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Sleeping with the Enemy: Effective Representation under Dynamic Electoral Competition

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Abstract: *Electoral coalitions between ideologically incompatible parties – among other unconventional electoral strategies – may seem to threaten effective representation, signaling a breakdown of programmatic politics. However, this perspective overlooks parties' and voters' dynamic considerations. We propose and estimate a model of dynamic electoral competition in which a short-term ideology compromise, via an electoral coalition, offers opposition parties (and voters) the opportunity to remove an entrenched incumbent party from office, thus leveling the playing field in the future. This tradeoff provides a previously unrecognized rationale for coalition formation in elections. We take our model to data from Mexican municipal elections between 1995 and 2016 and show that coalitions between parties on opposite ends of the ideology spectrum have served as an instrument of democratic consolidation.*

Verification Materials: The data and materials required to verify the computational reproducibility of the results, procedures, and analyses in this article are available on the *American Journal of Political Science* Dataverse within the Harvard Dataverse Network at: https://doi.org/10.7910/DVN/LFLCMA.

Growing discontent with democratic politics in recent years has revitalized research into the signs and origins of well-functioning democracy. Democratic stability, scholars have long argued, largely depends on voters finding acceptable alternatives at the polls (Pitkin, 1967; Powell, 2004). When political parties pursue unconventional electoral strategies (Murillo and Calvo, 2019; Lupu, 2014) or compete for voters on non-programmatic grounds – for example, through vote-buying or clientelism (Stokes et al., 2013) – effective representation and the link between election outcomes, public policy, and government accountability may be threatened, fueling distrust of democratic institutions.

Electoral coalitions between ideologically incompatible parties constitute a stark example of such unconventional strategies.[1] They pose a puzzle: If electoral competition is fundamentally based on contrasting coherent policy agendas and values, what do parties on opposite ends of the ideology spectrum have to gain from joining forces against more centrist rivals? Standard intuition from spatial voting models would predict little to no benefits from such alliances (Downs, 1957). Should they be taken, then, as evidence of a breakdown of programmatic politics?

Consider the case of Mexico. For almost its entire democratic history, the three main contenders in elections at all levels of government have been the Party of the

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[1]Throughout, we use the terms 'electoral coalition' and 'electoral alliance' interchangeably. Ideologically incompatible alliances have been regularly observed in, for example, Latin America (Lupu, 2014), Eastern Europe (Tavits, 2011), India (Riker, 1982), Turkey (the longest coalition government since the 1960s involved the left-wing DSP and ultra-conservative MHP), and Greece (in 2015, the radical-left SYRIZA joined forces with the radical-right ANEL to oppose the center-right ND and center-left PASOK).

Democratic Revolution (PRD), the Institutional Revolutionary Party (PRI), and the National Action Party (PAN). Voters and experts widely agree that, at the federal level, PRD and PAN are, respectively, located to the left and right of PRI on the ideology spectrum. Moreover, legislators' ideological positions, as recovered from roll-call data, align perfectly with the ordinal ranking of the three parties.[2] Yet, since the 1990s, PAN and PRD have nominated common candidates against PRI in several subnational elections.

Given Mexico's well-documented history of electoral fraud, vote-buying, and clientelism (Magaloni, 2006; Simpser, 2017), it is tempting to conclude that the PAN–PRD coalitions reveal a dilution of party brands at the local level and electoral competition based on the distribution of political favors rather than on well-defined policy preferences. However, we provide evidence against this conclusion. Using a regression discontinuity design (RDD) on close elections, we demonstrate that Mexican mayors enact policies that are consistent with their party's ideology. Furthermore, we find that coalition and noncoalition mayors from the same party are indistinguishable with regard to policy choices, which rules out policy compromises as a cornerstone of the PAN–PRD alliance.

To understand the implications of seemingly unconventional electoral strategies, we argue that accounting for parties' and voters' dynamic considerations is crucial. We propose and estimate a model of dynamic electoral competition that allows for strategic coordination between parties by way of common candidate nominations. In our model, holding office over time enables the incumbent party to (potentially) build an electoral advantage. Opposition parties and voters then face a stark dynamic tradeoff: A short-term ideology compromise, via an electoral coalition, offers the opportunity to remove the incumbent from office, deplete its electoral advantage, and thus level the playing field in the future. This tradeoff provides a rationale for coalition formation in elections previously unrecognized in the literature.[3]

We estimate our model using data from Mexican municipal elections between 1995 and 2016. Our estimation strategy directly tackles the selection problem that arises from parties' observed coalition choices being informed by features of the electoral environment that are unobserved by the researcher – for example, candidates' valence (competence or charisma) and campaign efforts. We explicitly model and quantify the dynamic influence of these unobservables.[4]

Mexico provides an ideal setting in which to study the dynamics of electoral coalition formation for two reasons. First, at the subnational level, it has experienced decades of uninterrupted rule by PRI.[5] Thus, entrenched incumbency – reinforced by widespread clientelism – is an especially salient dynamic consideration. Second, although the PAN–PRD coalitions might seem anomalous from a static perspective, our results show they are in fact consistent with a long-term coping strategy by parties facing a dynamically disadvantageous environment.

In line with our RDD evidence, we report structural estimates of Mexican parties' policy preferences at the municipal level, which coincide with their national profiles. That is, we find that, in any mayoral term, PAN and PRD would both prefer PRI to be in power instead of each other. It is therefore the dynamic tradeoff outlined above what rationalizes their electoral alliance.

To illustrate these incentives at work, we analyze in detail coalition choices across two electoral cycles – 2012 and 2015 – in the state of Jalisco. These contests provide a demanding testing ground for our model given remarkable variation in the extent and configuration of the PAN–PRD alliance. In the five electoral cycles prior to 2012, PRI and PAN won 46% and 43%, respectively, of mayoral races in Jalisco. Given PAN's competitiveness in the state and our policy preference estimates, it is unsurprising that the party chose to run independently in every municipality in 2012. However, as part of a national comeback that included retaking the presidency, PRI won almost 70% of Jalisco's municipalities that year. As predicted by our model (over 95% correct predictions), PRI's resounding success altered PAN's dynamic calculus, compelling the party to join forces with PRD in over a quarter of municipalities in 2015. We show that the alliance specifically targeted municipalities with high PRI entrenchment and that its appeal for the two partners was rooted in increased future electability of independent PAN and PRD candidates conditional on coalition victories in 2015.

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[2]See Figure A1 in Online Appendix A (p. i).

[3]Studies of electoral (also called pre-electoral) coalitions have focused mostly on comparing their prevalence across electoral systems or on their role in shaping post-election government formation in parliamentary democracies, highlighting the ideological proximity of coalition partners (Carroll and Cox, 2007; Golder, 2006).

[4]Our estimation strategy follows Arcidiacono and Miller (2011). For a recent example of structural estimation of a dynamic model of interstate conflict without persistent unobservables, see Crisman-Cox and Gibilisco (2018).

[5]Although the victory of an opposition candidate in the 2000 presidential election arguably marked Mexico's official transition to democracy, by 2016 five states and 64 municipalities still had not experienced a transfer of power.

More importantly, rather than evidencing weakened interest in programmatic politics at the local level, our results indicate that the PAN–PRD alliance has served as an instrument of democratic consolidation in Mexico. With our structural estimates in hand, we simulate election outcomes under a counterfactual scenario wherein we prevent PAN and PRD from ever joining forces. We find that the hegemonic PRI would have won a share of municipal elections 21% higher than that observed in the data. In particular, the number of municipalities that have never experienced a transfer of power would have increased by 50%. Thus, PAN–PRD coalitions have opened the door to effective democracy in Mexican local politics.

Related Literature

Our article contributes to the broad literature on political competition in young and developing democracies. In these environments, parties often employ a portfolio of diverse electoral strategies that includes both nonpolicy appeals (Murillo and Calvo, 2019) and frequently revised programmatic promises (Lupu, 2014). Policy shifts (Adams, 2012) are typically interpreted as resulting from a static tradeoff for parties between differentiation and appeal (Lupu, 2016) – that is, giving up programmatic differentiation might be beneficial if it credibly brings parties closer to a larger share of the electorate.

Not surprisingly, unconventional coalitions in this context are often seen as a symptom of ideological shifts. For example, Lupu (2016) discusses how FREPASO in Argentina diluted its center-left brand after joining right-wing UCR in the 'Alliance for Work, Justice, and Education' against the Peronist party in 1997. Yet not all coalitions of the ends against the middle imply a decline in programmatic differentiation. In Brazil, for example, a phenomenon similar to the Mexican case can be observed: Although PT (left) and PSDB (right) have consistently remained at opposing ends of the ideology spectrum for the past two decades (Samuels and Zucco, 2014), they have entered into coalitions in several municipal elections.[6]

Our theory provides a novel explanation for this puzzle by framing it as an intertemporal decision problem faced by parties and voters: Short-term policy losses become acceptable whenever this leads to higher electoral competitiveness in the future and, thus, to a corresponding increase in the chances of getting their most preferred policies. In our framework, ideological positions are not adjusted but, rather, temporarily set aside, which creates the appearance of suboptimal short-term behavior. This intuition is present in Riker's (1982) discussion of party competition in India: *'Congress has been clearly defeated only when the opposition has been so consumed with intense popular hatred of Mrs. Gandhi [...] that politicians and voters alike could put aside their ideological tastes and act as if they ordered their preferences with Congress at the bottom of the list'*. Thus, our model is geared towards political contexts where the ideological positions of parties are well established and informative of policy outcomes.

