# Black Sheep of the Family: A Model of Subnational Authoritarian Endurance in National Democracies. *

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# 1 Introduction

On the morning of January 30 2005, Melquiades Morales, the governor of Puebla, received a letter from "Los Pinos," the residence of the Mexican president.[1] This was the beginning of a good day for Governor Morales; he had recently overseen the victory of his party in the state and was a serious contender for the national presidency of his party, the Institutional Revolutionary Party (PRI). Governor Morales was not a ruthless man, but he was also not a democrat and had governed his state with authoritarian might. Having been a political operator in charge of supervising electoral fraud in the state during PRI national authoritarian rule,[2] Governor Morales had been able to maintain the authoritarian nature of his regime under the new democratic reality of the country.

The letter was from President Vicente Fox, the first Mexican president from the National Action Party (PAN) elected under a democratic system. Fox was congratulating the governor for his successful term in the state of Puebla. The same Vicente Fox who had defined the PRI as a party of "vices, deviations and corruption" and indicated that a step away from the PRI was a step "in transit to democracy" was personally congratulating an authoritarian governor from the PRI.[3] The same Vicente Fox who had once talked about the importance and necessity of alternating rule in any political system was now standing passively as the state of Puebla would remain, as it had for the previous 59 years, under PRI governance. Melquiades Morales was to transfer power to Mario Marin the following Tuesday, who would become one of the most undemocratic governors Mexico had ever seen. These two natural enemies were now standing united as unlikely allies. The

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[1] As documented by Miguel Angel Rivera in *La Jornada* newspaper on January 31 2005.

[2] This was made public by Gerardo Lorenz, now a respected journalist in the United States, who has admitted his participation in committing electoral fraud and having been taught and supervised by Melquiades Morales during the 80's. For the original interview see http://www.youtube.com/watch?v=clk1NWePEGU

[3] Vicente Fox has spoken disparagingly about the PRI throughout his political career. These quotes are taken from the 1999 presidential debate.

democratic central government was apparently supporting a subnational region with high levels of authoritarian practices.

The very existence of subnational authoritarian regions is puzzling. Political scientists have assumed that democracy at the national level will inevitably permeate throughout the national territory and bring with it its positive effects. For them, after democratization, any subunits within the regime that had not already done so would follow suit, becoming more democratic.[4] It is even more puzzling that a national democratic government seems to be perpetuating this status quo of subnational authoritarianism. In young democracies, why does the democratic national government, which once fought authoritarian abuse, seem to be unwilling or unable to act against these regional autocrats? We would expect that, once democracy arrives at the national level, the central government would help remove the remnants of authoritarianism in the different regions, especially in regions controlled by an opposing faction.

However, empirical evidence shows that such outcomes on the regional level have often not been the case. In countries as diverse as India, Brazil, the Philippines, Mexico, Kyrgyzstan, and Argentina regimes with authoritarian characteristics successfully maintain control over subnational units despite national democratization[5]. Individuals in provinces from Oaxaca in Mexico and San Narciso in the Philippines continue to live in subservience to regional bosses as they did under an authoritarian regime. Often, citizens still have to deal with the same individuals who had treated them autocratically under authoritarianism and continue to treat them in that manner under democracy. Living in a new national democracy has not translated into a better lifestyle for some of the citizens of developing democracies; in some subnational regions within these democracies, the hierarchical struc-

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[4] The changes would possibly be staggered because of regional diversity.

[5] To see examples of work on the persistence of subnational authoritarian enclaves in these countries see for example Gervasoni (2010), Fox (1994), McMann (2006), Giraudy (2009)

ture of dependence that renders electoral power meaningless remains, despite the arrival of democracy at the national level. In such countries, a democratic national government interacts with both regions that have successfully embraced institutional change, departing from authoritarian practices and displaying high levels of democracy, and regions in which authoritarianism persists despite institutional change. It is often the case that these low democracy regions in which authoritarian practices remain are held by a different faction than the national government of a democratic polity. As a result, a more specific puzzle arises: Why would the national administration of a democratized state tolerate or find itself unable to remove these remnants of autocratic government?

Where these subnational authoritarian enclaves persist after national democratization, the polity is partly composed of juxtaposed citizens who live under a national democracy, but unlike the rest of their fellow citizens, suffer under the remnants of regional authoritarian institutions. Thus, persistent subnational authoritarian enclaves imply the existence of conationals with distinct political rights (Gibson 2010$a$), a strong normative reason for worrying about political regimes in units smaller than the nation. Given basic democratic normative commitments, it is clear that we should prefer more democratic subnational units of government to less democratic subnational units. Indeed, I would argue that, in practical terms, subnational units represent the most relevant unit of analysis. In developing democracies, most interactions of citizens with the government take place through the regional government. If one cannot appeal, for whatever reason, to the national government, it does not matter that government is a *perfect democracy*. This situation raises a series of normative questions worth pursuing: What should be the relevant scope of democracy? What responsibilities do conationals have to one another to guarantee that they all benefit from the same political rights? Under what conditions can we prioritize the democratization of the subnational unit? When does it become the responsibility of

democratic national governments to ensure democratic processes in smaller units of government? These questions suggest the normative importance of the theoretical and empirical questions the remainder of this work will address.

In this work, I develop a political explanation for the persistence of subnational regions that retain authoritarian characteristics. I show that central governments that care about their electoral performance and implementing their preferred policy will tolerate, in exchange for policy support, governors from opposition factions that retain authoritarian practices. Regions that are less democratic are more likely to accept the offer because they can better withstand the costs imposed by their national faction for having supported the central government. Such governors, in turn, will enjoy lower levels of intervention from the central government in their regions. I will proceed by making a quick survey of the literature, followed by a formalization of the theory and finally presenting evidence to support some of the propositions from the model.

## 2    Existing Theories of Authoritarian Persistence

A research project exploring subnational authoritarian enclaves and their unlikely alliance with national democratic governments is overdue. Though relatively little has been written on subnational enclaves generically, several important studies of particular cases, including some advanced industrial democracies, do exist. V.O Key's 1949 canonical text on southern politics, for example, explores many of the same issues raised here in a region of the United States. Though the insights gained from this and similar studies are important, we still have no general theory to provide a framework for understanding the dynamics of subnational authoritarian regimes and their interaction with a democratizing or democratized national government. We need a better sense of how and why national democracy spreads (or does not spread) throughout a country.

I believe that other, more recent, explanations for the persistence of authoritarian regional practices, particularly those drawn from theories of national democratization, are wanting. The most widespread alternative explanation, adapted from theories of national democratization, is that economic development leads to subnational democratization(McMann 2006). However, explanations of the mechanisms underlying this connection have never been clear, usually consisting of no more than suggestive references to rising educational levels or toleration of opinion. The predictions of this theory, however, simply fail to be borne out in empirical tests at the level of subnational variation. That there are subnational regions with low levels (or high levels) of development that nonetheless have high levels (or low levels) of democratic practices has been demonstrated in several cases, including Mexico(Giraudy 2009) and Argentina (Gervasoni 2010).

Perhaps the most compelling mechanism cited as an explanation for the connection between democracy and development is associated changes in levels of inequality (Lipset 1959). Indeed, levels of inequality themselves constitute another alternative explanation that might be adapted from theories of national democratization (Acemoglu & Robinson 2006b, Boix 2003). In these previous studies, the argument is that demands for redistribution to address economic inequalities and elites' responses to these demands are important determinants of democratization. These theories are based on a Meltzer-Richards (Meltzer & Richard 1981) type of dynamics in which significant amounts of redistribution could occur in a democratic setting when the income distribution is highly unequal. However, there is no reason to believe that this same mechanism would be at work in a subnational dynamic because regional governments are often not the ones capable of providing such redistribution. The rich do not fear expropriation, nor can the poor credibly threaten revolution at the state level. As most recent research on the topic points out, a unit-jump fallacy is involved in treating subnational regions as analogous to national ones when, among other

problems, the relationship between subnational regions and national governments is not analogous to the relationship between nations and the international community.[6]

In the literature dealing specifically with subnational democratization, Gibson (2005) presents a theory in which subnational authoritarian regimes are able to stay in power by controlling the scope of the political conflict between the local autocrat and the pro-democratic local opposition so as not to attract national attention. Conversely, the opposition will constantly try to bring national attention to local conflicts. As long as the regional autocrat can shield his region from national attention, he will be able to stay in power. There is a valuable contribution in noting that obtaining national attention can significantly reduce the costs of collective action to support the opposition It is particularly relevant to note the incorporation of the national government in perpetuating or ending these enclaves. However, the central government only matters in terms of its reaction to the strategic interaction happening at the local level. I build on this insight and incorporate the central government as a strategic player interacting with different regional units. My work helps explain the unpredictability of central government actions that Gibson refers to.

Gervasoni (2010) develops a rentier explanation of subnational authoritarian enclaves. States that receive large amounts of federal funding are less likely to be democratic. He proposes that larger resources not associated with taxation help the persistence of these enclaves because (a) people who are not taxed demand less politically and (b) these resources can be used to buy individual votes of swing voters. Thus, Gervasoni suggests that regions with high income not contingent on local taxation will observe a lower demand for democracy and can satisfy the small demand there might be by buying votes with these resources. His empirical finding of causation between regional income and propensity to be

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[6]For an excellent discussion of why applying national democratization theories to the subnational level is really problematic, see (Gibson 2010$a$).

autocratic is an important one; however, he neglects any strategic role the central government might have in perpetuating or dismantling these authoritarian enclaves. I take his insight that non-tax income of the regions matter, but I include strategic interaction with the central government concerning these resources.

Acemoglu and Robinson (2006*a*, 2008) propose a model in which transition to democracy does not imply any real changes (or implies, at least, limited change) because of investments by the elite in *de facto* power to offset any changes in *de jure* power. Elites make investments in increasing their *de facto* power to upset any good democracy was supposed to bring to the poor through institutional change. Though the article is framed in terms of national polities, Acemoglu and Robinson often refer in their motivations and discussion to the U.S. South during the Jim Crow era. However, Acemoglu and Robinson's theoretical model is wanting for subnational contexts because it accounts only for the existence of regional players and leaves no role for the national government.

