Coattails and the Forces that Drive Them: Evidence from Mexico

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Abstract

Coattails and the forces behind them have important implications for the understanding of electoral processes and their outcomes. We estimate coattails from municipal to local congressional elections in Mexico. By assuming that political preferences for the local legislative candidates remain constant across neighboring sections, we exploit variation in the popularity of the municipal candidate across neighboring sections within the same electoral district in the legislative election. Observed coattails are of a considerable magnitude: a one percentage point in votes for a PRI, PAN or PRD's municipal candidate translates, on average, into a 0.45, 0.67 and 0.78 percentage point increase in vote share for the legislative candidate from the same party, respectively. We show that coattails are not smaller when the legislative candidate's winning probability is low, and that the degree of shared campaign advertising and information flows between neighboring section pairs does not explain their magnitude.

1. Introduction

Electoral coattails: candidates of a party obtaining votes they would not have obtained if not for the candidacy of a candidate from the same party running for another race (Miller 1955) - are easy to define, but, as we discuss below, notoriously hard to measure empirically. Yet, their presence may be crucial both for campaigning and for the balance of forces in post-electoral government (Ferejohn and Calvert 1984). Indeed, the extent to which popular politicians may provide electoral boost to their fellow party members running for other offices is potentially determinative of both internal party organization and of executive-legislative balance of power. Hence the importance of getting good estimates of the strength of and mechanisms generating coattail effects, which, over the years, has generated a large body of literature on the subject.

In this paper, we start by describing the empirical difficulties involved in consistently estimating coattail effects. We then exploit the unique characteristics of the Mexican electoral system to recover what we believe to be an unbiased estimate of the magnitude of coattail effects from municipal to state legislative elections. Finally, having identified the magnitude of these effects, we present additional tests aimed at disentangling the different channels through which coattails arise in the setting analyzed.

Though presidential coattails have received most of the attention in the literature (as, for instance, in Kramer 1971, Ferejohn and Calvert 1984, Campbell 1986, Campbell and Sumners 1990 or Mattei and Glasgow 2005), we follow a number of recent studies (such as Samuels 2000, Hogan 2005 or Meredith 2013) in concentrating on the subnational elections: an approach that allows us to observe variation not available in a nationwide presidential race. We exploit the fact that in Mexico state legislative districts and municipal boundaries frequently do not coincide and estimate coattails through a geographic regression discontinuity (GRD). As the state and municipal elections are typically run simultaneously, this allows us to estimate coattail effects by keeping all characteristics of the down-ballot (state

legislature) election constant, while observing variations in the popularity of the candidate for the local executive (municipal) office, using data on election results at the electoral section level (the smallest electoral geographic unit). By assuming that political preferences for the local legislative candidates remain constant across neighboring sections within the same electoral district but in different municipalities, we estimate coattails of considerable magnitude for the three main political parties in Mexico: a one percentage point increase in votes for the municipal candidate from a party translates, on average, into a 0.4 to 0.8 percentage point increase in vote share for the legislative candidate from the same party.

The channels through which coattails arise are then identified through a variety of tests. First, we explore how the *number of votes* for each party in the legislative election changes when the popularity of other parties increase at the municipal level. We find that a substantial part of coattails is driven by a reduction in the total number of votes for the competing candidates, implying that a large fraction of the effect is driven by individuals switching their vote decision in the legislative election, rather than simply an increase in turnout. Given that we observe the largest coattails for the parties with the lowest chances of winning the election, we argue that it is unlikely that the desire for coordination between the municipal authorities and state legislatures can drive the effect. And finally, using the availability of data on TV and radio reception at the electoral section level, we show evidence that our estimates remain unchanged when information flows among each pair of neighboring sections is larger.

The paper is presented as follows. Section 2 reviews the existing literature that estimates coattail effects in a variety of contexts, discussing the underlying identifying assumptions behind these estimations. Section 3 describes the setting and the empirical strategy used in this paper to identify coattails. Section 4 reviews the theoretical literature trying to explain the existence of coattails. Section 5 then describes the different empirical exercises that this paper performs in order to identify which of these channels

better explains the presence of coattails in the context analyzed. Section 6 presents the results. Section 7 concludes.

2. Identification of Coattails

Coattails are defined as the electoral advantage experienced by *down-ballot* candidates when their party's leading election candidate's popularity is higher, and they are believed to be an established regularity in a variety of settings. The empirical literature identifying such relationship abounds. For example, Kramer (1971), Calvert & Ferejohn (1983) and Born (1984), (2005) estimate presidential coattails in the US context; Samuels (2000), Magar (2001) and Hogan (2005) estimate gubernatorial and presidential coattails in the Brazilian, Mexican and the US contexts, respectively.

Causation is at the heart of the definition of coattails. It is *because* the leading election candidate is more popular that the down-ballot candidate obtains a larger vote share. However, a series of potential concerns can be raised with respect to the traditional tests of the existence of coattails, which threaten the interpretation of the estimated correlation as a causal one.

The most common empirical strategy used to estimate coattails can be summarized by an OLS specification of the following form:

$$DownBallot_{c,t}^{P} = \alpha + \beta LeadingElection_{c,t}^{P} + \gamma Z_{c,t} + \varepsilon_{c,t}$$

Where $DownBallot_{c,t}^{P}$ is the fraction of votes that the down-ballot candidate from party *P* obtained in election *c*, at time *t*;

$LeadingElection_{c,t}^{P}$ is the vote share obtained by the candidate from the same party, for the leading election;

$Z_{c,t}$ is a set of controls variables (such as state of the economy and incumbency of the down-ballot or leading election candidate, for example);

and $\varepsilon_{c,t}$ is an error term.