Our article also speaks to a burgeoning literature on the factors that influence countries' transitions from one-party rule to more competitive democratic environments. One-party dominance often depends on the regime's ability to retain a monopoly over financial and institutional resources (Dasgupta, 2018). Indeed, control of public resources was a pillar of PRI's long-lasting electoral dominance in Mexico (Magaloni, 2006). In this context, we argue that the seemingly incongruent PAN–PRD coalitions have helped pave the way toward democratic consolidation: By cutting the entrenched PRI from the spoils of office, victorious PAN–PRD coalitions have increased the likelihood of future electoral success for both parties (Gandhi and Ong, 2019; Lucardi, 2016).
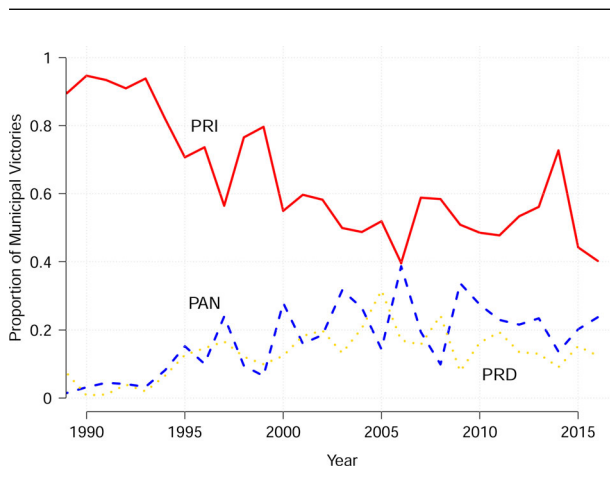
Mexican Municipal Elections

We focus our empirical analysis on municipal elections in Mexico between 1995 and 2016. The country is divided into 31 states plus the capital, Mexico City, which are further subdivided into more than 2,000 municipalities. Mayors are elected under first-past-the-post races, and they serve for 3 years without the possibility of reelection.[7] Candidates are primarily funded by their political parties, which in turn rely mostly on public funding. Together, short-term mandates, a constitutional ban on reelection, and strict limits on campaign finance and on independent candidacies have fostered an electoral system with very strong parties, where individual candidates have limited influence.

As noted, three parties have been the main contenders for public office at both the national and subnational levels. PRI, usually characterized as a broad center-left party, dominated Mexican politics for decades from its foundation in the 1920s to the late 1990s. PAN, viewed as center-right, has been the main opposition

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[6]In Online Appendix F (p. xxii), we provide suggestive evidence that the theoretical mechanism elucidated by our model may also be at play in these PT–PSDB alliances.

[7]A constitutional reform in 2014 introduced the possibility of reelection starting in 2018.

FIGURE 1 Evolution of Municipal Election Results

Note: This figure plots the proportion of municipal elections won by PRI (solid), PAN (dashed), and PRD (dotted) between 1988 and 2016.

party since its creation in 1939. Lastly, PRD, considered a left-wing party, was founded in 1989 by PRI dissidents who united several socialist organizations under a common umbrella.

Although reelection of individual politicians is forbidden in Mexico, parties have exploited their tenure in office to build an electoral advantage over their opposition. Parties – particularly the hegemonic PRI – have followed a strategy of selective reward and punishment, using public resources to nurture loyal voters through clientelistic networks, while similarly penalizing the opposition (Simpser, 2017).

Figure 1 shows the evolution of parties' municipal election victories since the 1990s.[8] Two features stand out. On one hand, the plot illustrates the gradual democratization of Mexican subnational politics taking place in this period, with a steadily increasing share of municipalities experiencing effective electoral competition and transitions of power. On the other, it shows that, by 2016, PRI still controls over 40% of municipalities.

Concurrently – starting in 1988 – Mexican parties have been allowed to join forces in elections through common candidate nominations. Coalition agreements are negotiated by party leaders prior to each election, and they must be publicly registered before the corresponding electoral authority (federal or state). For local elections, these agreements are binding and specify, for each municipality: (i) whether the coalition partners will nominate a joint candidate or independent candidates,

and (ii) in the case of a joint nomination, from which party's ranks will the coalition candidate be drawn. Importantly, coalition victors retain their original party affiliation once in power and are not bound to any particular policy platform.

Figure 2 plots the evolution of the proportion of municipal elections with PAN–PRD coalition candidates. As shown, PAN and PRD began experimenting with joint candidate nominations in a few municipalities between 1999 and 2009. Since 2010, however, the two parties have systematically deployed joint nominations in about a fifth of the country.[9] Figure B1 in Online Appendix B (p. ii) illustrates considerable variation across municipalities – both within and across states – and over time in the extent and configuration of the PAN–PRD alliance, which underscores its strategic nature.

Programmatic Politics in Mexico

A potential explanation for the emergence of electoral coalitions between ideologically incompatible parties is that policy preferences and party labels are in fact irrelevant for electoral competition in developing democracies such as Mexico. When parties prioritize the distribution of discretionary funds and personal favors over contrasting coherent policies and values, there are clear returns

## FIGURE 2 PAN–PRD Coalitions over Time
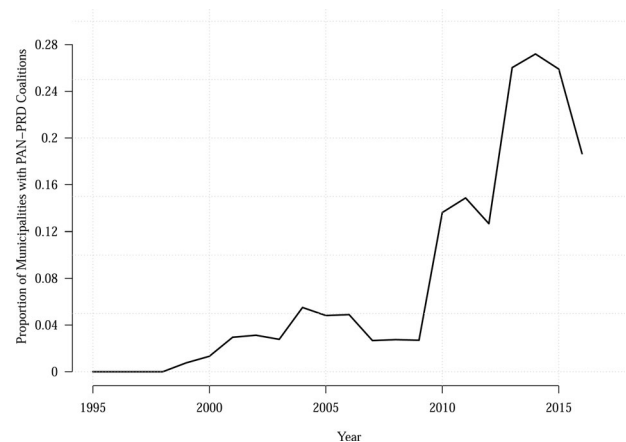
Note: This figure plots a two-cycle moving average of the proportion of municipal elections featuring PAN–PRD coalition candidates between 1995 and 2016.

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[8]We describe our data and sources below.

[9]This follows the 2009 federal midterm elections, which witnessed a remarkable comeback by PRI since it lost the presidency in 2000.

FIGURE 3 Municipal Social Spending by Party
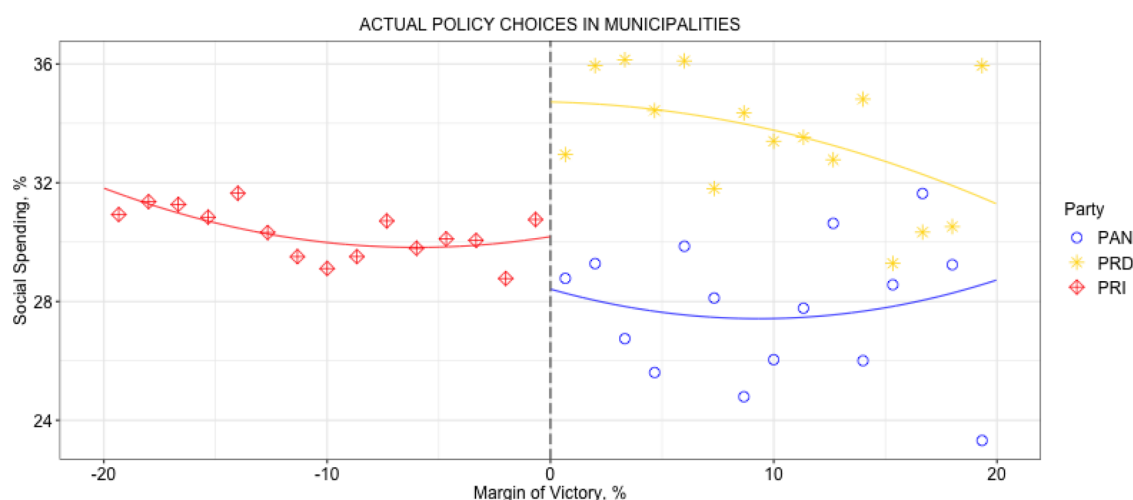
Note: This figure plots social spending as a percentage of the three-year municipal budget against PAN or PRD mayoral margin of victory for the period 1999–2015, where a negative margin indicates a PRI win. Each point represents the average value of the outcome in vote-spread bins of one percentage point. Solid lines depict predicted values, with separate quadratic trends for each party.

to scale from coalition formation, with limited ideological costs. However, we begin our analysis by showing that this narrow view is hard to reconcile with the Mexican experience. We provide evidence that, despite rampant vote-buying and clientelism, Mexican parties retain clear and consistent ideological positions, both at the national and subnational levels.

Pertaining to parties' national platforms, Figure A1 in Online Appendix A (p. i) shows that voters and experts widely agree on placing PRD, PRI and PAN, in that order, on a left-right ideology spectrum. Furthermore, using roll-call data, we demonstrate in Figure A1 that federal legislators' policy positions are consistent with their party's perceived ideology.

Municipal Policy Choices

Beyond national politics and party labels, little is known about the ideological congruence between Mexican local politicians and parties' national platforms. We fill this gap by providing novel evidence that elected mayors' policy choices indeed align with their party's ideology. We estimate an RDD that exploits narrow margins of victory in municipal elections to generate causal estimates of the effect of party labels on policy choices (Eggers et al., 2015). Our outcome of interest is social spending as a percentage of the three-year municipal budget, for which we have clear expectations of parties' preferences accord-

ing to ideology.[10] We use data on close elections between a PRI candidate and a – coalition or independent – PAN or PRD candidate. Our sample covers 1,898 municipalities between 1999 and 2015.

Figure 3 presents our results. The plot includes all elections with a margin of victory within 20 percentage points, and solid lines correspond to local quadratic trends for the social spending of each winning party.[11] Municipalities with close PRD victories devote, on average, about four additional percentage points of their budget to social spending than municipalities with close PRI wins – a 13% increase. In turn, municipalities with close PAN victories devote around 2 percentage points less to social spending than municipalities with close PRI wins – a 7% decrease. These effects are consistent with the national policy platforms of the three major parties – see Figure A1.

Moreover, we find no evidence of policy compromise concerning coalition mayors. Table B1 in Online Appendix B (p. ii) shows that the policy choices of both PAN and PRD coalition mayors are statistically

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[10]Municipal public finance data can be obtained from the National Statistics and Geography Institute (INEGI).