My theory builds on these works. It takes the existence of regions with persistent authoritarian practices as a given and recognizes that the economic elite are often the ones interested in preventing democratization. However, it goes a step further in recognizing that the central government plays a key strategic role that permits the persistence of the status quo in some regions that retain more authoritarian practices.

Though several authors share a notion that national politics affect the persistence of subnational authoritarian practices (Behrend 2011, Giraudy 2009, Gibson 2010*b*) few fully developed theories address why national politics affect their persistence, how they affect their persistence, and which regions they affect Giraudy (2010) assumes that central governments will aid "undemocratic regimes" and claims that the central government will help only those "undemocratic regimes" that serve its "strategic political needs." Citing statis-

tical evidence, Giraudy explicitly argues against those needs being electoral or legislative.[7] She proposes that states that are the most democratic among these "non democratic"[8] states will be chosen because they are less prone to challenging the central government.[9] For Giraudy (2010) all regional governments are willing to be aided by the central government that, in turn, chooses among the regional governments. Giraudy recognizes that the decision could be based on a cost benefit analysis.

This present work attempts not only to specify the motivation of the central government but incorporates the regions in the strategic decision-making process. My more comprehensive theoretical framework provides explanations for why alliances between the central government and opposition regions occur in the first place and why *low democracy* regions are more likely be part of such an alliance. This theory can account for different equilibria, and a series of testable comparative statics is used to determine which equilibria are more likely. I suggest that political support (legislative, electoral) is the main driving force and provide more robust statistical and case study evidence that support this claim.

## 3    The Model

Consider a polity composed of a central government and two regions. Each region consists of a finite population and a governor. The first region is controlled by a low-democracy governor from a different faction than the central government, and the second region is controlled by a high-democracy governor who belongs to the same faction as the central government.[10]

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[7] The statistical evidence would be more convincing if she used fixed effect in her panel data set. In addition, the operationalization of gubernatorial legislative support could have a stronger relation to the concept.

[8] In her terms, these are "subnational undemocratic states" with more "dispersed political authority"

[9] This claim, unfortunately, is not tested in the paper.

[10] Factions can be two different parties or two different and opposing groups within the same party. The important point is that they are two distinct groups that are political rivals.

### 3.1 Citizens

Citizens receive transfers from both the central government $c_j^p$ and from the governor of their region $w_j^p$. The superscript $p$ indicates that the transfer is to the people, and the subscript $j \in (1,2)$ refers to the region in which the people reside. These transfers are calculated in per capita terms and refer to any spending the regional governor or the central government does to influence the vote at the regional level that implies a benefit for the citizens. These transfers can be in the form of clientelism, targeted public good provision, and other targeted expenditures aimed at garnering votes.

#### 3.1.1 Region 1

Each citizen can cast one vote in support of the faction of either the central government or Region 1's governing faction; no split-ticket voting occurs between regional and national level politics. A citizen of Region 1 will vote for the faction of the central government if:

$$c_1^p \geq w_1^p + \varepsilon^i + \delta \tag{1}$$

Where $\varepsilon^i$ is an ideological component and is represented as an individual-specific affinity for faction 2 (the faction opposed to the center). For each citizen, $\varepsilon^i$ can have a positive or negative value; citizens can be predisposed towards either faction. I assume that this parameter has a uniform distribution on:

$$\varepsilon^i \sim U[-\frac{1}{2\phi}, \frac{1}{2\phi}]$$

Where $\phi$ is the density of the distribution. The parameter $\delta$ is an aggregate (national) shock in favor of the faction in opposition to the central government. Again, because the shock can take on a positive or negative value it can work in favor of or against the central

government. Again, a uniform distribution is assumed:

$$\delta \sim U[-\frac{1}{2\psi}, \frac{1}{2\psi}]$$

Where $\psi$ is the density of the distribution. For all values of $c_1^p$ and $w_1^p$ there exists an individual in Region 1 with a particular ideological bias level $\varepsilon_1^*$ for which the following holds:

$$\varepsilon_1^* \left(c_1^p, w_1^p; \delta\right) = c_1^p - w_1^p - \delta \tag{2}$$

This individual (the swing voter) is indifferent towards voting for the faction of the governor or the faction of the central government. All citizens with ideological biases below that level will prefer the faction of the central government whereas all citizens with ideological bias above that level will prefer the faction of the national opposition. I will define the vote share as $g_j^k$ where $k \in (1, 2)$ denotes the faction. The citizens of Region 1 who will vote for faction 1 (the vote share) given the distributional assumption are a follows:

$$g_1^1 = Prob\left(\varepsilon^i < \varepsilon_1^*\right) = [\varepsilon_1^* + \frac{1}{2\phi}]\phi \tag{3}$$

$$g_1^1 = [c_1^p - w_1^p - \delta + \frac{1}{2\phi}]\phi$$

Because the outcome is conditional on the realization of the value of $\delta$, the probability of winning the election (that the vote share received by faction 1 from the citizens in Region 1 is higher than $\overline{g}$) is a follows:

$$\gamma_1^1 = Prob\left(g_1^1 \geq \overline{g}\right) = \psi \left[\frac{1 - 2\overline{g}}{2\phi} + c_1^p - w_1^p\right] + \frac{1}{2} \tag{4}$$

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Here the superscript in $\gamma_j^k$ again indicates the party, and the subscript indicates the region. To differentiate the level of subnational democracy we can require $\bar{g} \geq \frac{1}{2}$ That is, the opposition requires more than half the population support to secure the region. Conceptualizing low levels of democracy as having a high $\bar{g}$ captures the concept of low level of contestation, in which local opposition faces a strong contest. The level of political contestation is lower than in a place where only $\frac{1}{2}$ of the vote is required for a political victory; thus, political competition is hampered. In the extreme case of $\bar{g} = 1$, then the local authoritarian is completely secure and cannot be ousted by electoral means. I disregard this case because the regime is part of a national democracy so the possibility of being ousted by elections must exist. Therefore I take: $\bar{g} \subset [\frac{1}{2}, 1)$.[11]

### 3.1.2 Region 2

A citizen of Region 2 will vote for faction 1 (both the governor and the central government) if

$$c_2^p + w_2^p \geq \varepsilon^i + \delta \tag{5}$$

For all values of $c_2^p$ and $w_2^p$, there exists an individual with an ideological bias for which the following holds:

$$\varepsilon_2^* (c_2^p, w_2^p; \delta) = c_2^p + w_2^p - \delta \tag{6}$$

This individual, the swing voter in Region 2, is the voter whose particular level of ideological bias $\varepsilon_2^*$ makes him indifferent between supporting faction 1 or faction 2. Thus, the citizens that will vote for party 1 (the vote share) in Region 2, given my distributional assumptions,

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[11] For a more detailed conceptual debate on the meaning of low levels of democracy, please refer to the introduction. For a discussion of operationalizing this variable please refer to the empirical chapter.

will be:

$$g_2^1 = Prob\left(\varepsilon^i < \varepsilon_2^*\right) = [\varepsilon_2^* + \frac{1}{2\phi}]\phi \tag{7}$$

$$g_2^1 = [c_2^p + w_2^p - \delta + \frac{1}{2\phi}]\phi \tag{8}$$

Because (8) is conditional on the realization of the value of $\delta$, the probability that the vote share that faction 1 receives from the citizens in Region 2 is enough to win the election (higher than $\frac{1}{2}$) is

$$\gamma_2^1 = Prob\left(g_2^1 \geq \frac{1}{2}\right) = \psi[c_2^p + w_2^p] + \frac{1}{2} \tag{9}$$

## 3.2   The Governors

### 3.2.1   Low Democracy Governor from Region 1

In addition to deciding how much to transfer to the people in an effort to gain votes, $w_1^p$, the governor from Region 1 must also decide how much to keep for herself, $w_1^A$, and whether to support the central government in the national legislature to enact policy, defined by an indicator variable $z \in \{0, 1\}$, where $(z = 0)$ means that the low-democracy governor supports her party in policy making and $(z = 1)$ means the low-democracy governor supports the national incumbent in policy making. The autocratic governor from Region 1 faces the following constrained optimization problem:

$$\text{Choose } z, w_1^p, w_1^A \text{ to}$$

$$\max \pi_1^A\left(w_1^p|c_1^{pz}\right)w_1^A - z\sigma \tag{10}$$

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$$s.t. \ n_1 w_1^p + w_1^A \leq \overline{w_1} + c_1^{Gz}$$

$$w_1^p \geq 0$$

$$w_1^A \geq 0$$

The autocratic governor will make those three choices to maximize her objective function, composed of $w_1^A$, $z$, her probability of victory defined as $\pi_1^A$, and the cost of deviating from her faction's ideological preferences, $\sigma$. This last variable can be thought of as either the cost of deviating from her own ideology or as punishment from the faction for deviating. Transfers from the central government to both the people and the governor are also indicated by the superscript $z$ because the transfers from the central government are contingent on whether the governor decides to support the central government in national policy making. Because the low-democracy governor is from a different faction than the central government, then the following must hold:

$$\frac{d\pi}{dw_1^p} > 0 \frac{d\pi}{dc_1^{pz}} < 0$$

The governor faces a budget constraint composed of $\overline{w_j}$ which is a fixed income that region $j$ receives independent of any transfers (usually through local tax collection, natural resource availability or formula-assigned transfers from the central government), and $c_1^{Gz}$ which is the extra income the governor receives as a transfer from the central government (discretionary transfers). $n_j$ is the population in region $j$.

### 3.2.2 Democratic Governor for Region 2

The democratic governor in Region 2 wants to maximize the probability of staying in power and keeping her rents from office:

$$\text{Choose } w_2^p, \, w_2^D \text{ to}$$

$$\max \pi_2^D \left( w_2^p | c_2^{pz} \right) w_2^D \tag{11}$$

$$s.t. \ n_2 w_2^p + w_2^D \leq \overline{w_2} + c_2^{Gz}$$

$$w_2^p \geq 0$$

$$w_2^D \geq 0$$

Because the democratic regional governor is from the same party as the central government, the probability of victory is represented by $\pi_2^D$, where:

$$\frac{d\pi}{dw_j^p} > 0 \, \frac{d\pi}{dc_2^{pz}} > 0$$

The democratic governor will support the policy preferences of the national incumbent, which are assumed to be identical to the governor's because they belong to the same faction. Hence, there is no $z$ to be decided by the democratic governor. However, because the central government has a limited budget, the transfer schedule offered will be contingent on whether the autocratic governor from Region 1 chooses to support the central government; therefore, each transfers is represented with a superscript $z$.