The identifying assumption for this type of specification to consistently estimate coattails is that all those factors captured by the error term are uncorrelated with the leading election candidate's vote share. For ease of exposition, we can group the potential confounding factors into three main categories: omitted variables, down-ballot election characteristics, and reflection bias.

We define the omitted variables as all those factors that may affect voters' choice over time and space that can have a direct impact on both the party for which they cast their vote in a leading and down-ballot election. More specifically, this refers to any temporal or geographic variation in voters' preferences for the competing parties in both elections, such as those driven by the state of the economy or the party's official position on specific subjects and policies. The extent to which all of these potential factors are observed by the econometrician ensures that the estimation of coattails is unbiased.

Our identification strategy, explained in greater detail below, will not attempt to discuss which variables are those that may bias the estimation of coattails and thus should be included in the analysis. Rather, it will simply assume (and partially test) that all variables other than the popularity of the leading election candidate do not vary across pairs of neighboring electoral sections for each particular election included in the empirical analysis.

The second category for potential sources of bias in the estimation of coattails is perhaps a more nuanced one: if coattails exist, incentives for candidates' participation and campaigning in a down-ballot election may change and, as a result, affect the election outcome directly (see, for instance, Ashworth and Bueno de Mesquita 2008 for a theoretical analysis of strategic candidate entry). The empirical literature has consequently argued that existence of a candidate-selection bias in races in which one candidate has an identifiable advantage makes the estimation of such an advantage a rather difficult task. This follows from the fact, that, as long as a potentially strong candidate is known to exist, other

candidates who will self-select into the contest may have, for example, a different ability level (because their chances of winning are lower) than those running against weaker opponents. Thus, for instance, Fowler and Hall (2014), in a context of incumbency advantage, argue that, as a result, the observed size of the candidate advantage may be biased, because it will not only capture the potential advantage that the incumbent has on its competitors through media appearances and the potential use of resources to finance her campaign, but also the potential differences in the characteristics of the competing candidates from those in a context where no incumbent is running. If such a bias exists in the incumbent advantage literature, it should also concern the attempts to consistently estimate coattails.

In order to fully capture these sources of bias, one needs to control for every characteristic of the down-ballot election (e.g. candidates or platforms) that may be affected by the popularity of the leading election candidate. The Mexican environment that we consider, as we will explain below, allows us to identify the existence of coattails controlling for all characteristics of the down-ballot election, and exploit only variation in the popularity of the leading election candidate, because we will focus the analysis not only on neighboring electoral sections, but also on those pairs of sections that face the same legislative election.

Finally, estimates of coattails may suffer from a reflection bias. In particular, if the popularity of a leading election's candidate affects down-ballot candidates' election outcomes, it is possible to argue that the reverse occurs: if down-ballot election candidates have a larger electoral support, leading election candidates may also benefit from an increase in votes. If such is the case, the estimate of the one-directional coattails will contain an upward bias. The evidence on existence of such reversed coattails is mixed. Thus, in the context of US presidential and legislative races Broockman (2009), using a regression discontinuity design based on close congressional races, finds no identifiable impact of congressional incumbency on presidential vote results. As we will explain later, our empirical analysis

considers the municipal election to be the leading one. However, we also perform an explicit test for the existence of reverse coattails[1], finding very little or no evidence for them.

3. Mexican Electoral System

In order to better understand our empirical strategy, we first provide the characteristics of the Mexican electoral context. Mexico is a multi-party, consolidating democracy with, during the period of our study, three major political parties disputing most of the positions at stake in local and federal elections: the Institutional Revolutionary Party (PRI), the National Action Party (PAN), and the Party of the Democratic Revolution (PRD)[2]. With regard to the parties' ideological position, while PAN is right-to-center and PRD left-to-center, PRI is generally considered as centrist, though for historical reasons, this unidimensional ranking may be an oversimplification. Crucially, parties receive important public financing and, until recently, there was virtually no access to candidate nomination except through them. Even more importantly, because of a long-standing constitutional prohibition, up till now no consecutive re-election has been permitted for any office. Hence, in all the elections we shall consider we do not have to worry about the biases caused by incumbency. Furthermore, the relative stability of the party system and the important role reserved for the parties in the electoral system ensure existence of clear partisan labels that all candidates subscribe to.

As a federation, Mexico is divided into 31 states and a Federal District, which in turn are divided into municipalities (the smallest administrative unit, somewhat similar to US counties). Each municipality typically directly elects a *municipal president* (mayor). Each state is also divided into local electoral

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[1] See Appendix 1.

[2] In all elections, the three major parties generally form coalitions with smaller parties, with the coalition candidate usually drawn from the largest party.

districts for the purposes of state legislative elections with a legislator elected in each electoral district (we shall, for simplicity, ignore the proportional component of the legislative elections here). We shall follow Mexican usage in calling state legislatures *local congresses* and their members *local congressmen.* Gubernatorial elections are usually held every six years, while both municipal and local congressional elections are held every three. Within each state, municipal and local congressional elections are normally held concurrently, but the year in which they are held varies across states. In any given year, all ordinary elections in all states would usually be held on the same day, and individuals cast their vote in the same precinct for all concurrent elections. Both municipal presidents and local congress members are elected by plurality rule and their immediate reelection is forbidden by law. Contrary to a common practice in the US, voters get separate ballots to vote in municipal and congressional elections, with no facilitation of "straight ticket" voting (potentially reducing magnitude of coattails – see Campbell 1957 for comparison). The paper ballots are deposited into separate urns for different races, making it impossible to explicitly detect split-ticket voting at individual level.

Crucially for this study, the number of municipalities and local legislative districts varies across states. Moreover, municipalities and local districts are not necessarily contained within each other. This translates into the possibility that individuals facing the same state legislative election face a different, concurrent municipal race. It should be noted that municipal boundaries, for the most part, have been established, at least, decades ago and, for most purposes can be considered exogenous for a given election or even present-day population distribution. State legislative boundaries during the period in question were drawn by state electoral commissions, which were not supposed to use explicitly political considerations in redistricting.

