# Who Gets the Goods: Club Goods Provision in Weak Party Systems

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**Abstract**

How do politicians strategically allocate funds for political gain in the context of weak political parties? In much of the literature on clientelism, political parties play an instrumental role in selecting reliable brokers who can help translate goods into votes. However, in many democracies, political parties lack the internal capacity to build and maintain clientelist networks. I argue that when parties cannot oversee clientelist machines, national politicians will use their relationships with local politicians to determine where to allocate discretionary funds in the form of club goods. I argue that regardless of the political party in office, national politicians are more likely to target municipalities where mayors have clientelist networks in place. I test this argument in Colombia. Using a Bayesian Mixed-Membership model, I estimate municipal-level clientelism. I find that municipalities with higher levels of clientelism are likely to receive more club goods in the form of development projects.

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In order to reach voters, politicians often depend on political parties to help them coordinate their electoral strategies. Political parties can help provide resources, streamline programmatic messaging, and manage the clientelist machine. However, in much of the developing world, politicians cannot trust political parties to help them reach voters. Many political parties lack the capacity to coordinate strategies and maintain party discipline. Limited resources make it difficult for parties to help politicians reach the voters they need to target. Moreover, in many developing democracies, a large proportion of citizens are non-partisan. Politicians who target citizens using clientelism, therefore, need to find strategies to reach citizens that do not depend on a political party machine.

Although the challenges that parties face are far-reaching, most of our understanding of how politicians target voters assumes that these politicians have the support and guidance of a political party. When party machines use clientelism as a strategy to target voters, the machine is responsible for recruiting loyal brokers capable of delivering votes. Particularly in non-programmatic contexts, our dependence on party-driven theories limits our understanding of exactly *how, when*, and *where* politicians choose to use targeted goods. How do politicians who cannot rely on a party machine make decisions about when and where to use clientelist appeals to reach voters? What type of clientelist appeal is most feasible in this context? Who do independent politicians work with?

I propose a theory to explain how politicians in weak party contexts use club goods as clientelist benefits in order to target voters. I argue that when politicians cannot rely on political parties to help them select brokers, they will use alternative brokers to help them distribute club goods. Club goods refer to excludable public goods that are only accessible to a particular subset of the population. For example, a new water treatment facility that cleans water for a limited geographic area or a new road that connects remote farmers to marketplaces can both be classified as club goods. In this context, club goods are particularly useful because they are flexible to local needs and can increase the number of voters reached with a targeted good. However, in order for club goods to behave like clientelist benefits,

national politicians need to work with local-level brokers who can help oversee who receives the club good and where the club good is best able to incentivize voters to support the national politician. Due to their knowledge of local conditions, local-level politicians can act as effective brokers when national politicians provide club goods. I analyze the case where the local brokers are mayors.

One of the core tenets of a reliable broker is their ability to deliver votes. Thus, legislators will seek out local-level politicians because they have proven that they can mobilize voters. In order to determine which local politicians can most effectively translate club goods into votes, however, legislators will consider the strength of the local politician's network. One way to do this is by observing whether local politicians have built clientelist networks. A local clientelist network suggests that voters are able to be mobilized using targeted benefits. I argue that legislators are more likely to provide club goods to municipalities where the mayor has invested in building a clientelist network.

I present a novel estimation strategy to determine the prevalence of clientelism at the municipal level. In order to estimate clientelism, I use a Bayesian Mixed-Membership model. My estimates of municipal clientelism allow us to understand how local-level dynamics affect club good allocation because they highlight the variation in the use of clientelism within a single country. I estimate the use of clientelism at the municipal level in Colombia and use these estimates to test the theory that municipalities where mayors have invested in building stronger clientelist networks are more likely to receive club goods benefits.

I test the theory in Colombia for two reasons. First, in Colombia there are both weak political parties and a high number of non-partisan citizens. As a result, Colombia fits the scope conditions of where I would expect legislators to rely on local-level politicians to help them translate club goods into votes. Second, politics in Colombia are largely non-programmatic, so many politicians depend on clientelism to help target voters. I find that municipalities with higher rates of clientelism are more likely to receive club goods, even after controlling for other factors that can influence discretionary fiscal transfers. This is

particularly noteworthy since in Colombia, mayors cannot serve consecutive terms–an electoral rule that should reduce the payoff from iterative clientelist interactions–yet clientelism continues to be used and can help explain which municipalities receive additional resources.

# 1 Clientelism in Modern Democracies

Traditionally, clientelist relationships are maintained through a strict hierarchy: clientelist parties enlist brokers who distribute resources to voters in a way that helps maximize vote share (Stokes, Dunning, Nazareno & Brusco 2013, Kitschelt & Wilkinson 2007). In this framework, political parties play a central role in selecting and monitoring well-embedded and reliable brokers.

The challenges associated with targeting voters through clientelism is compounded by several features of modern democracies. First, the rise of the secret ballot makes it increasingly difficult for brokers to monitor the voters they target (Gingerich & Medina 2013). Second, in contexts where citizens are largely non-partisan, clientelist parties face challenges identifying brokers who will be loyal to the party machine and able to identify swing and loyal voters (Holland & Palmer-Rubin 2015). Finally, the nature of campaigns creates an incentive to use programmatic appeals that make it difficult to disentangle votes won as a result of clientelist strategies from votes that are the results of programmatic campaigns (Palmer-Rubin 2018, Greene 2017). Since political campaigns expect candidates to send messages concerning issues, there is pressure to use campaigns to signal policy rather than capacity to deliver targeted goods (Greene 2017). Furthermore, clientelism can be more difficult in decentralized contexts. This is because increases in political party fragmentation (Ryan 2004) and deinstitutionalization have made political parties less important in coordinating candidate strategies (Dargent & Muñoz 2011, Novaes 2014).

Despite these obstacles, politicians continue to use clientelist appeals. Unlike programmatic appeals, clientelist appeals can incentivize loyal voters to turn out and can increase

the visibility of a party or campaign when there are a high number of political parties (Muñoz 2014). While decentralization has created challenges for political parties building clientelist networks, the devolution of power has facilitated vote buying in smaller jurisdictions (Khemani 2010, Gervasoni 2010, Gingerich & Medina 2013, Devarajan, Khemani & Shah 2009). Low partisanship, political uncertainty, and the unintended consequences of democratic reforms have reduced the incentives for politicians to practice programmatic politics. The consequence is that, while clientelism has many drawbacks, it is an effective way to targeting individuals rather than just organized constituencies (Roberts 2002).

Even though political parties cannot control clientelist networks in much of the developing world, studies of the use of clientelism are still largely focused on clientelist parties and the linkages that parties use to target voters (Kitschelt 2000, Luna 2014). Many theories of clientelist strategies implicitly treat the party as the main driver of clientelism. For example, studies of political brokers emphasize the importance of partisan alignments for broker success (Stokes et al. 2013, Larreguy, Montiel Olea & Querubin 2017, Bueno 2017, Khemani 2010). Furthermore, even in studies focusing on low-capacity parties, clientelism is treated as a strategy that can send signals about candidate competence and viability (Muñoz 2014).

How, then, do politicians adapt their clientelist strategies for weak political party and low-partisanship environments? Some of the ways politicians have modified their strategies include changing how they provide clientelist benefits. Clientelism has become more indirect, with politicians buying votes through the non-enforcement of laws that directly target the poor (Holland 2015, Holland 2016) and the implementation of welfare programs that directly target low-income populations (Penfold-Becerra 2007, Lucciasano & Macdonald 2012). Moreover, politicians have changed who they select as brokers, using brokers who are embedded in interest organizations or have been selected by citizens to act as intermediaries(Holland & Palmer-Rubin 2015, Auerbach & Thachil 2018).

I build upon our understanding of party-driven clientelism and the various challenges

that politicians using clientelist strategies face in order to build a theory of how club goods can be used as a clientelist benefit in the context of weak political parties. Existing studies of clientelism have shown that politicians have become more creative in selecting brokers. These brokers can include individuals embedded in business or civil society organizations or entrepreneurial individuals who act outside organized groups (Holland & Palmer-Rubin 2015). Further, the literature has shown that there has been a movement towards indirect forms of clientelism. In the next section, I explain how one particular type of independent broker, local politicians, can work with national politicians to deliver club goods without relying on a party machine. I will demonstrate that a mayor's ability to mobilize voters using clientelist strategies helps explain where legislators will target voters using club goods.

# 2 Club Good Clientelism

The resources that legislators have access to, and the ways in which legislators choose to distribute funds, are often mediated by political parties. Since political parties have the influence to coordinate central strategies and build party brands (Lupu 2013, Lupu 2014), they can influence which types of voters are targeted and which types of benefits are likely to be effective. However, when political parties do not have the internal capacity to maintain a strong clientelist machine and cannot identify reliable brokers, national legislators need to find alternative ways to reach voters. National legislators acting outside of parties need to find a strategy that allows them to control both the allocation of the benefit and the broker who distributes the benefit. I argue that these conditions are met when national legislators provide club goods, or excludable public goods, for particular municipalities.