[11]Table B1 in Online Appendix B (p. ii) shows our results are robust to a narrower bandwidth and a local linear fit. The total number of elections in Figure 3 is 6,275, 518 of which feature PAN–PRD coalition candidates.

indistinguishable from those of corresponding noncoalition mayors.[12]

These results strongly suggest that, by nominating common candidates, PAN and PRD risk sacrificing, at least in the short run, their ideal policy for one that is more extreme than what would be implemented by the hegemonic, but centrist, PRI. We take this as our starting point for the model of electoral competition that we develop in the following section. To understand the emergence of PAN–PRD coalitions, we argue that parties' and voters' dynamic considerations must take center stage.

A Model of Dynamic Electoral Competition

Preliminary Evidence

Before describing our model, we briefly summarize some descriptive evidence – discussed in detail in Online Appendix C (p. vii) – that sheds light on the main predictors of coalition formation in the data. Although these results do not account for parties' strategic motives when deciding whether to nominate common candidates, they reveal systematic empirical patterns that underlie key modeling choices in what follows.

As noted above, there are reasons to expect Mexican parties – especially the hegemonic PRI – may exploit their time in power to progressively build an electoral advantage over their rivals. To explore this, we construct a measure of entrenched incumbency that goes beyond simply considering which party is in power at the time of an election. Rather, we wish to account for the entire recent history of incumbency by each party. Figure 2 makes clear that PAN–PRD coalitions were deployed in full force beginning in 2010, which we take as the starting point for our analysis. We then measure entrenched incumbency as the share of the *past five* electoral cycles won by each party.[13]

Using Bayesian logistic regressions (binary and multinomial) with municipality and electoral-cycle random effects, we probe the empirical relationship between entrenched incumbency and (i) the likelihood of a PAN–PRD coalition, (ii) the party affiliation of coalition candidates, and (iii) parties' electoral performance. First,

we find that PAN–PRD coalitions are significantly more likely in municipalities with high levels of PRI entrenchment. Second, perhaps unsurprisingly, the party affiliation of PAN–PRD coalition candidates is largely determined by the relative strength of the coalition partners – that is, the party with superior past performance tends to lead the coalition. Third, as expected, parties' electability improves markedly as their entrenched incumbency rises. In particular, PRI's probability of victory increases from 28% in municipalities with no recent PRI victories to almost 60% in municipalities with five uninterrupted victories, which is considerable given that these are multicandidate races. Lastly, we look at the relative performance of independent versus coalition PAN and PRD candidates. We find that coalition candidates outperform independent candidates only when PRI entrenchment is high. Although we cannot disentangle the causes with these reduced-form regressions, the evidence is consistent with the dynamic tradeoff at the heart of our argument. In line with standard spatial-voting intuition, PAN and PRD pay a substantial cost at the polls from forming an ideologically incompatible coalition in races against the hegemonic PRI that are relatively competitive. However, when PRI is highly entrenched, voters are seemingly willing to put their ideological tastes aside to temporarily support PAN–PRD coalition candidates.

In Online Appendix C, we further explore the dynamics of PAN–PRD coalition formation – in particular, the impact of past coalition choices and their performance on the likelihood and expected duration of future PAN–PRD coalitions. Consistent with our model, we show that PAN–PRD coalitions are less durable and more likely to fail once they have successfully depleted PRI's entrenched incumbency advantage.

Next, we formalize this intuition and describe our estimation strategy, which carefully accounts for potential unobserved confounders in the descriptive evidence.

The Model

We consider the choice by political parties engaged in repeated electoral competition to coordinate their efforts via coalition agreements. With an eye towards our empirical application, and for ease of exposition, we analyze this choice in a stylized environment with only four parties – PRI, PAN, PRD, and OTHER – where the prospect of coalition formation is entertained solely by PAN and PRD.[14]

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[12]In fact, although statistically insignificant, the coefficient estimates suggest that the gap between PAN and PRD's policy choices may be even greater for coalition mayors.

[13]Our results are robust to alternative windows of incumbency and to expanding the sample to include the period 1999–2009, during which PAN and PRD proposed joint candidates in only 1.5% of municipal elections – see Online Appendix E (p. xix).

[14]It is straightforward to allow for more complex coalition arrangements. However, coalitions involving PRI and either PAN or PRD

In each municipality $m \in \{1, \ldots, M\}$ and electoral cycle $t \in \{1, 2, \ldots\}$, parties compete under a first-past-the-post system to fill a single executive position. Prior to the election, the leaderships of PAN and PRD jointly decide whether to participate independently – nominating distinct candidates – or to form an electoral alliance – nominating a common candidate. If they decide to join forces, the coalition partners must also agree on the party affiliation of the coalition candidate. That is, PAN and PRD repeatedly face the choice to nominate independent candidates (denoted $j = 0$), a PRD coalition candidate ($j = -1$), or a PAN coalition candidate ($j = 1$). Although selecting $j = 0$ implies that PAN and PRD do not form a coalition in that contest, for convenience we refer to the two potential coalition partners simply as 'the coalition' given that they can exercise the option at any time. We denote by $\mathcal{J} = \{-1, 0, 1\}$ the set of alternatives available to the coalition.

The remaining parties, PRI and OTHER, participate independently in each election. Thus, given the coalition's choice $j \in \mathcal{J}$, the menu of competing candidates, denoted C_j, always features a PRI candidate and an OTHER candidate. Additionally, menu C_j may include either a PRD coalition candidate if $j = -1$, a PAN coalition candidate if $j = 1$, or both PRD and PAN candidates if $j = 0$.

Parties are infinitely lived and maintain fixed policy positions over time that are commonly known by voters and all other parties. In other words, party labels are synonymous with ideology. We specify the per-cycle payoff party $p \in \{1, \ldots, P\}$ derives from the outcome of an election as follows. Without loss of generality, we normalize the payoff of winning to zero. Whenever, on the other hand, party $p' \neq p$ wins the election, the payoff p obtains is given by the coefficient $\theta_{pp'}$. We make no attempt to separately quantify parties' office and policy motivations. Nevertheless, this simple payoff structure suffices to evaluate the relevance of party labels and, thus, ideology. If party labels are meaningless, one should expect the estimated value of $\theta_{pp'}$ to be constant across all $p' \neq p$, simply measuring the opportunity cost to p of foregone rents from office. However, if parties indeed care about the policies enacted by their ideological rivals, $\theta_{pp'}$ should additionally reflect (dis)utility from such policies, which would depend on the identity of the party in power.

Given these payoffs, the coalition partners base their decision of whether or not to nominate a joint candidate on their assessment of their electoral prospects with and without an electoral alliance. To forecast their electoral performance, parties rely on three pieces of information. First, they observe the recent hold on power by each party in the race – specifically, the history of victories by each party p in the past N electoral cycles: $I_{mt} = (I_{mt}^p)_{p=1}^P$, where $I_{mt}^p = (w_{m,t-N}^p, \ldots, w_{m,t-1}^p)$ and $w_{m\tau}^p$ is a binary indicator of whether party p won ($w_{m\tau}^p = 1$) or lost ($w_{m\tau}^p = 0$) the election in municipality m at time τ.[15]

Parties also pay attention to the quality or valence of potential candidates when deciding whether to form a coalition. With a slight abuse of notation, we let $\xi_{mt} = (\xi_{mt}^p)_{p \in \cup_{j \in \mathcal{J}} C_j}$ collect the valence of all potential candidates – treating independent and coalition candidates from the same party as distinct – where $\xi_{mt}^p = -1$ represents a 'bad' candidate from party p, $\xi_{mt}^p = 0$ represents an 'average' candidate, and $\xi_{mt}^p = 1$ represents a 'good' candidate. This dimension – unobservable to the researcher – corresponds to nonpolicy factors voters may value that are not captured by I_{mt}. Importantly, ξ_{mt} may reflect not only candidate-specific attributes, such as competence or charisma, but also the intensity of campaign efforts by parties. Because pooling campaign resources in support of a common candidate may be advantageous to coalition partners, our model explicitly accounts for the potential influence of these unobservables on observed coalition choices. In particular, a candidate from the same party may have higher valence as a coalition candidate than as independent due to the added support and campaign resources provided by the coalition partner.

Lastly, parties take into consideration the socioeconomic characteristics of the electorate at the time of election, which are described by a $K \times 1$ vector of (exogenous) covariates x_{mt} that may differentially affect parties' electoral prospects. Additionally, x_{mt} includes characteristics of the electoral cycle itself, such as whether there are concurrent elections at the state or federal level, which allows us to control for cyclical features of the electoral environment.

Prior to ballots being cast, the state of the election in municipality m at time t is described by $z_{mt} = (I_{mt}, \xi_{mt})$, which collects parties' incumbency histories and

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are not supported by the data, rendering them superfluous given the scope of this article: PRI's overwhelming strength eliminates any incentive for such alliances. Furthermore, coalitions headlined by other parties are extremely rare and dropped from our sample (our results are robust to this omission).

[15]Although other scholars have disentangled pure incumbency effects from other relevant factors including name recognition, accountability, clientelistic networks, or campaign resources (Klašnja and Titiunik, 2017), we make no such attempt. We allow incumbency status to bundle all potential advantages – in particular, clientelism – parties may exploit from their time in power.

candidates' valence.[16] Given the coalition's choice $j \in \mathcal{J}$, the probability that party $p \in C_j$ wins the election ($w_{mt}^p = 1$) takes the flexible form

$$f_{jmt}^p(z_{mt}; \beta) = \frac{\exp(x_{mt}'\beta_x^p + \iota(I_{mt}^p, \alpha)\beta_I + \xi_{mt}^p)}{\sum_{p' \in C_j} \exp(x_{mt}'\beta_x^{p'} + \iota(I_{mt}^{p'}, \alpha)\beta_I + \xi_{mt}^{p'})}, \quad (1)$$

where $\alpha \in [0, 1]$ is a discount factor, $\iota(I_{mt}^p, \alpha) = \sum_{n=1}^N \alpha^{n-1} w_{m,t-n}^p$ measures party p's net accumulated incumbency at time t, and $\beta = ((\beta_x^p)_{p \in \{1,\dots,P\}}, \beta_I, \alpha)$ is a vector of parameters to be estimated.[17]

Equation (1) parsimoniously captures the key determinants of election outcomes. First, $\iota(I_{mt}^p, \alpha)$ relaxes our entrenched incumbency measure described above by introducing a discount factor α.[18] This parameter determines how quickly the electoral importance of incumbency depreciates over time. If parties indeed exploit their time in power to build long-lasting political capital or ties to vulnerable segments of the electorate, then α should be close to one. However, if incumbency effects arise simply from holding office at the time of the election, α should be close to zero. Second, parties' probability of winning depends on the composition, x_{mt}, and partisan preferences, β_x^p, of the electorate. Finally, any non-ideological factors affecting parties' electability are captured through unobserved valence, ξ_{mt}^p.