Our unit of observation is an electoral section (*sección electoral*), the smallest electoral geographic unit. Individuals are assigned to electoral sections based on their residence reported to the National Electoral

Institute (INE).[3] A section can have from one to 15 precincts in total, depending on the total registered voters, as the law dictates that at most 750 individuals can be assigned to a particular precinct. Within sections, individuals are assigned to a precinct in alphabetical order. In total, in 2012, there were 68,354 electoral sections in the country. Electoral sections are fully contained within both local districts and municipalities.

In our main specification, we consider municipal elections as the *leading* elections, while local congressional elections are treated as *down-ballot* elections. There are two main rationales for this choice. The first is that much of the literature focuses on identifying coattails from the executive to the legislative branch of government. Furthermore, due to absence of incumbency and the predominance of centralized party mechanisms in nominating legislative candidates in Mexico we conjecture that voters are much better informed about the performance and identity of their municipal president (and candidates) than their local legislator. In Appendix 1, we test this hypothesis by estimating a reverse coattails model using our data.

4. Data and Empirical Strategy: Coattails

In order to obtain clean causal estimates of coattails in the context analyzed, we impose some restrictions on our data. First, we focus on municipal and local congressional elections not held concurrently with any other votes (such those for president or governor), trying to avoid any bias arising from unobserved correlations between the popularity of candidates in other elections and local congressional or municipal candidates. Second, we restrict the sample to elections in which none of the three main parties ran in a coalition with one another. The intuition behind this is that, in those cases, the party from which each legislative and municipal candidate is drawn is unobserved (while potentially

[3] Called Federal Electoral Institute (IFE) during the period under study here.

known by the voters), and that it may differ across municipalities and between municipalities and legislative districts. Third, because we consider municipal elections our leading elections and local congressional elections as the down-ballot elections, we further restrict the sample to states in which there exists at least one local congressional district that partially contains more than one municipality. Due to these restrictions we concentrate on the 2013 election in Durango and the 2010 election in Yucatan. Details on the number of municipalities, local congressional districts and electoral sections in these states are listed in Table 1.

Three major data sources were combined for estimating coattails in this paper. First, we use the publicly available maps of electoral sections in Mexico, along with geographic information on state, municipal, and local district boundaries, obtained from INE. Second, information on the total number of votes obtained by all parties at the electoral section level for the municipal and local congressional elections listed in Table 1 were obtained from each state's electoral authority. Finally, we obtained information on a series of socio-economic indicators at the section level, processed from the 2010 Census and made publicly available by Mexico's statistical office (INEGI).

Our empirical strategy exploits a "Geographic Regression Discontinuity" (GRD). Identification of causal effects through empirical strategies like ours were pioneered by economists such as Card and Krueger (1994), who estimate the impact of minimum wages on employment, wages and prices and Black (1999), who estimates the impact of school quality on housing prices, and quickly became increasingly popular in political science. Researchers have exploited these techniques to estimate the impact of media on electoral outcomes in developed (Huber and Arceneaux 2007; Kern and Hainmueller 2008; Krasno and Green 2008, Keele and Titiunik, 2014) and developing countries (Larreguy, et al 2014), the relationship between informal institutions and a variety of outcomes (Miguel 2004; Posner 2004; Berger 2009), the impact of mobilization campaigns on electoral outcomes (Middleton and Green

2008) and that of road connectivity on political preferences (Nall, 2012) in the US context. To our knowledge, no study exploiting geographic discontinuities to estimate coattails exists.

The main empirical contribution of this paper is that we estimate coattails within neighboring electoral sections facing the same local election but a different municipal one. In practice, we then focus on electoral sections that border other electoral sections in different municipalities. We restrict our sample to all section pairs that that share a common boundary, face the same legislative election, and a different municipal election. Our final data then consists of 573 neighboring section pairs.

Figures 1 through 3 illustrate in better detail the construction of the section pairs included in the empirical analysis. Figure 1 shows the state of Durango and depicts the district (thick) and municipality (thin) boundaries, showing that there is sometimes more than one municipality within each electoral district. Figure 2 zooms into the electoral district shaded in Figure 1, and shades two boundaring municipalities within it. Finally, Figure 3 shows the electoral sections along the boundary of the municipalities shaded in Figure 2. Our empirical strategy restricts the sample to the electoral sections shaded in Figure 3, and identifying all the neighboring section pairs.

Our empirical strategy can be summarized by the following equation:

$$DownBallot^{P}_{i,S,d,m} = \alpha^{P}_{S} + \beta * LeadingElection^{P}_{i,m} + \varepsilon^{P}_{i,S,d,m}$$

Where $DownBallot^{P}_{i,S,d,m}$ is the fraction of votes obtained by the down-ballot candidate from party *P*, in section *i*, from section-pair *S*, in district *d* and municipality *m.* The fraction of votes is defined as the total number of votes received by party *P* divided by the total number of registered voters. $LeadingElection^{P}_{i,m}$ is the fraction of votes obtained by party *P* in municipality *m* in which section *i* is located (excluding the votes from section *i*). We calculate this variable as the quotient of all votes obtained by party *P* in the municipal election in all sections except section *i* and the total number of registered voters in those sections; α^{P}_{S} are section-pair fixed effects; and $\varepsilon^{P}_{i,S,m}$ is an error term.

The inclusion of the section-pair fixed effects allows us to interpret β as our coefficient of interest, which measures the increase in the vote fraction obtained by the local congressional candidate from party *P* in section *i* if the candidate for municipal president in the municipality in which section *i* is located obtained a one percentage point higher vote share in the concurrent election.