Club goods are public benefits that only reach one group of voters. With club goods benefits, only a small subset of the population can benefit from what otherwise would be classified as a public good. As such, club goods can be treated as clientelist benefits that can incentivize voters to support a politician in exchange for access to the good. The group

of voters who benefits from a club good have a sense of obligation to repay the politician who provided that good (Lawson & Greene 2014). While investing in the infrastructure necessary to provide club goods is costly, they are useful benefits because of their flexibility. The politician has control over not only what benefit is provided, but also the scope of voters who can be reached and the specific public contracts that provide the good. This is a broader strategy that can act as a middle-ground between a universal programmatic appeal and narrowly targeted gifts of cash for votes. Further, club goods are indirect. A citizen who does not benefit from club goods is less likely to object to a club good than gifts given to potential voters.

When providing club goods to citizens, legislators have two opportunities to emphasize the norms of quid-pro-quo exchanges. First, legislators are responsible for determining what firms and workers receive contracts to construct the infrastructure necessary for providing club goods. For these firms, future work is contingent on continuing to support the legislator. Second, the group of people who receive the most benefits from the club good can be enticed to continue supporting the legislator in order to continue receiving benefits. This offers two clientelist benefits: a direct benefit mirroring patronage in the hiring practices surrounding club goods and an indirect benefit of using goods provided to a community, rather than an individual, that may help dissuade the concerns of voters who equate clientelism with corruption (Greene 2017, Weitz-Shapiro 2012).

When deciding whether to include club goods in their portfolio of clientelist strategies, national legislators are constrained by their desire to maximize expected vote share and minimize political risk.[1] As a result, national legislators will provide club goods to areas where they expect the club good will have the largest effect in increasing their vote share. In order to do so, legislators in weak party systems will seek alternative brokers who can help translate club goods into votes. Specifically, they will seek brokers who can be incentivized to deliver votes and who have access to networks receptive to clientelist benefits.

[1]Political risk refers to providing club goods where there is a low probability of electoral returns.

There are a variety of independent brokers who can help to distribute club goods, such as local business leaders, influential families, and local elected officials. What these brokers have in common is that they have strong ties in small networks and have the influence to oversee club goods provision. Since club goods often require coordination between the actor funding the project–in this case the legislator– and the actor overseeing the provision of the club goods– in this case the local broker– these brokers need to be in positions of power that lets them monitor the distribution of club goods. In the next section, I focus my analysis on one type of alternative broker, mayors, who can help translate club goods into votes.

## 2.1 Using Mayors as Brokers

I focus on one particular type of local broker: mayors. Mayors are particularly effective brokers for club goods because of their administrative capacity to oversee the distribution of club goods. By nature of their position, mayors are often responsible for overseeing local projects. This allows mayors to control both *where* club goods are provided and *how* they are made available to voters. Since mayors are also elected officials–and therefore have independent incentives to mobilize voters–they have independent resources that they have invested to create their own voter networks. For legislators, this means that mayors have a potential voter block they can deliver who have already demonstrated their loyalty (Novaes 2018). Consequently, using mayors as brokers offers legislators the necessary knowledge about voters' needs and preferences to help them customize club goods for local contexts.

However, mayors are not perfect brokers. Just as political parties need to try to find reliable brokers who will deliver votes, legislators building their own networks seek out mayors who they trust can deliver votes. How, then, do legislators select which mayors to work with? I argue that they focus on the mayors demonstrated ability to mobilize voters using clientelist linkages.

## 2.2 When and Where are Club Goods Used

In order to decide where to target club goods, national legislators will consider the characteristics of both the municipality and its mayors in order to determine where providing club goods is most likely to increase vote share. The demographic characteristics of municipalities help legislators identify where voters may be most receptive to club goods while the characteristics of the mayors help legislators identify where they are most likely to work with reliable brokers. Legislators prefer to provide club goods to municipalities where providing goods is relatively inexpensive in order to reach more municipalities. Likewise, legislators will prioritize municipalities with poorer citizens since poor citizens are more likely to accept clientelist benefits (Weitz-Shapiro 2012). Thus, legislators will prioritize municipalities with a higher level of material need.

However, legislator's also want to target municipalities with mayors who will act as reliable brokers. First, the national legislator will look at whether the mayor already has a clientelist network in order to gauge the strength and cohesion of the mayor's local network. A national politician will provide a club good when the mayor is able to provide access to a stable voter network that can be targeted with clientelist benefits. For legislators, targeting municipalities where the mayor does not have a large voter block is an ineffective use of their resources.

As a result, national legislators are more likely to provide club goods to mayors who already have preexisting clientelist networks. This is because these mayors have shown that they can credibly deliver votes and threaten to punish citizens who defect from a clientelist agreement. As a result, these mayors can signal their ability to monitor voter behavior. Evidence of a mayor's potential clientelist network can come in the form of the mayor's private funds used in campaigning, use of personal networks in filling bureaucratic positions, or ability to maintain voter networks even after sitting out a term. The legislator will evaluate both the presence and the strength of clientelist networks when deciding whether to use club goods.

An alternative explanation would suggest that legislators prioritize municipalities with popular mayors. However, I argue that clientelism is more important than popularity because it shows not only that mayors can receive votes, but also that the citizens can be targeted through clientelistic, rather than just programmatic or personalistic, linkages (Luna 2014).

Another alternative explanation is to prioritize mayors who occupy the same political party as legislators because they are easier to punish if they fail to deliver votes. However, in weak party contexts, there is less party discipline. Thus, while there can be a reputation cost associated with failure to deliver votes, it is less likely that this reputation cost will shape the candidates' political future. Moreover, for legislators seeking to maximize the returns on their investments in a municipality, it may be more rational to target opposition districts (Casas 2018). These challenges associated with using copartisan mayors are compounded when citizens are non-partisan and will not see party as a meaningful label when deciding how to vote. Thus, the presence of a clientelist network is still the largest indicator that a mayor can deliver votes.

These conditions for securing contracts lead to two related hypotheses. First, a national politician will be more likely to provide club goods in municipalities with high levels of material need. Second, legislators are more likely to provide club goods to mayors who maintain clientelist voter networks.

# 3 Data and Methods

In order to test where legislators will allocate club goods, I consider the case of Colombia. Colombia is an interesting case for several reasons. First, Colombia has changed from a strong two-party system to a multi-party system where parties have limited internal capacity since the 1991 Constitution. This creates a system where, as one legislator in Colombia explained "the party is merely a name on a list."[2] General consensus among mayors, legislators, and bureaucrats is that political parties in Colombia have very little power–they do

[2]Interview conducted November 2018

not contribute to campaigns, party members do not act cohesively in the legislature, and, as a result of the open-list proportional representation system, parties have little say on which party candidates from the electoral lists assume office.

Second, Colombian citizens have low levels of partisanship. Citizens are much more likely to identify with an elected official–for example as supporters of former president Álvaro Uribe–than the political party to which he belongs. Consequently, it is difficult to identify party loyalists. Since most parties do not use programmatic campaign strategies, citizens will look towards other cues to determine which politicians to support.

Third, Colombia is a unitary state with high levels of administrative decentralization. At the municipal level, mayors are responsible for local infrastructure, but they are largely dependent on central government transfers. Municipalities have limited freedoms to tax citizens, so most municipal income is generated through transfers from the national government. Therefore, club goods, which often take the form of discretional transfers for municipal development projects, are particularly valuable benefits. To analyze where club goods are provided, I consider the allocation of discretionary fiscal transfers. By focusing on these discretionary transfers, I am able to separate club goods from the guaranteed fiscal transfers that are used for non-excludable public goods. This narrows my analysis to the transfers that can be politicized.

Finally, in Colombia, mayors are not allowed to serve two consecutive terms. This should disincentivize mayors from using long-term clientelist appeals because they need to wait a full term before encouraging voters to reelect them. In the interim, voters have limited interactions with the former mayor since these mayors tend to spend the off-term in bureaucratic roles at the department level or as aids to legislators at the national level.[3] If a mayor hopes to run for a different political office, they must resign from their current political post a full year before running to avoid potential conflict of interest. As a result, mayors need to trust that voters will continue to support them despite the lag between their time as mayor and

[3]Information gained through interviews with mayors and local bureaucrats from July 2018-December 2018

the next election. Given these constraints, Colombia is a hard test of the theory–immediate gains from clientelism are limited and institutional rules should limit long-term payoffs.

## 3.1 Club Goods in Colombia

One method for receiving club goods in Colombia is through royalty transfers. The royalty transfer process is designed to be a largely apolitical process where royalty funds are provided to the municipalities who are best able to execute local development projects. The money for royalty transfers is collected from municipalities with extractive economies, mostly those with large mining industries, and is redistributed across the country into a variety of dog-eared financing sources. A new law implemented in 2012 reformed the royalty process to allow all municipalities to receive royalty funding, particularly through the regional and departmental funding sources. Applying for royalties is a streamlined process: municipalities complete applications proposing a development project and justifying how it relates to local, departmental, and national development goals. They discuss other forms of funding they are applying for and how they plan to implement the project. The project is then reviewed by a Collegiate Administrative and Decision Body (OCAD), who vote to determine which municipalities receive funds. The OCAD includes votes from mayors, governors, and national ministers and is the ultimate decision-making body for determining who receives discretionary royalty transfers.

The way OCAD bodies coordinate depends on the particular region or department, but their decisions often occur during online conferences. Decisions are made by the voting members based on the applications received by the OCAD. Receiving royalty funds from OCADs is quite difficult. As one mayor in the Antioquia department explained, "You cannot count on funds from royalties and always have to think about what other grants can help fund improvements."[4] Each department or region has autonomy in selecting which mayors, governors, and ministers make decisions for a particular OCAD.