## 3.3  Central Government

The national incumbent is interested in two things: (1) obtaining as many votes as possible in the national election and (2) getting his preferred policy approved in the national congress. To get his preferred national policy, he must have the support of both regions. The national incumbent announces how he will allocate a fixed amount of resources between the two regions and within the regions by giving the money to the governor or directly to the people, contingent on policy support. The action set of the central government is $\{c_j^G,\ c_j^p\}$, where the subscript indicates the region and superscript the recipient so that $c_j^G$ is the transfer from the central government to the governor of region $j$, and $c_j^p$ is the transfer from the central government to the people in region $j$.

From above, we know that the national incumbent will announce two sets of possible transfers, depending on whether the governor of Region 1 offers policy support to the central government. As mentioned previously, the superscript $z$ denotes whether part of the schedule is associated with the support of the low-democracy governor

The central government announces:

If $z = 1$, then

$$\left\{ c_1^{G1}, c_1^{p1}, c_2^{G1}, c_2^{p1} \right\}$$

If $z = 0$, then

$$\left\{ c_1^{G0}, c_1^{p0}, c_2^{G0}, c_2^{p0} \right\}$$

Thus, the central government will be comparing a payoff in which it induces Region 1 to support him with a payoff in which Region 1 does not support him. The central government will want the following:

$$\max[\Gamma_o, \Gamma_1] \tag{12}$$

$$s.t. c_1^{Gz} + c_2^{Gz} + c_1^{pz} n_1 + c_2^{pz} n_2 = \bar{c} \quad z = 1, 2$$

where $\Gamma_0$ is the payoff in equilibrium when the central government does not induce cooperation $(z = 0)$ and $\Gamma_1$ is the payoff in equilibrium when the central government induces cooperation from the low-democracy region $(z = 1)$. The budget constraint simply indicates that there is a fixed number of resources $\bar{c}$ to be distributed.

The central government's utility function is composed of the fraction of votes it obtains in each region $g_j^1 n_j$ (where, $g_1^1 = [c_1^p - w_1^p - \delta + \frac{1}{2\phi}]\phi$ and $g_2^1 = [c_2^p + w_2^p - \delta + \frac{1}{2\phi_2}]\phi_2)$ and $\rho$, which is the premium the central government receives for implementing its desired policy; evidently, the premium occurs only in cases of $\Gamma_1$ because there is no policy payoff when the central government does not seek policy support as in $\Gamma_o$. The central government must choose eight variables, and its choice is subject to three restrictions: the first two are the budget constraints of the two schedules $(c_1^{Gz} + c_2^{Gz} + c_1^{pz} n_1 + c_2^{pz} n_2 = \bar{c})$ and the third is the condition required for the Region 1 governor to cooperate $(\pi_1^A \left( w_1^p | c_1^{p1}, z = 1 \right) w_1^A - \sigma < \pi_1^A \left( w_1^p | c_1^{p0}, z = 0 \right) w_1^A)$.

The comparison is between the arg max of:

$$\text{Choose } c_1^{Gz}, c_1^{pz}, c_2^{Gz}, c_2^{pz} \text{ to}$$

$$\max \Gamma_0 = g_1^1 \left( w_1^{p0}, c_1^{p0} \right) n_1 + g_2^1 \left( w_2^{p0}, c_2^{p0} \right) n_2$$

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$$s.t. \ c_1^{G0} + c_2^{G0} + c_1^{p0} n_1 + c_2^{p0} n_2 = \overline{c}$$

and

Choose $c_1^{Gz}, c_1^{pz}, c_2^{Gz}, c_2^{pz}$ to

$$\max \Gamma_1 = g_1^1 \left( w_1^{p1}, c_1^{p1} \right) n_1 + g_2^1 \left( w_2^{p1}, c_2^{p1} \right) n_2 + \rho$$

$$s.t. \ c_1^{Gz} + c_2^{Gz} + c_1^{pz} n_1 + c_2^{pz} n_2 = \overline{c}$$

$$\pi_1^A \left( w_1^p | c_1^{p1}, z = 1 \right) w_1^A - \sigma \geq \pi_1^A \left( w_1^p | c_1^{p0}, z = 0 \right) w_1^A$$

The timing of the game is as follows:

1. The central government announces policies $(c_1^{Gz}, c_1^{pz}, c_2^{Gz}, c_2^{pz})$ contingent on the value of $z$.

2. The low-democracy governor from Region 1 announces $z$, $w_1^p, w_1^A$; the democratic governor from Region 2 announces $w_2^p, w_2^D$.

3. Allocations are made from the central government and the governors.

4. $\delta$ is realized.

5. Elections take place.

## 3.4 Analysis of the Model

I now analyze the model presented above using as a solution concept Subgame Perfect Equilibrium. I solve by using backward induction, beginning at the last node of decision making, stage 2, for both the high-democracy region and the low-democracy region:

We can use $\pi_2^D\left(w_2^p \mid c_2^{pz}\right) = \psi[c_2^p + w_2^p] + \frac{1}{2}$ and $w_2^D = \overline{w_2} + c_2^{Gz} - n_2 w_2^p$ to rewrite the problem of the democratic governor from Region 2 as

Choose $w_2^p$ to

$$\max\left(\psi\left[c_2^p + w_2^p\right] + \frac{1}{2}\right)\left(\overline{w_2} + c_2^{Gz} - n_2 w_2^p\right) \tag{13}$$

$$w_2^p \geq 0$$

$$w_2^D \geq 0$$

However, we know that $(w_2^D \geq 0)$ wont bind because the governor receives a utility of 0 when it binds so she can increase her utility by keeping some of the money intended for the people for herself.

F.O.C.

$$(\partial w_2^p) \quad \psi\left(\overline{w_2} + c_2^{Gz} - n_2 w_2^p\right) - n_2\left(\psi\left[c_2^p + w_2^p\right] + \frac{1}{2}\right) = 0$$

$$w_2^{p*} = \frac{\overline{w_2} + c_2^{Gz} - c_2^p n_2}{2n_2} - \frac{1}{4\psi} \tag{14}$$

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$$\therefore \quad w_2^D = \overline{w_2} + c_2^{Gz} - n_2 \left[ \frac{\overline{w_2} + c_2^{Gz} - c_2^p n_2}{2n_2} - \frac{1}{4\psi} \right]$$

$$w_2^{D*} = \frac{\overline{w_2} + c_2^{GZ} + c_2^{pz} n_2}{2} + \frac{n_2}{4\psi} \tag{15}$$

We now have the optimal split for the democratic governor between transferring her wealth to the people or keeping as rents.

On the other hand, the autocratic governor from region 1 will compare the usefulness of announcing $z = 1$ as opposed to $z = 0$

She will choose $z = 1$ if:

$$\pi_1^A \left( w_1^p | c_1^{p1}, z = 1 \right) w_1^A - \sigma > \pi_1^A \left( w_1^p | c_1^{p0}, z = 0 \right) w_1^A \tag{16}$$

Note that since $\gamma_1^1$ is the probability of vote share for Party 1 is high enough for them to win the election, then the low-democracy governor is interested in $1 - \gamma_1^1$, and we know that $\pi_1^A \left( w_1^p, c_1^{p1} \right) = \left( 1 - \gamma_j^1 \right)$. First, we want to find the values of $w_1^p, w_1^A$ that maximize the governor's utility. From the budget constraint, we can redefine $w_1^A = \overline{w} + c_1^{GZ} - n_1 w_1^p$

$$\text{Choose } w_1^p \text{ to} \tag{17}$$

$$\max \left( 1 - \gamma_1^1 \right) \left( \overline{w} + c_1^{GZ} - n_1 w_1^p \right) - z\sigma \tag{18}$$

$$\left( \frac{1}{2} - \psi \left[ \frac{1 - 2\overline{g}}{2\phi} + c_1^p - w_1^p \right] \right) \left( \overline{w} + c_1^{GZ} - n_1 w_1^p \right) - z\sigma \tag{19}$$

F.O.C.:

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$$(\partial w_1^p) \quad \psi \left( \overline{w} + c_1^{GZ} - n_1 w_1^p \right) - n_1 \left( \frac{1}{2} - \psi \left[ \frac{1-2\overline{g}}{2\phi} + c_1^p - w_1^p \right] \right) = 0$$

$$w_1^{p*} = \frac{\overline{w} + c_1^{GZ} + c_1^{pz} n_1}{2n_1} - \frac{1}{4\psi} + \frac{1-2\overline{g}}{4\phi}$$

From the above, we can find the value of the rents she keeps:

$$
\begin{aligned}
w_1^A &= \overline{w} + c_1^{GZ} - n_1 \left[ \frac{(\overline{w} + c_1^{GZ} + c_1^{pz} n_1)}{2n_1} - \frac{1}{4\psi} + \frac{1-2\overline{g}}{4\phi} \right] \\
w_1^{A*} &= \frac{\overline{w} + c_1^{GZ} - c_1^{pz} n_1}{2} + \frac{n_1}{4\psi} - \frac{n_1(1-2\overline{g})}{4\phi}
\end{aligned}
\tag{20}
$$

We now know what the optimal division of the resources are for the low-democracy governor, given any spending division proposed by the central government

With the first two decisions of the governor from Region 1 determined, the last decision, whether to support the national government on policy, remains. To explore the condition under which the governor from Region 1 would support the central government on policy issues, we must reformulate the optimization condition as follows:

$$\left( \frac{1}{2} - \psi \left[ \frac{1-2\overline{g}}{2\phi} + c_1^p - \left( \frac{\overline{w} + c_1^{Gz} + c_1^{pz} n_1}{2n_1} - \frac{1}{4\psi} + \frac{1-2\overline{g}}{4\phi} \right) \right] \right)$$
$$\left( \overline{w} + c_1^{G0} - n_1 \left( \frac{\overline{w} + c_1^{GZ} + c_1^{pz} n_1}{2n_1} - \frac{1}{4\psi} + \frac{1-2\overline{g}}{4\phi} \right) \right) \tag{21}$$