The main identifying assumption in our estimation strategy is that, within each pair of neighboring sections, political preferences are very similar, and that they only differ in the popularity of the municipal candidate in each of them. In order to provide some evidence on the validity of this assumption, Tables 2 to 4 show descriptive statistics for all electoral sections included in the analysis. For this comparison we divide the sample into halves by partisan voter share. The first column in Table 2 shows statistics for the sections in each pair with a higher PRI vote share in the municipal election, while the second does so for sections in each pair with a lower PRI vote share. Tables 3 and 4 repeat the exercise for PAN and PRD, respectively.

Table 2 shows that, within each section-pair, the popularity of the PRI municipal candidate does not imply any significant difference in the observable characteristics obtained from the 2000 Mexican Census. Table 3 suggests that the fraction of male individuals in sections where PAN obtained a relatively higher vote share in the municipal election are, on average, a little higher, and that households are less likely to have running water. However, the t-statistic for the difference in means test implies that both differences are only significantly different from zero at the 10 and 5 percent confidence level, respectively. Table 4 shows that in sections where PRD obtained a relatively higher vote share are also a little older on average and households within them are less likely to have piping. However, these differences are also only significant at the 10 and 5 percent level, respectively. Altogether, we interpret all this as evidence that our identification strategy is likely to be satisfied in the context we analyze.

5. What drives coattails?

Identifying the forces behind the existence of coattails is crucial to understanding its potential implications in terms of electoral outcomes. Having identified the magnitude of coattails, we will try to identify the precise channels that explain their existence. The empirical literature testing for the forces behind coattails is rather scarce. However, several theories have been suggested to explain their existence. We group these theories into three main categories: 1) coordination between different levels of government; 2) information spillovers; and 3) turnout.

The first hypothesis posits that, if individuals are rational, and the coordination between different levels of government can facilitate policy implementation, they should support their preferred leading candidate's party in local elections. If a presidential candidate is popular because of his policy platform, voters will desire that platform to be implemented. For example, Zudenkova (2011) develops a model assuming that office-motivated politicians prefer their counterpart to be affiliated with the same political party, leading the voter to adopt a joint performance evaluation rule, thus giving rise to coattails.

The second (information spillovers) includes a number of well-established theories of coattails. An early study in this direction was Mondak and McCurley (1994). They conjectured that voters may decide to look for "simple cues" as guides to their decision-making. Hence, their evaluations of candidates for the executive office may function as such a cue and guide their decision regarding which of the congressional candidates to support. Snyder and Ting (2002), in a theoretical model, proposed that party control over candidate selection may be used by voters to resolve their lack of information about the policy preferences of candidates. Building on that, Halberstam and Montagnes (2015) propose and test, using the data of US presidential and senatorial elections, a model in which ideological position of the leading candidate provides voters with a signal about the down-ballot candidates, thus generating endogenous coattails if the leading candidate is closer to the electoral mainstream than the follower.

Both policy coordination and informational explanations imply that the popularity of the leading candidate could change individuals' decisions on which party to cast their vote for in the down-ballot election. While they may also affect turnout, there exists an obvious direct connection between turnout and coattails. If one of the election candidates attracts more voters to the polls, either due to her personal popularity, as in Cain *et al*. (1984), or by undertaking a stronger turnout mobilization campaign, as in Caldeira *et al.* (1985), more individuals may decide to cast their vote, without changing their underlying preference for a specific party or platform. If this is the case, because the leading and down-ballot elections are held concurrently, if these voters tend to sympathize with the leading candidate's party with a higher likelihood, they will also cast their vote for such party in the down-ballot election with a higher likelihood. The popularity of the leading election candidate may not affect individuals' political leaning, but it may, through this channel, affect her party's vote share in other elections.

We empirically explore which of these three hypotheses better explains the coattails in our data. In order to test if it is the desirability of coordination between different levels of government that drives coattails, we simply explore if the magnitude of our estimates differs when the probability that the local candidate wins the election varies.

In order to provide evidence with respect to information spillovers driving coattails, we exploit the fact that most of the information received by voters during electoral campaigns comes from traditional media sources. We then use precise information on the coverage of all radio and TV networks at the section level for all of Mexico (also publically available from INE), and compute the share of all radio and TV networks whose signal covers either section within each section-pair that has coverage in both sections. With this information, we run regressions of the following form:

$$DownBallot^{P}_{i,S,d,m} = \alpha^{P}_{S} + \beta_1 * LeadingElection^{P}_{i,m} +$$

$$\beta_2 * LeadingElection^{P}_{i,m} * SharedNetworks_S + \varepsilon^{P}_{i,S,d,m}$$

Where all variables are defined as above, and $SharedNetworks_S$ is a measure of the fraction of networks with coverage in either section within each pair that have coverage in both.

In order to explore if coattails arise simply due to an increase in turnout of individuals who tend to sympathize with the municipal candidate's popularity, we explore not only how the popularity of the municipal candidate affects the vote share for her party's candidate in the local congressional election, but also that of the competing party's candidates. Because our construction of vote shares takes into the denominator the total number of registered voters and not the total number of votes cast, if coattails arise exclusively due to an increase in turnout, the popularity of the leading election candidate should only affect her party's vote share in the local election, but not her competitors'.

6. Results

6.1. Coattails

We start by presenting our estimates of the magnitude of coattails from municipal to local congressional elections in the Mexican context in Table 5. Column 1 runs the regression only adding section-pair fixed effects. Column 2 additionally includes all the control variables listed in Tables 2-4. In panel A, we focus attention on coattails for PRI, and in panels B and C, for PAN and PRD, respectively.

