When do Club Goods Buy Votes? Mayoral Cooperation in Clientelist Exchanges

Katherine McKiernan

July 14, 2020

Abstract

In weak party systems, politicians using clientelist strategies are tasked with the challenge of finding their own brokers in order to help them reach citizens. How do these politicians, who cannot use party identity as an information shortcut to help them select brokers, determine who will reliably help deliver votes? In this paper, I specifically analyze when legislators will use mayors as brokers when distributing club goods benefits. Mayors can serve as effective brokers because of their relationships with voters and knowledge of local conditions, but they may also have incentives to claim credit for club goods rather than use these benefits to help deliver votes for the legislator. In this paper, I use a signaling model in order to determine when it is rational for legislators to use mayors as brokers, despite the inherent risk in selecting politicians with their own incentives.Mayors use their own preexisting voter networks to signal whether they have ambition to run for higher office in the future. The national legislator will then decide whether or not to use the mayor as a broker by providing a benefit. I find that when the cost of network-building is low, there is a pooling equilibrium where all mayors will send a signal that they are ambitious, but at slightly higher costs, there is a separating equilibrium where the legislator can identify ambitious mayors.

1 Introduction

In democracies where politicians regularly use clientelist strategies to target citizens, politicians rely on brokers, or intermediaries, to help build stable clientelist networks. This is particularly true for national politicians who need to reach voters across a large geographic area that often extends beyond their own personal network. In traditional theories of clientelism, politicians decide to target voters using particular goods such as money, material goods, or jobs. However, it is the brokers who are responsible for the details of clientelist exchanges. Brokers decide which voters receive benefits, the best strategy for distributing those benefits to voters, and how to monitor the voters to make sure they uphold their end of the clientelist exchange. In democracies around the world, this central relationship between a politician and their broker is tantamount in determining the efficacy of clientelist exchanges.

Generally, studies of clientelism consider the party machine as the main driver of clientelism (Kitschelt & Wilkinson 2007, Stokes, Dunning, Nazareno & Brusco 2013). When brokers and politicians are copartisans, the broker is expected to deliver votes because of their loyalty to the party and its platform, and because the party can easily penalize a defector's reputation within the political party (Holland & Palmer-Rubin 2015, Mazzalay, Nazareno & Cingolani 2017). However, in much of the developing world, there has been a decline in the strength of political parties. In these contexts, many politicians need to rely on independent brokers since political parties lack the capacity to select and monitor partisan brokers. Independent brokers may be more difficult to incentivize and to punish since they can sell their services to the politician who offers them the most benefits (Camp 2017, Novaes 2018). Furthermore, in weak party contexts, citizens tend to have lower levels of partisanship which forces legislators and brokers alike to work in a low-information environment. This simultaneously reduces the reliance on parties and increases the necessity of identifying brokers who can, and will, deliver votes (Dargent & Muñoz 2011, Novaes 2014, Holland & Palmer-Rubin 2015).

How, then, do national-level politicians select local-level brokers who are likely to deliver voters?[1] While little is known about why brokers cooperate in clientelist exchanges, we know that voters deliver votes to politicians who provide particularistic benefits for two main reasons: structural conditions, or the belief that they are being monitored and that there will be repercussions if they do not fulfill their end of the clientelist bargain, and psychological norms of reciprocity, where citizens feel compelled to "repay" the politician who helps them (Lawson & Greene 2014). In this paper, I extend this logic to brokers and argue that independent brokers have similar motivations as non-partisan citizens. On the one hand, structural conditions will disincentivize brokers from defecting from their agreements with the politician. On the other hand, norms of reciprocity will encourage independent brokers to stay loyal to the politicians that help them. I argue that independent brokers will need to anticipate future interactions with the politician in order to believe that they can be punished for defecting. Similarly, I argue that brokers will only be concerned about norms of reciprocity when the ongoing rewards from repeated interactions with the politician outweigh the short-term benefits of selling their services to the politician willing to provide the largest benefit.

