

FORECASTING ELECTIONS IN LATIN AMERICA: AN OVERVIEW

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INTRODUCTION

Before every election, politicians, pundits, political scientists, commentators, and ordinary citizens try to predict who will win. In recent years, the spread of public opinion polls and the rise of data journalists reporting on these polls have gained great attention, although the promised forecasts are not always achieved (Traugott, 2014). Of course, prediction can be improved with the proper application of voting theories accounting for the electorate's behavior. Good data for testing such theories are long time series, which expose the electoral variation under study and allow it to be subject to scientific statistical analysis. Data and theories organized under this mantle form the core of the election forecasting discipline (Leigh and Wolfers, 2006; Lewis-Beck, 2005; Lewis-Beck and Tien, 2011).

The science of electoral forecasting has a relatively long tradition in the United States (Lewis-Beck and Rice, 1992). A quarter of a century ago, scientific models that predicted elections were scarce. But since then, important advances have been made and are currently proliferating (Lewis-Beck and Stegmaier, 2014; Linzer, 2013; Linzer and Lewis-Beck, 2015). This literature has also seriously expanded in other industrial democracies, e.g., the United Kingdom (Whiteley et al., 2011), France (Nadeau et al., 2010), Canada (Bélanger and Godbout, 2010). For virtually every established democracy, some political scientist or economist has proposed at least one such model. Thus, beyond the opinion polls on voter intention, which increasingly appear in the press, scientific models have gained ground and

are often based on political and economic fundamentals heading into the election (Erikson and Wlezien, 2014; Lewis-Beck and Dassonneville, 2015; Bélanger and Trotter, 2017).

Commonly, these models postulate an equation that predicts government support, estimated via regression analysis of a vote function or a popularity function (Stegmaier et al., 2017). Depending on the characteristics of the country under investigation, the variables may differ somewhat, conceptually or empirically. The United States forecasting models tend to focus on the vote function, with the dependent variable expressed as party vote share. The French forecasting models started as popularity functions, but from there moved to vote functions (Dubois and Fauvelle-Aymar, 2004). In the British case, forecasting studies have been almost entirely popularity functions with the dependent variable as percentage of party support registered in a public opinion poll (Lewis-Beck et al., 2004).

The field of election forecasting has been a significant object of study in large Western democracies. More recently, attention has spread to other parts of the democratic world, such as the new democracies of Eastern Europe, and other democracies outside the European sphere, such as Japan (Lewis-Beck and Tien, 2012). But not as much attention has been paid to smaller, or less industrial, democracies (Lewis-Beck and Bélanger, 2012). However, for such democracies, especially those in countries with lower income levels, the election forecasting enterprise is just showing itself. The Latin American region represents an outstanding case of this relative neglect. The papers in our special collection aim to overcome this gap by gathering and systematizing advances in Latin American election forecasting that have been made by researchers there. In this way, we hope to encourage further scientific exploration of election forecasting in this pivotal part of the democratic world.

FORECASTING ELECTIONS IN NEGLECTED DEMOCRACIES: OPPORTUNITIES AND DIFFICULTIES

Different reasons could be put forward for why the science of forecasting elections has not made more progress, overall, in the democracies of Latin America. We suggest a simple reason: the serious limitations that most, although perhaps not all, these countries face in terms of data gathering and access. That problem has at least four main aspects: 1) relative newness, even fragility, of the democratic system; 2) the small-N problem; 3) data availability; 4) contextual variations. We elaborate on these issues below.

The first aspect deals with the shorter, or perhaps more interrupted, democratic experience that prevails across the region. These countries have suffered from long periods of disruption of the democratic order, i.e. dictatorships,

non-competitive regimes, often without guarantees for free, competitive, and fair elections. Only recently integrated into the Third Wave of democracy, the most successful cases commonly have just reached between 30 and 40 years of unbroken democracy. As a consequence, many of these countries still face stages of democratic consolidation that coexist with patterns of instability, often resulting in a fragile state.

This brings us to the second point, the small-N data problem, i.e., too few data points for analysis. Most of these countries have only about 30 years of democracy, meaning about eight general elections and, where non-concurrent elections exist, 16 or so midterm elections. With such a short time period and scarce number of observations, even construction of a statistically secure baseline prediction model becomes problematic.

The third problem concerns data availability. In many countries in the region, access to electoral result records poses grave obstacles, as does access to data about popularity from public opinion polls. This makes cross-national comparisons, for example, very difficult.