The arg max given these two values are as follows:

If $z = 0$

$$\left(\frac{1}{4}+\psi\left[\frac{\overline{w}+c_1^{G0}-c_1^{p0}n_1}{2n_1}-\frac{1-2\overline{g}}{4\phi}\right]\right)\left(\frac{\overline{w}+c_1^{G0}-c_1^{p0}n_1}{2}+\frac{n_1}{4\psi}-\frac{n_1(1-2\overline{g})}{4\phi}\right) \qquad (22)$$

If $z = 1$

$$\left(\frac{1}{4}+\psi\left[\frac{\overline{w}+c_1^{G1}-c_1^{p1}n_1}{2n_1}-\frac{1-2\overline{g}}{4\phi}\right]\right)\left(\frac{\overline{w}+c_1^{G1}-c_1^{p1}n_1}{2}+\frac{n_1}{4\psi}-\frac{n_1(1-2\overline{g})}{4\phi}\right)-\sigma \quad (23)$$

Thus, the governor of the autocratic region will support the central policy as long as her payoff for supporting the central government is higher than her payoff for not supporting it:

$$\left(\frac{1}{4}+\psi\left[\frac{\overline{w}+c_1^{G1}-c_1^{p1}n_1}{2n_1}-\frac{1-2\overline{g}}{4\phi}\right]\right)\left(\frac{\overline{w}+c_1^{G1}-c_1^{p1}n_1}{2}+\frac{n_1}{4\psi}-\frac{n_1(1-2\overline{g})}{4\phi}\right)-\sigma\geq$$
$$\left(\frac{1}{4}+\psi\left[\frac{\overline{w}+c_1^{G0}-c_1^{p0}n_1}{2n_1}-\frac{1-2\overline{g}}{4\phi}\right]\right)\left(\frac{\overline{w}+c_1^{G0}-c_1^{p0}n_1}{2}+\frac{n_1}{4\psi}-\frac{n_1(1-2\overline{g})}{4\phi}\right)$$

To make this equation more manageable, we make the following definitions:

$$\alpha = \overline{w}+c_1^{G0}-c_1^{p0}n_1$$

$$\beta = \overline{w}+c_1^{G1}-c_1^{p1}n_1$$

Thus, (**??**) becomes:

$$\left( \frac{\phi - \psi(1 - 2\overline{g})}{4\phi} + \frac{\psi}{2n_1}\beta \right) \left( \frac{\beta}{2} + \frac{n_1(\phi - \psi + 2\psi\overline{g})}{4\psi\phi} \right) -$$
$$\left( \frac{\phi - \psi(1 - 2\overline{g})}{4\phi} + \frac{\psi}{2n_1}(\alpha) \right) \left( \frac{\alpha}{2} + \frac{n_1(\phi_1 - \psi + 2\psi\overline{g})}{4\psi\phi} \right) \geq \sigma \quad (24)$$

Which can be simplified to

$$\frac{\phi - \psi + 2\psi\overline{g}}{4\phi} \left( c_1^{G1} - c_1^{G0} + n_1(c_1^{p0} - c_1^{p1}) \right) + \frac{\psi}{4n_1} \left( \beta^2 - \alpha^2 \right) \geq \sigma \qquad (25)$$

This means that, (25) must hold in order for the governor from Region 1 to support the center.

The next step is to examine at the central government's optimal choice of transfer schedule for when it induces cooperation from Region 1 and for when it does not. The constrained maximization problem facing the center when it does not seek support from the region is a follows:

$$\text{Choose} c_1^{G0}, c_1^{p0}, c_2^{G0}, c_2^{p0} \text{ to:}$$

$$\max \Gamma_0 = g_1^1 n_1 + g_2^1 n_2 \qquad (26)$$

$$h_1(c_i^{G0}, c_i^{p0}) = \overline{c} - c_1^{G0} - c_2^{G0} - c_1^{p0} n_1 - c_2^{p0} n_2 \geq 0 \qquad (27)$$

In this case, the central government maximizes its expected vote share subject to budget constraints (27), resulting in Lemma 1

**Lemma 1** *Among the policies that the central government can propose when it does not require cooperation, the optimal choice for the government is:*

$$\left( \begin{array}{c} c_1^{G0} = 0, \text{ and any combination of } c_1^{p0}, c_2^{p0} \text{ and } c_2^{G0}, \text{ such that the following condition holds:} \\ \left( c_1^{p0} n_1 + c_2^{p0} n_2 + c_2^{G0} = \overline{c} \right) \end{array} \right),$$

*The low-democracy governor from Region 1 will play:*

$$\left( z = 0, w_1^p = \frac{\overline{w} + c_1^{p0} n_1}{2n_1} - \frac{1}{4\psi} + \frac{1-2\overline{g}}{4\phi}, w_1^A = \frac{\overline{w} - c_1^{p0} n_1}{2} + \frac{n_1}{4\psi} - \frac{n_1(1-2\overline{g})}{4\phi} \right),$$

*and the high-democracy governor of Region 2 plays:*

$$\left( w_2^p = \frac{\overline{w_2} + c_2^{G0} - c_2^{p0} n_2}{2n_2} - \frac{1}{4\psi}, w_2^D = \frac{\overline{w_2} + c_2^{G0} + c_2^{p0} n_2}{2} + \frac{n_2}{4\psi} \right).$$

**Proof.** See the Appendix ∎

This first lemma deals with the case in which the central government has decided not to induce cooperation. In this case, the central government is indifferent concerning spending resources in Region 1 or Region 2. An interesting comparative static that arises from this lemma is that the low-democracy regional governor will increase her spending as the central government increases attempts to debunk her, opening the possibility of open conflict between the central government and the autocratic region. We can also observe that the direct effect of a region being less democratic is that the governor from the region will spend less resources garnering votes.

In exploring the conditions, if any, under which the central government would induce support from Region 1, the constrained optimization problem is as follows:

$$\max \Gamma_1 = n_1 \phi c_1^{p1} - \frac{(\overline{w} + c_1^{G1} + c_1^{p1} n_1)\phi}{2} + \frac{\phi n_1}{4\psi} - \delta \phi n_1 + \frac{n_1}{2} +$$
$$n_2 \phi c_2^{p1} + \frac{(\overline{w_2} + c_2^{G1} - c_2^{p1} n_2)\phi}{2} - \frac{\phi n_2}{4\psi} - \delta \phi n_2 + \frac{n_2}{2} + \rho$$

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$$h_1(c_i^{G0}, c_i^{p0}) = \bar{c} - c_1^{G0} - c_2^{G0} - c_1^{p0} n_1 - c_2^{p0} n_2 \geq 0 \tag{28}$$

$$h_2(c_i^{G1}, c_i^{p1}) = \bar{c} - c_1^{G1} - c_2^{G1} - c_1^{p1} n_1 - c_2^{p1} n_2 \geq 0 \tag{29}$$

$$h_3(c_1^{Gz}, c_2^{Gz}, c_1^{pz}, c_1^{pz}) = \frac{\phi - \psi + 2\psi\bar{g}}{4\phi}\left(c_1^{G1} - c_1^{G0} + n_1(c_1^{p0} - c_1^{p1})\right) + \frac{\psi}{4n_1}\left(\beta^2 - \alpha^2\right) - \sigma \geq 0 \tag{30}$$

The central government maximizes its expected vote share and benefits from policy implementation but is constrained by the budget for both schedules - for no support (28) and for support (29) - as well as by the condition necessary for Region 1 to offer its support (30). The necessary non-negativity constraints will also be tested. From the above, the following lemma is proposed:

**Lemma 2** *Among the policies that induce cooperation from region 1, the optimal choice for the government is as follows:*

*If $\left(\frac{\phi - \psi + 2\psi\bar{g}}{4\phi}\right)\bar{c} + \frac{\psi\bar{c}}{4n_1}\left(2\bar{w}_1 - \bar{c}\right) > \sigma$ holds, then*

*the central government will offer the schedule*

$\left(c_1^{G0} = c_2^{G0} = c_2^{p0} = 0, c_1^{p0} = \frac{\bar{c}}{n_1}, c_1^{G1} = 0, c_2^{G1} + c_2^{p1} n_2 = k, c_1^{p1} = \frac{\bar{c}}{n_1} - \frac{r_2}{2n_1\psi}\right)$,

*the low-democracy governor of the opposition from Region 1 will play*

$\left(z = 1, w_1^P = \frac{\bar{w} + \bar{c} - \frac{r_2}{2\psi}}{2n_1} - \frac{1}{4\psi} + \frac{1 - 2\bar{g}}{4\phi}, w_1^A = \frac{\bar{w} - \bar{c} + \frac{r_2}{2\psi}}{2} + \frac{n_1}{4\psi} - \frac{n_1(1 - 2\bar{g})}{4\phi}\right)$,

*and the high-democracy governor from Region 2 will play:*

$\left(w_2^P = \frac{\bar{w}_2 + k_2 - 2c_2^{p0} n_2}{2n_2} - \frac{1}{4\psi}, w_2^D = \frac{\bar{w}_2 + k}{2} + \frac{n_2}{4\psi}\right)$.