[4]Interview conducted in October 2018

In interviews with departmental planning bureaucrats about OCAD decisions, they emphasized that the intention is not to use politics to distribute benefits, but concede that it is impossible to completely omit political considerations. Several interview subjects emphasized the importance of the governor's preferences. The bureaucrats who vote on behalf of governors consider the governor's political strengths and alliances when placing their votes. Similarly, they explain that it is possible for savvy legislators with strong ties to ministers to use their influence to sway OCAD decisions.[5]. Thus, while this system is billed as the apolitical alternative to the widely criticized "jam" system, where legislators provide investments to municipalities "under the table", it is an alternative venue that can be manipulated by entrepreneurial politicians who use the existing institution to further their networks. Focusing on projects approved and transfers through the royalty process is a hard test of which municipalities receive club goods.

## 3.2 Dependent Variables

I consider two different classes of transfers. The most transparent type of transfer occurs through the Sistema General de Participación (SGP). This is a guaranteed transfer that all municipalities receive. The value of the funds are determined by a formula based on the municipalities population, financial performance, and level of need. This process is apolitical, so any effect on clientelism should be a consequence of the relationship between clientelism and municipal demographics. I consider the logged transfers per capita through the SGP in millions of pesos.

Second, I consider transfers through the Sistema General de Reglarías (SGR). In order to receive funds through this process, municipalities must complete an application for a public works project that is approved by an OCAD. I consider the transfers through the SGR by first looking at the logged discretionary royalty transfers each municipality receives (in millions of pesos). I then refine this measure to only consider projects approved by the OCAD process.

[5]Interviews conducted August 2018-November 2018

First, I consider the number of contracted projects. This variable represents the number of projects that were both approved by an OCAD and begin construction during a calendar year in order to make sure the approval is not merely a promise of future development. Then, I look specifically at the logged value of the contracted projects, in millions of pesos.

## 3.3 Estimating Municipal-Level Clientelism

In order to test the effect of local clientelism on whether a municipality receives club goods, I need to measure clientelism. Clientelism cannot be observed since the exchange of money, goods, or jobs for votes is not documented in budgetary records or documents. However, a measure of clientelism that can identify differences in the extent to which politicians use clientelist appeals- rather than just a dichotomous measure of whether clientelism is present- is essential for testing how clientelism influences which municipalities receive club goods.

The challenges in measuring clientelism have been addressed by the literature in two ways. First, in-depth qualitative studies of clientelism have provided evidence of how clientelism occurs at the local level, highlighting municipalities where clientelist interactions are particularly common (Abers 1998, Muñoz 2014, Ocampo 2014, Zarazaga 2014). While these types of measures are exceptionally rich, they cannot be applied to other municipalities. The second way clientelism is measured is through the use of survey list experiments designed to elicit sensitive information (Blair & Imai 2012, Blair, Imai & Lyall 2014, Greene 2017). This measure is more broadly applicable, allowing respondents who see a list of potential activities to reveal how many–as opposed to which–activities apply to them. This measure minimizes concerns about under-reporting due to social desirability bias, but it is difficult to scale-down to the local level because it requires a high number of respondents. Finding the necessary sample size is a particularly difficult task in small rural municipalities where theories suggest clientelism is most likely to happen (Gingerich & Medina 2013).

In order to overcome these challenges, I create a new, original measure of clientelism that can identify municipal-level differences without limiting the analysis to municipalities

where field work can be conducted or using large-scale surveys that may drop many small municipalities from the analysis. I focus on patronage–a particular form of clientelism where jobs are exchanged for political support. Interviews with bureaucrats throughout Colombia identify patronage as one of the most common forms of clientelism at the municipal level. As one mayoral assistant in the Valle de Cauca department explains "bureaucratic jobs are given based on political support."[6] Other interview subjects emphasize the importance of temporary jobs, arguing that when there are jobs that need to be filled–but cannot yet be filled through slow bureaucratic channels–mayors will use these positions to reward citizens for supporting the local government. Patronage is possible in even the poorest municipalities and is a long-term clientelist strategy that involves iterative interactions. I expect that municipalities with high levels of patronage have demonstrated a substantial investment in building clientelist networks.

Much like clientelism, patronage cannot be directly observed. Local records will never explicitly indicate that an employee was hired because they are a "friend of the government" or that an employee is paid for a job without responsibilities. However, unlike clientelism writ large, patronage can be estimated based on available data that identifies who public employees are, what jobs they are hired to perform, and their basic qualifications. The method I use to translate this information about public employees into a widely applicable and nuanced measure of municipal-level clientelism is a Bayesian Mixed-Membership model.

I use a Bayesian Mixed-Membership model in order to estimate to what extent public hires are selected for political gain. The intuition is simple: Each individual is nested in a municipality and can be hired for a public job based on their qualifications and/or for clientelist motivations. While one single observable characteristic of a public service employee cannot determine whether or not clientelism played a role in the decision to hire that candidate, the combination of characteristics an employee possesses can help determine the likelihood that the hire was politically motivated. As more employees are hired, patterns

[6]Interview conducted July 2016

begin to emerge across employee profiles. Ultimately, this makes it possible to estimate to what extent candidates are hired for political–rather than meritocratic–reasons. For example, an employee who is educated for the subject they are teaching, paid through national transfers for education spending, receives a small bonus, and is stationed in a single school is likely to be hired for different reasons than the employee who is not educated for the class they are teaching, paid through a municipality's private funds, receives a small bonus, and is in a "floating" position between schools. If more public employees mirror the second example, rather than the first, it suggests that the municipality may be using more patronage-based hiring practices. Using a similar logic to topic models, where patterns in words suggest what topic a text speaks to (Gross & Manrique-Vallier 2014), in the mixed membership model patterns in employee characteristics suggest to what extent hiring practices are politically motivated.

I analyze two classes of hires, which I call the "meritocratic" class and the "patronage" class. In the meritocratic class, hiring decisions are based on (1) whether the municipality has a position to fill and (2) whether the candidate is qualified to fill the position. We would expect meritocratic hiring decisions to be made when these two conditions are met. In the "patronage" class, decisions are made based on whether the hire is politically advantageous. This can occur when a position is created solely to fill it with an ally or when the candidate is under-qualified for the position. Of course, some candidates have the distinct advantage of filling both roles: they may be filling a newly created position and be qualified to fill this new, albeit unnecessary, opening. Mixed membership allows candidates to be both qualified *and* political.

In Bayesian inference, the posterior distribution used for inference is proportional to the product of some likelihood function using data and prior expectations based on outside information. In order to estimate the use of clientelism, my likelihood function depends on data about the observed characteristics of the public service employees conditioned on prior demographic information about the municipality where these employees work.

At the individual level, I use data on teacher hires. I use a series of dummy variables that highlight features of both the job filled and the employee themselves. I isolate several indicators associated with clientelism: the employee's qualifications (if their education matches the job they receive), whether they are stationed in a rural or urban area within the municipality, how they are paid, what type of position they fill, how fixed their position is (are they in a classroom or is it a floating position), whether they received a bonus, and whether they belong to a particular ethnic group. These characteristics should occur at different rates depending on if the teacher is hired for meritocratic or political reasons. I create a total count of how frequently each indicator occurs in any given municipality. I posit that the observed counts for each of these indicators is characterized by a mixture of binomial distributions. Using this mixture, I am able to predict the probability that the municipality's hires occur at the observed frequency in a world where all hires are patronage-based versus one where all hires are meritocratic.

Next, I condition these estimates for how often hires tend to correspond with the patronage class using prior information about each municipality. I focus on three indicators that can affect to what extent hires are likely to be clientelist: household enrollment in social programs (as a measure of need), population (clientelism tends to occur more often in smaller municipalities), and a fiscal responsibility indicator (reflecting how efficient municipalities are with their funds). This conditions the information about each employee on the municipality where he is employed.

The posterior distribution after multiplying the likelihood function and the prior information is a mixture of binomial distributions representing the likelihood of the observed patterns of hires occurring in the patronage or meritocratic classes. In order to determine these parameters, I estimate a parameter $\pi_m$, that estimates the extent to which hiring decisions are meritocratic. In order to estimate to what extent hiring decisions are based on patronage, I simply calculate $1 - \pi_m$.