We model candidates' valence as independently distributed across municipalities and over time, drawn from a distribution $\pi(\xi_{mt}|x_{mt})$ – to be estimated – that may condition on observable characteristics, x_{mt}. We do not impose any restrictions on the joint distribution of valence across parties or menus.

Given Equation (1) and parties' policy payoffs described above, party p's expected flow payoff in municipality m at time t under coalition choice $j \in \mathcal{J}$ is given by

$$u_{jmt}^p(z_{mt}; \theta, \beta) = \sum_{p' \in C_j} \theta_{pp'} f_{jmt}^{p'}(z_{mt}; \beta),$$

where $\theta_{pp} = 0$, as discussed, and the vector θ collects all parties' policy payoffs – to be estimated. The coalition's joint per-period surplus is then a weighted average of the partners' individual flow payoffs:

$$U_{jmt}(z_{mt}; \varphi) = \lambda_{s(m)} u_{jmt}^{\text{PAN}}(z_{mt}; \theta, \beta) + [1 - \lambda_{s(m)}] u_{jmt}^{\text{PRD}}(z_{mt}; \theta, \beta),$$

where $s(m)$ denotes the state to which municipality m belongs. As noted, coalition agreements are drafted and registered at the state level. Furthermore, in line with the descriptive evidence summarized above, and letting M_s denote the set of municipalities in state s,

$$\lambda_s = \frac{\exp\left(\beta_\lambda \sum_{m \in M_s} \frac{\iota(I_{m1}^{\text{PAN}}, 1) - \iota(I_{m1}^{\text{PRD}}, 1)}{|M_s|}\right)}{1 + \exp\left(\beta_\lambda \sum_{m \in M_s} \frac{\iota(I_{m1}^{\text{PAN}}, 1) - \iota(I_{m1}^{\text{PRD}}, 1)}{|M_s|}\right)}$$

parameterizes PAN's relative bargaining power in state s as a function of its initial average advantage in entrenched incumbency over PRD, where β_λ is a parameter to be estimated.[19] The vector $\varphi = (\theta, \beta, \beta_\lambda, \pi)$ collects all the parameters of the model.

Coalition partners take into consideration that their choices affect not only their current payoffs but also their future electoral prospects as parties' incumbency histories evolve. Given a discount factor $\delta \in (0, 1)$, the goal of the coalition is to sequentially choose coalition arrangements so as to maximize their expected discounted total joint surplus.[20] In each contest, we allow the coalition to experience an idiosyncratic shock ϵ_{jmt} to the joint surplus from choosing $j \in \mathcal{J}$. These shocks capture transient bargaining costs from committing to arrangement j, and they are observed by the coalition partners but not the researcher. As is standard, we assume that $\epsilon_{mt} = (\epsilon_{jmt})_{j \in \mathcal{J}}$ are independently drawn from the mean-zero Type-I Extreme Value (TIEV) distribution.

Letting $d_{jmt} = 1$ if the coalition chooses arrangement j in municipality m at time t, and $d_{jmt} = 0$ otherwise, the coalition seeks to maximize

$$\sum_{m=1}^M \sum_{t=1}^\infty \delta^{t-1} \sum_{j \in \mathcal{J}} d_{jmt} E_t[U_{jmt}(z_{mt}; \varphi) + \epsilon_{jmt}]. \quad (2)$$

Note that, because electoral rules allow the coalition partners to choose any configuration for their alliance across municipalities, objective (2) is separable across $m \in \{1, \dots, M\}$.[21]

Given (z_{mt}, ϵ_{mt}), let $V_{mt}(z_{mt}, \epsilon_{mt}; \varphi)$ denote the value function of the coalition's dynamic decision problem in municipality m at time t. This value function

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[16]We exclude the exogenous x_{mt} from z_{mt} and subsume it in the description of the electoral cycle (m, t).

[17]To capture pooled support of a joint candidate by the two coalition partners, we include in $\iota(I_{mt}^p, \alpha)$ for a coalition candidate the incumbency status of either partner – that is, $w_{m,\tau}^p = 1$ if either PAN or PRD won the election at time τ. Our main results are virtually unchanged if we instead let $\iota(I_{mt}^p, \alpha)$ be party-specific.

[18]Note that the entrenchment measure in Online Appendix C equals $\iota(I_{mt}^p, 1)/5$.

[19]Our results are robust to allowing bargaining power be municipality-specific.

[20]In our main specification, we set $\delta = 0.95$. As shown in Online Appendix E (p. xxi), our results are robust to alternative choices, but setting $\delta \geq 0.9$ fits the data best, which indicates parties are indeed forward-looking.

[21]To avoid overcomplicating the analysis, rather than explicitly modeling bargaining between the coalition partners in this dynamic environment, we assume that the parties are able to coordinate on some agreement on their Pareto frontier, which we pinpoint by estimating λ_s. This weight can be viewed as establishing the "terms of trade" in state s.

gives the maximum expected discounted joint surplus the coalition partners can attain from time t onward. Standard results from the theory of dynamic programming imply that this value function can be written as

$$V_{mt}(z_{mt}, \epsilon_{mt}; \varphi) = \max_{j \in \mathcal{J}} \left\{ v_{jmt}(z_{mt}; \varphi) + \epsilon_{jmt} \right\}, \quad (3)$$

where the conditional value functions $v_{jmt}(z_{mt}; \varphi)$ satisfy

$$v_{jmt}(z_{mt}; \varphi) = U_{jmt}(z_{mt}; \varphi)$$
$$+ \delta E_t \left[\max_{j' \in \mathcal{J}} \left\{ v_{j',m,t+1}(z_{m,t+1}; \varphi) + \epsilon_{j',m,t+1} \right\} \middle| d_{jmt} = 1, z_{mt} \right]. \quad (4)$$

The expectation in Equation (4) is taken conditional on the state of the election and on the coalition choosing alternative j at time t.

Together, Equations (3) and (4) make clear the essence of the coalition's decision problem and the key dynamic tradeoff they face. Although (3) resembles a static discrete-choice problem, in that optimal behavior at time t compels the coalition to choose a best alternative j given bargaining shocks ϵ_{mt}, notice that $v_{jmt}(z_{mt}; \varphi)$ is composed of two terms. The first, $U_{jmt}(z_{mt}; \varphi)$, is the coalition's immediate surplus from choosing j, which depends on the partners' expected policy payoffs from the outcome of the election at time t. From this short-term perspective, if PAN and PRD's preferences align with their national platforms and our RDD results, neither party has an incentive to stand down in support of its partner's candidate. Doing so means forgoing their favorite outcome – winning the election – while raising the probability of their least preferred outcome – their partner winning the election. However, the second term on the right-hand side of (4) captures the potential benefit of joining forces: Choosing $j \neq 0$ at time t may lead to a more favorable state $z_{m,t+1}$ in the next electoral cycle. We show below that this is indeed the rationale behind the PAN–PRD coalitions.

Empirical Strategy

Data. As noted, for each municipality m in our sample we take the first electoral cycle since 2010 as $t = 1$, and we use the previous $N = 5$ cycles (going back to 1995) to build I_{m1}. For $M = 1790$ municipalities, we observe up to $T_m \leq 3$ electoral cycles of characteristics of each municipality, x_{mt}, and parties' recent incumbency histories, I_{mt}. Election results are published by state electoral authorities. Coalition choices are available from local coalition agreements obtained via transparency requests to the electoral authorities.

Socioeconomic information about the electorate in x_{mt} is obtained from INEGI and INAFED, a decentralized federal agency tasked with monitoring municipal development.[22] We also control in x_{mt} for concurrent gubernatorial, congressional, and presidential elections. Lastly, although we do not have enough observations to include municipality fixed effects in x_{mt}, we add dummies for the five national electoral regions (*circunscripciones*) as designated by the federal electoral authority, INE. Our main results are robust to alternative specifications.[23]

Likelihood. While we relegate a detailed derivation of the likelihood of the data to Online Appendix D (p. xiii), we briefly describe here the intuition. At the start of electoral cycle t, the coalition partners observe the state of the election, z_{mt}. Given φ (and our distributional assumption regarding ϵ_{mt}), optimal dynamic behavior, as described by Equations (3) and (4), compels the parties to select – from the perspective of the researcher, who doesn't observe ϵ_{mt} – coalition arrangement $j \in \mathcal{J}$ with probability

$$l_{jmt}(z_{mt}; \varphi) = \frac{\exp\left[v_{jmt}(z_{mt}; \varphi) \right]}{\sum_{j' \in \mathcal{J}} \exp\left[v_{j'mt}(z_{mt}; \varphi) \right]}. \quad (5)$$

Conditional on this choice, the outcome of the election in period t is determined by the probabilities of victory, $f_{jmt}^p(z_{mt}; \beta)$. Parties' incumbency histories then evolve to $I_{m,t+1}^p$, a new set of candidates, $\xi_{m,t+1}$, is drawn from π, and thus the state of the election transitions to $z_{m,t+1} = (I_{m,t+1}, \xi_{m,t+1})$.

A crucial challenge in estimation, however, is that candidates' valence, ξ_{mt}, in z_{mt} is unobserved by the researcher and, thus, must be integrated out to obtain the likelihood of the observed data. We follow the two-stage estimation procedure proposed by Arcidiacono and Miller (2011) to recover the parameters of our model. In a first stage, we use a semiparametric estimator of $l_{jmt}(z_{mt}; \varphi)$ and the Expectation-Maximization (EM) algorithm to produce estimates of β and π. In a second stage, we exploit Equation (5) to construct a generalized method of moments (GMM) estimator of the remaining parameters, θ and β_λ. See Online Appendix D for details.

