Predicting French Presidential Elections: A Challenge for Forecasters

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French presidential elections present significant challenges to forecasters, especially when compared to the US presidency. Substantial differences between the two presidential systems—the number of candidates and parties, the electoral rules, and the number of elections that have been held—impact the construction and accuracy of forecasting models. US elections have only one round of voting, take place in a stable two-party system that provides a convenient dichotomy of incumbent versus opponent, and have a long history. In contrast, French presidential contests feature multiple candidates from established and newer parties that span the ideological spectrum. The French electoral system adds further complexity by requiring a second-round election between the top two vote-getters if no candidate wins a majority in the first round—which has happened in all presidential elections. Furthermore, presidential elections in modern France date back only to 1965; therefore, the time-series on which to base forecasting models is short and imposes statistical hurdles for modelers.

Forecasters must decide how to handle these complexities in their modeling. Do they want to predict the vote share for the incumbent, an ideological family of parties (i.e., Right or Left), or a specific party? Will they forecast the first round, second round, or both? Moreover, which predictors should be included, especially considering the statistical limitations of a short time-series (i.e., small *N*)? Scholars have relied heavily on the vote and popularity function (VP-function) literature to select independent variables (Stegmaier, Lewis-Beck, and Park 2017).

In this review of French presidential forecasting models, we highlight their theoretical origins and how they have evolved to better account for aspects of French politics, such as cohabitation (i.e., when the president and prime minister hail from different parties), the Far Right National Front (FN) party, and voter and candidate strategies. As a guide, table 1 is a chronological review of published *ex ante* French presidential forecasting models. Some articles were published after the election but are based on pre-election forecasts. If the same team and/or model was published in different outlets in the same election year, we selected the peer-reviewed publication and/or the English-language article for greater accessibility. The lead time is based on what is reported in the text. If this was not mentioned, then we used the publication date. Vote-share predictions are those reported by the authors; however, the actual result is based on our understanding of which parties were included in the dependent variable.

1995

Lewis-Beck (1995) presented the first *ex ante* French presidential model forecast, which was based on his previous research that developed a French political-economy vote function that could be used for prediction (Lewis-Beck 1991). Using the logic that the incumbent president is the target of voters' reward or punishment, his model predicted the second-round vote share for the sitting president or the candidate from the incumbent party's coalition on the Left or the Right. This takes advantage of a pattern in French politics of candidates behaving strategically in the second round to generate support from voters on their side of the ideological spectrum.

Lewis-Beck's (1995) political-economy model included two predictors: presidential popularity and real GDP growth, both of which are measured six months before the election. The model included data for all five previous presidential elections; it is notable, however, that this is a very small sample on which to estimate a model. President François Mitterrand (Socialist Party) had decided not to run for a third term. Thus, the model predicted the vote share for the Left candidate in the second round at 51.9%—enough to win The Élysée Palace. Ultimately, the Left's candidate garnered only 47.36% and the Right's candidate, Jacques Chirac, became president.

2002

The 2002 election featured a surprising first-round result. Whereas almost everyone had assumed that President Chirac (Right) would be challenged by a Left candidate in the second round, Jean-Marie Le Pen of the Far Right National Front (FN) came in second place to challenge frontrunner Chirac. With two candidates from the Right advancing to the second round in 2002, the Left–Right division that underpins forecasting models in France broke down. None of the models correctly predicted a Chirac victory.

Fauvelle-Aymar and Lewis-Beck's (2002) political-economy "Iowa model" introduced an adjustment for cohabitation. During cohabitation, they reduced GDP growth and presidential popularity by half to reflect how the public splits assignment of responsibility. They predicted the opposition candidate's second-round vote share in two models: based on GDP growth and on presidential popularity. Both models indicated a narrow victory for the opposition. The authors assumed that the second-round opposition candidate would be from the Left. However, Le Pen advanced as the incumbent's opponent and received only 17.79%. Chirac won reelection with 82.21%.