I argue that local-level politicians are particularly attractive brokers for national politicians because they have unique information and insights about their municipality's voters. Since local politicians have won their own political campaigns, they know what types of benefits can be effective for their voters and already have a network of voters to deliver. However, selecting local politicians as brokers creates a new issue. As elected officials, local politicians have their own incentives to claim credit for the clientelist benefits provided by national politicians. Consequently, when national politicians select local politicians as brokers, these brokers are also working to build and maintain their own relationships with voters. In this circumstance, the broker who fails to deliver votes receives a personal benefit in addition to the goods they have extracted from a national politician. Thus, the risk of

[1]Henceforth, politicians will refer to national-level politicians who have been elected to the legislature while brokers will refer to local level actors who can mobilize networks of voters to support the politician.

a broker defecting and claiming credit for clientelist benefits is particularly salient. I argue that when brokers are local-level politicians, they will only cooperate when the national-level politician is able to promise a greater future benefit than the immediate pay-off they receive from credit-claiming.

When considering how the structural conditions and the norms of reciprocity encourage non-partisan brokers to stay loyal to national-level politicians, I introduce the idea of political ambition. I define political ambition broadly as the desire to run for a higher-level political office. So, if a municipal-level politician expresses interests in running for a regional-level office, this politician is exhibiting political ambition. However, if the municipal-level politician hopes to continue serving in municipal-level offices, they are not exhibiting political ambition. Ambition is an important factor to consider in assessing brokers because it is likely to affect how potential brokers respond to incentives from national-level politicians. The role of ambition is two-fold: an ambitious local-level politician can be more incentivized by the mere act of receiving a benefit that will please their constituents and less incentivized by receiving credit because of their need to expand their network beyond their municipality and prioritize their relationship with other politicians. A non-ambitious politician may be more motivated to invest in their local network and value credit from their constituents since their political ambitions are constrained to their own local government. Therefore, introducing ambition to any explanation for when a local-level politician is likely to be a reliable politician provides new insights on why we see such variation in a local politician's likelihood of delivering votes.

In order to analyze the relationship between national-level politicians and independent brokers in weak party contexts, I conducted field research in Colombia. In Colombia, clientelism is a widely used strategy even though political parties have limited capacity to control clientelist machines and most citizens do not identify with a political party. Building on my field research, I use a formal signaling model to isolate the relationship between the legislator and local-level politicians acting as independent brokers. I use the model to generate

expectations about how legislators will provide benefits through local brokers in order to minimize their political risk. I focus explicitly on the case where the broker is a mayor in order to model the broker's benefit for credit-claiming. Based on the solution to the signaling model, I find that mayors who have aspirations for higher-level political office will attribute credit to legislators for larger clientelist benefits than non-ambitious mayors. Furthermore, I find that when benefits are relatively small and the cost of signaling ambition is moderate, the ambitions mayor is more likely to pay the cost of signaling ambition than the non-ambitious mayor. This is particularly noteworthy because it makes it possible for a national politician to distinguish ambitious mayors who are likely to provide credit for benefits from non-ambitions mayors who will claim credit for themselves. These findings suggest that legislators will not maximize their transfers in order to reach voters, but rather will moderate what transfers they provide to maximize their likelihood to receiving credit from voters.

My research contributes to our understanding of why independent brokers are loyal to clientelist politicians. Given the high number of clientelist politicians that cannot rely on party brokers, knowing when independent brokers are most likely to deliver votes helps us understand both why national politicians provide the benefits they do and when these benefits are likely to improve national politicians' vote share. Moreover, understanding which mayors are likely to behave as reliable brokers has effects on whether local politicians are accountable to voters or to other politicians. Who politicians are accountable to shapes the types of politicians who may be most attractive to voters and can shape our understanding of how voters select local-level politicians. By focusing on the case where the independent broker is a mayor, my research is also able to help explain when national politicians are able to incentivize brokers who have particularly large incentives to defect from clientelist agreements and claim credit for themselves.

2 Exchanging Club Goods: The Case of Colombia

Colombia is an excellent case for understanding legislator's decision calculus when selecting independent brokers. In Colombia, the problem of weak party machines is two-fold. First, after the 1991 Constitution, Colombia experienced party fragmentation leading to multiple parties occupying the same ideological space. While reforms in 2003 helped tackle the problem of party switching, mayors, bureaucrats, and legislators agree that political parties have exceptionally limited power. As one legislator explained, in Colombia "the party is merely a name on a list."[2] The parties do not contribute to political campaigns, and thus have very little control over whether party members chose to use clientelist linkages. Second, in Colombia, citizens are largely non-partisan. While many identify as supporters of specific candidates, such as former president Álvaro Uribe, very few have clear partisan attachments. Thus, any broker is limited in their ability to use parties as an informational shortcut when determining how to target citizens.