The full model can be characterized as follows:

$$Y_{mj}|\theta, Z \sim f(y_{mj}|\theta_j, z_{mj})\forall m, j \tag{1}$$

$$\theta \sim \beta(1,1) \tag{2}$$

$$z_{ij}|\pi, n \sim \text{Binomial}(\pi_m)\forall m, j \tag{3}$$

$$\pi_m|n \sim \text{Beta}(\mu_i, \phi)\forall m \tag{4}$$

$$\phi \sim \text{Gamma}(2,2) \tag{5}$$

$$\mu_m|\gamma = \text{Logit}^{-1}(\mathbf{A}\gamma_m)\forall m \tag{6}$$

$$\gamma \sim N(0, 10) \tag{7}$$

Where:

$m$ = The municipal indicator

$j$ = The indicator for each observed characteristic of public employees

$n$ = The number of temporary hires within the municipality

$y_{mj}$ = The profile of indicators j in municipality m

$\theta$ = Parameter for generating distribution for indicator j

$Z$ = Indicator for if observed characteristic j is a manifestation of patronage

$\pi$ = The proportion of hires that indicate patronage

$\mu$ = The expectation of clientelism in each municipality

$\gamma$ = Coefficients for municipal indicators

$\mathbf{A}$ = The matrix of demographic information for each municipality

This model can be used to estimate the use of patronage in any municipality where data on public hires is available. While I focus specifically on teacher hires, my empirical strategy can be applied to any type of public sector worker. In Colombia, teacher positions are some of

the most common public service positions that become available annually in both urban and rural municipalities. Due to the slow nature of the civil service system, municipalities rely on temporary hires, in addition to permanent hires, to fill positions of classroom instructors, education directors, and guidance counselors. Through the civil service, teachers need to receive special training to ensure that these educators are qualified. However, in temporary hires the requirements are quite lax, giving the local government discretion over who fills these positions. Focusing on teacher hires creates distance from the funds that mayors can receive through royalty transfers since the salaries of teachers are predominantly funded through guaranteed fiscal transfers that are dog-eared for health and education. Teachers, therefore, can be recipients of patronage that is separate from the royalty transfer process.

The estimates of patronage at the municipal-level should provide a strong measure of relative levels of clientelism across municipalities. A map of Colombia, where darker red indicates more patronage at the municipal level, can be seen in Figure 1. Gray municipalities reflect missing data, which occurs in Southern and Eastern Colombia where, due to small populations, divisions are classified as corregimientos rather than municipalities that do not report equivalent demographic information and in municipalities where no temporary teachers were hired or data is missing on municipal-level characteristics.

I validate this measure using survey data from the Latin American Public Opinion Project in 2012-2014. I find that respondents in municipalities with higher estimates for clientelism are more likely to respond that their government is doing nothing to combat corruption and more likely to respond that corruption is widespread. I use ordered logit regressions where the dependent variable is the citizen's responses to the survey questions and the independent variable is my estimate of clientelism in that respondent's municipality. In both cases, my measure of clientelism is statistically significant in the expected direction.[7]

[7]See online appendix for full validity checks and analysis

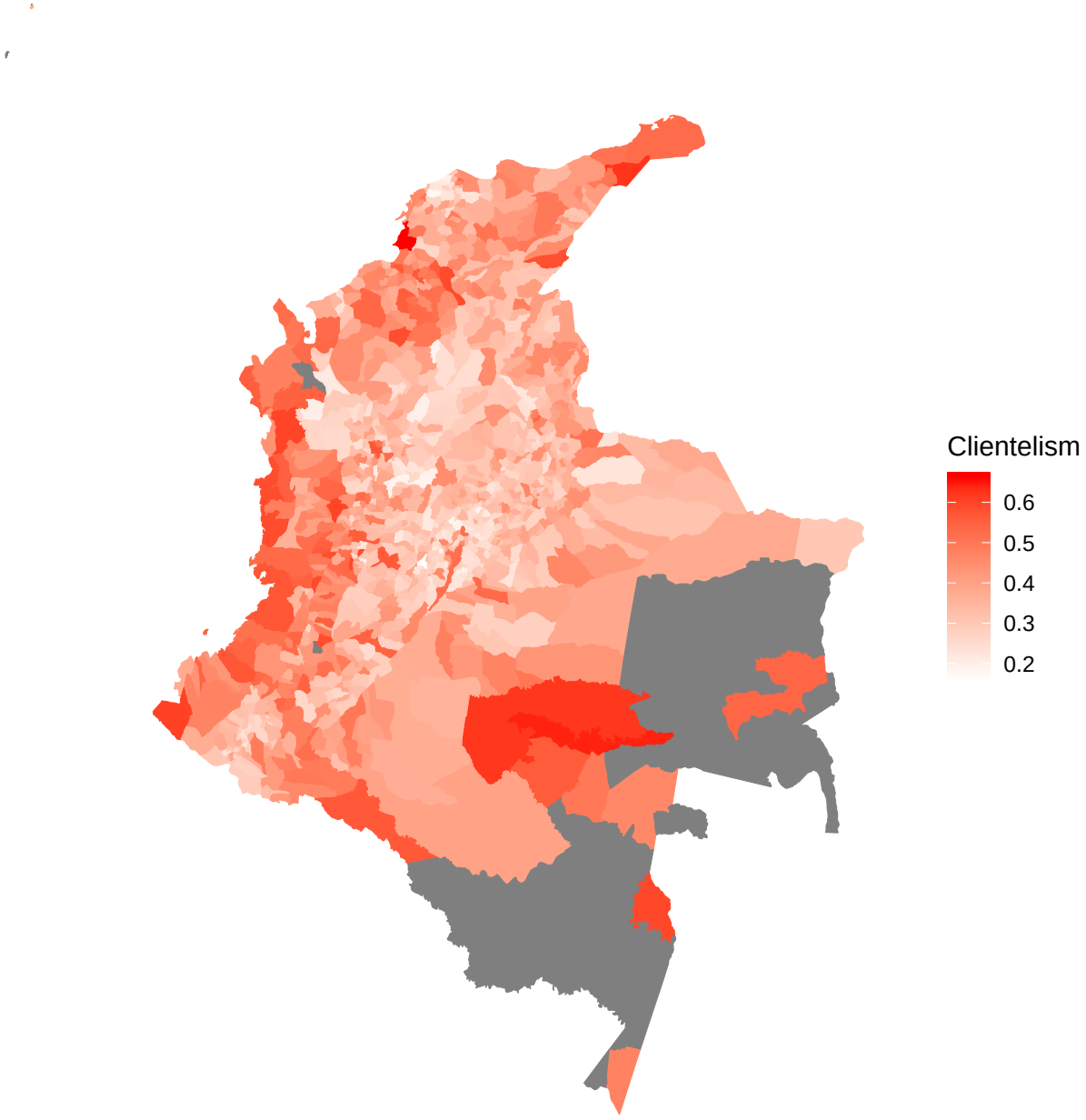


Figure 1: Estimate of Clientelism in Each Colombian Municipality

## 3.4 Independent Variables

Other independent variables central to the analysis are the proportion of the population who have valid SISBEN records as a measure of need within the municipality. SISBEN is a system in Colombia for identifying vulnerable populations who receive additional social assistance. Thus, the proportion of the population who have valid records reflects how much need there is inside the municipality. In order to calculate the SISBEN measure, I divide the number of valid SISBEN records in each municipality by the total population in that municipality.

I also control for two key alternative explanations. First, I test if transfers prioritize popular mayors. To measure popularity, I calculate the margin of victory using the difference in the percent of the vote received by the winning mayor and the second-place candidate. If transfers were a product of the mayor's popularity, I would expect mayors with a larger margin of victory to receive more transfers. Second, I test if the transfers favor copartisans. In order to do this, I create a dummy variable for Partido de la U, the party of the president and the majority party in Congress from 2012-2015. I assign a value of one if the mayor serving from 2012-2015 is from Partido de la U and zero otherwise.

Finally, I consider meritocratic explanations for which municipalities receive transfers. If the allocation of funds were meritocratic, I would expect that municipalities that are better at managing their finances would receive more fiscal transfers. Thus, I control for the government-assigned fiscal responsibility score. In more meritocratic systems, I would expect higher scores on fiscal responsibility to correlate with more discretionary transfers. Next, I consider the case where more transparent municipalities are more likely to receive additional funds. In order to do this, I control for an indicator for local government openness. If the OCAD was making decisions solely based on which municipalities requesting funds were likely to use them responsibly, I would expect municipalities with higher openness scores to receive more discretionary transfers. The local government openness indicator is collected by the Colombian government and considers municipal transparency where higher levels reflect

more transparent municipalities. Unlike the clientelism variable, this variable focuses on the procedures the municipality follows. In fitting the model, I include the total population of the municipality, the extent to which the municipality is rural, and year fixed effects.

## 3.5 Methods

I test my hypotheses that municipalities with higher levels of need and more clientelism are more likely to receive club goods benefits, using data from 2012-2015. In 2012, the rules governing royalty transfers in Colombia changed to allow all municipalities to receive royalty transfers. By ending my analysis in 2015, I focus on one mayoral term. I estimate clientelism in 2013, halfway through each mayors term. I conduct my analysis using two categories of transfers.

First, I consider transfers where the allocation process is most transparent. High transparency transfers occur through the Sistema General de Participación (SGP). These transfers are guaranteed to all municipalities and the value of the transfers are determined using a formula. I use ordinary least squared regression where the dependent variable is the logged value of SGP transfers. I expect that these transfers will go to municipalities with high levels of need.

Next, I analyze medium-transparency transfers through the Sistema General de Reglarías (SGR). I do this using logged discretionary royalty transfers, logged value of contracted projects, and number of projects contracted. When considering royalty transfers per capita and the value of contracted projects, I use ordinary least squares regression to estimate the linear relationship between each independent variable and royalties transfers. When considering the number of contracted projects, I use a zero-inflated poisson model since most municipalities do not receive any projects and very few municipalities will receive more than one project. I expect that municipalities with a higher level of clientelism will receive more royalty transfers, a larger number of contracted projects, and more valuable contracted projects.