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Table 1

Ex Ante Model Forecasts of French Presidential Elections

Author	Lead Time	*N*	Main Predictors	Forecast Target	Forecasted Vote Share in %	Actual Vote Share %
1995						
Lewis-Beck (1995)	6 months	5	Incumbent popularity; GDP growth	Incumbent (second round)	Left: 51.90	Left: 47.36
2002						
Fauvelle-Aymar and Lewis-Beck (2002)	6 months	6	Economic growth; incumbent popularity	Opposition (second round)	Economic growth model: Opposition: 50.13 Popularity model: Opposition: 50.39	Le Pen: 17.79
Jérôme, Jérôme-Speziari, and Lewis-Beck (2003)	1–2 months	88	Past legislative vote; Left–Right ideology; unemployment; cohabitation; executive popularity	Governing parties (first round)	Left: 52.36	Left: 42.00
Jérôme and Jérôme-Speziari (2001)	6–7 months		Unemployment; party identification; government credibility (prime minister popularity); cohabitation	Left (first and second rounds)	First round: Left: 51.06 Second round: Left: 49.05	First round: Left: 42.00 Second round: Left: not in second round
2007						
Lewis-Beck, Belanger, and Fauvelle-Aymar (2008)	3 months	7	Unemployment; president popularity; past legislative elections	Left (second round)	Left: 52.70	Left: 46.94
Jérôme and Jérôme-Speziari (2010)	1–2 months	480; 88	Unemployment; popularity gap under cohabitation; previous vote shares; regional political leanings; incumbent ideology	Left, Right, and FN (first and second rounds)	First round: Left: 43.77; Right: 40.26; FN: 15.97 Second round: Right: 53.52	First round: Left: 36.44; Right: 53.12; FN: 10.44 Second round: Right: 53.06
Lafay, Facchini, and Auberger (2007)	2 months		Socialist Party popularity	Left (second round)	Left: 48.60	Left: 46.94
Auberger (2010)	2 days	288	Socialist Party popularity; department ideology	Left (second round)	Left: 47.88	Left: 46.58
Lemennicier, Lescieux-Katir, and Grofman (2010)	1 month	5; 7	Distances of the mode of the candidate to the overall median voter	Left and Right (second round)	Left: 46.73 Right: 52.60	Left: 46.94 Right: 53.06
2012						
Nadeau, Lewis-Beck, and Belanger (2012)	6 months	8	Incumbent popularity	Left (first round)	Left: 53.20	Left: 41.44
Jérôme and Jérôme-Speziari (2012)	6 months	132	First-round model: unemployment; president popularity; past legislative elections; incumbent Left; popularity gap under cohabitation; regional political-tendency variables	Incumbent and FN (first round); Right (second round)	First round: Right+Center: 46.00 Left: 41.00; FN: 13.00 Second round: Right: 50.60	First round: Right+Center: 40.66 Left: 41.44; FN: 17.90 Second round: Right: 48.36
Foucault and Nadeau (2012)	4 months	478	Unemployment; popularity of right-wing candidate; support for the Right in previous election; difference of support at the local and national levels for the Right	Right (second round)	Right: 48.10	Right: 48.36
Nadeau, Didier, and Lewis-Beck (2012)	4 months	4	Approval	Incumbent (second round)	Right: 46.00	Right: 48.36
Evans and Ivaldi (2012)	6 months	13	Unemployment; change in the legally admitted immigrants in the year preceding the election; election types	FN (first round)	FN: 17.40	FN: 17.90

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Jérôme, Jérôme-Speziari, and Lewis-Beck (2003) developed one of the first regional-level (N=88) political-economy models that predicted the first-round fortunes of the governing parties in the National Assembly. The predictors include the previous legislative election results, ideology, and unemployment rates in the 22 regions as well as national-level measures for cohabitation and executive popularity. Their model predicted 52.36% for the Left in the first round, which compared to the actual result of 42%.

Lafay, Facchini, and Auberger (2007) presented a parsimonious model of the Left vote relying solely on monthly Socialist Party popularity. They correctly predicted that Royal would lose the second round with only 48.6%, compared to the actual result of 46.94%.

Auberger (2010) developed a metropolitan department-level model (excluding overseas departments) to predict the Left's second-round vote. The model is based on Socialist Party popularity and the difference between the local and

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Jérôme and Jérôme-Speziari (2001) published a similar regional-level forecasting model in *L'Expansion* magazine. They forecasted the Left vote based on unemployment, past election results, government credibility measured by prime minister popularity, and—during times of cohabitation—the popularity gap between the executives. They predicted 51.06% for the Left in the first round and that it would lose the election in the second round. In fact, the Left did not compete in the second round.

2007

President Chirac did not run for reelection in 2007. The first round resulted in Nicolas Sarkozy (Right) and Ségolène Royal (Left) winning first and second place, respectively. Sarkozy won the second round with 53.06%. The FN came in fourth place.

For the 2007 presidential election, Lewis-Beck, Bélanger, and Fauvelle-Aymar (2008) and Jérôme and Jérôme-Speziari (2010) revised their previous models. Lewis-Beck, Bélanger, and Fauvelle-Aymar (2008) updated the "Iowa model" to predict the Left's vote share; again, the model missed the mark. Jérôme and Jérôme-Speziari (2010) created a vote function to predict the FN's first-round support to more accurately estimate the classic Right and Center vote share. Additionally, they modeled the transfer of votes from the first to the second round based on the rationale that voters are partisan in the first round but opportunistic in the second. Their departmental (N=480) and regional (N=88) second-round models were particularly accurate. They predicted 53.52% for Sarkozy; the actual vote was 53.06%.

national votes in each department in the previous presidential election. The final prediction, with two different statistical corrections, forecasted 47.46%/47.88% for Royal. As reported by Auberger (2010), in metropolitan France, she won 46.58% of the vote.

In contrast to the political-economy models, Lemennicier, Lescieux-Katir, and Grofman (2010) introduced a Downsian-based median-voter model. This model focuses on the ideological position of the candidates relative to the median voter. They estimated a bivariate prediction model for Left and Right candidate vote shares. In 2007, they estimated an 11.9% distance between the Left mode and the median voter, which resulted in a forecast of 46.73% for Royal. The Right mode's 8.4% distance from the median voter led to the prediction that Sarkozy would win the presidency with 52.6%.

