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2020 Presidential Election Model

Introduction

The economy may not be top of mind for voters in every election, but it is hardly ever further than a close second. This is the principle underpinning Moody's Analytics presidential election models. The models predict whether the incumbent presidential candidate will win the popular vote in each state and the District of Columbia, and thus the necessary electoral college votes to win the election. This type of presidential election analysis is not new, beginning in the late 1970s by economist Ray Fair. However, his seminal work was based on national correlations between economic conditions and presidential election outcomes. What sets apart the Moody's Analytics models and their predecessors from similar efforts is a focus on regional economic growth that produces state-by-state projections of the Electoral College outcome.

2020 Presidential Election Model

BY MARK ZANDI, DAN WHITE AND BERNARD YAROS

The economy may not be top of mind for voters in every election, but it is hardly ever further than a close second. This is the principle underpinning Moody's Analytics presidential election models. The models predict whether the incumbent presidential candidate will win the popular vote in each state and the District of Columbia, and thus the necessary electoral college votes to win the election. This type of presidential election analysis is not new, beginning in the late 1970s by economist Ray Fair.[1] However, his seminal work was based on national correlations between economic conditions and presidential election outcomes. What sets apart the Moody's Analytics models and their predecessors from similar efforts is a focus on regional economic growth that produces state-by-state projections of the Electoral College outcome.[2,3,4]

This state-level approach has an impressive, though no longer perfect, track record. In 2016, our models failed to correctly predict the Electoral College vote for the first time. Although there were certainly some unique factors at play in 2016, back-testing and other post-mortem analysis showed that there were model versions that could have correctly predicted the outcome. With these lessons in mind, we have retooled our modeling approach with the aim of putting together a prediction for the 2020 election.

Updates for 2020

For the 2020 presidential election cycle, Moody's Analytics is introducing three key changes in the way we predict the outcome of next year's election. First, we are no longer using only one presidential election model, but three.

The three models are largely inspired by our previous work dating back to the 2000 presidential election. As in the past, they are all estimated as pooled regressions with fixed effects that are designed to capture state-specific preferences of the electorate to vote for the incumbent party. The historical sample contains 10 previous elections, beginning with the 1980 Reagan-Carter contest. The aim of all three models is to predict whether the presidential nominee from the incumbent political party will win the popular vote in each state and the District of Columbia.

The explanatory variables in each model differ but remain based on Moody's Analytics forecasts of national and state economic conditions in the lead-up to the election, as well as various quantifiable political variables. Individual state results are then used to calculate the results of the Electoral College. In the Electoral College system, the candidate who is able to garner at least 270 electoral votes wins the election. The mix of political variables tends to vary the least from one model to another, putting the onus largely on different mixes of economic variables to generate different results. We then take a simple average of the three forecasts to predict the most likely outcome of the 2020 election.

The second major change implemented for 2020 is the inclusion of a party turnout variable that allows us to stress the results under various turnout scenarios. Specifically, the variable measures the share of voters from nonincumbent political parties—Democrats and independents in the case of 2020—as a share of overall state voters.

Including independents as well as Democrats back-tested well in light of the 2016 election results. In our post-mortem of the 2016 presidential election model, we determined that unexpected turnout patterns were one of the factors that contributed to the model's first incorrect election prediction.[5] The model did not account for the individual attributes of the candidates other than whether they belonged to the incumbent political party. In other words, it assumed Donald Trump and Hillary Clinton were generic candidates, which they were not.

Voters who had not traditionally come out to the polls, particularly in the industrial Midwest and more rural counties, showed up in larger than expected numbers to support Trump, and many reliably Democratic

1 R. Fair, "The Effect of Economic Events on Votes for President," The Review of Economics and Statistics (May 1978): 159-173.

2 R. Dye, "The Next President," Regional Financial Review (February 2004): 28-30.

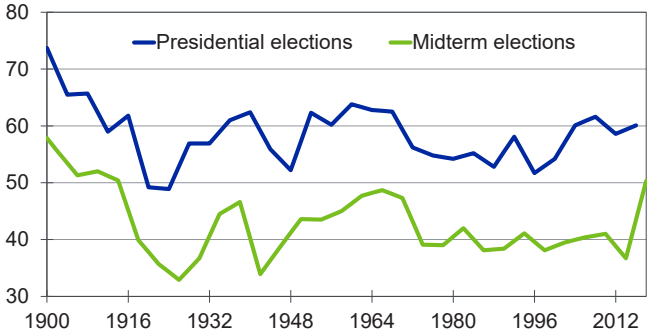
3 A. Faucher, "U.S. Presidential Election Model," Regional Financial Review (April 2008): 29-33.

4 D. White and M. Brisson, "It's the Economy Stupid!" Regional Financial Review (September 2015): 41-45.

5 D. White, "U.S. Election Model Post-Mortem," Economy.com (December 5, 2016).

Chart 1: Expect Huge Turnout in 2020

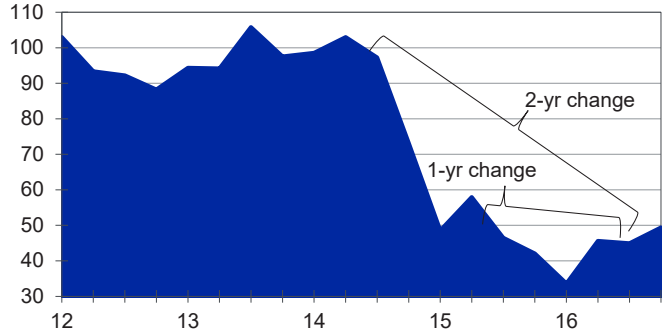
U.S. voter turnout, % of voting-eligible population



Sources: U.S. Elections Project, Moody's Analytics

Chart 2: Time Periods Tell a Different Story

West Texas Intermediate, $ per bbl



Sources: EIA, Moody's Analytics

voters did not turn out for Clinton. Thus, the inclusion of the turnout variable is intended to capture sentiment that may be unmeasurable by more traditional economic and political metrics.