# 4 Results and Analysis

## 4.1 High Transparency Transfers: Guaranteed SGP Transfers

First, I test whether clientelism has an effect on transfers that are calculated through the SGP system. These transfers are entirely determined by a formula that considers population, need, and past fiscal performance of a municipality. There is no negotiation process in determining the amount transferred. I model the total transfers received through the SGP system using an ordinary least squares regression. Clientelism should have a minimal effect on these transfers: while it should not influence the amount of funds a municipality receives, the factors that are most important for the formula are also factors that help predict clientelism in any given municipality. The full results of this model can be found in Table 1.

Given that the analysis is conducted using ordinary least squares regression, the coefficients can be interpreted as the change in the logged value of guaranteed transfers given a one unit increase in the independent variable. I find that both municipal clientelism and municipal need, measured as the proportion of citizens with valid SISBEN records, are positive and statistically significant. I expect, given the formula used to determine transfers, that municipal need should be the best predictor of funds. However, I find that clientelism is also positive and significant. Given that both of these variables are measured continuously from 0 to 1, I compare the effect size directly and find that the effect of need is more than double the effect of clientelism.

## 4.2 Medium Transparency Transfers: Royalties through SGR

Next, I consider transfers through the SGR process. While these transfers are not intended to be political, the process for determining which projects are approved requires votes from the municipal, departmental, and national government. I expect that municipal-level clientelism should have a positive and significant effect on funds receives through the SGR.

| | Logged Guaranteed Transfers Per Capita |
|---|---|
| Intercept | 12.682*** |
| | (0.108) |
| Municipal Clientelism | 1.351*** |
| | (0.094) |
| Proportion valid SISBEN | 2.689*** |
| | (0.143) |
| Proportion Rural | 0.473*** |
| | (0.037) |
| Fiscal Performance Index | −0.013*** |
| | (0.001) |
| Open Government Index | −0.002** |
| | (0.001) |
| Member of Presidents Party | −0.024 |
| | (0.018) |
| Mayor Election Competitiveness | 0.001 |
| | (0.001) |
| Population | 0.000** |
| | (0.000) |
| 2013 | 0.227*** |
| | (0.022) |
| 2014 | 0.244*** |
| | (0.023) |
| 2015 | 0.322*** |
| | (0.023) |
| $R^2$ | 0.237 |
| Adj. $R^2$ | 0.234 |
| Num. obs. | 3744 |
| RMSE | 0.477 |

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table 1: Guaranteed Transfers

## 4.3 Discretionary Royalty Transfers

Royalty transfers are designed to be based on merit: municipalities apply with projects and a committee approves whether or not they receive the funding. They are difficult to get, and designed to be a largely apolitical process based on how the project aligns with national development goals and the municipality's ability to complete the project. However, interview subjects posit that having strong relationships with legislators can help increase

the likelihood of receiving these transfers. Legislators can advise mayors of the best way to frame their applications, use their relationships with ministers to help certain municipalities succeed, and may be invited to attend OCAD meetings. This is a hard test of the theory: evidence that clientelism matters in these transfers suggests political motivations influence how applications are evaluated and money is distributed 2.

| | Discretionary Royalty Transfers |
|---|---|
| Intercept | 1.359** |
| | (0.599) |
| Municipal Clientelism | 2.343*** |
| | (0.524) |
| Proportion valid SISBEN | −1.758** |
| | (0.794) |
| Proportion Rural | −0.417** |
| | (0.203) |
| Fiscal Performance Index | 0.054*** |
| | (0.007) |
| Open Government Index | −0.020*** |
| | (0.005) |
| Member of Presidents Party | 0.162 |
| | (0.101) |
| Mayor Election Competitiveness | −0.003 |
| | (0.004) |
| Population | −0.000 |
| | (0.000) |
| 2013 | 2.353*** |
| | (0.123) |
| 2014 | 2.633*** |
| | (0.125) |
| 2015 | 2.190*** |
| | (0.127) |
| $R^2$ | 0.177 |
| Adj. $R^2$ | 0.174 |
| Num. obs. | 3744 |
| RMSE | 2.648 |

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table 2: Royalty Transfers

Unlike the guaranteed transfers through the SGP system, in the SGR system municipal need has a negative and statistically significant effect at the $p < 0.05$ level. This is

particularly noteworthy since these royalty projects are designed to be largely need-based, but municipalities with higher levels of need seem to receive fewer royalties. Second, I find that clientelism has a positive and statistically significant effect. Unlike in the SGP system, this effect has a greater magnitude than the effect of need and is positively correlated with receiving more royalty transfers. When a mayor has a local clientelist network, they are better positioned to receive additional fiscal transfers.

I find support for the idea that when a mayor can act as a potential broker, they are more likely to receive club goods. However, the mayor's popularity and being a member of the majority party have no effect. As seen in Figure 2, the log of discretionary royalties transfers, in pesos, increases as clientelism increases.

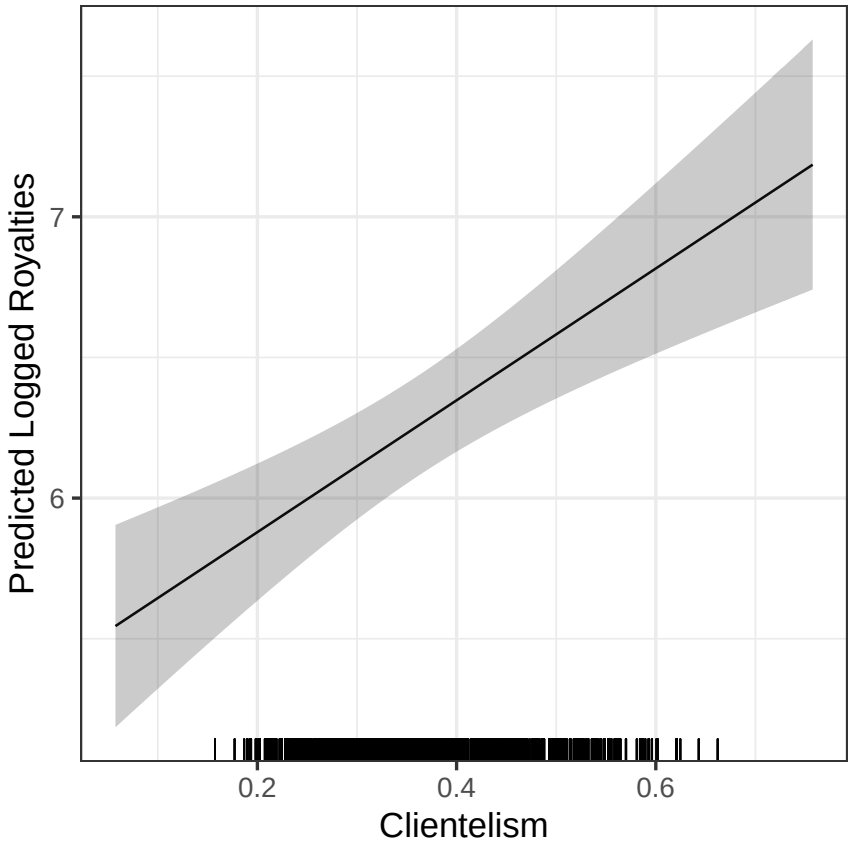


Figure 2: Discretionary Royalty Transfers

### Number of Contracts

Next, I focus on how many approved and contracted projects a municipality receives, I argue that municipalities with higher levels of clientelism will receive more contracts. I model the likelihood of receiving a contract using a zero-inflated poisson regression. The full results of this model can be found in Table 3[8].

| | Number of Projects |
|---|---|
| Intercept | −19.987 |
| | (540.112) |
| Municipal Clientelism | 2.491*** |
| | (0.556) |
| Proportion valid SISBEN | −2.649*** |
| | (0.828) |
| Proportion Rural | −0.969*** |
| | (0.217) |
| Fiscal Performance Index | 0.035*** |
| | (0.008) |
| Open Government Index | −0.014*** |
| | (0.005) |
| Member of Presidents Party | 0.072 |
| | (0.116) |
| Mayor Election Competitiveness | 0.010** |
| | (0.004) |
| 2013 | 16.269 |
| | (540.112) |
| 2014 | 17.554 |
| | (540.112) |
| 2015 | 18.189 |
| | (540.112) |
| Zero Model: Intercept | 0.337*** |
| | (0.125) |
| AIC | 2562.433 |
| Log Likelihood | −1269.216 |
| Num. obs. | 3744 |

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table 3: Number of Projects

I find that the coefficient on the level of municipal need is negative. This suggests that,

