A variety of scientific modeling approaches exist to forecast elections. Historical (or vote function) models predict election outcomes based on past patterns of voter behavior and rely on the use of aggregate-level historical data about political and economic factors (Bélanger and Trotter 2017).

While the first electoral forecasting models were about American presidential elections, these models inspired the so-called “modèle de l’Iowa”, which relies on a historical approach to estimate the vote for presidential left-wing candidates in elections of the French Fifth Republic (Lewis-Beck 1995; Fauvelle-Aymar and Lewis-Beck 1997, 2002; Lewis-Beck et al. 2008). Following the political economy tradition, the Iowa model is parsimonious in that it includes only two independent variables: the national unemployment rate and the popularity of the sitting President. It also has considerable lead time, as both predictor variables are lagged by six months, allowing for a forecast in late autumn for election rounds held in the spring as is usually the case in France. From this perspective, the Iowa model incorporates the two key features of electoral forecasting models – namely, parsimony and lead time (Lewis-Beck 2005).

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With the development of the forecasting literature in France, a variant of the Iowa model was proposed (Nadeau et al. 2010, 2012; Bélanger et al. 2012). This so-called “proxy model” relies on the use of a single predictor, the executive popularity index (EPI), which acts as a proxy of electoral support. Although the proxy model relies on only one predictor, previous work has shown that EPI is closely related to three economic factors commonly used in French electoral forecasting models, namely, unemployment, cohabitation, and the cost of ruling. With these characteristics, the proxy model may well represent an improvement over the Iowa model, while keeping with its original spirit. Yet is the proxy model indeed better than the Iowa model when it comes to predicting the result of presidential elections?

In this article we provide an answer to this question by exploring the relative efficiency of the Iowa and proxy models in predicting the vote for all left-wing candidates in the 1965-2017 presidential elections. The results indicate that the difference between the predicted and the actual vote is lower for the proxy model than the Iowa model in six out of ten presidential elections, implying that the proxy model may be a better forecasting tool than the Iowa model. Leveraging the proximity of the 2022 French presidential election, we then use the proxy model to make a forecast for the upcoming 2022 election. The forecast produced suggests that the odds appear good, although not overly so, for outgoing president Emmanuel Macron to be re-elected.

Comparing the Iowa and the Proxy Models

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The Iowa model represents a natural first candidate to turn to when attempting to predict the winner of a French presidential election. This model is attractive for two main reasons: its parsimony (it includes only two independent variables), and its lead time (the two predictor variables are lagged by six months). In turn, the proxy model relies on the use of a single predictor, the executive popularity index (EPI), which acts as a proxy of electoral support. Note that both historical models rely on the theory of responsibility attribution (Key 1966). They predict the support to be received by the incumbent based on its past record in office as measured by the “fundamentals” of the economy and popularity, with voters expected to reward (sanction) an incumbent with a good (bad) governing record.

Importantly, while the proxy model includes only a single predictor, it is somewhat more complex than the Iowa model. More precisely, the coding of the EPI variable depends on the type of presidential contest analyzed, since the responsibility target needs to be identified but can vary depending on the competition context (see Nadeau et al. 2010). Four types are possible. The first type is presidential incumbent elections, where the sitting president is running for reelection. For this first type, EPI takes on the value of the president’s job approval rate as recorded six months before the election. The second type is quasi-presidential incumbent elections, where the president is not on the ballot but a candidate from his/her party is widely considered as his/her dauphin, like what happened in 1969. In such a case, EPI still takes on the value of the president’s approval rate. The third type is prime ministerial elections, where a prime minister is running in the absence of an incumbent president or clear presidential dauphin, as was the case in 1974 and 1995. For this type of elections, the appropriate EPI value should be the prime minister’s job approval rate six months before the election. The fourth type is “open” elections, which do not conform to any of the other three types. These are elections where the retiring president’s approval should not affect the outcome as much as for quasi-presidential incumbent elections, and where the current government’s approval should not play as much of a role as for prime ministerial contests. In such a situation, like in 2007, the attribution of responsibility is more diffuse than in any other type of election, and we can presume that EPI is best measured by the second-round vote intentions for the main candidate of the outgoing administration, also with a six-month lead.