The last aspect refers to contextual variations, e.g., contrasting cultures, volatile party systems, large economic swings, etc. This implies that in order to have vote prediction models that conform adequately to the country (or countries) under study, it may be necessary to incorporate these factors. However, completion of this task risks putting the attainment of an operative general model out of reach.

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So far, what does the published literature on election forecasting in the region consist of? We systematically searched for relevant articles in the following journals: *International Journal of Forecasting*; *Electoral Studies*; *Latin American Journal of Public Opinion (RLOP)*; *Latin American Research Review (2013-2016)*; *Latin American Politics and Society (2013-2016)*; *Latin American Perspectives*; *Political Science Review (Chile)*. Then, we checked the following journal databases: JSTOR, SCIELO, Google Scholar, Science Direct, Elsevier and Springer Links. Finally, we examined the references listed in the articles we found. The results are presented in Table 1.

Table 1 shows the papers published that relate to forecasting elections in Latin American countries. As can be seen, not much exists, except for scattered pieces on campaigns or polling data. In particular, the Latin American forecasting literature has been heavily concerned with understanding campaign poll biases (that lead to prediction errors in voting intentions, sampling error, survey errors) and correcting for these biases.

Table 1. Articles published on forecasting elections in Latin America

Year	Authors	Title/journal	Scope/countries
2020	Bunker, K.	«A two-stage model to forecast elections in new democracies». <i>International Journal of Forecasting</i>	Comparative 11 Latin American countries: Argentina; Brazil; Chile; Colombia; Costa Rica; Ecuador; El Salvador; Mexico; Paraguay, Peru; Uruguay
2017	Kennedy, R., Wojcik, S. and Lazer, D.	«Improving election prediction internationally». <i>Science</i>	Comparative Worldwide
2016	Bunker, K. and Bauchowitz, S.	«Electoral forecasting and public opinion tracking in Latin America: an application to Chile». <i>Revista de Ciencia Política</i>	Single country Chile
2018	Rodríguez S., Allende-Cid, H.; Palma, W., Alfaro, R., Gozález Arias, C. Elortegui, C. and Santander, P.	Forecasting the Chilean electoral year: using twitter to predict the presidential elections of 2017. In: Meiselwitz G. (eds) <i>Social Computing and Social Media. Technologies and Analytics</i> .	Single country Chile
2017	Santander, P., Elórtegui, C., González, C., Allende-Cid, H., and Palma, W.	«Redes sociales, inteligencia computacional y predicción electoral: el caso de las primarias presidenciales de Chile 2017». <i>Cuadernos</i>	Single country Chile
1999	Beltrán, U. and Valdivia, M.	«Accuracy and error in electoral forecasts: the case of Mexico», <i>International Journal of Public Opinion Research</i>	Single country Mexico
2016	Mendoza, L. E. and Nieto-Barajas, M.	«Quick counts in the Mexican presidential elections: A Bayesian approach». <i>Electoral Studies</i>	Single country Mexico

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Year	Authors	Title/journal	Scope/countries
2016	Cantú, F., Hoyo, V. and Morales M. A.	«The utility of unpacking survey bias in multiparty elections: mexican polling firms in the 2006 and 2012 Presidential Elections», <i>International Journal of Public Opinion Research</i>	Single country Mexico
2014	Moreno, A., Aguilar, R. and Romero, V.	«Estimaciones de encuestas preelectorales en México: en busca de las principales fuentes de error». <i>Revista Latinoamericana de Opinión Pública</i> .	Single country Mexico
2012	Turgeon, M. and Rennó, L.	«Forecasting Brazilian presidential elections: Solving the N problem». <i>International Journal of Forecasting</i> ,	Single country Brazil
2015	Maldonado, M. and Sierra, V.	«Can social media predict voter intention in elections? The case of the 2012 Dominican Republic Presidential Election.» Paper delivered at <i>Americas Conference on Information Systems (AMCIS)</i>	Single country Dominican Republic
2001	Oliva, M.	«Aplicación de las encuestas en la investigación del comportamiento electoral». <i>Metodología de Encuestas</i>	Single country Argentina
2017	Castro, R. and Vaca, C.	«National Leaders' Twitter speech to infer political leaning and election results in 2015 Venezuelan Parliamentary Elections,» <i>2017 IEEE International Conference on Data Mining Workshops (ICDMW)</i>	Single country Venezuela

Source: own elaboration.