[8]Alternative model specifications can be found in Online Appendix B

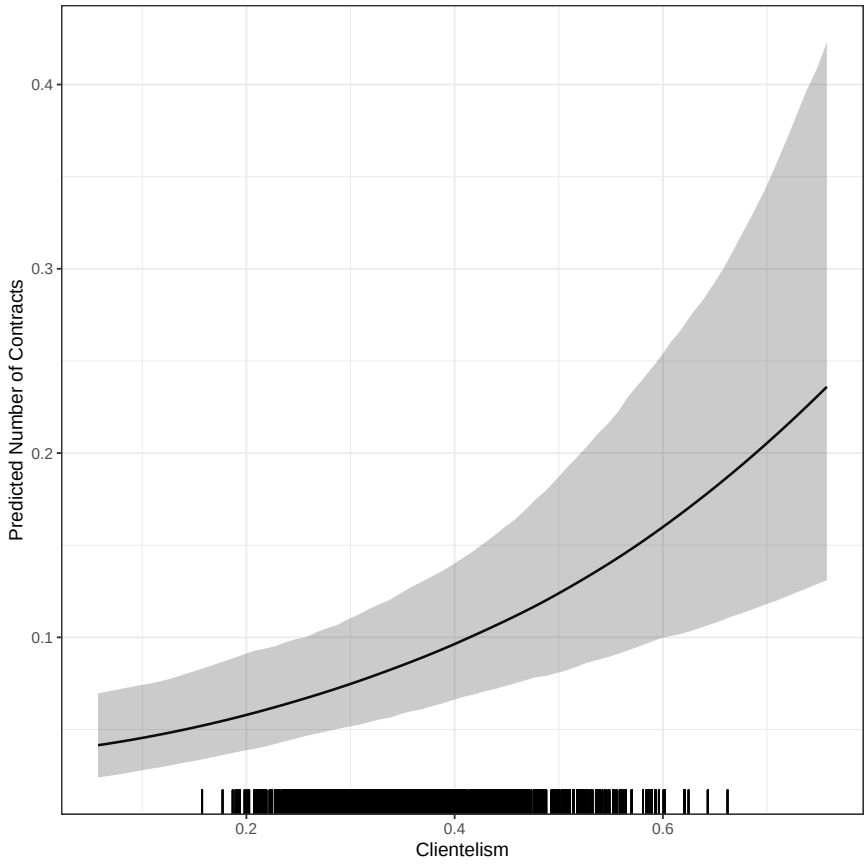


Figure 3: Expected Number of Contracts

all else equal, contracts are given to municipalities with lower levels of need, running counter to the hypothesis.

I again find that clientelism is positive and statistically significant. This suggests that when municipalities have higher levels of clientelism, they are likely to receive more contracts. This supports the hypothesis that legislators are more likely to provide club goods to municipalities where the mayor can act as brokers. When mayors build clientelist networks, they can more reliably deliver votes and are more desirable to national legislators. The expected number of contracts across levels of clientelism, with bootstrapped confidence intervals, can be found in Figure 3.

When considering the alternative hypotheses, I find that there is no statistically significant result for being in the same party as the President. Moreover, the effect for fiscal

responsibility and mayoral popularity are smaller than the effect of clientelism and more transparent municipalities receive fewer transfers.

These results provide interesting insight for the distribution of club goods. Regardless of need and other standard municipal characteristics, evidence of clientelist networks does, in fact, increase the number of contracts that municipalities receive. Notably, this effect holds regardless of the mayor's political party. There is no clear benefit for mayors who are copartisans when determining who receives funds for projects. This is important for considering the effect of clientelism: being a clientelist mayor matters, but the political party label does not facilitate improved access to funds.

### Value of Contracts

Finally, I consider the value of projects that were contracted. Since it is rare for a municipality to receive more than one contract, considering the value of the six-hundred fifty-one projects that were approved and contracted between 2012 and 2015 allows me to better isolate whether clientelist municipalities receive larger projects. If my hypotheses are supported, I expect that municipalities with higher levels of need and municipalities with higher levels of clientelism are both more likely to receive larger contracts. The full results of this model can be found in Table 4.

I do not find support for the hypothesis that municipalities with higher levels of need will receive more valuable contracts. Instead, I find that, all else equal, municipalities with more need will receive less valuable contracts. In part, this may be because these municipalities can benefit from less costly projects.

However, I continue to find support for the hypothesis that municipalities where mayors have built larger clientelist networks are more likely to receive valuable projects, as seen in Figure 4. In fact, clientelism has the largest effect size of the three independent variables positively correlated with the size of a contract.

The distribution of funds through the SGR process provides support to the hypothesis

| | Value of Contracts |
|---|---|
| Intercept | 19.689*** |
| | (0.847) |
| Municipal Clientelism | 1.974*** |
| | (0.731) |
| Proportion valid SISBEN | −2.963*** |
| | (1.091) |
| Proportion Rural | −0.974*** |
| | (0.291) |
| Fiscal Performance Index | 0.032*** |
| | (0.009) |
| Open Government Index | −0.002 |
| | (0.007) |
| Member of Presidents Party | 0.357** |
| | (0.147) |
| Mayor Election Competitiveness | −0.002 |
| | (0.006) |
| Population | 0.000 |
| | (0.000) |
| 2013 | 0.234 |
| | (0.194) |
| 2014 | −2.299*** |
| | (0.735) |
| 2015 | −0.089 |
| | (0.190) |
| $R^2$ | 0.129 |
| Adj. $R^2$ | 0.114 |
| Num. obs. | 651 |
| RMSE | 1.591 |

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table 4: Value of Contracts

that municipalities where mayors have a proven capacity to act as brokers are more likely to receive additional transfers from the central government. Municipalities where mayors have built larger patronage networks tend to receive more discretionary transfers, more contracted projects, and the projects they receive are more valuable. This holds regardless of political party and the mayor's popularity in their municipality.

Need, however, has a much less consistent effect. When focusing on transfers through the SGR process, need is negatively associated with the amount of transfers received, number of

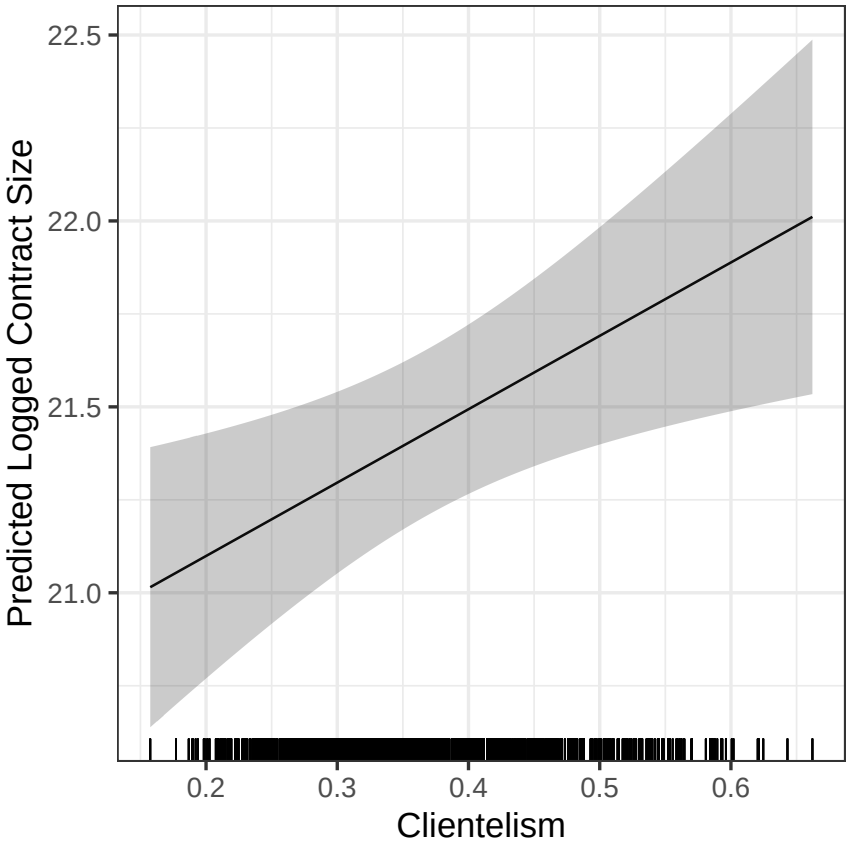


Figure 4: Value of Awarded Contracts

contracts, and value of contracts. This is noteworthy because it suggests that these transfers are not purely based on need– while higher need municipalities may also require fewer funds to have an effect, the reduced likelihood of receiving a contract shows that the system does not necessarily direct projects to the highest-need areas of the country.

A meritocratic explanation for royalty transfers also provides limited support. In all three measures of transfers through the SGR system, fiscal performance is a positive and statistically significant. However, the effect size of this indicator is smaller than the effect of clientelism. Moreover, there is a negative relationship between open governments and receiving funds for both the total discretionary transfers and the number of contracts.

# 5 Conclusion

This analysis provides several key insights about how goods are distributed in weak party systems. When legislators use club goods to target voters, then my analysis suggests that the importance of municipal-level clientelism is two-fold. First, legislators are more likely to provide club goods to municipalities with preexisting clientelist networks. Second, mayors will continue to use clientelism at the local level, perhaps to signal that they are reliable brokers. While mayors do not advertise their clientelist networks, in Colombia many areas have rich historical clientelist legacies and politicians have clear, well-established, personal networks. Legislators, many of whom once served in local-level offices, can identify central actors in their departments who control clientelist networks. For mayors, continuing to pursue clientelist strategies is a way to bring necessary goods into the municipality.

In Colombia, mayors cannot serve two consecutive terms. In the short term, this may disincentivize the use of clientelism since mayors needs to believe that their voters will uphold a clientelist bargain on a longer time horizon. However, if clientelism is a cost that allows mayors to bring additional funds into their municipality and strengthen relationships with national legislators, using clientelism offers new benefits beyond building voter networks. Furthermore, these benefits might explain why local-level clientelism persists.