Correctly classifying each of the presidential election contests of the Fifth Republic into one of these four types is a relatively straightforward exercise for the 1965-2012 period; we rely here on Nadeau et al.’s (2012) classification for that period. How best to classify the 2017 election and add it to the data pool? If we turn back the clock to six months before the 2017 presidential election (i.e., November 2016), sitting president François Hollande was heavily rumored not to be running again (he would announce it officially in early December). Then-prime minister Manuel Valls was widely considered as the person most likely to win the Parti Socialiste (PS) presidential nomination (he would end up losing the nomination to Benoît Hamon in the January 2017 PS primary). Emmanuel Macron, a former minister in the Valls government, was also believed to be interested in running for president. That said, Macron, like Valls, took pains to distance himself from Hollande and the PS, going as far as creating his own political party En Marche! in August 2016.

Hence, with Hollande seemingly out of the running and Valls deemed the most viable candidate to run for the PS, the 2017 presidential election ought to be considered as a prime ministerial one.
Valls was not viewed as Hollande’s dauphin, and in any case did not wish to be perceived as such. His campaign bid relied more on his own record as prime minister, in which case EPI would be equal to Valls’ IFOP job approval rate of November (26%).

Considering the 2017 election as a prime ministerial one provides a very close prediction of the level of votes obtained by the left in the first round of that contest. The forecast is of 26.1% of support going to the left in the first round, only 1.8 percentage points lower than the actual support the left received in 2017. In accordance with responsibility attribution theory, the low support for the left in the first round suggests that French voters sanctioned the executive’s poor record while in office, despite the absence of Valls (and even Hollande) on the presidential ballot. Note that the proxy model’s mean absolute forecast error is of 4.3 percentage points when the 2017 election is added to the pool (1965-2017).

For comparison purposes, Figure 1 shows the track record of the Iowa model and that of the proxy model when it comes to forecasting the vote for all left-wing candidates in the 1965-2017 period. We observe that in six out of the ten presidential elections between 1965 and 2017, the proxy model performs better than the Iowa model. More precisely, while in 1965, 1995, 2002, and 2012 the Iowa model provides an estimate that more closely resembles the actual vote, in 1969, 1974, 1981, 1988, 2007, and 2017 the proxy model performs better. Also, the MAE is lower with the proxy model (4.3) as compared to the Iowa model (7.2). Based on these results, we may thus conclude that the proxy model may represent, on average, a better forecast model than the Iowa model. Note, however, that we focus on first-order (presidential) elections in France only. As such, it is possible that the proxy model performs less well on other types of elections than the Iowa model. We return to this point in the discussion section.

Figure 1. Out-of-sample forecasts from Iowa model (left panel) and proxy model (right panel).

Note: Solid and hollow dots are actual and predicted total left vote shares (in percentage), respectively, in the first round. See Tables A1 and A2 for an estimation of the forecasts’ 95% confidence intervals (CIs).

**Forecasting the 2022 Presidential Election**

Given the better performance of the proxy model than the Iowa model, we leverage the proximity of the 2022 presidential election and make a forecast of the vote for all left-wing candidates in this election. In historical perspective, Macron’s approval rate (40% in the November IFOP poll)
is relatively low, and it may represent the reason why our forecast is not overly optimistic for Macron’s re-election. More precisely, our prediction, with Macron classified as a centrist candidate (and, consequently, on the right in both historical models\(^2\)), is for the left to receive less than majority support in the first round (47.3% with 95% CI [42.8, 51.7]). These results suggest that Macron may make it to the second round, being supported by moderate right-wing citizens, as well as some left-wing citizens who would vote strategically for Macron in order to have a representative of the center with chances of winning the second round of the French presidential election (Blais 2004).

The proxy model can also be used to forecast the second-round vote (see Bélanger et al. 2012). Indeed, changing the dependent variable, from first to second round, while keeping EPI as the predictor variable actually yields good forecast results, with an out-of-sample MAE of just 1.8 points.\(^3\) That said, doing so assumes that no factor modifies the relationship between EPI and the incumbent vote between the two rounds, which can be seen as a potential limitation. For the second round of 2022, the proxy model predicts a very close race between the left and the right. This, in many ways, may be favorable to a more centrist candidate like Macron. More precisely, our second-round forecast is that the left-wing candidate will receive 51.6% of the vote (95% CI [49.3, 53.8]), meaning that Macron may win the election when competing with another candidate from the right. In this sense, in the absence of a left candidate on the second-round ballot, Macron may rally enough votes from the left to repeat his feat of 2017. In contrast, our model predicts that Macron may lose the election if a candidate from the left competes against him in the second round of the election.