In 2020, President Trump will be as much the nongeneric candidate as he was in 2016, and Democrats may also nominate a candidate who is a break from past party nominees. Further, if the 2018 midterms are anything to go by, turnout in 2020 could be the highest in living memory (see Chart 1).

Though we include nonincumbent turnout in the models, we do not attempt to forecast it in 2020. It is hard enough to predict the overall election outcome, and projecting turnout across each state is even trickier. We back-tested several options using the University of Michigan Consumer Sentiment Index and the Bloomberg U.S. Consumer Comfort Index by political party, among other more traditional economic variables, as potential predictors of turnout but were not able to achieve statistically reliable results.

Instead, we rely on turnout as a lever by which to show different potential turnout scenarios and provide a fuller picture of potential model outcomes. The baseline results for all three models assume historically average nonincumbent turnout across states. Therefore, to bookend the range of potential outcomes in 2020, we have run two additional scenarios, assuming that nonincumbent turnout is at its historical maximum, and at its historical minimum (see Appendix 1). Since we are relying on historical maximums and minimums for each individual state, no one election year is explicitly driving our results. The reason for including both extreme scenarios is to provide as broad a potential distribution as possible. Though overall turnout in 2020 is expected to be near all-time highs, it is not a guarantee that this will uniformly favor Democrats across all states.[6]

The last notable change we have made to our models is to shorten, in some instances, the time period over which the change in economic variables is calculated. This corresponds with a shortening of voter attention spans in 2016, the second major factor that appears to have contributed to forecast error in the last election, outside of turnout. The most glaring example of this in 2016 was our gasoline price variable, which contributed to our prediction of a Clinton victory.

Beginning in 2014, gasoline prices experienced their largest two-year decline leading up to a presidential election. Historically, two-year declines in gasoline prices have a strong statistical relationship with incumbent parties maintaining control of the White House. Therefore, we used the two-year decline in gasoline prices as an independent variable in the 2016 election model, and it was enough to offset many other explanatory variables that were working against Clinton at the time. However, if we had shortened the time frame for the decline in gasoline prices from two years to one year, the 2016 model would have instead predicted a Trump win. This owed, at least in part, to the timing of the decline in gasoline prices. Though the two-year drop was the largest leading up to an election, most of the decline occurred in 2014 and early 2015 (see Chart 2). This meant that the price decline in the 12 months before the 2016 election was barely noticeable, providing little boost to the then-incumbent Democratic Party.

In developing the 2016 election model, two-year changes in gasoline prices had back-tested much better than one-year changes, leading us to believe that a shorter voter attention span is a relatively new development with the 2016 election. Including the 2016 election results in our historical sample for model development, we find that a one-year change proves more robust in recent elections, validating our hypothesis that reducing the potential time horizon for change will result in more accurate results in 2020.

Political variables

The explanatory variables in our model specifications can be divided into two groups: politics and economics (see Table 1). Although economics are critical to deciphering the behavior of the marginal voter and thus usually the outcome of the election, political variables remain the most potent for predicting the large majority of votes on a state-by-state basis. Therefore, the mix of political variables across our three models is nearly identical.

6 N. Cohen, "Huge Turnout Is Expected in 2020. So Which Party Would Benefit?" The New York Times (July 15, 2019).

Previous share of the vote. To capture the political realities of each state, all three models rely heavily on the share of the overall vote that the current incumbent party received in a given state during the prior presidential election. This is the most significant variable in the model and single-handedly decides the fate of most states. It is the variable that ensures Texas almost always shows up red, and California is almost always blue. For the remaining states, where the outcome cannot be largely explained by party allegiance alone, three other political variables come into play.

Table 1: Summary of the Moody's Analytics 2020 Presidential Election Models

	Pocketbook model	Stock market model	Unemployment model
Political variables			
Nonincumbent party turnout, %	X	X	X
Previous share of the vote, %	X	X	X
Fatigue	X		X
Democratic incumbents	X	X	X
President's national approval rating, 2-yr ppt change	X	X	X
Economic variables			
U.S. gas prices, 1-yr % change	X		
Real income per household, 2-yr % change	X	X	X
Nominal house prices, 2-yr % change	X		
S&P 500, 1-yr % change		X	
Unemployment rate, 2-qtr ppt change			X

Source: Moody's Analytics

Fatigue. The first is a fatigue dummy variable measuring how long the incumbent party has been in office. History shows us that voters are loath to allow one party, Democrat or Republican, to remain in power for more than two consecutive terms. Since Harry Truman succeeded Franklin Delano Roosevelt's unprecedented four-term run, only once has a party stayed in office for more than eight consecutive years. Even in that more recent example, the election of George H.W. Bush in 1988, there were unique circumstances surrounding the end of the Cold War. Therefore, the model parameters make it difficult for a two-term incumbent's party to win. This of course weighed heavily against Clinton in 2016, but will not be a factor for Trump in 2020.

The fatigue dummy variable is present in two of our three models. We excluded it from one of our models because it loses much of its explanatory power when put alongside the model's nonpolitical variables. Since fatigue will not be a factor in 2020, however, we do not see the absence of this variable in one model as overly problematic.

Democratic incumbents. Next on the political side of the equation, we use a dummy variable that penalizes Democratic incumbents. This variable stems from the theory that Democrats and Democrat-leaning independent voters are more likely to switch sides and vote for a Republican candidate than vice versa. Though this may elicit skepticism at first, there is significant statistical evidence that supports this theory.