*If $\left(\frac{\phi - \psi + 2\psi\bar{g}}{4\phi}\right)\bar{c} + \frac{\psi}{4n_1}\left(2\bar{c}\bar{w}_1 - \bar{c}^2\right) \geq \sigma$ does not hold, then there are no values for $\left(c_1^{G0}, c_2^{G0}, c_2^{p0}, c_1^{p0}, c_1^{G1}, c_2^{G1}, c_2^{p1}, c_1^{p1}\right)$ that will induce cooperation from Region 1*

**Proof.** See the Appendix ∎

I introduce $r_2$ constructed in the appendix; it is a positive number monotonically increasing in $n_2, \phi$, and $\sigma$. This second lemma states that there is a point that satisfies the Kuhn-Tucker conditions, in which the central government offers a schedule that makes Region 1 lend its policy support and, in exchange, the central government moderates its attempt to gaining electoral support from Region 1. The lemma shows the existence of an equilibrium in which the central government is willing to tolerate and limit intervention in an autocratic region controlled by the opposition in exchange for policy support.[12] However, the central government will still make expenditures in Region 1, but they will become smaller at the cost of cooperation from Governor 1 increases ($c_1^{p1}$ is decreasing in $\sigma$). Such increase will not depend on how democratic the region is. In both scenarios, the central government spends more money in a particular region when it does not induce cooperation than when it does:

$$
\begin{aligned}
c_1^{p1} &< c_1^{p0} \\
\frac{\bar{c}}{n_1} - \frac{r_2}{2n_1\psi} &< \frac{\bar{c}}{n_1}
\end{aligned}
$$

The first central comparative static to note from the above Lemma is that regions that

---

[12] It is important to note that the program above is non-convex. Even though the objective function and the first two restriction are linear, the constraint that determines policy support by the region is non-convex and hence makes the whole optimization program non-convex. This third restriction is non-convex in its last term $\left(\beta^2 - \alpha^2\right)$, which when substituting from above becomes $\left(\overline{w} + c_1^{G1} - c_1^{p1}n_1\right)^2 - \left(\overline{w} + c_1^{G0} - c_1^{p0}n_1\right)^2$ makes the restrain evidently non-convex.

The fact that the program is non-convex implies that I cannot guarantee that this point is the optimum or that there are not other optimum points. I can not be sure that this solution of the Khun-Tucker conditions is the optimal solution. However, because this solution makes intuitive sense I believe it is probably the optimum. To prove it is the optimum, I would have to find all solutions of the K-T conditions; however many such solutions may exists because there are many possible sets of binding constraints. I have explored many diferent alternative to the binding conditions and none have produced another possible optimum. No easy way exists to show this solution of the Kuhn-Tucker conditions is unique, so for now I rely on the fact that it makes intuitve sense. I should be able to finish exploring all other possibilities in the near future.

supported the central government despite its faction's preferences receive lower levels of central government expenditures in trying to win over the region.

From this lemma we can also derive another interesting comparative static that relates directly to the level of authoritarian continuity in the region.

*The less democratic the region is $(\bar{g} > \frac{1}{2})$, the more likely it is that the region will offer policy support to the central government*

This comparative static stems from the condition that $\left( \frac{\phi - \psi + 2\psi\bar{g}}{4\phi} \right) \bar{c} + \frac{\psi}{4n_1} \left( 2\bar{c}\bar{w}_1 - \bar{c}^2 \right) > \sigma$ must be satisfied for the above proposition to hold. In this restriction, we can clearly see that the larger $\bar{g}$ is (meaning that it is less democratic), the more likely the condition is to be met. This is the case because low-democracy regions, *ceteris paribus,* have to spend less to obtain electoral victory and can retain more resources for themselves. Thus, they can absorb the cost of deviating from the faction with greater ease. However, this conclusion does not imply that low-democracy regions will unequivocally defect and support the central government, but rather that space of possible values for which defection is an optimal strategy is increased.

Now we know both the payoffs of inducing $(\Gamma^1)$ and not inducing $(\Gamma^0)$ support. The next thing to consider is the decision of the central government to choose between these two outcomes by determining which schedule will result in policy support from Region 1 and which one will not. In the following the central government compares the benefits of both scenarios, from not inducing support

$$\frac{\phi \left( \bar{c} + \overline{w_2} - \overline{w_1} \right)}{2} - \frac{n_1 \left( 1 - 2\bar{g} \right)}{4} + \frac{\phi(n_1 - n_2)}{4\psi} + (n_1 + n_2)(\frac{1}{2} - \delta\phi) \tag{31}$$

and its utility from inducing support

$$\frac{\phi(\bar{c} + \overline{w_2} - \overline{w_1})}{2} - \frac{n_1 \left( 1 - 2\bar{g} \right)}{4} + \frac{\phi(n_1 - n_2)}{4\psi} + (n_1 + n_2)(\frac{1}{2} - \delta\phi) + \rho \tag{32}$$

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This comparison generates a final lemma

**Lemma 3** *There is a subgame perfect equilibrium to the game where:*

*i) Whenever $\rho > 0$ and $\left(\frac{\phi - \psi + 2\psi\bar{g}}{4\phi}\right)\bar{c} + \frac{\psi}{4n_1}\left(2\bar{c}\bar{w}_1 - \bar{c}^2\right) \geq \sigma$, the center will induce policy support from the low-democracy region controlled by the opposition. In this case, the strategies played by the central government and each region are outlined in Lemma 2.*

*ii) If it is either not in the best interest of the central government to induce cooperation $(\rho \leq 0)$ or there is no deal that will make the region agree to offer policy support $\left(\left(\frac{\phi - \psi + 2\psi\bar{g}}{4\phi}\right)\bar{c} + \frac{\psi}{4n_1}\left(2\bar{c}\bar{w}_1 - \bar{c}^2\right) < \sigma\right)$, then the optimal strategies played by the center and both regions are outlined in Lemma 1.*

This is a very strong and somewhat counter-intuitive proposition; it suggests that, unlike our *a priori* beliefs that only in exceptional circumstances would the central government seek support from a low-democracy region with an opposing faction, as long as the center values policy $\rho > 0$ and needs the support of the opposition to attain its desired policy, it will attempt to negotiate with regions that have a high degree of authoritarianism. In addition, the more authoritarian a region is, the more likely it is that a deal will be struck with the central government. The larger the fixed endowment of the regional governor or the smaller the cost to governors of deviating from faction lines, the more likely a deal will be struck with the central government.

From the lemmas, the comparative statics and the implications I generate the following testable predictions:

1. Strong central government intervention may occur when it does not need the regions' support to obtain its preferred policy. Such strong intervention will result in high levels of spending by the regional governor and strong conflict.

2. Whenever the central government values policy, regions from the opposition that offer policy support will suffer less intervention by the central government in the electoral process.

3. Low-democracy regions are more likely to offer policy support to the central government. National opposition legislators from regions considered to be low-democracies are more likely to defect in blocks from the party line by voting for initiatives from the incumbent party at the national level.

4. Regions with higher endowments not dependent on the central government (e.g., from local taxation, fiscal arrangements- or natural resources) are more likely to strike a deal with the central government.

Using a strategic choice model makes sense in this setting. That governors and the central government are strategic and show self-interested in their dealing with each other is a reasonable assumption. Having formalized the argument helps clarify and structure the analysis of a complex problem; it shows how there is logical consistency in expecting a clear scenario in which the government will tolerate subnational regions from the opposition that follow authoritarian practices. In addition, the model generates interesting testable comparative statics not immediately apparent, thereby providing insights that might not be gained from a non-formalized theory of the same problem.

## 4    Within-State Analysis

In this section, I will present systematic analyses of data in an attempt to falsify the two main comparative statics that derive from the model. First, I present evidence that states with opposition governors with lower levels of democracy are more likely to support the central government's policy, against their own party preferences in comparison to states

with more democratic opposition governors. Second, I present evidence that states that have defected from party lines to support the central government's policy agenda will have fewer resources spent in their regions by the central government to win the next election. I study the case of Mexico in testing this hypothesis.

Mexico is a case that lends itself to the study of cross-regional variation in the persistence of authoritarian institutions within states. Mexico is a federation composed of 32 subunits, each with its own executive, legislative, and judiciary branch. Nationally, the country had an autocratic political system characterized by a single-party hegemonic regime that began crumbling in the late 1980s. After the 1993 and 1996 electoral reforms that "leveled the playing field" for the opposition, there was finally a guarantee of free and fair elections. These reforms crystallized in 1997, when the PRI lost majority control of the congress and needed the support of the opposition to pass legislative initiatives. However, subnational alternation in office had begun occurring some years before; in 1989, a governor of the opposition party first took office in Baja California after a series of post-electoral conflicts. Research has already been conducted on subnational alternation in an authoritarian setting (see, for example, Eisenstadt 2004); and it is generally understood that alternation in gubernatorial offices before 1994 were not the product of democratic elections (Eisenstadt 2004). Since national democratization, some states have followed the national trend and become democratic; in other states, governors successfully concentrated their power and were able to sustain authoritarian practices and institutions in the newly democratic setting. Thus, the idea that Mexican states vary significantly in their level of democracy is widely accepted (see, Fox 1994, Giraudy 2009).

## 4.1 The Data - Hypothesis 1

### 4.1.1 Supporting the Central Government

To measure whether a specific region supported the central government policy, I analyze roll-call vote data from the national legislature.[13] The first step is to identify the bills of interest, those that the national government supported and that the national opposition opposed. For each bill, I first determine whether it is a policy supported by the central government by verifying that more than half of the legislators of the same party as the national government voted in favor of the bill. From that reduced sample of bills, I verify that the bill was opposed by the national opposition by checking each bill to discover whether at least half of the opposition legislators opposed it (by party). Those bills that satisfy both criteria are the relevant bills.

For these relevant bills, a state is counted as having supported the center on a specific bill if at least half of the legislators from that state who were from the same party as the governor voted in favor of the bill. If at least one central government bill in a given year was supported by the state, then the whole year counts as a support-year for that state. Alternatively, I also code state support as the sum of the number of bills on which the state supported the central government in the year. If, for example, a state supported three bills in 1999, that state-year receives a value of 3.

These variables measure whether a state supported the central government in a given year. However, we are interested in states ruled by a party different from the ruling party in the central government. This will be discussed in more detail in the methodology section. The point is to learn the conditional effect of the level of democracy and being in the opposition to the central government on the probability that state legislature delegates

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[13]Tha data set of all individual votes was obtained from Francisco Cantu and Scott Desposato. 2011. Roll Call Votes from the Mexican Chamber of Deputies. http://swd.ucsd.edu. I used the version available on August 2, which had last been updated on July 14th, 2011.

will support the central government.