The results suggest that coattails from municipal to local congressional elections are large, present for all the three main political parties, and robust. A one percentage point increase in the vote share obtained by the PRI municipal candidate translates, on average, into a 0.46 percentage point increase in the vote share for the candidate for local congress. Coattails for PAN are a little larger: a one percentage point increase in the popularity of the municipal candidate translates, on average, into a 0.67 percentage point increase in the vote share of the local candidate. Coattails for PRD are the largest: our estimates suggest

that a one percentage point increase in the popularity of the PRD candidate implies a 0.78 percentage point increase in vote share for the local candidate.

6.2. The forces behind coattails

The fact that coattails are larger for PRD has important implications in understanding the forces driving the effect. In particular, if the voters' desire for coordination between municipal and local congressional authorities were driving coattails, one would expect them to only arise in a context in which the probability of such party winning the election is sufficiently high. Party strength in Mexico varies strongly by state, and though a major political force elsewhere, in the Yucatan and Durango elections we consider PRD did not win any of the legislative districts or municipal presidencies. On average, the vote share for the legislative and municipal elections obtained by PRD in the sections in our sample is 4 and 4.9 percent, respectively. On the other hand, PRI (PAN) obtained 40.1 (26.1) and 38 (26.3) percent of votes in the legislative and municipal elections, respectively. We conclude that the coattails identified in this paper are not likely to be explained by a desire of coordination between the different levels of government.

This and the information hypothesis may imply a change in voters' behavior in terms of whom to cast their vote for. However, because popular candidates can also attract more voters to the polls, coattails could be observed even in contexts in which each voter's preferred party remains unchanged, but turnout among the popular candidate's party's sympathizers increases disproportionately.

In order to explore to what extent the observed coattails have an impact on individuals' decisions about the party for which they cast their vote, we run regressions estimating the impact of the popularity of each of the municipal candidates not only on her party's vote share in the legislative election, but also that of her competitors. Because the denominator in our measure of vote shares is the total number of registered voters (instead of the total number of votes), finding that the one party's leading election

candidate's popularity negatively affects the number of votes obtained by a different party in the legislative election is informative. The negative coefficient can only be a result of a change in voters' decisions about which party to cast their vote for, or a disproportionate *decrease* in turnout from sympathizers of her political competitors.

Table 6 shows the results of these regressions. Panels A, B and C use as explanatory variable the fraction of votes obtained by the municipal candidate from PRI, PAN and PRD, respectively. Columns 1 through 3 use the fraction of votes obtained by the local congressional candidate from PRI, PAN and PRD, respectively, as the dependent variable. All regressions include, in addition to section-pair fixed effects, all controls listed in Table 2.

Column 1 in Panel A replicates the estimates of coattails for PRI (0.46 percentage votes for the local congressional candidate when the municipal candidate's popularity increases in one percentage point). While column 2 shows that PAN does not experience any decrease in total votes when PRI's popularity in the municipal election increases, Column 3 suggests that PRD does experience a significant loss in its vote share for local congress. In particular, a one percent increase in the vote share of PRI's municipal candidate implies a reduction in 0.2 percentage points of the pool of registered voters that cast their vote for PRD. Almost half of the PRI coattails are then driven by a decrease in votes for PRD.

Panel B suggests that the same is true for PAN coattails. While votes for the PRI legislative candidate do not decrease when PAN's municipal candidate's vote share is larger, the PRD legislative candidate suffers a significant loss in votes. Again, almost half of PAN coattails can be explained by a decrease in votes for PRD.

Finally, panel C shows the results for PRD. The vote share of PRD's municipal candidate has a negative and significant impact in the votes obtained by the PAN and PRI local congressional candidates.

Moreover, almost all of the increase in votes for PRD can be attributed to the decrease in votes for the other two main parties.

While an important fraction of PRI and PAN coattails cannot be accounted for by changes in individuals' party choice, these results suggest that coattails are not only driven by a disproportionate increase in turnout from the party's sympathizers.

6.2.b. Information Spillovers

In order to explore if the information received by voters when the popularity of the leading election candidate is higher drives coattails, we exploit the fact that most of the information received by voters during electoral campaigns comes from traditional media sources, and measure the fraction of all networks in each section-pair that has coverage in both sections.

Our intuition is that, in sections that share a larger percentage of networks, the information available for voters in both sections is more likely to be similar. And, if differences in information received by voters is what drives coattails, our estimates should be lower when both sections in each pair share the same information sources.

Regression results exploring if coattails differ when pairs of sections share a larger fraction of networks are presented in Table 7. Panels A, B and C focus on PRI, PAN and PRD coattails, respectively. Column 1 interacts the fraction of votes obtained by the municipal candidate with the fraction of shared TV and radio networks, while column 2 interacts the fraction of votes with the fraction of shared TV networks, and column 3 with the fraction of shared radio networks.

Throughout specifications, the coefficient on the different interactions is not significantly different from zero. While we cannot fully reject the information spillovers hypothesis, our results suggest that the information available to voters through traditional media does not explain the magnitude of coattails identified in this paper.

7. Conclusion

This paper exploits the unique characteristics of the organization of Mexican elections to arguably recover an unbiased estimate of the magnitude of coattail effects from municipal to local congressional elections. By only assuming that political preferences for the local legislative candidates remain constant across neighboring sections within the same electoral district but in different municipalities, we estimate coattails of considerable magnitude for the three main political parties in Mexico: a one percentage point increase in votes for the municipal candidate from PRI, PAN and PRD translates, on average, into a 0.45, 0.67 and 0.78 percentage point increase in vote share for the local candidate from the same party, respectively. As a first contribution, our results suggest that the potential biases in traditional estimates of coattails are not the main drivers of the estimates obtained.

Second, we provide additional evidence that can provide additional information trying to understand the forces behind them. Importantly, we find that a large fraction of coattails is driven by a reduction in the total number of votes for the competing candidates, implying that a large fraction of the effect is driven by individuals switching their vote decision in the local legislative election, rather than simply an increase in turnout. However, given that we observe the largest coattails for the parties with the lowest chances of winning the election. It seems then unlikely that the desire for coordination between the municipal authorities and state legislatures can drive the effect. In addition, we show evidence that our estimates remain unchanged when information flows among each pair of neighboring sections is larger, casting doubt on the validity of different theories of information spillovers driving them.