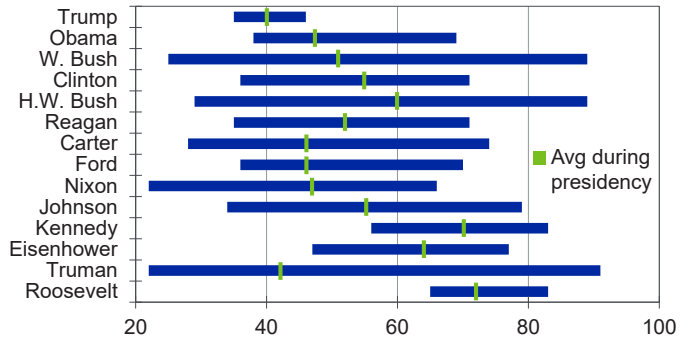
When testing and back-testing forecast results, this variable has continued to merit inclusion in the models since our first versions were being developed almost two decades ago. In one of the three models for 2020, we interact our nonincumbent turnout variable with this dummy variable and its inverse. As expected, the coefficients on these interaction terms reveal nonincumbent turnout is more potent when the incumbent is a Democrat rather than a Republican. In the other two models, we include this dummy variable as a stand-alone independent variable. Like the fatigue dummy, however, because Republicans are the current incumbent party, this variable should have no impact on the 2020 forecasts.

Approval rating. Our final political variable is the incumbent president's approval rating. It is intended to capture any potential political exogenous shock that may not be picked up elsewhere in the model. Most important, it should capture whatever impact the unfolding House impeachment inquiry will have on the president's chances of reelection.

Though Trump's approval rating has been lower than average during his first term, it has changed only modestly (see Chart 3). Since FDR, the average president has seen their approval rating fluctuate as much as 40 percentage points over the course of their presidency. In contrast, Trump's approval rating has, at most, oscillated not much more than 10 percentage points. As a result, our approval rating variable does not penalize the president as much as it has previous candidates. Incorporating the overall level of approval, as opposed to

Chart 3: Trump's Approval Is Low but Stable

Historical range of approval ratings for U.S. presidents, %



Sources: Gallup, Moody's Analytics

the change, resulted in models that performed poorly in terms of accuracy and statistical significance.

Economic variables

Political variables are critical to overall accuracy and model performance, but what truly drives the behavior of the all-important marginal voter in our models is economics. The mix of economic variables is the largest differentiator between our three models for 2020. All three of the models perform well in back-testing exercises, and all are statistically sound. However, each model tells a unique story with slightly different outcomes, particularly under alternative turnout scenarios.

The pocketbook model. Our "pocketbook" model is the most economically driven of the three. It includes three economic variables that affect the personal finances of voters at a relatively high frequency and that have historically elicited strong voter reaction (see Appendix 2).

The first is the change in gasoline prices running up to the election. Gas prices are something that most Americans observe almost daily. Most voters purchase fuel at frequent intervals, and even those without a car see gas prices advertised, making it one of the most visible high-frequency economic indicators. Gasoline prices also serve as a useful proxy for energy prices in general and capture voter sentiment on everything from transportation costs to the cost of heating a home. When gasoline prices are rising, it creates a sentiment among Americans that things are getting worse, not better. This dissatisfaction with the status quo goes hand in hand with a tendency to vote the incumbent party out of office. The current environment of stable to low gas prices favors Trump in his reelection bid. Moreover, the baseline forecast calls for gasoline prices to dip slightly in the year leading up to the 2020 election.[7]

The second economic variable is the change in house prices. This is not something that American voters deal directly with as frequently as energy prices, but it is something that has an outsize impact on their balance sheets and something that most monitor closely in their neighborhoods. Just as wealth effects can make homeowners with large price gains feel wealthier and more comfortable spending money, so too can they make more homeowners satisfied with the status quo. This also bodes well for the president, since prices have surpassed their prerecession peaks across most of the nation's housing markets and are forecast to appreciate further leading up to Election Day.

Finally, voter sentiment correlates highly with changes in real personal income. To avoid double counting, energy price inflation was excluded from this calculation. Again, finances matter here as well, as voters who feel better off from real, and not just nominal, wage gains are more likely to express comfort in the status quo. This measure also favors Trump, but more uncertainty dogs this variable than the others, particularly on a state-by-state basis.

Thus far into the current economic expansion, wage gains have been slower compared with prior business cycles. If income growth disappoints relative to expectations between now and Election Day, the president would have a tougher time than this model would initially suggest.

Under the baseline economic forecasts, the pocketbook model projects the most favorable outcome for Trump. If voters were to vote primarily on the basis of their pocketbooks, the president would steamroll the competition, taking home 351 electoral votes to the Democrats' 187, assuming average voter turnout. This shows the importance that prevailing economic sentiment at the household level could hold in the next election.

The stock market model. Our "stock market" model relies on fewer economic variables than the pocketbook model and is the least favorable model for Trump, though it still currently predicts a victory for the president. In terms of economic variables, the model includes changes in real personal incomes but is largely dominated by projections for the Standard & Poor's 500 stock index (see Appendix 3).

Trump often touts the stock market as a measure of his administration's economic policy success, and he may be onto something. Even though the stock market can and at times does move up and down independent of what is going on in the economy, the S&P 500 has a statistically significant relationship with voter sentiment in the lead-up to presidential elections. Fluctuations in the stock market may impact voters' satisfaction with the status quo via the same wealth effect as house prices. Yet it is more likely that stock market developments merely reflect underlying consumer and business expectations, which can be truer drivers of voter sentiment.

The primary influence on our stock market forecast is corporate profits, which in turn are influenced by nominal growth in the economy. As such, the S&P 500 forecast captures uncertainty among business owners and financial markets in the economy, highlighting the potential electoral consequences of policy uncertainty, particularly around trade.

The Moody's Analytics baseline forecast calls for annualized growth in U.S. real GDP to dip to multiyear lows by the end of next year. Because of this growth slowdown, our baseline forecast calls for the richly valued S&P 500 to decline 9% between now and Election Day. This weighs against Trump, but not enough for Democrats to unseat him. The stock market model projects the president will hold on to 289 electoral votes to the Democrats' 249, again assuming average voter turnout. This would be a tighter margin of victory in the Electoral College than in 2016.

Through Election Day, our stock market model results will be highly sensitive to changes in our S&P 500 forecast. For example, if the S&P 500 were to decline by closer to 12% by the third quarter of 2020, the model would instead predict a nail-biting win for Democrats with 279 electoral votes, compared with Republicans' 259.

