figure 4.

Figure 4 Percentage saying election was free and fair. Parties.



Winner's percentages are higher than loser's percentages except in 2004 when the two percentages were 66% and 68%. The gap has been large since 2008 and particularly large this year in 2020. See Figure 5.

¹⁰ The Times, November 11, p.28.

<https://uk.reuters.com/article/us-usa-election-poll/nearly-80-of-americans-say-biden-won-white-house-ignoring-trumps-refusal-to-concede-reuters-ipsos-poll-idUSKBN27Q3ED>.

<https://morningconsult.com/form/tracking-voter-trust-in-elections/>.

Figure 5 Percentage saying election was free and fair. Winners and losers