An alternative measure that would avoid observing such interactions would be to load the conditionality of the claim onto the variable. To do so, I create a defection variable. Again, the bills of interest are those that the central government supports and the national opposition opposes. In those cases, individual defection occurs when a legislator of the national opposition and of the same party as the region's governor went against the party line and supported the bill.

If more than a fourth of the legislators of a state defect, I count the state as having state defection on that particular bill. I then sum the number of defections in a year to determine the value of state-defection for that state in a given year. State in which defection was impossible, I treat as missing values. For example, if a governor was from the same party as the national government, the region cannot defect by my definition, so the state-defection value is coded as missing rather than as a 0.

The relevant time frame for the data on state support and state defection, given the scope conditions of the theory, is during a span when the following two conditions are met: (1) national democratization has occurred and (2) the central government needs support from the regions to enact policy. The dates of the time frame are quite clear for Mexico: The 1997 national elections occurred after the 1993 and 1996 electoral reform passed, giving way to a divided congress in a democratic setting. I have a complete data set for the measure of state support for the central government spanning 1998 to 2008. However, in a few cases, there was no possibility of states supporting the central government because there were no bills on which the central government and the opposition disagreed. Therefore, I also include a variable that codes these cases as missing values rather than 0.

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### 4.1.2 Level of Democracy

To determine the extent to which authoritarian practices continued in a region after national democratization, I take as a starting point Dahl's (1971) conception of democracy which calls attention to two different dimensions: participation and contestation. *Participation* refers to "the proportion of the population entitled to participate on a more or less equal plane in controlling and contesting the conduct of government" (pg. 4). Historically, cases of subnational authoritarian practices that limit participation have been observed, as was the US South during the Jim Crow era or Switzerland restricting woman's votes well into the 20th century. However, in Mexico, as well as in Latin America and practically all modern democracies, restricted participation no longer exists. People are not systematically disenfranchised (with the possible exception of prisoners). Because there is no subnational variation on the participation component, I focus on the second dimension: contestation.

*Contestation,* according to Dahl (1971) is "the extent of permissible opposition, public contestation, or political competition" (pg. 4). Contestation has been taken to mean electoral democracy in a minimalist or Schumpeterian sense. The question is what level of real competition exists between leadership groups over policy decisions. I, therefore, address the elements that determine the extent to which electoral competition for office exists and the existence of counterweights between electoral years.[14] To determine these elements, I analyze the most common measures of national democracy (Polity IV and Freedom House) and choose those that are directly related to this conception of contestation; I present the theoretical constructs as well as my proposed operationalization. The degree of electoral contestation will be reflected in: (1) the existence of a viable opposition (measured by

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[14]This approach is consistent with the most advanced project that measures democracy at the national level by Coppedge, Gerring, Altman, Bernhard, Fish, Hicken, Kroenig, Lindberg, McMann, Paxton et al. (2011). It is what they consider an electoral conception of democracy. It is also consistent with Gervasoni (2010) conception of subnational democracy including access to power and exercise of power.

counting the number of party alternations in the state executive office up to the given year), (2) Degree of co-option of the local congress (measured as the percentage of state legislators who are from the governor's party in the local congress in a given year), (3) existence of opposition counterweight (measured as the margin of difference between the winning gubernatorial candidate and the first runner-up in the immediate prior gubernatorial election), (4) judicial independence (I code a state judiciary as independent if it has a judiciary council in charge of making disciplinary decisions and promotions, or dependent if such powers are held by the president of the judiciary appointed by the governor in a given year), and (5) degree of openness and transparency of the state government (measured as the "transparency and openness" legislation in each state).[15]  All of these variables are normalized by dividing the entry by the maximum value and multiplying by 100. These five components are added to create a democracy variable. The choice of addition implies treating weights as equal.[16]

As has been thoroughly discussed in the literature, the choice of aggregation rules across variables requires some care. One alternative to imposing a structure, which would also help in testing whether in fact we are measuring a single component of democracy called *contestation*, is to conduct exploratory factor analysis on all five variables. Thus, I constructed a factor-analysis variable that uses the inductively derived weights of each of the variables. It was created using principal factors and rotated orthogonally. Only one factor had an eigenvalue above 1, suggesting that one unique characteristic of states, contestation, is being assessed. In addition, a high level of uniqueness was determined for

[15] All electoral variables were obtained from CIDAC, www.cidac.org/esp/Datos_Electorales.php.  The judicial independence measure was constructed from information provided from each state's judiciary. Information on government openness and transparency was obtained from research by the Instituto Federal de Acceso a la Informacion.

[16] I created an alternative measure that incorporates a less blunt measure of judicial independence, as well as a measure of fiscal transparency. Though it uses a better measure for judiciary contribution to the level of contestation, the observations are less frequent, dramatically decreasing the number of observations from the 352 needed to only 192. Results are very similar when using this measure. (Results not presented.)

each of the variables, with values ranging from .6 to .83. The overall KMO is .72 which is slightly below the ideal .8 value but above the standard cutoff of .6. I retain this single factor and created an alternative measure of subnational democracy.[17]

The composing elements and the two measures of contestation are shown in the following table:

| Variable | Observations | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Alternations | 352 | 0.35 | 0.56 | 0 | 2 |
| Congress Co-option | 352 | 0.54 | 0.14 | 0.07 | 0.95 |
| Executive Margin | 352 | 0.30 | 0.29 | 0.01 | 1 |
| Judicial Independence | 352 | 0.39 | 0.49 | 0 | 1 |
| Transparent | 352 | 1.55 | 3.25 | 0 | 10 |
| Index of Democracy | 352 | 0.41 | 0.21 | 0.03 | 0.83 |
| Level of Democracy | 352 | 0 | 0.82 | -2.06 | 1.90 |

Graphs of the change over time in the level of democracy in each state are in the appendix[18]. These graphs are consistent with common intuitions as well as with the qualitative assessment made in the literature about different states. One quick test is to check for the states that most people expect to come at the bottom (Oaxaca, Puebla, Hidalgo, and Veracruz) and the ones that people would expect to come at the top (Queretaro, Jalisco, Nuevo Leon, and Distrito Federal). In all measures, the states expected to be at the bot-

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[17]There is a possible problem in that the Chi-square value is too high with a $p$ under the expected .05 value. For this reason I also conducted an alternative factor analysis with two differences: 1- I, using maximum likelihood estimation instead of principal factors, and 2- I, restricting the variables to four: electoral, executive contestation, legislative contestation, and judicial contestation. (I dropped the transparency variable). Doing so produces only one significant factor as well. The KMO is still above the cutoff of .6 at .71, but this time the Chi-square values is a more reasonable 3.55, resuling in a $p$ value of .17 above the .05 threshold. Results from using this alternative specification are similar. (Results not presented.)

[18]States governed by the PRI are not considered autocratic by definition. There is variation within PRI states from very high to low democracies. In the same way not all states that have had alternation in the executive are considered high democracy by definition, this is only one of 4 other characteristics. There are states that are low democracy and controlled by parties other than the PRI.

tom have values of democracy below the mean for the entire period (except for Veracruz, which briefly rises above the mean only to go back down, consistent with the history of Veracruz). The states expected to be at the top appear above the mean after 1997 for the entire period. In addition, almost all of the states that stand out at either extreme are the same as in Giraudy (2009), the only other systematic attempt at measuring continuation of subnational practices in Mexico[19].

## 4.2   Methodology

As discussed previously, I am testing the conditional effect of the level of democracy on cooperation with the center given a state is controlled by the opposition. The probability model used for this hypothesis incorporates interaction effects as follows:

$$SupCent_{it} = \alpha + \beta_1 Cent_{it} + \beta_2 Dem_{i(t-1)} + \beta_3(Cent_{it} * Dem_{i(t-1)}) + \rho_i + \varepsilon_{it}$$

where $i$ indexes each state and $t$ indexes the year; $SupCent$ is a measure of support for central government policy; $Cent$ is a dichotomous measure of whether the governor is in the same party as the central government (1 = yes); and $Dem_{(t-1)}$ is a measure of lagged level of democracy. It is important to use a lag, because these negotiations take time and changes in the electoral values usually occur at the end of the summer or in the fall so that most legislative periods for a given year occur with the previous level of democracy in mind. $\alpha$, $\beta_1$, $\beta_2$, $\beta_3, \beta_4$ are parameters to be estimated as well as $\rho$, which is the state

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[19]Giraudy (2009) includes as "undemocratic regimes" Oaxaca, Puebla, Baja California, Coahuila, Colima, Hidalgo, Tabasco, Tamaulipas, Veracruz, and Yucatan. Within her more limited time period, measures differ only for Baja California and Yucatan. She also considers Chihuahua, Queretaro, Michoacan, Nuevo Leon, Mexico City, and Zacatecas as examples of "progressive democratization." All of these states have high values for level of democracy under the measures used here. Unfortunately Giraudy was unwilling to share her measures, so correlations between the measures could not be calculated.

fixed effect, and $\varepsilon$ is the error term. Standard errors are robust, clustered according to the 32 states.[20]

This model specification takes into account the possibility that there are certain fixed characteristics of the state that determine its propensity to support the center. By using a fixed-effects model, we can eliminate unobserved heterogeneity fixed within states. There is strict exogeneity of the explanatory variable under the assumption that there are no within-state omitted variable problems.

Because the theory is concerned with the conditional effect (the effect of democracy given that the state is in the opposition), the model presented includes an interaction term. Normally, doing so makes the results more difficult to interpret because the individual coefficients and their associated standard errors as first presented cannot be taken as meaningful; however, this is not the case here. The normal problem is that the coefficient for the variable of interest captures only the effect on the dependent variable when the conditional variable is zero, which is usually an uninteresting or unobtainable value. However, in this case, we want to know the effect of democracy when the region is in the opposition ($Cent = 0$). For this reason, the relevant parameter is $\beta_2$ and not ($\beta_2 + \beta_3$) and the expected sign on the coefficient is negative.

A possible concern is problems of endogeneity, I address the two most prominent, selection bias and reverse causality[21]. Selection bias would be a problem if there were a characteristic of regions (that is not time constant) making them more likely to have low levels of democracy and increasing the probability of defection. A survey of the literature on

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[20] The problem comes from possible violations of the assumption of the independently and identically distributed error term. To address issues of heteroskedasticity arising from the assumption that observations within state $i$ are correlated in some unknown way, inducing correlation in the error within $i$, though groups $i$ and $j$ do not have correlated errors, I cluster by state.