7 The Moody's Analytics baseline forecast for gasoline prices, used in this article, was published prior to the September 14 drone attacks on Saudi oil infrastructure. In the week after the attacks, the average national price at the pump, according to AAA, was 10 cents higher. If gas prices were to remain 10 cents above our baseline from now to Election Day, it would not have a material impact on the model results, all else being equal. Prices at the pump would have to rise to about $4 per gallon to actually imperil Trump's chances of reelection.

The unemployment model. Our "unemployment" model also relies on fewer economic variables than the pocketbook model but predicts a more comfortable win for Trump than the stock market model. Just like the other two models, it includes changes in real incomes, yet its defining feature is the inclusion of the state-specific unemployment rate, whose influence in the model changes whether it is below or above a state's natural rate of unemployment, or NAIRU.[8] The natural rate is the unemployment rate consistent with full employment, and it varies considerably across states (see Appendix 4).

The jobless rate is a crucial economic indicator because, just like gasoline prices and other facets of one's personal finances, it is highly visible and deeply felt. A rising unemployment rate, even from low levels, can have a substantial psychological impact not only on the jobless themselves but also on others who see family and friends out of a job. In fact, statistical evidence shows that increases in a state's unemployment rate when it is below NAIRU have a slightly stronger impact on voter sentiment than when it is above NAIRU.

The baseline forecast for the unemployment rate across most states is for it to remain near current lows through the first half of next year, before ticking upward amid the growth slowdown. As a result, the unemployment model is not nearly as favorable to the president as the pocketbook model, but nevertheless does project a comfortable Trump victory of 332 electoral votes to 206, assuming average voter turnout.

It may come as a surprise that the model predicts a comfortable win for Trump even though the unemployment rate is forecast to start climbing just before the 2020 election. However, the fatigue dummy variable sucks up a lot of the oxygen in the forecast equation, taking away from the unemployment rate variable's influence. If the fatigue dummy were removed from the model, the baseline results would show a much closer contest, and it would only take a 20-basis point increase in state unemployment rates by the third quarter of 2020 for the model to swing in favor of the Democrats. However, the fatigue dummy's inclusion is critical since it vastly improves the model's accuracy in predicting past election outcomes. This anecdote merely suggests that the incumbency edge Republicans will enjoy may outweigh the negative impact of a slowing economy and a moderate rise in the jobless rate.

Comparing model performance

When calibrated using historical data through the 2016 election, each of the three models accurately predicts every presidential election going back to 1980 using in-sample data (see Table 2).

When missed states are weighted by their electoral votes, the unemployment model proves to be the most accurate of the three. Most notably, it, along with the pocketbook model, has correctly predicted the winning party in the three most crucial swing states—Florida, Ohio and Pennsylvania—every time.

When back-testing the models based on out-of-sample data that would have been available at the time of the election, the projections are less precise but still correctly

8 See K. Cramer and M. Wurm, "Natural Unemployment Across U.S. States," Regional Financial Review (November 2018): 14-22.

Table 2: Moody's Analytics U.S. Presidential Election Model Results

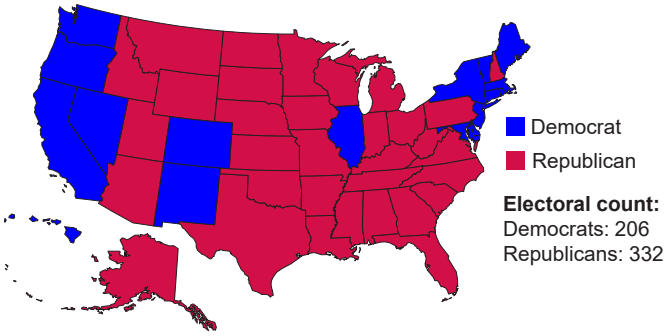
Historical test results and forecast

Year	Actual election results		Predicted election results			
	Incumbent party's electoral votes	Winning party	Incumbent party's electoral votes			Winning party
			Pocketbook model	Stock market model	Unemployment model	
1980	49	Republican	105	75	115	Republican
1984	525	Republican	531	535	535	Republican
1988	426	Republican	504	494	504	Republican
1992	168	Democrat	141	172	133	Democrat
1996	379	Democrat	414	414	406	Democrat
2000	266	Republican	257	268	268	Republican
2004	286	Republican	274	291	274	Republican
2008	173	Democrat	164	174	174	Democrat
2012	332	Democrat	332	297	332	Democrat
2016	233	Republican	227	227	196	Republican
2020	N/A	N/A	351	289	332	Republican
State electoral votes incorrectly predicted, % of total:			*7.9%*	*8.3%*	*7.5%*	

Source: Moody's Analytics

Chart 4: Trump Is Favored to Win

How states will vote if nonincumbent turnout is average

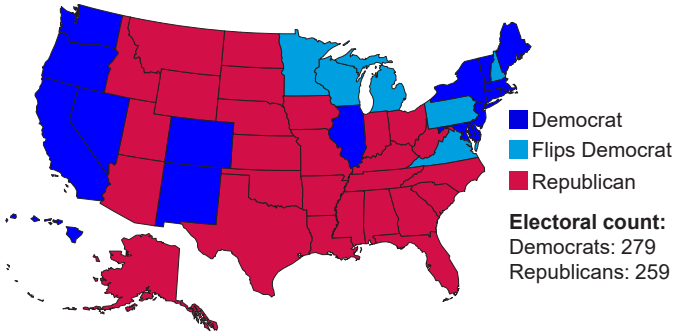


Source: Moody's Analytics

Note: Results reflect Sep 2019 forecast

Chart 5: Dems Win if Turnout Is High

How states will vote if nonincumbent turnout is historical maximum



Source: Moody's Analytics

Note: Results reflect Sep 2019 forecast

predict the winner of each of the past 10 presidential elections (see Table 3).