Despite this, legislators continue to use club goods as clientelist benefits in order to target voters. Club goods, or excludable public goods, can take a variety of forms– including projects ranging from new roads connecting isolated communities to the town centers to new medical clinics serving small villages. Club goods are still used by legislators because they can be targeted towards particular areas for specific voters. When it is not feasible to use micro-level targeting through direct cash transfers or patronage, club goods provide a way for national politicians to reach a broader group of voters in order to minimize the consequences of any singular voter defecting from the clientelist bargain. Moreover, citizens concerned with the normative implications of more direct targeting are less likely to object to club goods.

In Colombia, the most common means to distribute club goods is through "cupos indicativos", also referred to as "jam". This is a central feature to Colombian clientelism, where many legislators, mayors, and bureaucrats refer to jam as the "grease in the wheels

[2]Interview conducted November 2018

of Colombian politics".[3] The process of receiving jam is direct: a legislator has a particular good that they'd like to provide to a municipality and the ability to secure those funds through the necessary national ministries (La Silla Vacía 2018). For a legislator, providing goods is a strategy for reaching voters. For ministers, providing goods allows the ministry to show that it has invested in relevant projects. For example, a legislator can hope to build a soccer field with their access to funds from the recreation department or a new wing on a hospital with their access to funds from the health ministry. The legislator contacts a mayor who is central to their network, usually a member of their department, to act as a broker and offers to invest in the project. The mayor agrees and the money is transferred. Very rarely will a mayor decline a project funded through jam. According to mayors interviewed, access to these funds is a crucial form of investment. While many mayors decry the practice as corrupt, they argue that it's a necessary corruption that improves local conditions, improves relationships across levels of government, and helps both actors politically. Newspapers and citizens alike complain that jam needs to be reformed, but they agree that it is a prominent strategy that Colombian legislators use to cultivate votes.

Mayors, therefore, have access to additional benefits if they are a member of that politicians' network. National politicians, who need allies in order to reach voters across a large geographic area, will build political networks in order to help them reach voters. For a mayor, being a member of a national politician's network creates a web of political allies across party lines and improves access to benefits since it increases the likelihood that mayor will receive jam benefits. Where political parties cannot help connect politicians, independent networks can form a similar function.

In interviews, no subjects explained exactly how legislators determine which mayors are central to their network and are likely to receive jam. However, bureaucrats emphasized that the mayors who receive jam are those who are able to maintain ongoing relationships with the legislators.[4] In this article, I propose an explanation for how legislators determine who

[3]Interview conducted July 2018
[4]Interviews conducted in October 2018

receives club good benefits. Rather than trying to provide benefits broadly to maximize the voters reached, I argue that legislators will moderate their use of club goods so that they receive credit for providing goods and can build more loyal political networks. I expect that mayors are more likely to receive jam when they have shown that they expect to stay in the political-system long-term. Mayors will choose to invest in building a network that suggests ambition when the club goods benefits are particularly desirable. I argue that ambitious mayors who need to maintain voter networks and expand their reach are more likely to be central to a legislators network.

For legislators, jam is an important tool for reelection since it allows them to reach a large range of voters. However, in order to translate funds into new projects that can help them win votes, they need the support of a broker that can help them decide where the project can do they most good and, most importantly, make sure that voters know the legislator deserves credit for new projects. However, since both ambitious and non-ambitious mayors alike can personally benefit from jam in local elections, legislators are faced with a clear principal-agent problem. Legislators need mayors as brokers, but they only benefit from using the jam system when the mayors are reliable brokers that help legislators translate benefits provided through jam into votes. Otherwise, jam is a costly investment with minimal returns.