Early work on clientelism highlights the crucial role that mayors can play (Valenzuela 1977). However, as the study of clientelism has increasingly moved towards party brokers and how clientelism persists alongside programmatic campaigns, analysis of mayors has decreased in favor of considering what actors politicians will choose as brokers instead of local politicians. This has highlighted the risks of selecting another politician: competing interests mean that mayors may not always be willing to attribute credit to legislators. Particularly when the clientelist benefit is a club good, a mayor has a benefit for claiming credit. In this analysis, I show that the mayor's characteristics–and ability to deliver votes–still continues to affect the distribution of particularistic benefits. Where political parties are weak and all citizens are potential swing voters, a mayor who can use their position in

the community to deliver voters is still important.

Support for the hypothesis that clientelist mayors have increased access to central government resources provides potential insight as to why we see such unequal distribution in access to public goods. Mayors who are best equipped to manipulate the system–either from their ability to manage local funds and, perhaps more notably, their ability to create reciprocal clientelist networks– are more likely to receive goods. This reinforces territorial inequality since mayors selected as brokers can continue to benefit while others struggle to bring extra funds into their municipalities.

# References


Abers, Rebecca. 1998. "From Clientelism to Cooperation: Local Government, Participatory Policy, and Civic Organizing in Porto Alegre, Brazil." *Politics and Society* 26(4):511–537.

Auerbach, Adam Michael & Tariq Thachil. 2018. "How Clients Select Brokers: Competition and Choice in India's Slums." *American Political Science Review* 112(4):775–791.

Blair, Graeme & Kosuke Imai. 2012. "Statistical Analysis of List Experiments." *Political Analysis* 20(1):47–77.

Blair, Graeme, Kosuke Imai & Jason Lyall. 2014. "Comparing and Combining List and Endorsement Experiments: Evidence from Afghanistan." *American Journal of Political Science* .

Bueno, Natàlia S. 2017. "Bypassing the Enemy: Distributive Politics, Credit Claiming, and Nonstate Organizations in Brazil." *Comparative Political Studies* pp. 1–37.

Casas, Agustin. 2018. "Distributive Politics with Vote and Turnout Buying." *American Political Science Review* 112(4):1111–1119.

Dargent, Eduardo & Paula Muñoz. 2011. "Democracy against parties? Party system deinstitutionalization in Colombia." *Journal of Politics in Latin America* 3(2):43–71.

Devarajan, Shanta, Stuti Khemani & Shekar Shah. 2009. *Does Decentralization Enhance Service Delivery and Poverty Reduction*. Edward Elgar Publishing Limited chapter The Politics of Partial Decentralization, pp. 79–101.

Gervasoni, Carlos. 2010. "A Rentier Theory of Subnational Regimes: Fiscal Federalism, Democracy, and Authoritarianism in the Argentine Provinces." *World Politics* 62(2):302–340.

Gingerich, Daniel W & Luis Fernando Medina. 2013. "The Endurance and Eclipse of the Controlled Vote: A Formal Model of Vote Brokerage Under the Secret Ballot." *Economics & Politics* 25(3):453–480.

Greene, Kenneth F. 2017. "How Democracy Undermines Vote Buying: Campaign Effects and the Elusive Swing Voter." Working Paper.

Gross, Justin. & Daniel Manrique-Vallier. 2014. *Handbook of Mixed Membership Models and Their Applications*. Chapman and Hall chapter A Mixed-Membership Approach to the Assessment of Political Ideology from Survey Responses, pp. 119–140.

Holland, Alisha. 2015. "The Distributive Politics of Enforcement." *American Journal of Political Science* 59(2):357–371.

Holland, Alisha & Brian Palmer-Rubin. 2015. "Beyond the Machine: Clientelist Brokers and Interest Organizations in Latin America." *Comparative Political Studies* 48(9):1186–1223.

Holland, Alisha C. 2016. "Forebearance." *American Political Science Review* 110(2):232–246.

Khemani, Stuti. 2010. "Political capture of decentralization: Vote-buying through grants-financed local jurisdictions." *World Bank Policy Research Working Paper* .

Kitschelt, Herbert. 2000. "Linkages between citizens and politicians in democratic polities." *Comparative political studies* 33(6-7):845–879.

Kitschelt, Herbert & Steven L Wilkinson. 2007. *Patrons, Clients, and Policies: Patterns of Democratic Accountability and Political Competition*. Cambridge University Press chapter Citizen-Politician Linkages: An Introduction, pp. 1–49.

Larreguy, Horacio, Cesar E. Montiel Olea & Pablo Querubin. 2017. "Political Brokers: Partisans or Agents? Evidence from the Mexican Teachers' Union." *American Journal of Political Science* 61(4):877–891.

Lawson, Chappell & Kenneth F Greene. 2014. "Making clientelism work: How norms of reciprocity increase voter compliance." *Comparative Politics* 47(1):61–85.

Lucciasano, Lucy & Laura Macdonald. 2012. "Neo-liberalism, Semi-clientelism, and the Politics of Scale in Mexican Anti-poverty Policies." *World Political Science* 8(1):1–27.

Luna, Juan Pablo. 2014. *Segmented Representation: Political Party Strategies in Unequal Democracies*. Oxford University Press.

Lupu, Noam. 2013. "Party brands and partisanship: Theory with evidence from a survey experiment in Argentina." *American Journal of Political Science* 57(1):49–64.

Lupu, Noam. 2014. "Brand dilution and the breakdown of political parties in Latin America." *World Politics* 66(04):561–602.

Muñoz, Paula. 2014. "An information theory of campaign clientelism: The case of Peru." *Comparative Politics* 47(1):79–98.

Novaes, Lucas M. 2014. "Promiscuous Politicians and the Problem of Party Building: Local Politicians as Party Brokers." APSA 2014 Annual Meeting Paper.

Novaes, Lucas M. 2018. "Disloyal Brokers and Weak Parties." *American Journal of Political Science* 62(1):84–98.

Ocampo, Gloria Isabel. 2014. *Poderes regional, clientelismo y Estado*. Odecofi–Cinep.

Palmer-Rubin, Brian. 2018. "Evading the Patronate Trap: Organization Capacity and Demand-Making in Mexico." Under Review.

Penfold-Becerra, Michael. 2007. "Clientelism and Social Funds: Evidence from Chávez's Misiones." *Latin American Politics and Society* 49(4):63–84.
**URL:** *http://dx.doi.org/10.1111/j.1548-2456.2007.tb00392.x*

Roberts, Kenneth M. 2002. "Party-society linkages and democratic representation in Latin America." *Canadian Journal of Latin American and Caribbean Studies* 27(53):9–34.

Ryan, Jeffrey J. 2004. "Decentralization and Democratic Instability: The Case of Costa Rica." *Public Administration Review* 64(1):81–91.

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

Valenzuela, Arturo. 1977. *Political brokers in Chile: Local government in a centralized polity*. Duke University Press.

Weitz-Shapiro, Rebecca. 2012. "What wins votes? Why some politicians opt out of clientelism." *American Jounal of Political Science* 56(3):568–583.

Zarazaga, Rodrigo S.J. 2014. "Brokers Beyond Clientelism: A New Perspective Through the Argentine Case." *Latin American Politics and Society* 56(3):23–45.

# Online Appendices

## Table of Contents

# A Validity Check Regressions and Graphs

| | Ordered Logit: Government Combats Corruption |
|---|---|
| Municipal Clientelism | −0.879** |
| | (0.362) |
| AIC | 11650.459 |
| BIC | 11704.585 |
| Log Likelihood | −5816.230 |
| Deviance | 11632.459 |
| Num. obs. | 3023 |

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table A.1: To what extent does the government combat corruption?

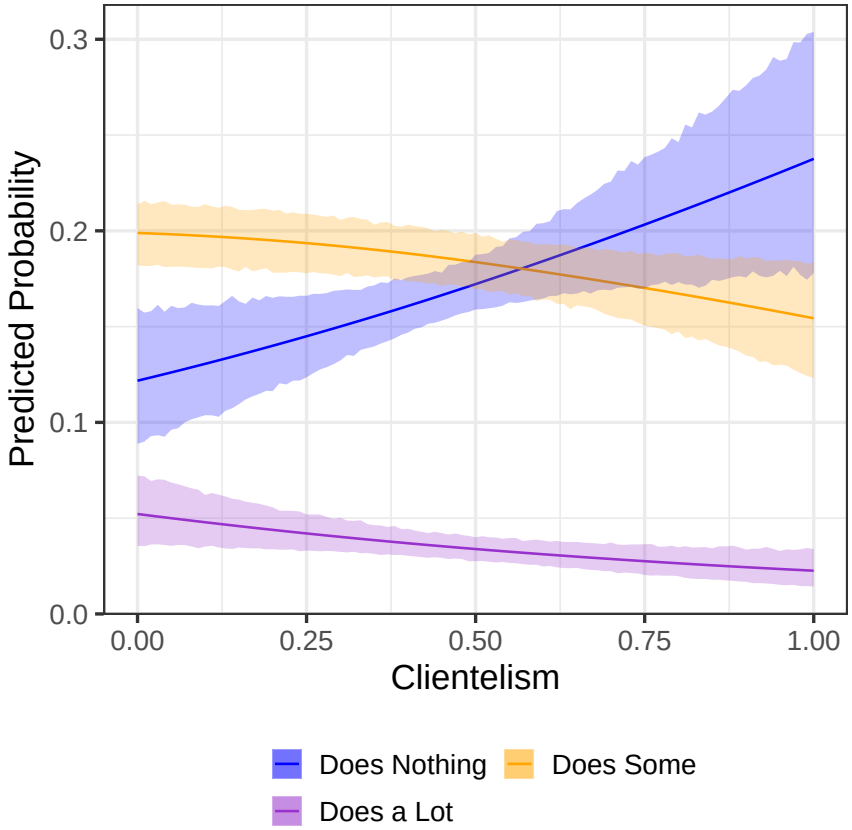


Figure A.1: Predicted Probability of Response to Question "To what extent does the government combat corruption?"

| | Ordered Logit: Corruption in Public Officials |
|---|---|
| Municipal Clientelism | 2.213*** |
| | (0.391) |
| AIC | 7022.569 |
| BIC | 7058.653 |
| Log Likelihood | −3505.285 |
| Deviance | 7010.569 |
| Num. obs. | 3023 |

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table A.2: How widespread is corruption in public officials?