Comparing across models, the stock market model proves the most accurate of the three in terms of states and total electoral votes correctly predicted.

Early signs point to Trump

Results from each of the three models tell equally compelling stories about what could happen on Election Day, but we hesitate to hang our hat on only one of them. As a result, we average the predictions of the three models (see Table 4 and Appendix 5). Under the average of the three models, Trump would hold on to key industrial Midwest states and pick up New Hampshire, Virginia and Minnesota, assuming historical average nonincumbent turnout (see Chart 4).

However, things get much closer under alternative turnout assumptions. Under the assumption that the nonincumbent share of turnout in 2020—that is, Democrats and independents—were to match its historical maximum across all states, only the pocketbook model predicts a victory for Trump. Under such a high-turnout scenario, the Democratic Party nominee would win handily under the stock market model and by the skin of their teeth under the unemployment model.

An average of the three sets of model results suggests that if turnout of nonincumbent voters in 2020 matches the historical high across states, then Democrats would win a squeaker with 279 electoral votes to the president's 259 (see Chart 5). Michigan, Wisconsin, Pennsylvania, Virginia, Minnesota and New Hampshire would all flip from Trump's column versus our average turnout baseline.

Even though Democratic enthusiasm was significantly more robust in the most recent

Table 3: Back-Testing Using Information Available at the Time

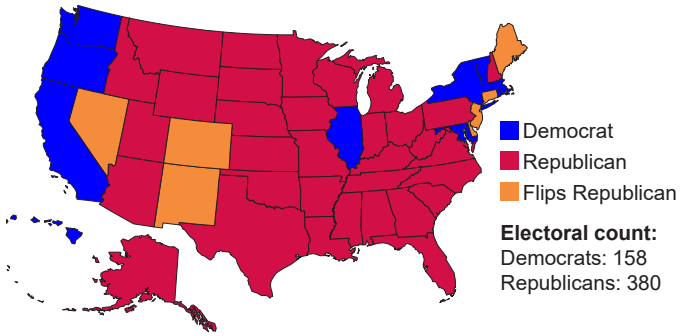
Historical back-test results

Year	Actual election results: Incumbent party's electoral votes	Actual election results: Winning party	Back-test election results: Incumbent party's electoral votes: Pocketbook model	Back-test election results: Incumbent party's electoral votes: Stock market model	Back-test election results: Incumbent party's electoral votes: Unemployment model	Back-test election results: Winning party
1980	49	Republican	124	81	100	Republican
1984	525	Republican	535	535	535	Republican
1988	426	Republican	504	494	429	Republican
1992	168	Democrat	133	175	184	Democrat
1996	379	Democrat	367	414	421	Democrat
2000	266	Republican	225	268	257	Republican
2004	286	Republican	291	291	286	Republican
2008	173	Democrat	174	164	174	Democrat
2012	332	Democrat	303	275	281	Democrat
2016	233	Republican	186	196	182	Republican
State electoral votes incorrectly predicted, % of total:			*9.2%*	*8.3%*	*9.5%*	

Source: Moody's Analytics

Chart 6: Trump Cruises if Turnout Is Low

How states will vote if nonincumbent turnout is historical minimum

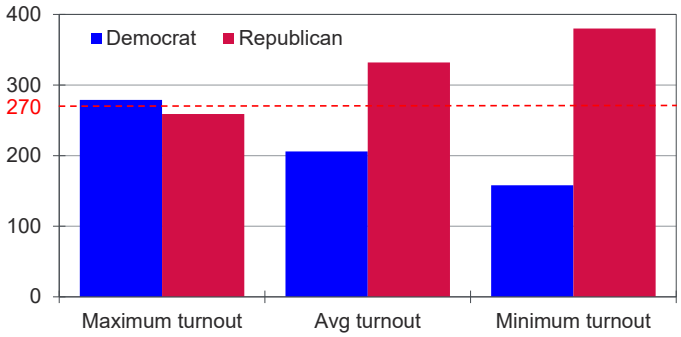


Source: Moody's Analytics

Note: Results reflect Sep 2019 forecast

Chart 7: It Comes Down to Turnout

Projected 2020 electoral vote by nonincumbent turnout



Source: Moody's Analytics

Note: Results reflect Sep 2019 forecast

midterm election, it is still worth considering a scenario in which the nonincumbent share of turnout matches its historical minimum across all states. Under this scenario, the average of the three models has Trump cruising to victory with 380 electoral votes to 158 (see Chart 6). Though improbable, such a scenario illustrates the danger for the Democratic nominee if their share of turnout is underwhelming.

If the U.S. economy sticks to our script over the next year, record turnout is vital to a Democratic victory (see Chart 7). While there is a growing consensus that the 2020 election could buck all norms in terms of overall turnout, which party will be the most successful at turning out voters in key states could be the difference between winning and losing. Turnout in key Electoral College states, particularly industrial Midwest states that the president was able to turn red for the first time in decades, will be the key battlegrounds. As the election grows nearer, Moody's Analytics will take several more in-depth looks at how the economies of key swing states and counties are likely to play out.

Forecast risks and game changers

As with all forecasts, especially those that rely on politics or economics, there is a lot that can still change the outcome of these projections. Of the three, the stock market model results stand to be the most volatile over the next year.

U.S. equities have soared and swooned based on incoming news regarding U.S.-China trade tensions. Add to this trade-induced uncertainty, further rate cuts by the Federal Reserve, recession warnings from the bond market, and the specter of a no-deal Brexit, and this is all a recipe for further market gyrations between now and Election Day, which could whipsaw the model's results.

Also, our approval rating variable is more influential in the stock market model than in the other two models. If Trump's approval rating were to fall by just 4 percentage points over the next year, that would be enough in the stock market model to swing the pendulum toward a Democratic win. In the other two models, incremental declines in the president's approval rating would make the results less favorable to Trump but are not game changers.