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[22]Table B2 in Online Appendix B (p. iii) provides summary statistics of all variables featured in the model.

[23]In Online Appendix E (p. xix), we explore the robustness of our findings to key modeling and sample choices. In particular, we report results using an expanded sample covering 1999–2016 as well as specifications setting $N = 4$, restricting unobserved valence to $\xi^p \in \{0, 1\}$, controlling for the party affiliation of the incumbent state governor, and exploring whether there are direct electoral benefits from supporting a coalition partner's candidate. Our main conclusions are virtually unchanged. Notably, we find no direct benefits from being a 'junior' coalition partner.

Estimation Results

We present four sets of results that summarize the main implications of our structural estimation exercise. First, we report estimates of parties' probabilities of victory. In particular, we quantify the electoral importance of incumbency history and unobserved valence, and we illustrate the key dynamic tradeoff faced by coalition partners. Second, we present estimates of parties' payoffs. Third, we perform a counterfactual experiment that explores the role of PAN–PRD coalitions as an instrument of democratic consolidation in Mexico. We conclude by analyzing in detail PAN–PRD coalition choices and their implications in a particular state as a case study.[24]

Electoral Performance

Parties' electoral performance is governed in our model by Equation (1), which is parameterized by $\beta = ((\beta_x^p)_{p \in \{1,\dots,P\}}, \beta_I, \alpha)$. Table B3 in Online Appendix B (p. v) reports our estimates of $(\beta_x^p)_{p \in \{1,\dots,P\}}$, the coefficients that describe how election outcomes are shaped by observable (exogenous) characteristics of the electoral environment. Overall, our results are consistent with well-known patterns of partisanship in Mexico. For instance, municipalities with older electorates tend to favor the three established national parties – PAN, PRI, PRD – over others, and municipalities with a higher share of female voters tend to favor the left-wing PRD, which was the first to decriminalize abortion, in Mexico City. However, in contrast to previous studies that document strong support for PRI in rural communities, we find that the link disappears once one controls for entrenched incumbency. This suggests, as discussed above, that PRI's strength in rural areas is due not to latent partisanship but to historical entrenchment that the party has successfully exploited to build ties with vulnerable voters (de Janvry, Gonzalez-Navarro and Sadoulet, 2014).

The remaining coefficients, (β_I, α), measure the electoral importance of holding on to power and its persistence. We estimate $\hat{\beta}_I = 0.235$ and $\hat{\alpha} = 0.968$, with standard errors 0.027 and 0.045, respectively. These estimates imply that holding office brings about substantial electoral benefits that depreciate very slowly over time, at a rate of approximately 3% per electoral cycle. Thus, dynamic considerations are an especially salient feature of electoral competition in this context.

To better illustrate the substantive implications of our estimates, we plot in the top-left panel of Figure 4

each party's probability of victory as a function of PRI's time in power. Specifically, we set observable covariates equal to their sample means and unobserved valence to zero – that is, an 'average' candidate – for all parties, using our coefficient estimates and Equation (1) to compute probabilities of victory given different incumbency histories. For comparison, the horizontal axis features the same measure of PRI entrenchment as Figure C1 in Online Appendix C (p. viii) – that is, the share of the past $N = 5$ electoral cycles won by PRI. We then take the empirical distribution of incumbency histories consistent with each possible level of PRI entrenchment, and we plot means (solid lines) and 95% confidence intervals (dashed) of parties' probabilities of victory. As shown, entrenchment has a sizable impact on PRI's electoral success at the expense of opposition parties, more than doubling its probability of winning from 27% with no previous victories to 65% with no defeats.

Although these results echo the descriptive evidence summarized above, they explicitly control for the influence of unobserved features of the electoral environment (i.e., competence, charisma, campaign efforts). We quantify this influence in the remaining panels of Figure 4. Using our estimate $\hat{\pi}$ of the distribution of unobserved valence across candidates, we recompute parties' probabilities of victory as a function of PRI entrenchment under three scenarios: for PRI (top right), PAN (bottom left), and PRD (bottom right), we condition on the event that the corresponding party draws a high-valence or 'good' candidate ($\xi^p = 1$).[25] The consequences are considerable. On average, parties' electoral prospects improve by about 20 percentage points following a good valence draw (and similar effects in the opposite direction result from 'bad' candidate draws).

Taken together, these findings help elucidate the rationale behind the PAN–PRD alliance. As is clear from Figure 4, when PRI entrenchment is high, PAN and PRD face a highly disadvantageous environment wherein, unless candidate valence draws are favorable (and, for PRD, perhaps not even then), their prospects for victory running independently are extremely limited. However, pooling resources in support of a common candidate may provide a valence boost that the parties can exploit to level the playing field in the future (Montero, 2016). Indeed, our estimate of candidates' valence distribution, $\hat{\pi}$, confirms this: Although PAN and PRD have on average only a 26% and 20% chance, respectively, of drawing a good candidate when running independently, the probability roughly doubles to 45% for a PAN joint candidate

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[24]See Online Appendix B (p. iv) for model fit.

[25]For instance, when $\xi^{\text{PRI}} = 1$, we use $\hat{\pi}$ to integrate over the conditional distribution of the remaining parties' candidates' valence.

FIGURE 4 Entrenched Incumbency, Unobserved Valence, and Electoral Prospects
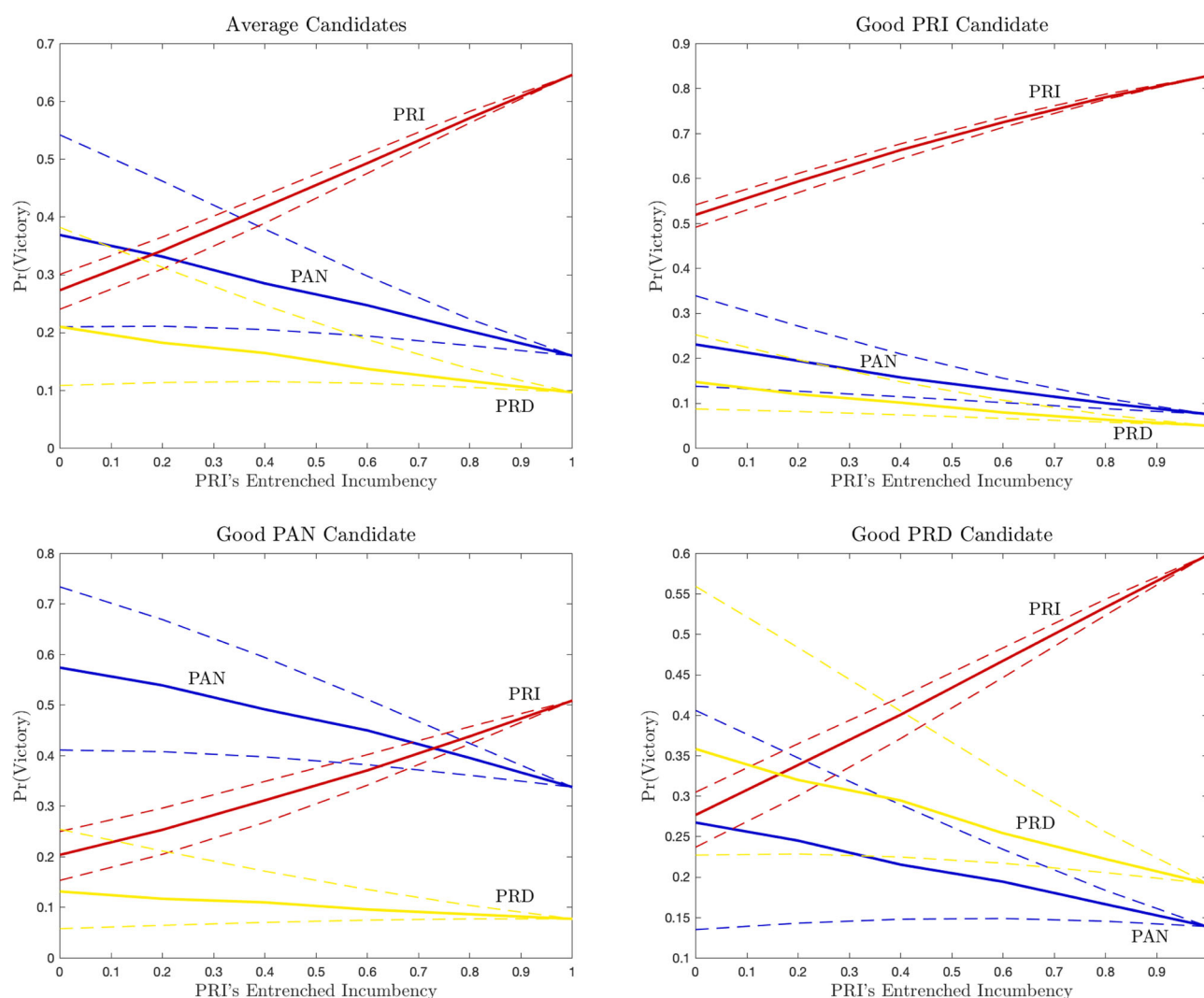
Note: This figure shows, for a representative municipality, the predicted probability of victory by each major party – PRI (red), PAN (blue), PRD (yellow) – as a function of PRI's entrenchment under different unobserved valence scenarios. Predictions are computed using Equation (1) and corresponding coefficient estimates. Solid lines depict means, and dashed lines delimit 95% confidence intervals, taking into account the empirical distribution of incumbency histories. In the top-left panel, we set unobserved valence to zero ($\xi^p = 0$) – that is, an 'average' candidate – for all parties. In the remaining panels, predicted probabilities are computed conditional on a 'good' candidate ($\xi^p = 1$) from PRI (top right), PAN (bottom left), and PRD (bottom right).
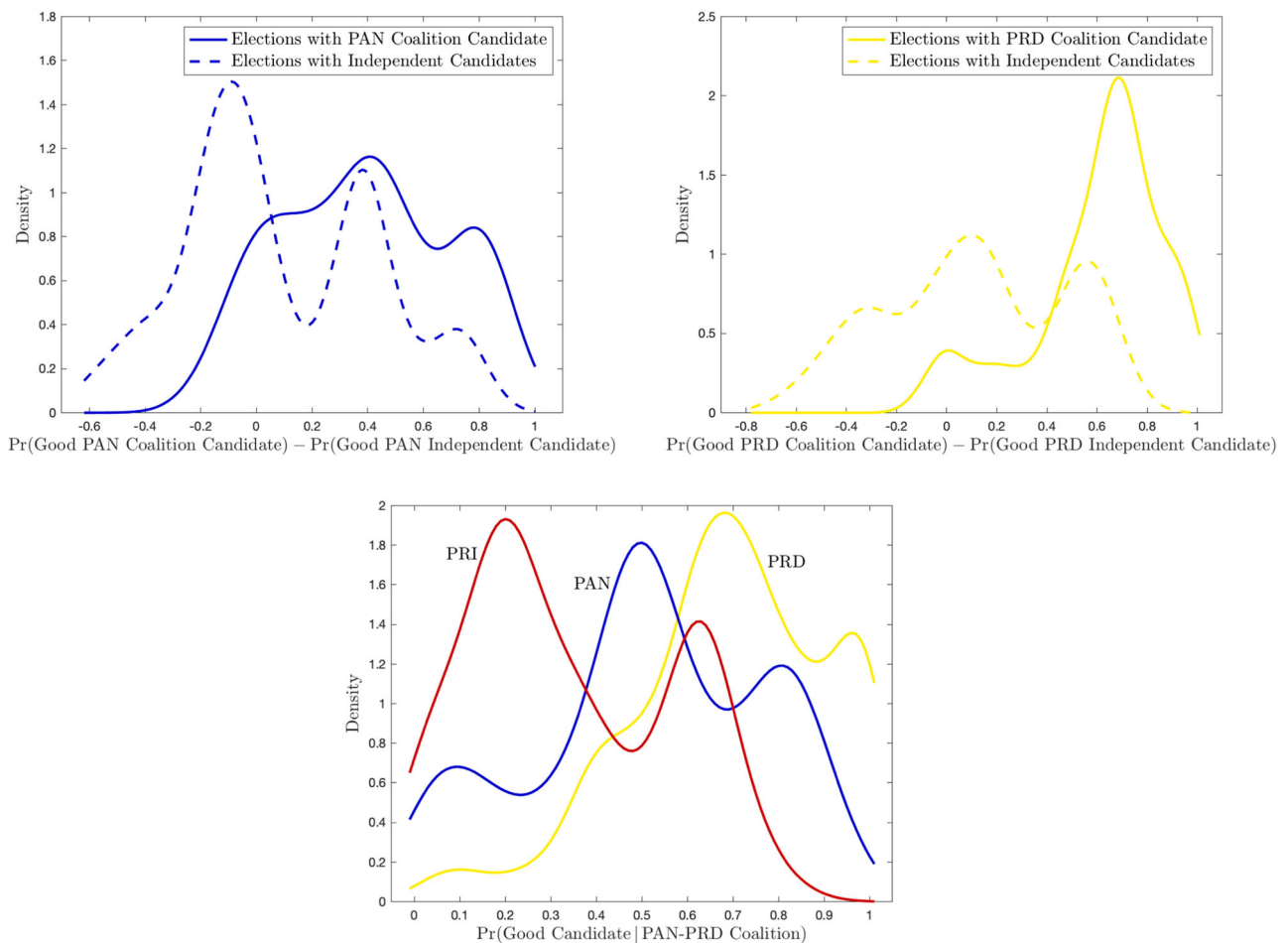
and 43% for a PRD joint candidate. This opens the door to defeating PRI, depleting its entrenched incumbency, and thus making future elections more competitive.