2012

Nadeau, Lewis-Beck, and Belanger's (2012) national-level model is based solely on executive popularity. They argued that when an incumbent president or prime minister is running, their popularity is a strong surrogate measure of the vote because approval ratings encompass economic conditions, cost of ruling, and other relevant contextual factors. Their model predicted 53.2% for the Left in the first-round vote when, in fact, it received only 41.44%.

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Following the foundations of their previous regional-level models, Jérôme and Jérôme-Speziari's (2012) model, estimated six months in advance of the election (i.e., three months earlier than the model design), incorrectly predicted a narrow Sarkozy (Right) victory (50.6%).

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Foucault and Nadeau (2012) estimated a political-economy model at the department level to predict support for the Right candidate in the second round. Their predictors included unemployment and measures of previous support for the Right at the local level and the popularity of the Right candidate at the national level. This model, based on 478 observations encompassing five election years, forecasted a Sarkozy loss, with 48.1%.

Nadeau, Didier, and Lewis-Beck (2012) generated a straightforward model to predict second-round vote share when the incumbent president is running for reelection ($N=4$) based on his approval rating. The model correctly predicted that incumbent Sarkozy would lose his reelection bid.

Evans and Ivaldi (2012) focused on predicting the Far Right FN vote share rather than who would win The Élysée Palace. In 2011, FN leader Jean-Marie Le Pen had passed the party's reins to his daughter Marine Le Pen. Therefore, to accurately forecast the FN vote share, the authors needed to account for this leadership change. Their forecasting model included FN vote shares in all first-order elections (i.e., presidential and National Assembly) and was based on the unemployment rate, the change in new immigrants during the previous year, and a dummy variable to account for a parliamentary or presidential election year. This model yielded a first-round presidential forecast for the FN of 17.05%. However, because the new leader had her own "effect" in the 2011 canton elections, they adjusted their prediction to 17.4%. The FN's actual vote share was 17.9%.

2017

To our knowledge, no *ex ante* forecasts for the 2017 presidential election were published—and for good reason. This election presented unprecedented complexities for forecasters. President François Hollande announced that he would not run for reelection and the Right was absorbed in François Fillion's "Pénélopegate" scandal. Emmanuel Macron's Centrist candidacy as the head of the new party *En Marche!* challenged the traditional Left–Right design of many models. In the absence of policy-focused evaluations and debates and the emergence of a strong Centrist candidate, models were as theoretically blind as voters.

CONCLUSION

The development of French presidential forecasting models has followed a similar trajectory as in other democracies (Stegmaier 2022; Stegmaier and Norpoth 2017). Most forecasting models have been grounded in the VP-function literature with a few adopting candidate and party strategies, strategic voting, and public opinion theory. However, as this article shows, French presidential elections present complexities that forecasters have not fully mastered. Amid these complexities, four lessons emerge. First, regional models typically produce smaller margins of error than national models and therefore may be more serviceable, depending on the level of analysis. By focusing on regions, these models circumvent the small-N problem and allow for the inclusion of more political and economic variables. Second, when considering first- or second-round predictions, one major pitfall in predicting the second round is the possibility that the party fails to reach it. Third, considering FN support can better estimate the vote share of the Left and the Right. Fourth, the Downsian model of Lemennicier, Lescieux-Katir, and Grofman (2010) produced accurate results in 2007, suggesting that approaches beyond political-economy models are worth exploring.

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The election forecasting literature suggests other models that could improve prediction accuracy in France. For example, citizen forecasting makes use of the "wisdom of the crowds" by asking respondents who they think will win. In answering this question, citizens use knowledge acquired from their personal experience, social networks, and the media, which together can capture more information than variables in political-economy models. A second approach is structural-dynamic or synthetic modeling. These approaches are based on a political-economy model and then updated throughout the campaign using vote-intention polls to account for shifts in support that occur during the campaign. A third approach is ensemble forecasting, which combines or averages an array of forecasts. Because some forecasting approaches perform well in some years and others in other years, averaging the predictions reduces error.

Three additional strategies could be pursued to improve model performance in France. First, although modeling Left versus Right or incumbent versus opposition offers straightforward appeal, it risks oversimplifying the party system. Predicting results for different parties would provide a more complete picture of possible outcomes. Second, to avoid the problem of a party or ideological grouping unexpectedly not advancing to the second round, forecasters could predict first-round results and then provide conditional forecasts for the second round. Third, taking a cue from meteorology, forecasters could estimate models and then adjust the prediction based on their knowledge of the current political climate (Lewis-Beck and Stegmaier 2014). This approach could account for candidate image, political tides, campaign effectiveness, and other nuances of French politics. We know that these factors can impact election results—the key is finding a way to incorporate them into the forecast.

CONFLICTS OF INTEREST

The authors declare that there are no ethical issues or conflicts of interest in this research. ■

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