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Table 1

States and Elections in the Sample

States	Election Date	Municipalities	Legislative Districts	Electoral Sections
Durango	July 7, 2013	39	15	1419
Yucatan	May 16, 2010	106	15	1121

Table 2

Descriptive Statistics: Mean Differences in Observables Between Neighboring Sections

	Low Preference for PRI	High Preference for PRI	t-statistic for Difference in Means Test
Log of Population	6.561	6.559	0.0325
	(0.936)	(0.947)	
Mean Age	33.95	33.31	1.457
	(7.858)	(7.012)	
Fraction Male	0.506	0.508	-1.564
	(0.0255)	(0.0237)	
Fraction Aged less than 25	0.519	0.516	0.772
	(0.0699)	(0.0686)	
Fraction Aged 25-65	0.398	0.400	-0.484
	(0.0458)	(0.0443)	
Fraction with Access to Social Security	0.654	0.664	-0.753
	(0.231)	(0.232)	
Fraction Illiterate	0.151	0.147	1.196
	(0.0658)	(0.0605)	
Fraction with less than Primary Schooling	0.814	0.812	0.774
	(0.0596)	(0.0654)	
Fraction Indigenous	0.319	0.307	0.623
	(0.325)	(0.313)	
Fraction Rural	0.760	0.755	0.194
	(0.425)	(0.411)	
Fraction of Households with Dirt Floor	0.133	0.144	-1.065
	(0.169)	(0.191)	
Fraction of Households with Electricity	0.913	0.907	0.953
	(0.108)	(0.106)	
Fraction of Households with no Running Water	0.254	0.253	0.0264
	(0.263)	(0.260)	
Fraction of Households with no Piping	0.0657	0.0504	1.589
	(0.176)	(0.148)	
Fraction of Households with Children	0.234	0.234	-0.262
	(0.0288)	(0.0289)	
Observations	573	573	

* Significant at 10%, ** significant at 5%, *** significant at 1%.

Standard Deviations in Parentheses.

Table 3

Descriptive Statistics: Mean Differences in Observables Between Neighboring Sections

	Low Preference for PAN	High Preference for PAN	t-statistic for Difference in Means Test
Log of Population	6.594	6.526	1.219
	(0.894)	(0.986)	
Mean Age	33.74	33.52	0.509
	(7.722)	(7.175)	
Fraction Male	0.505	0.508	-2.051*
	(0.0234)	(0.0258)	
Fraction Aged less than 25	0.516	0.519	-0.887
	(0.0727)	(0.0656)	
Fraction Aged 25-65	0.400	0.398	0.604
	(0.0471)	(0.0428)	
Fraction with Access to Social Security	0.656	0.662	-0.402
	(0.235)	(0.227)	
Fraction Illiterate	0.146	0.151	-1.309
	(0.0607)	(0.0656)	
Fraction with less than Primary Schooling	0.810	0.816	-1.576
	(0.0674)	(0.0572)	
Fraction Indigenous	0.305	0.320	-0.797
	(0.314)	(0.324)	
Fraction Rural	0.754	0.761	-0.275
	(0.426)	(0.411)	
Fraction of Households with Dirt Floor	0.137	0.140	-0.292
	(0.183)	(0.179)	
Fraction of Households with Electricity	0.913	0.907	0.963
	(0.110)	(0.105)	
Fraction of Households with no Running Water	0.275	0.232	2.761**
	(0.267)	(0.255)	
Fraction of Households with no Piping	0.0552	0.0608	-0.582
	(0.153)	(0.173)	
Fraction of Households with Children	0.235	0.233	0.827
	(0.0307)	(0.0268)	
Observations	573	573	

* Significant at 10%, ** significant at 5%, *** significant at 1%.

Standard Deviations in Parentheses.

Table 4

Descriptive Statistics: Mean Differences in Observables Between Neighboring Sections

	Low Preference for PRD	High Preference for PRD	t-statistic for Difference in Means Test
Log of Population	6.542	6.579	-0.661
	(0.920)	(0.962)	
Mean Age	33.14	34.12	-2.217*
	(7.472)	(7.405)	
Fraction Male	0.506	0.507	-0.812
	(0.0252)	(0.0241)	
Fraction Aged less than 25	0.517	0.518	-0.312
	(0.0672)	(0.0712)	
Fraction Aged 25-65	0.400	0.397	1.213
	(0.0455)	(0.0445)	
Fraction with Access to Social Security	0.661	0.657	0.328
	(0.230)	(0.233)	
Fraction Illiterate	0.148	0.150	-0.522
	(0.0616)	(0.0648)	
Fraction with less than Primary Schooling	0.812	0.814	-0.640
	(0.0651)	(0.0599)	
Fraction Indigenous	0.316	0.310	0.330
	(0.326)	(0.313)	
Fraction Rural	0.755	0.759	-0.147
	(0.427)	(0.410)	
Fraction of Households with Dirt Floor	0.138	0.139	-0.0664
	(0.187)	(0.174)	
Fraction of Households with Electricity	0.914	0.906	1.266
	(0.0966)	(0.117)	
Fraction of Households with no Running Water	0.247	0.259	-0.764
	(0.264)	(0.259)	
Fraction of Households with no Piping	0.0486	0.0675	-1.963*
	(0.145)	(0.179)	
Fraction of Households with Children	0.234	0.234	-0.413
	(0.0277)	(0.0299)	
Observations	573	573	

* Significant at 10%, ** significant at 5%, *** significant at 1%.

Standard Deviations in Parentheses.