Results from the unemployment model are also uncertain, as the economy is losing momentum and the escalating trade war between the U.S. and China poses a substantial threat to the economic expansion and Trump's reelection bid. Counties that voted overwhelmingly for Trump in 2016 seem to be more structurally exposed to the trade

Table 4: Projected Electoral College Votes by Party in 2020 Across Models and Nonincumbent Party Turnout Assumptions

	Pocketbook model		Stock market model		Unemployment model		Avg of three models	
Maximum nonincumbent turnout	Democrat	259	Democrat	323	Democrat	279	Democrat	279
	Republican	279	Republican	215	Republican	259	Republican	259
Avg nonincumbent turnout	Democrat	187	Democrat	249	Democrat	206	Democrat	206
	Republican	351	Republican	289	Republican	332	Republican	332
Minimum nonincumbent turnout	Democrat	151	Democrat	166	Democrat	151	Democrat	158
	Republican	387	Republican	372	Republican	387	Republican	380

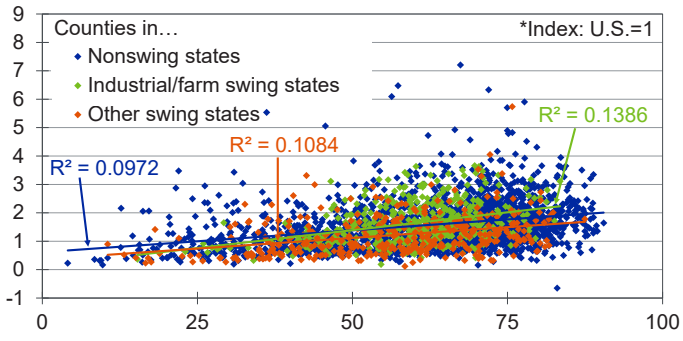
Source: Moody's Analytics

war's fallout[9] (see Chart 8). This is especially true of swing state counties across the Midwest and industrial Midwest, where the 2020 election will be won or lost. Our current baseline economic forecast envisages the jobless rate creeping higher beginning next summer. But if growth slows faster than expected, this would accelerate our projected increase in jobless rates, and our election predictions could quickly turn less favorable for Trump.

The pocketbook model is likely to be the most stable of the three. The gasoline price variable exerts a lot of influence on the model results, and it is unlikely to go from a support to a drag on Trump's reelection bid without a major shock to global energy markets. The September 14 drone attacks on Saudi Arabia's oil infrastructure did highlight the risk of higher oil prices amid rising geopolitical tensions between Saudi Arabia and Iran. However, as long as all-out war between the two is avoided, and Saudi Arabia quickly restores lost oil output from the attacks, prices at the pump should remain accommodative to Trump's reelection chances. Therefore, for the model to truly move off of its current forecast, significant changes would have to befall the outlooks for real incomes and house prices.

Chart 8: Trump Country Bears the Brunt

X-axis: Trump's 2016 vote share, %; Y-axis: Trade war impact*



Sources: BEA, WSJ, Moody's Analytics

Note: Smallest 10% of counties removed

The top of the business cycle is a difficult place from which to forecast, and the economic outlook is filled with substantially more uncertainty than usual. Under a moderate recession scenario, in which U.S. real GDP declines cumulatively by more than 2% over the next year, the average of our three models would point to a Democratic victory. However, under the current Moody's Analytics baseline economic outlook, which does not forecast any recession, the 2020 election looks like Trump's to lose. Democrats can still win if they are able to turn out the vote at record levels, but under normal turnout conditions, the president is projected to win.

We will update the results of our three models each month until Election Day based on incoming economic data and the latest economic outlook. These updates, as well as more in-depth analysis on individual swing states and counties, will be available in the coming months on Economy.com.

9 The total trade war impact on U.S. counties is equal to the sum of the direct and indirect impacts. The direct impact is equal to the direct cost minus the direct benefit. The direct cost is the damage to U.S. industries hit by Chinese tariffs. The direct benefit is the benefit to American industries that produce output similar to the products on which the U.S. has placed protective tariffs. Next, we look at the indirect impact, which is the cost of American companies having to pay more for their inputs. The sum of the direct and indirect impacts is then indexed to the U.S. to create an index of counties hurt most by the trade war. A county with a trade war impact of, say, 3 is therefore three times more vulnerable to the trade war than the U.S., according to this index.

Appendix 1: Projected State-by-State Results Across Models and Nonincumbent Party Turnout Assumptions