[21] Ideally we would want either an instrument for the level of democracy in the state or a an experimental setting in which we could argue that whether a state is low democracy or high democracy is random. Evidently, neither of these is readily available.

low democracy regions presents three main possible determinants: economic development, resource wealth, and information control. Though economic development has been demonstrated not to be a determinant of low democracy regions (Gervasoni 2010, Giraudy 2009), it is also highly unlikely that the level of development would have an effect on the likelihood of defecting in favor of the central government. The idea that resource-rich regions have a higher probability of having low levels of democracy has been supported with evidence in the literature; however, the formal model presented in the theory section also suggests that regions with higher levels of resources are more likely to defect and support the central government. Finally, (Gibson 2005) suggests that the ability of regional governments to prevent local scandals from becoming national ones enables them to maintain low levels of democracy. It is hard to imagine, however, that whether information is contained at the local level or becomes national would have an effect on the likelihood that a state legislative delegation would support the central government. For these reasons, results are verified to the inclusion of both GDP per capita as well as government revenue as controls[22].

## 4.3  Results

The first evidence in favor of the theory presented here comes from a difference of means of the two samples: the mean defection rate in opposition states that have low levels of democracy and opposition states that have high levels of democracy. I compare the mean of state support for states below the mean for level of democracy with the mean of state support for states above the mean level of democracy. The results are presented in Table 1, which shows that the mean number of defections in the low democracy group (.18) is more than twice that of the high democracy group (.08) We can reject the null hypothesis

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[22]Both of these measures are obtained from INEGI: www.inegi.gob.mx.

I tried three alternative measures of government revenues: total revenues, percentage of revenues from fixed-formula federal transfers, and percentage of revenues from ear-marked discretional transfers.

that the difference in mean number of defections is zero within a 95% confidence level. The one-tailed test of the alternative hypothesis, that the mean of the high contestation groups is higher, generates a $p$ value of .01 leading to rejection of the null hypothesis. This result is strong evidence that relatively authoritarian opposition-controlled states are significantly more likely to defect from party line and support the policies of the central government than are more democratic opposition-controlled states.

A comparison of means takes advantage of cross-section variation; however, as discussed, the fixed characteristics of some states could make them more likely to be low democracy and more likely to defect. I consider within-state variation and present results from the fixed-effect model proposed above.

Table 1: Difference in Means

| | Low Democracy | High Democracy | Diff | S.E. | t | Diff>0 |
|---|---|---|---|---|---|---|
| Number of Defections | .1798561 | .0798122 | 0.100** | .0466796 | 2.143202 | .0163929 |

$^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$

The results from various model specifications fails to provide enough evidence to reject the hypothesis derived from the theory. In Table 2, regression results are presented using the level of democracy derived from the factor analysis as the main independent variable. The coefficient is negative, as expected, with all three different codings of the dependent variable producing significant results at the 95% level: lower levels of democracy are associated with higher probability of cross-party cooperation with the central government. The coefficients are not only statistically significant but are also substantively significant. A graphical representation of the marginal effect of the level of democracy on the prob-

ability of supporting the central government is included in Figure 1.[23] This graph takes the value of being from the same party as the central government as zero: the effect of level of democracy is conditional on being in the opposition. Because of the possibility of interference from a time effect, I included a dummy variable indicating whether there were gubernatorial elections that year; this did not alter the results in any way.[24] Drawing on the first model of the second table, being part of the opposition and having the lowest level of subnational democracy makes a state 37.9% more likely to support the central government on policy than a state at the mean level of democracy.[25]

The information in Tables 3 and 4 is consistent with the relationship being proposed, in which negative coefficients on the level of democracy are usually strongly significant. Table 3 varies the measure of democracy from the factor-analysis variable to the index discussed above. Table 4 uses a different dependent variable that incorporates the conditionality of the effect.[26] The robustness of the results from the comparison of means to the different specifications increases certainty about the relationship between level of democracy and supporting the central government.[27]

To examine the second comparative static the data to be used must again be described.

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[23] The code for this Figure was adapted from Matt Golder's stata code. I thank him for having provided such a great public good.

[24] There could also be a problem with a time trend. Most regressions replicated with a year trend did not alter results significantly.

[25] When GDP per capita and government resources are included as controls, the effect is mitigated to a coefficient of -.13 with a $t$ of -2.33, still significant above the 95% threshold. This reduction in the coefficient implies that having the lowest level of political contestation makes a state 27.7% more likely to support the central government, still a substantially significant finding.

[26] It is important to note that because I have run multiple tests, the probability of a false positive increases. To be exact, given the eight different model specifications, the probability of one of the regressions that is significant at the 95% level being spurious is 34%. Given that they all measure the same relationship and that most of the variables of interest are significant, I do not believe false positives to be a big problem.

[27] Practically all of these regression tables are still statistically significant when including controls for GDP per capita and government income.

Table 2: Supporting the Center and Level of Democracy

|  | (1) Central Support | (2) Central Support Frequency | (3) Central Support With Missing Val. |
|---|---|---|---|
| Central Party | 0.230*** | 2.162*** | 0.722*** |
|  | (0.0454) | (0.109) | (0.0493) |
|  |  |  |  |
| Level of Democracy | -0.184*** | -0.264** | -0.176** |
|  | (0.0602) | (0.128) | (0.0820) |
|  |  |  |  |
| Cent. Party * Democracy | 0.313*** | -0.411* | 0.155** |
|  | (0.0638) | (0.207) | (0.0691) |
|  |  |  |  |
| Constant | 0.234*** | 0.282*** | 0.243*** |
|  | (0.0251) | (0.0627) | (0.0309) |
| Observations | 351 | 351 | 244 |

Standard errors in parentheses

Fixed Effects Estimates with Robust Standard Errors clustered by State

Model (1) uses a dichotomous measure of having supported the central government

Model (2) counts the number of times in a year the state supported the central government

Model (3) uses the same dependent variable as Model (1) but with missing values
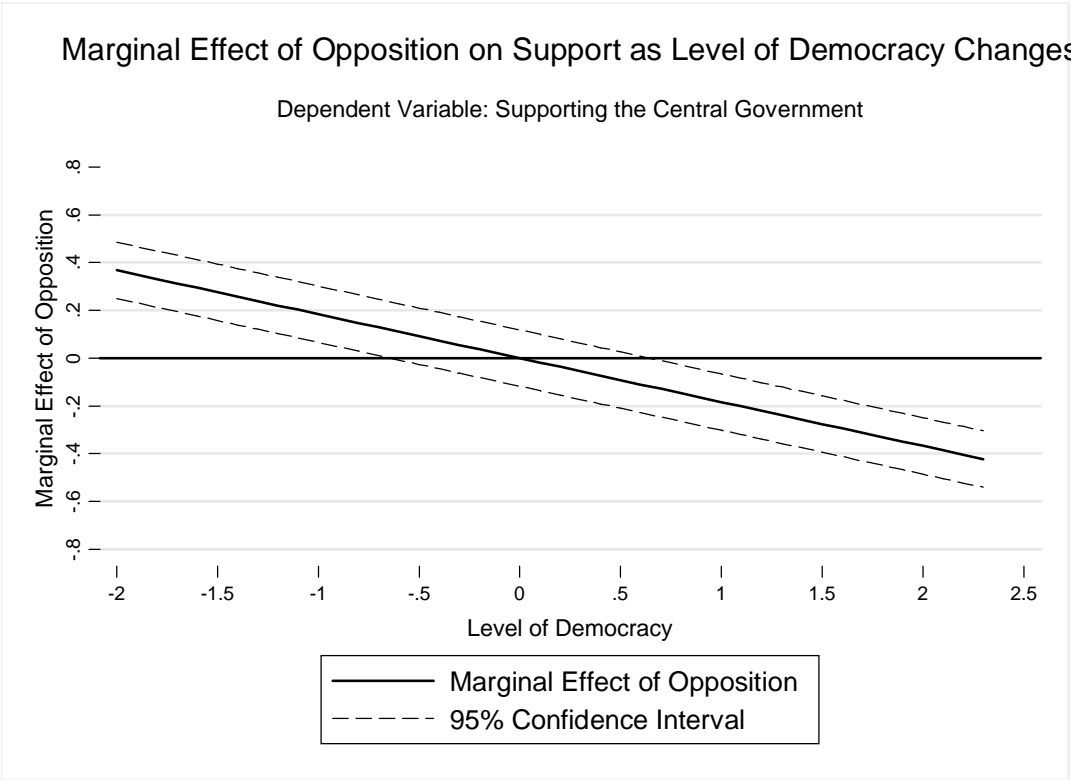
$^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$

Figure 1: Effect of Level of Democracy on Supporting the Central Government.

Table 3: Supporting the Central Government and Index of Democracy

|  | (1) Central Support | (2) Central Support Frequency | (3) Central Support With Missing Val. |
|---|---|---|---|
| Central Party | -0.154 | 3.051*** | 0.549*** |
|  | (0.0972) | (0.308) | (0.128) |
|  |  |  |  |
| Index of Democracy | -0.637** | -1.475*** | -0.427 |
|  | (0.235) | (0.488) | (0.278) |
|  |  |  |  |
| Cent. Party * Index Democracy | 0.968*** | -2.245*** | 0.456 |
|  | (0.198) | (0.738) | (0.280) |
|  |  |  |  |
| Constant | 0.486*** | 0.940*** | 0.395*** |
|  | (0.114) | (0.242) | (0.133) |
| Observations | 351 | 351 | 244 |

Standard errors in parentheses

Fixed Effects Estimates with Robust Standard Errors.