Table 5

Main Regression Results: Coattails		
Panel A: PRI		
Dependent Variable:	Fraction of PRI votes in Local Election	
Fraction of PRI Votes in Municipality	0.467	0.46
	[0.064]**	[0.064]**
Section-pair Fixed Effects	Yes	Yes
Controls		Yes
Constant	0.231	0.348
	[0.024]**	[0.362]
Observations	1146	1146
R-squared	0.62	0.66
Panel B: PAN		
Dependent Variable:	Fraction of PAN votes in Local Election	
Fraction of PAN Votes in Municipality	0.674	0.677
	[0.044]**	[0.043]**
Section-pair Fixed Effects	Yes	Yes
Controls		Yes
Constant	0.084	0.041
	[0.011]**	[0.318]
Observations	1146	1146
R-squared	0.81	0.83
Panel C: PRD		
Dependent Variable:	Fraction of PRD votes in Local Election	
Fraction of PRD Votes in Municipality	0.77	0.778
	[0.034]**	[0.033]**
Section-pair Fixed Effects	Yes	Yes
Controls		Yes
Constant	0.003	0.022
	[0.002]	[0.125]
Observations	1146	1146
R-squared	0.92	0.92

Robust standard errors clustered at the section-pair level in brackets

* significant at 5%; ** significant at 1%

Table 6

Crossed Effects			
Panel A: PRI			
Dependent Variable:	Fraction of Votes Obtained in Legislative Election by:		
	PRI	PAN	PRD
Fraction of PRI Votes in Municipality	0.46	0.048	-0.204
	[0.064]**	[0.085]	[0.047]**
Section-pair Fixed Effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Constant	0.348	0.236	0.163
	[0.362]	[0.432]	[0.265]
Observations	1146	1146	1146
R-squared	0.66	0.65	0.57
Panel B: PAN			
Dependent Variable:	Fraction of Votes Obtained in Legislative Election by:		
	PRI	PAN	PRD
Fraction of PAN Votes in Municipality	-0.04	0.677	-0.24
	[0.055]	[0.043]**	[0.037]**
Section-pair Fixed Effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Constant	0.832	0.041	0.042
	[0.361]*	[0.318]	[0.243]
Observations	1146	1146	1146
R-squared	0.6	0.83	0.62
Panel C: PRD			
Dependent Variable:	Fraction of Votes Obtained in Legislative Election by:		
	PRI	PAN	PRD
Fraction of PRD Votes in Municipality	-0.611	-0.122	0.778
	[0.066]**	[0.059]*	[0.033]**
Section-pair Fixed Effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Constant	0.232	0.807	0.022
	[0.381]	[0.354]*	[0.125]
Observations	1146	1146	1146
R-squared	0.72	0.6	0.92

Robust standard errors clustered at the section-pair level in brackets

* significant at 5%; ** significant at 1%

Table 7

Main Regression Results: Coattails			
Panel A: PRI			
Dependent Variable:	Fraction of PRI votes in Legislative Election		
Fraction of PRI Votes in Municipality	0.558	0.541	0.545
	[0.126]**	[0.124]**	[0.124]**
Fraction of PRI Votes in Municipality*Shared Networks	-0.078		
	[0.088]		
Fraction of PRI Votes in Municipality*Shared Radio Networks		-0.059	
		[0.085]	
Fraction of PRI Votes in Municipality*Shared TV Networks			-0.09
			[0.112]
Section-pair Fixed Effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Constant	0.307	0.286	0.28
	[0.471]	[0.469]	[0.464]
Observations	1146	1146	1146
R-squared	0.67	0.67	0.67
Panel B: PAN			
Dependent Variable:	Fraction of PAN votes in Legislative Election		
Fraction of PAN Votes in Municipality	0.457	0.466	0.469
	[0.120]**	[0.115]**	[0.123]**
Fraction of PRI Votes in Municipality*Shared Networks	0.166		
	[0.092]		
Fraction of PRI Votes in Municipality*Shared Radio Networks		0.16	
		[0.089]	
Fraction of PRI Votes in Municipality*Shared TV Networks			0.225
			[0.134]
Section-pair Fixed Effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Constant	-0.039	-0.037	-0.071
	[0.419]	[0.418]	[0.417]
Observations	1146	1146	1146
R-squared	0.79	0.79	0.79
Panel C: PRD			
Dependent Variable:	Fraction of PRD votes in Legislative Election		
Fraction of PRD Votes in Municipality	0.582	0.581	0.523
	[0.102]**	[0.099]**	[0.190]**
Fraction of PRI Votes in Municipality*Shared Networks	0.142		
	[0.088]		
Fraction of PRI Votes in Municipality*Shared Radio Networks		0.141	
		[0.084]	
Fraction of PRI Votes in Municipality*Shared TV Networks			0.271
			[0.249]
Section-pair Fixed Effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Constant	0.08	0.074	0.053
	[0.186]	[0.186]	[0.184]
Observations	1146	1146	1146
R-squared	0.9	0.9	0.9