Legislators have access to limited funds through their relationships with ministers. In order to decide how to allocate these funds to maximize their own potential returns, they need to trust that voters will know who provides the goods. Selecting the brokers who will do this is especially difficult since mayors are also chosen through elections, and thus have incentives to receive credit from voters. The pressure to select brokers who will willingly attribute credit is crucial given that, in federal states, citizens have trouble identifying which level of government is responsible for different local projects (Roberts & Wibbels 1999). This is true even when considering unitary states with extensive decentralization reforms, like Colombia.

In Colombia, extensive administration decentralization highlights the challenges faced by

legislators who need to receive credit for the goods they provide. For example, health and education are funded by the national government, but mayors implement the projects. I ran an original survey of over 2000 citizens in Colombia randomizing if they were asked about which political actors deserve credit for road maintenance, water and sewage, schools, hospitals, parks, or electricity. When asked about whether the president, congress, governors, department legislatures, mayors, or town councils fund specific initiatives, only 14.41% correctly identified Congress as the level of government that funds hospitals. Meanwhile, 16.23 % of respondents believed the mayor paid for this initiative. Similarly, of the group asked about education, 9.17% correctly identified the legislature as responsible for funding schools while 22.49% believed the mayors were responsible. Citizens have trouble assigning credit when there is a clearly defined division between paying for and implementing projects. When considering other categories, where the roles are less clearly defined, citizens are consistently more likely to see the mayor as more responsible for financing local projects than legislators. Receiving credit for club goods is not only desired, it is essential for legislators who hope these goods will help them win elections.

Mayors benefit from the assumption that they are responsible for providing local goods. Thus, attributing credit to national legislators is not immediately appealing because it communicates with citizens that someone outside the municipality was actually responsible for any development within the municipality. Mayors who want to maintain a strong reputation with their local constituents benefit from receiving credit for projects funded using jam. Across interviews, mayors repeatedly exclaimed, "**I** successfully brought projects to my municipality"[5], even when these mayors conceded to using their relationships with legislators to fund the projects. Moreover, mayors consistently lamented the challenges in receiving additional funds for their municipality, expressing the importance that citizens understand just how hard they work to bring in funds. However, other local-level political officials treated credit attribution as part of a long-term strategy, explaining, "you need to provide votes for

[5]Interviews Conducted July 2018-December 2018

the legislators, and then they make sure you have what you need. And you keep providing votes, and it lets you advance in their network. Everyone has a network, and you have to advance to win". I explore the trade offs associated with attributing credit to projects and providing jam benefits using a signaling model.

3 A Signaling Model of Brokerage

In order to analyze when mayors will assign credit to legislators for club goods within a municipality, I focus on a candidate-centered model of the interactions between elected officials across levels of government. This model explicitly omits the presence of a political party with its own interests since I am focused on weak party contexts. When political parties are weak, legislators are responsible for determining their own independent brokers and cannot rely on a party to help select partisan brokers (Holland & Palmer-Rubin 2015). The intuition of the model stems from each actors optimal preferences.

National legislators prefer to provide goods efficiently. That is, the national legislator wants to provide goods to mayors who have stable blocks of voters that they can mobilize in order to support the legislator. These mayors are likely to act as effective brokers because they can use their information about local constituents in order to provide club goods that are most likely to increase a voters support of a politician. However, a legislator will only benefit from using this type of mayor as a broker if the mayor is willing to attribute credit to national legislators for the new goods in a given municipality.

Not all mayors are likely to act as reliable brokers. For this model, I argue that there are two types of mayors with different preferences that affect the mayor's optimal decision. The first is the "ambitious" mayor who aspires for higher office and benefits from building a personal network with the national politician. This mayor receives a higher benefit from being within a national politicians network than the not-ambitious mayor due to their own long-term political goals. The second is the "not ambitious" mayor. This mayor may hope

to stay in local-level politics, and thus receives a higher benefit from showing their local constituents how much they do for the municipality itself. As a result, they do not have equally strong incentives to prioritize their relationship with national politicians over their immediate payoff for voters. This mayor will care less about their future with the legislator because their immediate payoff from local voters is more pressing than the uncertain future with the national government.