Model (1) uses a dichotomous measure of having supported the central government

Model (2) counts the number of times in a year the state supported the central government

Model (3) uses the same dependent variable as Model (1) but with missing values

$^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$

Table 4: Defection and Democracy

|  | (1) Number of Defections | (2) Number of Defections |
|---|---|---|
| Level of Democracy | -0.332** |  |
|  | (0.158) |  |
|  |  |  |
| Index of Democracy |  | -1.036* |
|  |  | (0.562) |
|  |  |  |
| Constant | 0.512*** | 0.905*** |
|  | (0.0427) | (0.261) |
| Observations | 168 | 168 |

Standard errors in parentheses

Fixed Effects Estimates with Robust Standard Errors

$^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$

### 4.4 The Data - Hypothesis 2

#### 4.4.1 Expenditure of Resources

The model posits a limited number of electoral resources that the central government must divide among regions. This variable has been difficult to operationalize because, theoretically, we need a measure of the extent to which the central government tries to improve its electoral fortunes in a regional election. Evidence from the case studies on prioritizing an election is clear: The central government will be decisive in determining the candidate, send its best political strategists to the region, have the important members of the government make appearances, arrest a prominent political figure of the opposition (sometimes acquitting that person soon after the election), share intelligence and lists of recipients of government programs with the local chapter of the party, and have strong presence in the media. These intense efforts contrasts with cases in which the central government does not really intervene: low-profile candidates are selected; the local party members complain they get no support, no funding, and no high-ranking official visiting the state; the central government does not share information, and so on.

To measure the central government's disposition towards an election, I made use of Mexico's Freedom of Information Act to obtain data on federal government media expenditures by state for each year since 2001. Though not a perfect measure, much of the variation in media expenditures can be attributed to the willingness of the central government to try to influence electoral results. Case evidence I collected from several states, as well as an in-depth study of a regional election, clearly documents how the central government increased publicity in the state for electoral purposes (Mendez 2010). The data are an aggregation of the expenditures made by the ministries, the presidency, and other relevant institutes, such as the Mexican Institute of Social Security (IMSS), famous for having increased its media spending dramatically in Veracruz in 2010 for electoral purposes. These

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data capture expenditures on television, radio, newspapers, and various other publicity outlets, from convocations to straight forward government promotion.[28]

In addition to the yearly data on expenditures, I created a variable that includes expenditures only for gubernatorial election years or immediately prior years. The expectation is that the effect of having supported the central government will be at its highest when the stakes are the highest for the governor, which would be the next gubernatorial election.[29] I incorporate the year prior to elections; most elections occur in the summer and federal campaign laws restrict advertising in the months leading up to the election. These restrictions explain why, as I corroborated in the field interviews, political media messages reach their peak 8 or 9 months before the election. In addition, I also maintain yearly expenditure data.

### 4.4.2   Supporting the Central Government

I use the same measures of supporting the central government lagged by one year. In addition, I generate a variable representing the number of times a given state supported the central government initiatives in that year and the previous two. I do so because I do not expect the effect to be immediate, but rather that the choice of expenditures will be contingent on the support the central government received in the previous two years as well. Taking this lagg into account is important because supporting the central government is often done in exchange for fewer resources being spent during the next period, or two periods after. This second variable will be particularly useful when analyzing yearly data.

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[28] I have transformed these expenditures to natural log expenditures because of the very large amounts of money and certain extreme outliers.

[29] If we include legislature election years as well, the results are still very similar.

## 4.5   Methodology

To demonstrate that cross-party cooperation in authoritarian states in support of the central government leads to lower expenditure of resources by the central government in a region's state election, I estimate the following model:

$$\log(Media_{it}) = \alpha + \beta_1 Cent_{it} + \beta_2 SupCent_{i(t-1)} + \beta_3 (Cent_{it} * SupCent_{i(t-1)}) + \beta_4 \mathbf{X}_{it} + \rho_i + \varepsilon_{it}$$

$Media_{it}$ is the expenditures by the central government in media directly targeting state $i$ in time $t$; $Cent_{it}$ is a dichotomous variable indicating whether the state is from the same party as the central government; $SupCent_{i(t-1)}$ is a lagged value of supporting the central government's policies; $\mathbf{X}$ represents a series of controls that affect the level of media spending. Standard errors are adjusted by clustering by state.

I have also added controls for other possible determinants of media expenditure that could be correlated with the probability of supporting the central government. I control for population: the price of local newspaper ads or television commercials is usually proportional to the audience that will be exposed to such ads, so that more populated states charge more for the same number or types of ads. I also include a dummy for an election year, thus controlling for a possible time trend.

The interpretation is similar to the one used for the first hypothesis. Even though an interaction term is used, because we are investigating the effect of supporting the central government when in the opposition ($Cent = 0$), only the coefficient and standard error of $SupCent.$ are of interest. For the same reasons, the use of a fixed-effects model will allows for eliminating the possibility of biases due to fixed characteristics of the region that determine the level of media spending by the national executive.

## 4.6 Results

As a first approach, I again compare means. Mean media spending in opposition states that cooperated with the central government the year before was $4,101.62 million pesos compared to the $87,378.40 million pesos spent in states that could have cooperated but did not. At first the difference appears to be extremely large; however, as shown in Table 5, the standard error for the difference is large; there is great variation in the level of spending especially in states where no cooperation occurred. There is not enough evidence by conventional standards to reject the null hypothesis that the difference of means is indeed zero  However, this lack of evidence could be due to all the "noise" encompassed in the measure of expenditure of resources. If certain states receive high levels of media expenditure for some other purpose or a characteristic that is fixed over time in the state (like geography), the standard mean comparison would be inadequate. Incorporating a fixed-effects model will allow for explaining the within-state variation that will deal with those issues.

Table 5: Difference in Means

|  | No Defections | Defections | Diff | S.E. | t | Diff>0 |
|---|---|---|---|---|---|---|
| Media Expenditures | 87378.04 | 4101.626 | 83276.41 | 89398.08 | .9315236 | .1765656 |

In Table 6, we observe the effect of cooperation on media expenditure around election time. The dependent variable is the level of expenditure in election years and the year prior to elections. The main independent variable is a lagged value of the measure of supporting the central government. Model 1 is a dichotomous measure of having cooperated with the central government in at least one policy and includes missing values, Model 2 is a continuous measure of the number of times the region supported the state, and Model 3 is

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the same dichotomous measure as Model 1 but replaces the missing values.

The coefficient of the relevant independent variables is negative, as expected. The results are all consistent with the theory: the central government holds back on media expenditures in states that crossed party-lines and supported the central government on policy. The substantive effect is stark. In Model 1, for example, we observe that having supported the central government in the prior year decreases the level of media expenditures by 64% during an election period.

The problem with the use of this dependent variable is that it reduces the number of observations dramatically; hence we are drawing inferences from very few cases. An alternative is to use the yearly media expenditure as the dependent variable and the total number of central bills supported in the previous 3 years as the independent variable. Results from such specifications are shown in Table 7 which indicates that the coefficient has the expected negative sign and is highly significant. In Model 1, for example, the coefficient indicates that, for every bill for which a state from the opposition supports the central government, there is a 9% decrease in the national media expenditures in that state. Confidence in these results increases as the coefficient remains significant with the addition of such controls as population, poverty or whether the time being examined was an election year.

The evidence presented cannot prove the causal relationship conclusively. Though including fixed effects decreases problems associated with state characteristics that could violate the model assumptions, because we can not credibly assume that the level of democracy is exogenously determined, we still run the risk of endogeneity problems caused by unobservables. In addition, measurement errors (especially when attempting to measure government resource expenditures) are also problematic. Nevertheless, the evidence presented is strong enough that we cannot dismiss the possibility of the relationship between

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Table 6: Media Spending in Election Year and Supporting the Center

| | (1) Election Year Expenditures | (2) Election Year Expenditures | (3) Election Year Expenditures |
|---|---|---|---|
| Central Party | -1.091 | -0.879*** | -2.379*** |
| | (0.840) | (0.153) | (0.451) |
| | | | |
| Dichotomous Support | -0.640** | | |
| | (0.299) | | |
| | | | |
| Cent. Party * Dich. Support | 1.569 | | |
| | (0.927) | | |
| | | | |
| Aggregate of Support | | -0.306** | |
| | | (0.141) | |
| | | | |
| Cent. Party * Aggr. Support | | 0.588*** | |
| | | (0.162) | |
| | | | |
| Dichotomous Support | | | -0.612** |
| | | | (0.298) |
| | | | |
| Cent. Party * Dich. Support | | | 2.679*** |
| | | | (0.653) |
| | | | |
| Constant | 12.66** | 6.955*** | 19.21*** |
| | (5.458) | (2.436) | (4.175) |
| Observations | 64 | 67 | 67 |
| Controls | Yes | Yes | Yes |

Standard errors in parentheses

Fixed Effects Estimates with Robust Standard Errors clustered by State

Model (3) replaces missing values with no support

$^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$

Table 7: Media Spending and Central Support Accumulated

|  | (1) Media Expenditures | (2) Media Expenditures | (3) Media Expenditures | (4) Media Expenditures |
|---|---|---|---|---|
| Central Party | -0.445 | -0.282 | -0.349 | -0.363 |
|  | (0.524) | (0.433) | (0.298) | (0.297) |
| Central Support | -0.0940*** | -0.0576*** | -0.0396** | -0.0382** |
|  | (0.0177) | (0.0191) | (0.0173) | (0.0172) |
| Center Party*Central Support | 0.140*** | 0.106*** | 0.0994*** | 0.100*** |
|  | (0.0275) | (0.0275) | (0.0234) | (0.0231) |
| Population |  | 0.0245** | 0.0168** | 0.0168** |
|  |  | (0.00990) | (0.00667) | (0.00668) |
| Extreme Poverty |  |  | -0.0665*** | -0.0664*** |
|  |  |  | (0.0113) | (0.0114) |
| Election Year |  |  |  | -0.110 |
|  |  |  |  | (0.0839) |
| Constant | 7.962*** | -0.0515 | 3.826 | 3.840 |
|  | (0.141) | (3.228) | (2.271) | (2.275) |
| Observations | 256 | 256 | 256 | 256 |

Standard errors in parentheses

Fixed Effects Estimates with Robust Standard Errors clustered by State

Population measured in 10,000's

$^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$

cooperation and central government campaign intensity. Given the limitations of data availability and the complexity of the problem, this is a good first step at testing the hypothesis. It is still important to provide more evidence..

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