To show this logic at work, we compare in the top panels of Figure 5 the estimated *posterior* probability of drawing a high-valence candidate when running in coalition versus independently.[26] In the top-left panel of the figure, we compute, for each election in our data,

the (counterfactual) difference in the estimated posterior probability of a high-valence coalition versus independent candidate from PAN. We separately plot the distribution of this difference across races where PAN and PRD jointly nominated a PAN candidate (solid) and those where they ran independently (dashed). The top-right panel shows analogous distributions for PRD candidates.

In races where PAN and PRD chose to join forces, it is clear from Figure 5 that the valence gap between coalition and independent candidates was a crucial consideration. Recall that our estimate $\hat{\pi}$ of the ex ante

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[26]Application of the EM algorithm in our estimation procedure yields these posteriors (see Online Appendix D, p. xv), which can be taken as probabilistic estimates of realized valence draws in the municipal races in our sample.

FIGURE 5 Posterior Probabilities of High-Valence Candidates

Note: The top-left panel of this figure shows the distribution – across municipal races with (solid) and without (dashed) PAN–PRD coalition candidates – of the difference in the estimated posterior probability of drawing a high-valence PAN candidate when running in coalition with PRD versus independently. The top-right panel shows analogous distributions for PRD candidates. The bottom panel shows the distribution – across municipal races with coalition candidates – of the estimated posterior probability of drawing a high-valence candidate from PRI (red), PAN (blue), or PRD (yellow) conditional on a joint PAN–PRD nomination.

distribution of valence uncovers a considerable advantage for coalition candidates: As noted above, the average ex ante gaps in the probability of a high-valence draw are 19 and 23 percentage points, respectively, for PAN and PRD candidates. Yet the corresponding average posterior gaps (solid) in the top panels of Figure 5 are 44 and 58 percentage points for PAN and PRD, respectively. This implies that the parties rely heavily on superior valence when they choose to join forces, which underscores the importance of appropriately accounting for this selection process in our empirical analysis. Moreover, as shown in the bottom panel of Figure 5, selection on valence pays off. For PRI (red), PAN (blue), and PRD (yellow), we plot the distribution of the estimated posterior probability of a high-valence candidate across races with coalition candidates. Notice that PAN–PRD candidates

considerably outperform PRI candidates in this respect. While PAN and PRD coalition candidates have average posterior probabilities of being high valence of 54% and 72%, respectively, the average posterior probability for PRI candidates is only 35%.[27]

Parties' Payoffs

Our estimates of β and π reveal that the PAN–PRD coalitions are consistent with a long-term coping strategy by parties competing in a dynamically disadvantageous environment. It is possible, however, that the coalition partners may not face much of a short-run tradeoff if

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[27]In fact, the distributions for PAN and PRD candidates both first-order stochastically dominate PRI's.

FIGURE 6 Parties' Payoffs
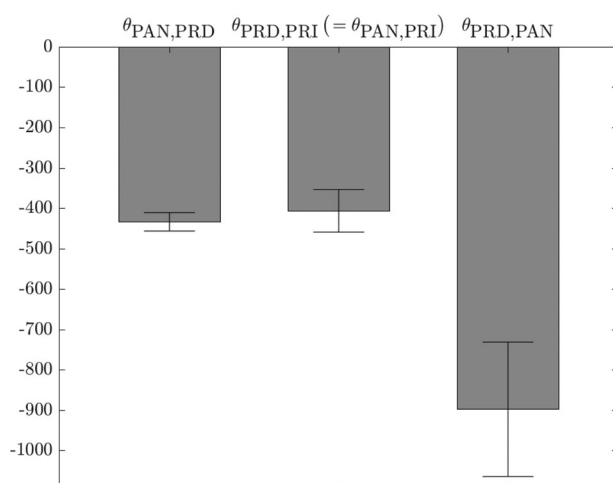
Note: This figure presents our estimates of $\theta_{PAN,PRD}$, $\theta_{PRD,PRI}$, and $\theta_{PRD,PAN}$, where $\theta_{pp'}$ denotes the payoff party p derives whenever party p' is in power. Recall that $\theta_{pp} = 0$ and $\theta_{PAN,PRI} = \theta_{PRD,PRI}$.

ideology is not a salient consideration. We present in Figure 6 our estimates of parties' payoffs, $\hat{\theta}_{pp'}$, along with 95% confidence intervals.[28] As in the case of ideal-point estimation in item-response models, in addition to the normalization $\theta_{pp} = 0$ discussed above, we impose an anchoring restriction on θ: $\theta_{PAN,PRI} = \theta_{PRD,PRI}$. This facilitates comparison of parties' payoffs on a common scale.

In line with parties' national ideological positions and our RDD results, we find that, at the municipal level, both PAN and PRD suffer a larger payoff loss when the other is in power than when the centrist PRI wins an election. Although PAN appears to have a weaker preference for PRI over PRD than PRD does for PRI over PAN, we cannot disentangle, as noted above, whether this is due to ideological proximity or to heterogeneity in the value of office for each party. Indeed, the RDD evidence in Figure 3 suggests that PRI is closer ideologically to PAN than to PRD. Nevertheless, given our results on parties' electoral prospects, it is clear that, by supporting their partner's candidate, PAN and PRD not only forego their favorite outcome – winning the election – but they substantially raise the probability of their least preferred outcome – their partner winning the election. This short-term loss is only justified by the benefits, outlined above, the coalition reaps if successful: depleting PRI's entrenched incumbency and thus leveling the future playing field.

Counterfactual: No Coalitions

Having uncovered the rationale behind the PAN–PRD alliance, we turn to quantifying its impact. With our estimated structural parameters in hand, we simulate municipal election outcomes in Mexico under a counterfactual scenario wherein we prevent PAN and PRD from ever joining forces. That is, for each municipality in our data that experiences at least one PAN–PRD coalition, we use our estimates of parties' electability given independent PAN and PRD candidates, $f_{0mt}^p(\cdot; \hat{\beta})$, to simulate election outcomes from the first such occurrence onward.