% for incumbent in 2020 presidential election; Sep 2019 forecast

	Pocketbook model			Stock market model			Unemployment model		
	Maximum nonincumbent turnout	Avg nonincumbent turnout	Minimum nonincumbent turnout	Maximum nonincumbent turnout	Avg nonincumbent turnout	Minimum nonincumbent turnout	Maximum nonincumbent turnout	Avg nonincumbent turnout	Minimum nonincumbent turnout
Alaska	56.2	61.8	65.2	52.4	59.0	63.1	54.5	60.4	64.1
Alabama	64.0	66.7	68.4	61.5	64.7	66.7	63.5	66.4	68.2
Arkansas	57.8	62.6	64.6	55.6	61.2	63.6	57.1	62.1	64.3
Arizona	54.7	57.0	60.4	52.1	54.7	58.7	53.9	56.3	59.9
California	37.3	40.8	44.7	34.2	38.4	43.0	36.7	40.4	44.5
Colorado	46.5	50.2	55.3	43.7	48.1	54.1	45.8	49.7	55.1
Connecticut	43.3	46.9	51.9	40.1	44.4	50.3	42.3	46.2	51.4
Dist. of Columbia	8.8	14.2	20.7	2.7	9.0	16.7	6.6	12.3	19.2
Delaware	43.2	47.0	51.5	40.1	44.6	49.9	42.2	46.2	51.0
Florida	51.7	54.4	59.0	48.9	52.1	57.5	50.8	53.7	58.5
Georgia	53.5	56.1	59.6	50.9	54.0	58.1	52.6	55.4	59.1
Hawaii	36.3	39.7	42.8	33.7	37.6	41.4	35.8	39.3	42.7
Iowa	52.5	55.4	57.7	50.1	53.4	56.2	51.8	54.8	57.3
Idaho	62.5	68.9	72.0	59.2	66.8	70.4	61.5	68.3	71.6
Illinois	41.5	44.6	47.9	38.5	42.2	46.1	40.6	44.0	47.4
Indiana	57.9	60.8	62.4	55.3	58.8	60.7	57.2	60.4	62.0
Kansas	56.3	62.4	65.1	53.2	60.4	63.5	55.4	61.9	64.7
Kentucky	62.2	65.6	67.1	59.9	63.9	65.8	61.8	65.3	67.0
Louisiana	58.5	62.1	64.4	56.2	60.4	63.2	57.9	61.7	64.2
Massachusetts	37.5	40.4	45.2	34.2	37.6	43.3	36.2	39.3	44.4
Maryland	37.5	41.7	45.9	34.1	39.0	44.0	36.5	41.0	45.5
Maine	44.7	50.4	56.4	40.8	47.7	54.7	43.1	49.2	55.5
Michigan	48.6	52.1	56.2	45.6	49.6	54.5	47.8	51.4	55.8
Minnesota	47.2	51.3	53.9	43.9	48.7	51.8	46.1	50.4	53.2
Missouri	54.4	59.5	62.6	51.7	57.8	61.4	53.7	59.2	62.4
Mississippi	60.7	62.1	63.6	58.5	60.1	62.0	60.3	61.8	63.4
Montana	59.6	62.3	64.5	58.0	61.2	63.7	59.2	62.1	64.3
North Carolina	51.7	55.0	58.4	48.7	52.6	56.6	50.8	54.4	57.9
North Dakota	62.4	67.2	69.0	60.2	65.9	68.0	61.8	66.9	68.9
Nebraska	60.4	65.0	68.3	57.5	62.9	66.7	59.5	64.4	67.9
New Hampshire	48.5	52.5	59.5	45.0	49.7	58.0	47.2	51.4	58.8
New Jersey	45.1	47.8	51.8	42.4	45.5	50.3	44.1	47.0	51.3
New Mexico	45.1	48.2	51.3	41.9	45.6	49.3	44.0	47.3	50.6
Nevada	45.7	50.2	55.1	42.7	48.1	53.9	44.8	49.6	54.8
New York	40.5	42.9	46.4	37.6	40.5	44.7	39.7	42.2	46.0
Ohio	52.9	56.1	59.0	50.1	53.9	57.3	52.3	55.7	58.7
Oklahoma	63.7	69.7	72.0	60.7	67.8	70.6	62.8	69.2	71.7
Oregon	42.4	46.7	50.4	39.2	44.3	48.6	41.6	46.1	50.0
Pennsylvania	50.4	52.7	55.1	47.8	50.5	53.3	49.6	52.1	54.6
Rhode Island	41.5	45.0	48.8	38.8	42.8	47.4	40.6	44.3	48.3
South Carolina	57.9	60.2	63.2	55.5	58.1	61.7	57.2	59.6	62.8
South Dakota	59.0	64.2	66.7	56.7	62.8	65.8	58.6	64.1	66.8
Tennessee	61.2	64.4	66.3	59.0	62.7	65.0	60.9	64.3	66.3
Texas	57.2	59.6	59.6	55.4	58.2	58.2	56.7	59.2	59.2
Utah	58.7	65.4	68.3	55.3	63.1	66.6	57.5	64.5	67.6
Virginia	47.9	51.8	55.6	44.8	49.4	53.8	46.8	51.0	55.0
Vermont	34.7	38.8	44.7	30.5	35.4	42.4	32.9	37.3	43.6
Washington	41.8	45.5	49.4	38.9	43.1	47.8	41.0	44.8	49.0
Wisconsin	49.2	52.5	55.8	46.1	50.0	53.9	48.1	51.5	55.0
West Virginia	64.4	68.1	71.9	63.1	67.5	72.0	64.2	68.2	72.2
Wyoming	67.0	73.5	76.3	64.0	71.8	75.1	66.0	73.0	76.0

Source: Moody's Analytics

Appendix 2: U.S. Presidential Election Model Statistics—The Pocketbook Model

Pooled least squares regression
51 cross sections
1980 to 2016
510 observations

	Coefficient	Std Error	T-Statistic
Constant	0.379211	0.035124	10.796500
Gasoline prices, 1-yr % change	-0.041776	0.011494	-3.634679
President's approval rating, 2-yr ppt change	0.000710	0.000200	3.539172
Real income per household, 2-yr % change	0.001359	0.000333	4.077894
Nominal house price growth, 2-yr % change	0.001232	0.000448	2.747575
Incumbent party share in previous election	*State fixed effects		
Fatigue dummy	-0.024936	0.003644	-6.842628
Nonincumbent party turnout, %, when incumbent is Democrat	-0.534268	0.043959	-12.153790
Nonincumbent party turnout, %, when incumbent is Republican	-0.452642	0.048226	-9.385903
R-Squared	0.926837		
Durbin Watson	2.132798		

*Independent coefficient for each state, all close to 1 and highly significant

Source: Moody's Analytics

Appendix 3: U.S. Presidential Election Model Statistics—The Stock Market Model

Pooled least squares regression
51 cross sections
1980 to 2016
510 observations

	Coefficient	Std Error	T-Statistic
Constant	0.353992	0.025699	13.77468
President's approval rating, 2-yr ppt change	0.001518	0.000159	9.562574
S&P 500, 1-yr % change	0.002302	0.000172	13.40427
Real income per household, 2-yr % change	0.001854	0.000275	6.730741
Incumbent party share in previous election	*State fixed effects		
Democratic incumbent dummy	-0.129237	0.009072	-14.24609
Nonincumbent party turnout, %	-0.534595	0.040209	-13.29551
R-Squared	0.936255		
Durbin Watson	1.983450		