Robust standard errors clustered at the section-pair level in brackets

* significant at 5%; ** significant at 1%

Figure 1. Durango

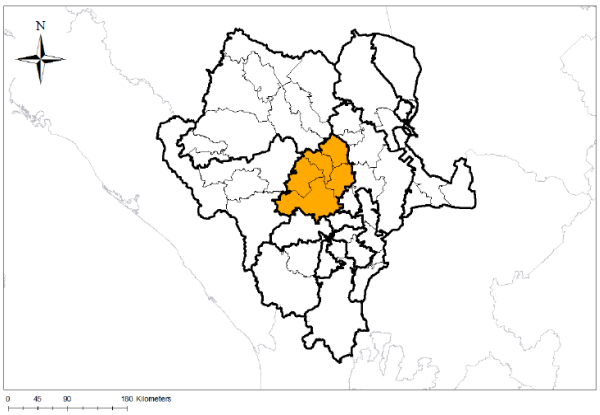


Figure 2. Municipalities within Discricts. Durango

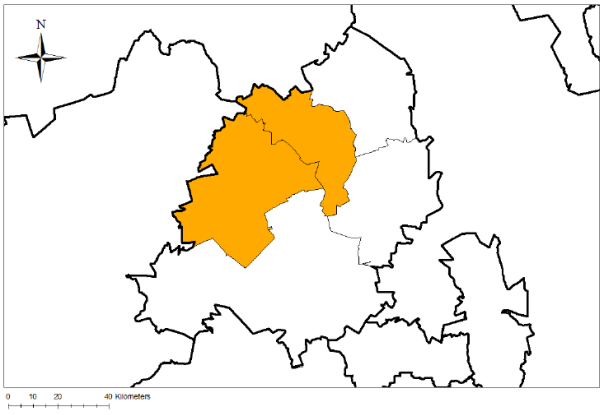
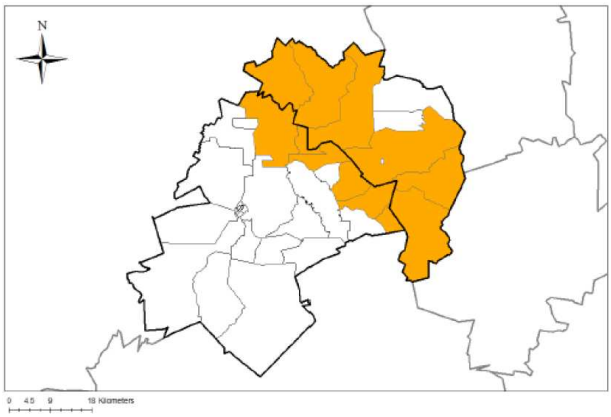


Figure 3. Section-pair across Municipal Boundaries. Durango



Appendix 1. Reverse Coattails.

As stated throughout the main text, the potential existence of reverse coattails may bias the estimates presented in this paper. In particular, if the popularity of a leading election's candidate affects down-ballot candidates' election outcomes, it is possible to argue that the reverse occurs: if down-ballot election candidates have a larger electoral support, leading election candidates may also benefit from an increase in votes. If such is the case, the estimate of the one-directional coattails will contain an upward "reflection" bias. In this appendix, we replicate the paper's empirical strategy, this time estimating coattails from local congressional to municipal elections.

Our empirical strategy can then be summarized by the following equation:

$$LeadingElection_{i,S,d,m}^{P} = \alpha_{S}^{P} + \beta * DownBallot_{i,d}^{P} + \varepsilon_{i,S,d,m}^{P}$$

Where $LeadingElection_{i,S,d,m}^{P}$ is the fraction of votes obtained by the municipal candidate from party *P*, in section *i*, from section-pair *S*, in district *d* and municipality *m.* The fraction of votes is defined as the total number of votes received by party *P* divided by the total number of registered voters. $DownBallot_{i,d}^{P}$ is the fraction of votes obtained by party *P* in the district-level election *d* in which section *i* is located (excluding the votes from section *i*). We calculate this variable as the quotient of all votes obtained by party *P* in the local election in all sections except section *i* and the total number of registered voters in those sections; α_{S}^{P} are section-pair fixed effects; and $\varepsilon_{i,S,d,m}^{P}$ is an error term.

In this case, β measures the increase in the vote fraction obtained by the municipal candidate from party *P* in section *i* if the candidate for local congress in the district in which section *i* is located obtained a one percentage point higher vote share in the concurrent election.

Results are presented in Table A1. Column 1 runs the regression only adding section-pair fixed effects. Column 2 additionally includes all the control variables listed in Tables 2-4. In panel A, we focus attention on reverse-coattails for PRI, and in panels B and C, for PAN and PRD, respectively.

The results suggest that reverse-coattails from local congressional to municipal elections are small, and never significantly different from zero at a high confidence level. For both PRI and PAN, the point estimates are negative, although never significantly different from zero at a high confidence level. For PRD, the point estimates of reverse coattails are positive, although considerably smaller than those presented in the main text. When including all control variables, the estimated coefficient is very small and only significantly different from zero at a 10 percent level. We conclude that the estimates of coattails presented in the main text are not likely to suffer from a reflection bias.

Table A1

Regression Results: Reverse Coattails[1]		
Panel A: PRI		
Dependent Variable:	**Fraction of PRI votes in Local Election**	
Fraction of PRI Votes in District	-0.013	-0.041
	[0.086]	[0.079]
Section-pair Fixed Effects	Yes	Yes
Controls		Yes
Constant	0.464	0.487
	[0.040]**	[0.101]**
Observations	2152	2152
R-squared	0.81	0.85
Panel B: PAN		
Dependent Variable:	**Fraction of PAN votes in Local Election**	
Fraction of PAN Votes in District	-0.092	-0.094
	[0.053]	[0.042]*
Section-pair Fixed Effects	Yes	Yes
Controls		Yes
Constant	0.302	0.377
	[0.013]**	[0.084]**
Observations	2152	2152
R-squared	0.97	0.98
Panel C: PRD		
Dependent Variable:	**Fraction of PRD votes in Local Election**	
Fraction of PRD Votes in District	0.166	0.0119
	[0.062]**	[0.054]*
Section-pair Fixed Effects	Yes	Yes
Controls		Yes
Constant	0.014	0.011
	[0.002]**	[0.015]
Observations	2152	2152
R-squared	0.87	0.89

Robust standard errors clustered at the section-pair level in brackets
* significant at 5%; ** significant at 1%
1/ States included: Aguascalientes (2013), Baja California (2010), Durango (2013), Yucatan (2010) and Zacatecas (2013).