Figure 7 presents our results. For municipalities with PAN–PRD coalitions, the bar plot shows in dark gray the actual share of municipal election victories by each party as observed in the data, and in light gray it shows the corresponding average counterfactual shares along with 95% confidence intervals across 10,000 simulations.[29]

As expected, we find that, had PAN and PRD never joined forces, PRI's dominance in Mexican local politics would have been even greater. The magnitude is considerable: Although PRI's share of victories is 48% in the data, it could have been almost 60% without the PAN–PRD alliance. Interestingly, the coalition's gains are fairly

FIGURE 7 Election Outcomes with and without PAN–PRD Coalitions
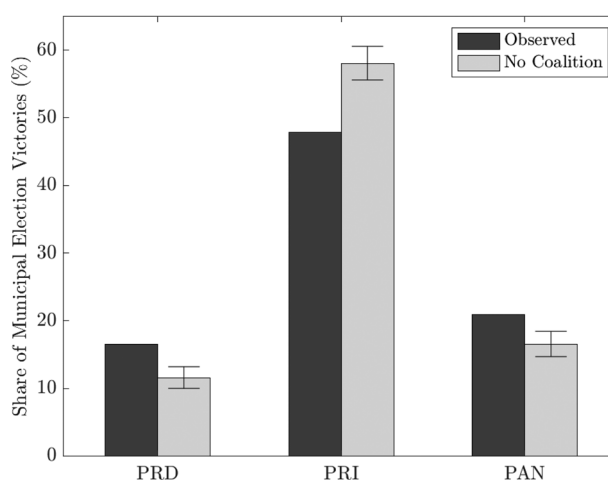
Note: For municipalities that experience at least one PAN–PRD coalition, this figure shows in gray the actual share of municipal election victories by each major party (PRI, PAN, PRD). In white, the figure shows the corresponding expected victory shares – along with 95% confidence intervals across 10,000 simulations – under a counterfactual scenario with no PAN–PRD coalitions.

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[28] Figure B3 in Online Appendix B (p. v) shows our estimates of PAN's bargaining power (λ_s) relative to PRD across states.

[29] Figure B4 in Online Appendix B (p. vi) shows PRI's corresponding shares over time.

FIGURE 8 Counterfactual Electoral Performance, Jalisco 2015
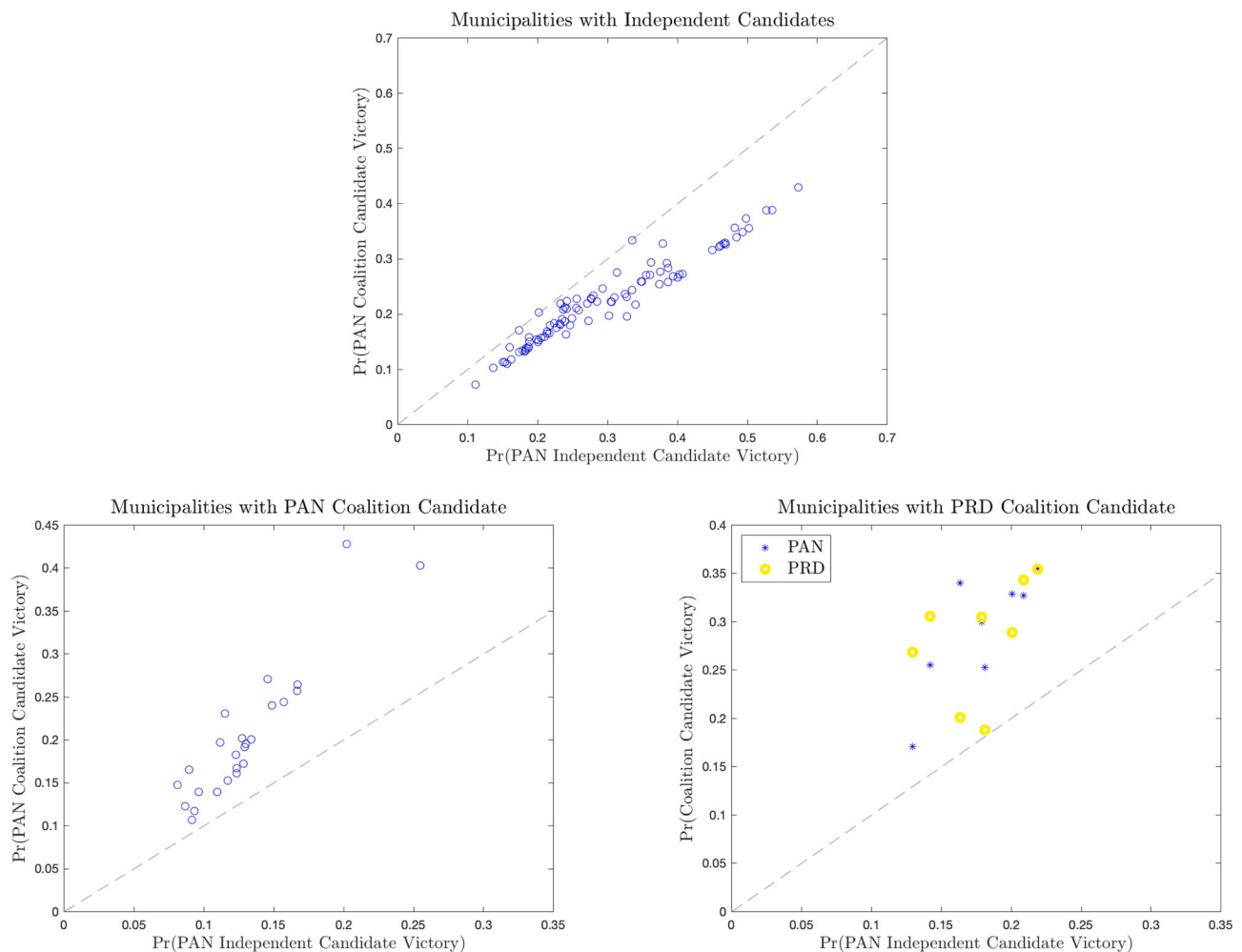
Note: This figure shows scatterplots of the probability of victory in 2015 by a PAN (blue) or PRD (yellow) coalition candidate (vertical axis) against that of an independent PAN candidate (horizontal axis). Predictions are computed using Equation (1) and corresponding coefficient estimates. The 45° line (dashed) is shown in gray. We provide separate plots for municipalities where, in 2015, PAN and PRD nominated independent candidates (top), a PAN coalition candidate (bottom left), or a PRD coalition candidate (bottom right).

evenly split between the two partners: PAN and PRD each enjoy about a 5 percentage point increase in their share of victories. This has substantial implications for democratic consolidation in Mexico following decades of one-party rule by PRI. In particular, among municipalities with PAN–PRD coalitions, 26 have never experienced a transfer of power. This number could have been 50% higher without the PAN–PRD alliance, with a 95% confidence interval between 31 and 48 municipalities.

Case Study: Jalisco

We conclude our analysis, after taking a broad look at the consequences of the PAN–PRD alliance, by zeroing in on a particular state: Jalisco. Our sample covers two electoral cycles. In 2012, PAN and PRD ran independently in every municipality. In 2015, however, PAN and PRD joined forces in 33 out of 124 municipalities: 25 with a PAN coalition candidate and 8 with a PRD candidate – see Figure B1 in Online Appendix B (p. ii). Notably, we estimate $\hat{\lambda}_{JAL} \approx 1$, consistent with the state being a historical PAN stronghold relative to PRD, which makes Jalisco a particularly interesting case study for our model. First, our model must capture the remarkable variation in PAN–PRD coalition choices in the state, both over time and across municipalities. Moreover, it should explain why, in a state where we estimate PAN essentially has full discretion over coalition choices, would the party agree to stand down in eight municipalities to support PRD candidates.

FIGURE 9 2018 PAN Electoral Performance Conditional on 2015 Outcome

Municipalities with PRD Coalition Candidate in 2015
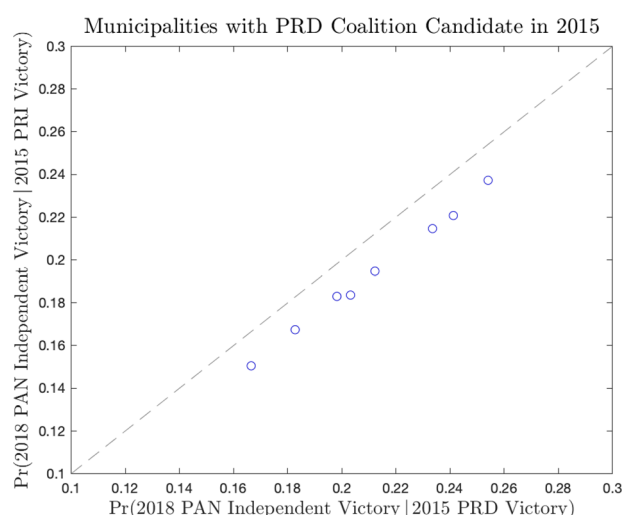
Note: The horizontal axis of this scatterplot measures the probability of victory by an independent PAN candidate in 2018 conditional on a PRD coalition candidate victory in 2015. The vertical axis measures the analogous probability conditional on a PRI victory. The 45° line (dashed) is shown in grey.

Our model correctly predicts over 95% of observed coalition choices – in particular, 24/25 and 7/8 municipalities with PAN and PRD coalition candidates in 2015, respectively. Consistent with standard discrete-choice intuition, such predictions follow from correctly estimating that the conditional value, $v_{jmt}(z_{mt}; \hat{\varphi})$, associated with the choice observed in the data is greater than that of any alternative. Unlike static discrete choice, however, these conditional value functions are defined implicitly by costly fixed-point calculations – Equation (4) – that encode the long-term impact of each alternative. Next, to better understand the choices observed in the data, we unpack the coalition's dynamic considerations, focusing on the most immediate consequences of alternative coalition configurations.[30]

First, we note that, in the five electoral cycles prior to 2012, PRI and PAN won 46% and 43%, respectively, of mayoral races in Jalisco. This illustrates PAN's relative competitiveness in the state and underlies the party's decision to run independently in 2012. However, PRI won almost 70% of Jalisco's municipalities that year. As predicted by our model, PRI's resounding success altered PAN's dynamic calculus, compelling the party to

[30]This is another key advantage of the structural enterprise: Although a reduced-form analysis of PAN–PRD coalition choices may also attain high predictive success, our approach allows us to disentangle the fundamental forces underlying our model's predictions.

join forces with PRD in over a quarter of municipalities in 2015.