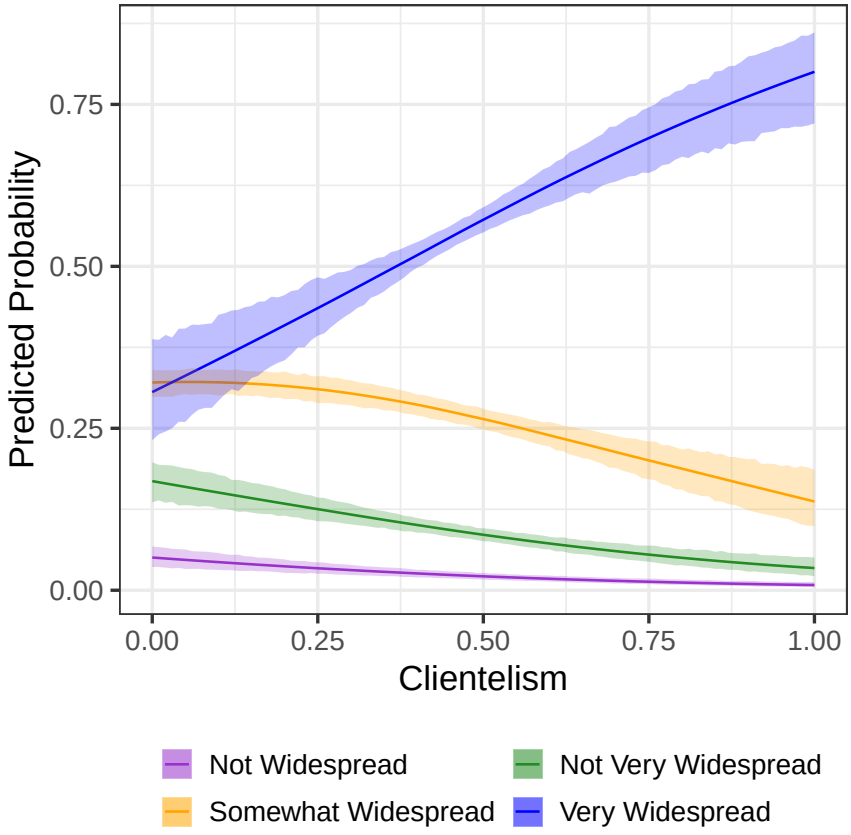


Figure A.2: Predicted Probability of Response to Question "How widespread is corruption?"

# B Alternative Modeling Specifications: Number of Contracts

## B.1 Count Models

| | Poisson | Negative Binomial |
|---|---|---|
| Intercept | −20.765 | −30.774 |
| | (288.044) | (42741.638) |
| Municipal Clientelism | 2.584*** | 2.732*** |
| | (0.487) | (0.631) |
| Proportion valid SISBEN | −2.860*** | −2.841*** |
| | (0.777) | (0.984) |
| Proportion Rural | −0.949*** | −0.996*** |
| | (0.187) | (0.241) |
| Fiscal Performance Index | 0.040*** | 0.041*** |
| | (0.007) | (0.009) |
| Open Government Index | −0.017*** | −0.019*** |
| | (0.004) | (0.006) |
| Member of Presidents Party | 0.115 | 0.091 |
| | (0.102) | (0.130) |
| Mayor Election Competitiveness | 0.010*** | 0.010** |
| | (0.003) | (0.005) |
| 2013 | 16.018 | 26.009 |
| | (288.043) | (42741.638) |
| 2014 | 17.283 | 27.252 |
| | (288.043) | (42741.638) |
| 2015 | 17.935 | 27.960 |
| | (288.043) | (42741.638) |
| AIC | 2689.131 | 2531.411 |
| BIC | 2757.638 | 2606.146 |
| Log Likelihood | −1333.565 | −1253.705 |
| Deviance | 1873.899 | 1168.091 |
| Num. obs. | 3744 | 3744 |

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table B.1: Non Zero-Inflated Models

## B.2 Zero-Inflated Negative Binomial

| | Negative Binomial |
|---|---|
| Count Model: Intercept | −20.776 |
| | (475.201) |
| Municipal Clientelism | 2.732*** |
| | (0.639) |
| Proportion valid SISBEN | −2.841*** |
| | (0.944) |
| Proportion Rural | −0.996*** |
| | (0.243) |
| Fiscal Performance Index | 0.041*** |
| | (0.009) |
| Open Government Index | −0.019*** |
| | (0.006) |
| Member of President's Party | 0.091 |
| | (0.130) |
| Mayor Election Competitiveness | 0.010** |
| | (0.005) |
| 2013 | 16.011 |
| | (475.201) |
| 2014 | 17.254 |
| | (475.201) |
| 2015 | 17.962 |
| | (475.201) |
| Log($\theta$) | −0.725*** |
| | (0.142) |
| Zero Model: Intercept | −11.685 |
| | (264.469) |
| AIC | 2533.411 |
| Log Likelihood | −1253.706 |
| Num. obs. | 3744 |

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table B.2: Negative Binomial Specifications

## B.3 Zero-Inflated Models with Municipal Demographics in the Logit Component

| | Zero-Inflated Poisson | Zero-Inflated Negative Binomial |
|---|---|---|
| Count Model: Intercept | $-1.078^{***}$ | $-1.485^{***}$ |
| | (0.351) | (0.392) |
| Municipal Clientelism | $2.628^{***}$ | $2.737^{***}$ |
| | (0.569) | (0.631) |
| Proportion valid SISBEN | $-1.782^{**}$ | $-2.013^{**}$ |
| | (0.829) | (0.920) |
| Member of President's Party | 0.080 | 0.098 |
| | (0.120) | (0.130) |
| Mayor Election Competitiveness | $0.009^{**}$ | $0.010^{**}$ |
| | (0.004) | (0.005) |
| Zero Model:Intercept | 20.251 | 19.905 |
| | (532.923) | (480.832) |
| Proportion Rural | $1.059^{***}$ | $1.370^{***}$ |
| | (0.335) | (0.466) |
| Fiscal Performance Indicator | $-0.060^{***}$ | $-0.073^{***}$ |
| | (0.012) | (0.016) |
| Open Government Index | $0.030^{***}$ | $0.037^{***}$ |
| | (0.008) | (0.010) |
| 2013 | $-16.283$ | $-16.179$ |
| | (532.922) | (480.831) |
| 2014 | $-17.443$ | $-17.485$ |
| | (532.922) | (480.830) |
| 2015 | $-18.339$ | $-18.733$ |
| | (532.922) | (480.831) |
| Log($heta$) | | 0.228 |
| | | (0.320) |
| AIC | 2588.500 | 2566.332 |
| Log Likelihood | $-1282.250$ | $-1270.166$ |
| Num. obs. | 3744 | 3744 |

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table B.3: Zero-Inflated Models with Municipal Indicators

# C Summary Statistics of All Variables

| Variable | Minimum | Mean | Median | Standard Deviation | Maximum |
|---|---|---|---|---|---|
| Logged SGP per Capita | 0.00 | 13.26 | 13.28 | 0.54 | 15.73 |
| Logged Discretionary Royalty Transfers | 0.00 | 5.74 | 6.55 | 2.91 | 12.50 |
| Number of Contracted Projects | 0.00 | 0.14 | 0.00 | 0.51 | 7.00 |
| Value of Contracted Projects | 14.29 | 21.51 | 21.63 | 1.70 | 25.56 |

Table C.1: Summary Statistics for all Dependent Variables

| Variable | Minimum | Mean | Median | Standard Deviation | Maximum |
|---|---|---|---|---|---|
| Municipal Clientelism | 0.158 | 0.363 | 0.347 | 0.089 | 0.662 |
| Proportion Valid SISBEN | 0.001 | 0.231 | 0.234 | 0.058 | 0.540 |
| Proportion Rural | 0.001 | 0.547 | 0.583 | 0.242 | 0.983 |
| Fiscal Performance Index | 18.250 | 68.600 | 68.450 | 7.776 | 91.750 |
| Open Government Index | 20.930 | 67.680 | 68.970 | 10.442 | 94.510 |
| Member of Presidents Party | 0.000 | 0.247 | 0.000 | 0.431 | 1.000 |
| Mayor Election Competitiveness | 0.030 | 14.210 | 11.090 | 12.062 | 85.760 |
| Population | 976 | 37859 | 13417 | 135654.2 | 2464322 |

Table C.2: Summary Statistics for all Independent Variables