Overall, from these sources, we identified a total of 13 published papers. Almost all were published in the last ten years or so, with only two exceptions: Beltrán and Valdivia (1999), and Oliva (2001). Further, just two papers are comparative. The paper of Bunker (2020) compared 11 Latin American countries and the paper of Kennedy et al. (2017) made a worldwide comparison pooling 85 countries across the world, including some in Latin America. Both these studies rely on poll aggregation and correct for various systematic biases (e.g., sampling, context). Regarding single country studies, Mexico and Chile lead the way, the former with four papers and the latter with three. For the remaining countries, there exists a scatter of single paper exercises for the following: Argentina, Brazil, Dominican Republic, and Venezuela. These papers examine mostly presidential elections; just a few look at legislative elections.

For the most part, these papers rely on one of two very specific methods. The first one is a two-stage model, initially using vote intention polls and then applying to these results an error correction mechanism, i.e., Bayesian. The second method, more recent and gaining popularity, employs social media data to predict electoral results. These studies create a political sentiment measure using social media data (especially Twitter), which they apply in an effort to predict election outcomes in advance. These techniques are innovative and being used more widely, although the supporting literature for them remains quite limited.

Only one paper has a political economy model, that of Turgeon and Rennó (2012). In this paper, the authors addressed the small-N problem and developed a forecasting model to predict Brazilian presidential elections since 1994 using sub-national data of 27 states. The authors conclude that forecasting elections in recent democracies is neither futile nor impossible, as some of the models presented produced reasonably accurate forecasts. Their work stands closer to several United States election forecasting efforts, bringing together political and economic variables in a structural model of election forecasting (Erikson and Wlezien, 2014).

CONCLUSIONS

From a look at the literature generated by the Latin American electoral forecasting studies to date, we can affirm that, while there are as yet few studies, a relevant body of work is emerging, representing a brand new way of studying Latin American elections. The main goal of this special issue is to stimulate further research in the field. In this regard, a question arises: Is it possible to move beyond campaign poll models towards political-economy models or other types of models? Accurate forecasting argues for models and theories that allow us to capture Latin American realities. Will it be possible to generate models that allow forecasting in scenarios of democratic fragility and institutional and economic instability? If the

current work on economic voting in Latin America is any guide, it would seem a promising avenue (Lewis-Beck and Ratto, 2013; Nadeau et al., 2017, chapter 5).

Certainly, the sophisticated theoretical and empirical work represented by the scientific election forecasting studies in this collection offers grounds for optimism. We have assembled here a diverse sample of Latin American democracies—Argentina, Brazil, Chile, Jamaica, Peru—varying in terms of language, ethnicity, geography, size, and democratic history. Nevertheless, they share in common their success as pathbreaking forays into the forecasting thicket. Kenneth Bunker tests the accuracy of a Bayesian two-stage model, as applied to forecasting the outcome of the 2020 Chilean national plebiscite. Christopher Charles, Dalkeith Dempster, and Trevaun Welcome develop a statistical model based on the national economy, violent crime, and leader popularity which predicts, with good lead time, the 2020 General Election in Jamaica. Turning to Brazil, Frederico Bertholini, Lucio Rennó, and Mathieu Turgeon effectively build on their analysis of subnational units, adding the elections of 2010, 2014, and the turbulent 2018. With respect to Peru, Moisés Arce and Sofía Vera thoughtfully explore a parsimonious political economy equation to forecast support for the candidate who is «the lesser evil.» Celeste Ratto and Michael Lewis-Beck, tackling the complex case of Argentina, craft a classic political economy model that manages to perform, at least as well, if not better, than the usual vote intention polls. In sum, the body of scholarship at hand demonstrates that Latin American elections, crisis ridden and uncertain as they may sometimes appear, are still amenable to explanation, and even prediction, much as other democratic systems around the world.

Beyond the approaches on display in this collection, which involve structural, statistical models as well as more traditional public opinion polls, will it be possible to explore still newer approaches, such as citizen forecasting, a growing literature in other parts of the democratic world (Murr, 2016; Murr et al., 2021)? The citizen forecast idea appears simple enough: ask a sample of voters who they believe will win. What would Latin American data reveal on such a question? At present, we do not know. Clearly, one of the pending tasks for the future research agenda on election forecasting in Latin America would be overcoming this, and other noted, data limitation problems.

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