Table 1 presents parties' estimated net accumulated incumbency, $\iota(I_{mt}^p, \hat{\alpha})$, in 2012 and 2015. We report averages across municipalities according to PAN and PRD's coalition choice in 2015. Three takeaways emerge. First, although PRI's accumulated incumbency rose from 2012 to 2015 throughout Jalisco, it rose the least and was lowest in 2015 among municipalities where PAN ran independently. In addition, according to PAN's net incumbency, PAN was most competitive in these municipalities, mitigating incentives to nominate coalition candidates. The top panel of Figure 8 shows a scatterplot of the counterfactual predicted probability of victory of a PAN coalition candidate versus that of each observed independent PAN candidate. Consistent with PAN's choice, independent candidates were indeed more competitive, eliminating the need to join forces with PRD.

Second, PRI's accumulated incumbency was lowest in 2012 but rose the most among municipalities with PAN coalition candidates. This suggests these municipalities were the easiest targets for the PAN–PRD alliance to regain ground from PRI. Moreover, PAN was more competitive than PRD in these municipalities according to their accumulated incumbencies. Unsurprisingly, then, PAN headlined the PAN–PRD coalition in these 2015 races. The bottom-left panel of Figure 8, analogous to the top panel, reveals that observed PAN coalition candidates were in fact considerably more competitive than counterfactual independent PAN candidates, justifying PAN's choice.

Third, PRI's incumbency was already highest in 2012 and nevertheless rose substantially in 2015 among municipalities with PRD coalition candidates. As a result, these were the toughest races, where PAN was least competitive. Furthermore, these municipalities were the most favorable to PRD, with PRD's accumulated incumbency surpassing PAN's in 2015. As shown in the bottom-right panel of Figure 8, PRD coalition candidates were broadly more competitive than counterfactual PAN coalition candidates, who in turn were more competitive than counterfactual independent PAN candidates. This alone, however, doesn't explain PAN's choice to stand down in support of PRD candidates. As discussed, from a short-term perspective, PAN would prefer PRI to win over PRD. Yet Figure 9 illustrates the dynamic benefit for PAN from supporting PRD candidates. Looking ahead to the 2018 electoral cycle, our model indicates that independent PAN candidates would be considerably more competitive in these municipalities following a PRD coalition victory in 2015 than under a further entrenched PRI incumbent.

TABLE 1 Parties' Net Incumbency in Jalisco by 2015 PAN–PRD Coalition Choice

	Independent candidates (2015)	PAN coalition candidate (2015)	PRD coalition candidate (2015)
PRI's net incumbency (2012)	2.157	2.010	2.338
PRI's net incumbency (2015)	2.255	2.298	2.463
PRD's net incumbency (2012)	0.144	0.637	1.177
PRD's net incumbency (2015)	0.135	0.480	1.070
PAN's net incumbency (2012)	2.200	1.702	1.176
PAN's net incumbency (2015)	2.038	1.536	1.032

Note: This table reports parties' estimated net accumulated incumbency, $\iota(I^p_{mt}, \hat{\alpha})$, in 2012 and 2015. The first column averages over municipalities where PAN and PRD ran independent candidates in 2015. The second and third columns average over municipalities with PAN and PRD coalition candidates, respectively.

Overall, this exercise highlights the remarkable heterogeneity in incentives for and consequences of coalition choices that our model, while parsimonious, is able to capture. And it corroborates the dynamic logic behind the PAN–PRD alliance.

Conclusion

We propose and estimate a model of dynamic electoral competition that allows for strategic coordination between parties by way of common candidate nominations. Our model explains the emergence of ideologically incompatible electoral alliances, in contexts where parties' platforms are well established, as a long-term coping strategy by partners facing a dynamically disadvantageous environment.

We take our model to data from Mexican municipal elections and show that parties on opposite ends of the ideology spectrum have indeed benefited from temporarily setting aside their ideological preferences in order to defeat a more centrist, but entrenched, incumbent. Given Mexico's long history of one-party rule, our results indicate that these alliances have served as an instrument of democratic consolidation, opening the door to effective electoral competition and accountability.

Similar unconventional electoral strategies are regularly deployed by parties throughout the world, particularly in developing democracies with dominant parties. Existing research has studied their implications exclusively from a static perspective, interpreting them as policy shifts, dilutions of party brands, or breakdowns of programmatic politics. Our results caution against such conclusions and call for more careful consideration of parties' and voters' dynamic incentives.

Our findings also highlight the importance of properly accounting for unobservables when analyzing parties' strategic behavior. It is particularly difficult to obtain data on candidate characteristics and campaign efforts as well as exogenous variation in parties' strategic choices. Instead, we explicitly incorporate unobserved heterogeneity into our model and allow it to inform these choices. As a by-product of our estimation, we quantify the substantial impact these unobservables can have on parties' strategic decisions and election outcomes. Although other scholars may disagree with some of our modeling choices, we hope our analytical approach provides guidance for future research in this respect.

References

Adams, James. 2012. "Causes and Electoral Consequences of Party Policy Shifts in Multiparty Elections: Theoretical Results and Empirical Evidence." *Annual Review of Political Science* 15(1): 401–19.

Arcidiacono, Peter, and Robert A. Miller. 2011. "Conditional Choice Probability Estimation of Dynamic Discrete Choice Models with Unobserved Heterogeneity." *Econometrica* 79(6): 1823–67.

Carroll, Royce, and Gary W. Cox. 2007. "The Logic of Gamson's Law: Pre-election Coalitions and Portfolio Allocations." *American Journal of Political Science* 51(2): 300–13.

Crisman-Cox, Casey, and Michael Gibilisco. 2018. "Audience Costs and the Dynamics of War and Peace." *American Journal of Political Science* 62(3): 566–80.

Dasgupta, Aditya. 2018. "Technological Change and Political Turnover: The Democratizing Effects of the Green Revolution in India." *American Political Science Review* 112(4): 918–38.

de Janvry, Alain, Marco Gonzalez-Navarro, and Elisabeth Sadoulet. 2014. "Are Land Reforms Granting Complete Property Rights Politically Risky? Electoral Outcomes of

Mexico's Certification Program. " *Journal of Development Economics* 110: 216–25.

Downs, Anthony. 1957. *An Economic Theory of Democracy.* New York: Harper and Row.

Eggers, Andrew C., Anthony Fowler, Jens Hainmueller, Andrew B. Hall, and James M. Snyder. 2015. "On the Validity of the Regression Discontinuity Design for Estimating Electoral Effects: New Evidence from Over 40,000 Close Races." *American Journal of Political Science* 59(1): 259–74.

Gandhi, Jennifer, and Elvin Ong. 2019. "Committed or Conditional Democrats? Opposition Dynamics in Electoral Autocracies." *American Journal of Political Science* 63(4): 948–63.

Golder, Sona Nadenichek. 2006. *The Logic of Pre-Electoral Coalition Formation.* Columbus, OH: Ohio State University Press.

Klašnja, Marko, and Rocío Titiunik. 2017. "The Incumbency Curse: Weak Parties, Term Limits, and Unfulfilled Accountability." *American Political Science Review* 111(1): 129–48.

Lucardi, Adrián. 2016. "Building Support from Below? Subnational Elections, Diffusion Effects, and the Growth of the Opposition in Mexico, 1984-2000." *Comparative Political Studies* 49(14): 1855–95.

Lupu, Noam. 2014. "Brand Dilution and the Breakdown of Political Parties in Latin America." *World Politics* 66(4): 561–602.

Lupu, Noam. 2016. Building Party Brands in Argentina and Brazil. In *Challenges of Party-Building in Latin America*, eds. Steven Levitsky, James Loxton, Brandon Van Dyck and Jorge I. Dominguez. Oxford: Cambridge University Press, 76–99.

Magaloni, Beatriz. 2006. *Voting for Autocracy: Hegemonic Party Survival and its Demise in Mexico.* New York: Cambridge University Press.

Montero, Sergio. 2016. "Going It Alone? An Empirical Study of Coalition Formation in Elections." Unpublished manuscript. University of Rochester.

Victoria Murillo, Maria, and Ernesto Calvo. 2019. *Non-Policy Politics: Richer Voters, Poorer Voters, and the Diversification of Electoral Strategies.* Cambridge: Cambridge University Press.

Pitkin, Hanna F. 1967. *The Concept of Representation.* Los Angeles, CA: Univ. Calif. Press.

Powell, G. Bingham. 2004. "Political Representation in Comparative Politics." *Annual Review of Political Science* 7: 273–96.

Riker, William H. 1982. "The Two-Party System and Duverger's Law: An Essay on the History of Political Science. " *American Political Science Review* 76: 753–66.

Samuels, David, and Cesar Zucco Jr. 2014. "The Power of Partisanship in Brazil: Evidence from Survey Experiments." *American Journal of Political Science* 58(1): 212–25.

Simpser, Alberto. 2017. "Clientelismo electoral, coacción y compra del voto en México." In *Fortalezas y debilidades del sistema electoral mexicano: Perspectiva federal y local*, eds. Luis Carlos Ugalde and Said Hernández. Mexico City: Tribunal Electoral del Poder Judicial de la Federación, 312–330.

Stokes, Susan C., Thad Dunning, Marcelo Nazareno, and Valeria Brusco. 2013. *Brokers, Voters, and Clientelism: The Puzzle of Distributive Politics.* Cambridge University Press.

Tavits, Margit. 2011. "Power within Parties: The Strength of the Local Party and MP Independence in Postcommunist Europe." *American Journal of Political Science* 55(4): 922–35.

Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Appendix A: Parties' National Platforms
Appendix B: Additional Figures and Tables
Appendix C: PAN-PRD Coalitions: Descriptive Evidence
Appendix D: Estimation Details
Appendix E: Alternative Model Specifications
Appendix F: Unconventional Coalitions in Brazil