*Independent coefficient for each state, all close to 1 and highly significant

Source: Moody's Analytics

Appendix 4: U.S. Presidential Election Model Statistics—The Unemployment Model

Pooled least squares regression
51 cross sections
1980 to 2016
510 observations

	Coefficient	Std Error	T-Statistic
Constant	0.341015	0.029150	11.698780
President's approval rating, 2-yr ppt change	0.000642	0.000171	3.763001
Unemployment rate, change over 2 qtrs when unemployment rate is below NAIRU	-0.008900	0.008594	-1.035703
Unemployment rate, change over 2 qtrs when unemployment rate is above NAIRU	-0.008222	0.002643	-3.110373
Real income per household, 2-yr % change	0.001642	0.000318	5.168384
Incumbent party share in previous election	*State fixed effects		
Democratic incumbent dummy	-0.044386	0.007230	-6.139003
Fatigue dummy	-0.026610	0.003534	-7.528971
Nonincumbent party turnout, %	-0.479620	0.047317	-10.136420
R-Squared	0.922294		
Durbin Watson	2.194419		

*Independent coefficient for each state, all close to 1 and highly significant

Source: Moody's Analytics

Appendix 5: Average of the Three Model Results Across Nonincumbent Party Turnout Assumptions

% for incumbent in 2020 presidential election; Sep 2019 forecast

	Maximum nonincumbent turnout	Avg nonincumbent turnout	Minimum nonincumbent turnout
Alaska	54.4	60.4	64.1
Alabama	63.0	65.9	67.8
Arkansas	56.8	62.0	64.2
Arizona	53.6	56.0	59.7
California	36.1	39.9	44.1
Colorado	45.3	49.3	54.8
Connecticut	41.9	45.8	51.2
District of Columbia	6.0	11.8	18.9
Delaware	41.9	45.9	50.8
Florida	50.5	53.4	58.3
Georgia	52.3	55.2	58.9
Hawaii	35.3	38.9	42.3
Iowa	51.5	54.5	57.0
Idaho	61.1	68.0	71.3
Illinois	40.2	43.6	47.1
Indiana	56.8	60.0	61.7
Kansas	55.0	61.6	64.4
Kentucky	61.3	64.9	66.6
Louisiana	57.5	61.4	63.9
Massachusetts	36.0	39.1	44.3
Maryland	36.0	40.6	45.2
Maine	42.9	49.1	55.5
Michigan	47.3	51.0	55.5
Minnesota	45.7	50.1	53.0
Missouri	53.3	58.8	62.2
Mississippi	59.9	61.3	63.0
Montana	59.0	61.8	64.2
North Carolina	50.4	54.0	57.6
North Dakota	61.5	66.7	68.6
Nebraska	59.2	64.1	67.6
New Hampshire	46.9	51.2	58.7
New Jersey	43.9	46.7	51.1
New Mexico	43.7	47.1	50.4
Nevada	44.4	49.3	54.6
New York	39.3	41.9	45.7
Ohio	51.8	55.2	58.3
Oklahoma	62.4	68.9	71.4
Oregon	41.1	45.7	49.7
Pennsylvania	49.3	51.8	54.3
Rhode Island	40.3	44.0	48.2
South Carolina	56.9	59.3	62.5
South Dakota	58.1	63.7	66.4
Tennessee	60.4	63.8	65.9
Texas	56.5	59.0	59.0
Utah	57.2	64.3	67.5
Virginia	46.5	50.7	54.8
Vermont	32.7	37.2	43.6
Washington	40.6	44.5	48.7
Wisconsin	47.8	51.4	54.9
West Virginia	63.9	67.9	72.0
Wyoming	65.7	72.8	75.8

Source: Moody's Analytics

About the Authors

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Mark Zandi is chief economist of Moody's Analytics, where he directs economic research. Moody's Analytics, a subsidiary of Moody's Corp., is a leading provider of economic research, data and analytical tools. Dr. Zandi is a cofounder of Economy.com, which Moody's purchased in 2005.

Dr. Zandi is on the board of directors of MGIC, the nation's largest private mortgage insurance company, and is the lead director of Reinvestment Fund, one of the nation's largest community development financial institutions, which makes investments in underserved communities.

He is a trusted adviser to policymakers and an influential source of economic analysis for businesses, journalists and the public. Dr. Zandi frequently testifies before Congress and conducts regular briefings on the economy for corporate boards, trade associations, and policymakers at all levels. He is often quoted in national and global publications and interviewed by major news media outlets, and is a frequent guest on CNBC, NPR, Meet the Press, CNN, and various other national networks and news programs.

Dr. Zandi is the author of Paying the Price: Ending the Great Recession and Beginning a New American Century, which provides an assessment of the monetary and fiscal policy response to the Great Recession. His other book, Financial Shock: A 360º Look at the Subprime Mortgage Implosion, and How to Avoid the Next Financial Crisis, is described by the New York Times as the "clearest guide" to the financial crisis.

Dr. Zandi earned his BS from the Wharton School at the University of Pennsylvania and his PhD at the University of Pennsylvania.

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Dan White is the director of government consulting and fiscal policy research at Moody's Analytics. In this role he oversees economic research with an emphasis on fiscal policy and municipal market impacts.

In addition to public finance and fiscal policy, Dan has performed research on a broad range of other subjects including healthcare, energy economics, and regional economic development. Dan regularly presents to clients, conferences, and policymakers of all levels. He has been featured in a number of print, radio, and televised media outlets ranging from Bloomberg Television to the Wall Street Journal.

His most recent research has focused on public policy responses to the Great Recession and ways to better prepare federal and subnational fiscal conditions for changes in the business cycle. Dan also works with a number of governments and policymakers in an advisory role, and teaches classes in economics and public finance at Villanova University.

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His most recent research has ranged from U.S. fiscal multipliers to the regional impacts of the 2018-2019 government shutdown and federal disaster relief in Puerto Rico. Bernard has performed research on other subjects including stress-testing U.S. state budgets and forecasting the 2018 midterms.

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