Among the potential other candidates that could join Macron in the second round, we count Éric Zemmour, Marine Le Pen, and Valérie Pécresse. Thus, unless Jean-Luc Mélenchon from La France insoumise (LFI) manages to rally the left, no candidate from the left should reach the second round. Zemmour and Le Pen are both from the far right while Pécresse represents the more traditional right under Les Républicains (LR), although she is more extreme than LR’s median party member. Zemmour and Le Pen would have a hard time defeating Macron in the second round for being too extreme. Pécresse, however, would represent a real threat to Macron’s re-election bid. In a second-round scenario, Pécresse could potentially attract some of Zemmour and Le Pen’s voters who would want to see Macron gone. To be sure, very few or none of the extreme-right voters would prefer to cast a vote for Macron. A second round between Pécresse and Macron would be a tight race and its outcome would hinge, in part, on what the disaffected left voters would do. In theory, they should be more attracted to the centrist candidate, Macron. Many, however, are very unhappy with his government and, in particular, with his handling of the COVID-19 crisis. If many of them also decide to sit out in the second round, Macron might well lose his re-election.

**Discussion and Conclusion**

In this paper we have examined the relative efficiency of the Iowa model – a commonly used forecasting model in France – and the proxy model – a variant of the Iowa model – in predicting the vote for all left-wing candidates in the 1965-2017 French presidential elections. We have shown that the proxy model may perform better than the Iowa model when it comes to predicting the vote for left-wing candidates in these elections. In additional tests, we used the proxy model to forecast the vote for left-wing candidates in the upcoming 2022 presidential election. The
proxy model predicts that Macron may pass to the second round, and that he may win the election if competing with a more extreme right-wing candidate like Le Pen or Zemmour. However, the forecast suggests that a Macron victory is less certain against a more moderate right-wing candidate like Pécresse.

Note that the greater flexibility of the proxy model is desirable but also comes with certain drawbacks. Most importantly, in comparison with the Iowa model, the proxy model adds a significant layer of complexity that relates to the identification of the type of different elections. Furthermore, as the Iowa model, the proxy model is limited in that it predicts the vote for the left, and, in this way, it cannot really say who is likely to win when two right-(or left-)wing candidates are competing in the second round of an election. Given the growing tendency of the left to be excluded from the second round of French presidential elections, this represents an important limitation of both the Iowa and the proxy models.

In conclusion, a key take-away message from this study is that, while the classic Iowa model has been often used to estimate the vote for left-wing candidates in France, it actually performs less well than its variant – the proxy model – when we investigate its relative performance over the last ten French presidential elections. Given the remaining error from the proxy model, we hope that future research builds on this study and tests ways of improving its forecasts. We may think of using a measure of social unrest in the year preceding the election (e.g., Turgeon and Bélanger 2017), or an indicator of the overall balance of left-right ideology in the electorate prior to the campaign (e.g., Bélanger and Lewis-Beck 2010), or to rely on data disaggregated at the regional level (e.g., Foucault and Nadeau 2012). Future research may also want to examine second-order elections to get at a better understanding of the extent to which the proxy model represents a better forecasting tool than the Iowa model.

DATA AVAILABILITY STATEMENT
Research documentation and data that support the findings of this study are openly available at the Harvard Dataverse at https://doi.org/10.7910/DVN/ITAY0K.

CONFLICTS OF INTEREST
The authors declare no ethical issues or conflicts of interest in this research.

References


**Endnotes**

1 The regression equation obtained from the Iowa model is as follows: $V_{LEFT1_t} = 42.84 (.00) + .16 POP_{t-1} (.19) - 4.03 UNEMP_{t-1} (.15)$, with $p$-values in parentheses, MAE = 7.2. The equation obtained from the proxy model is $V_{LEFT1_t} = 11.65 (.01) + .59 EPI_{t-1} (.00)$; MAE = 4.3.

2 Extensive forecasting tests have indicated that it makes more sense to classify French centrist candidates together with all right-leaning candidates (see Bélanger et al. 2012).

3 The proxy regression equation obtained for the second round is $V_{LEFT2_t} = 33.08 (.00) + .31 EPI_{t-1} (.02)$; MAE = 1.8.