I model the interactions between the national legislator and the mayor using a signaling game. First, nature decides whether a mayor is the "ambitious" type of the "not ambitious" type. A mayor is an ambitious type with a probability, p. The mayor's type determines the mayor's preferences. Then, the mayor determines whether to send a signal that they[6] have invested in network building. The network building signal suggests that a mayor is ambitious because they have paid the cost of long-term political investment. This signal can include investing in clientelistic exchanges with voters. Conversely, the absence of a signal implies that the mayor is not engaged in network-building between electoral cycles. In the absence of a signal, a mayor may maintain their popularity through personal charisma or hope that their performance will establish a reputation. The national legislator, who prefers to target stable constituencies, observes the network-building signal as a potential indicator of the mayors desire to continue serving in politics long-term. After observing the signal, the national legislator decides whether to provide a benefit of size, k. Finally, a mayor determines whether to "attribute credit", or give credit to the national politician for the benefit, or "claim credit" and assert their responsibility in providing the benefit to citizens. The extensive form of the game can be seen in Figure 1.

The utility functions for legislators and the ambitious and non-ambitious mayors are a function of the size of a club good benefit, k, a multiplicative benefit, σ, for receiving credit for a club good, and a base benefit, α, that is a proportion of the size of the benefit and that a mayor receives for being chosen as a broker. There is no parameter for reelection. Instead,

[6]When discussing both mayors and legislators, they is used as a gender-neutral singular pronoun

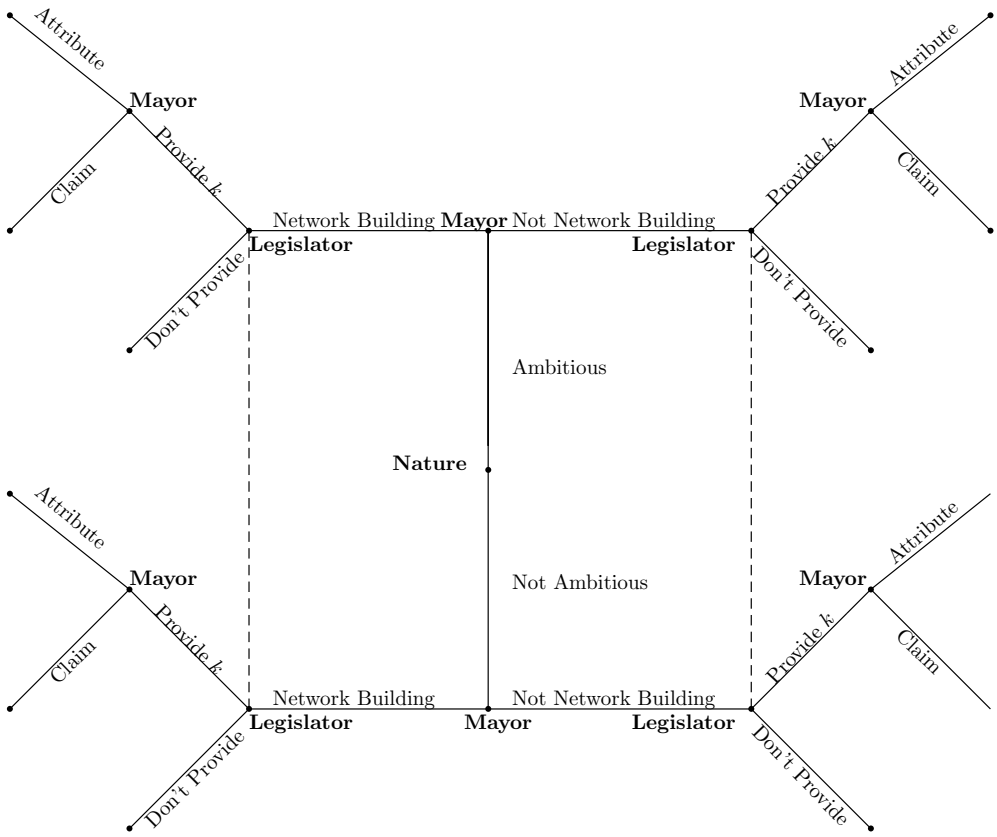

Figure 1: Signaling Game

a potential reelection benefit is accrued as part of the base payoff for receiving the benefit, α and the additional payoff for receiving credit, σ. It follows that if a mayor has a high α and σ value, they are more likely to be reelected. Table 1 define each of these parameters and their components.

The national legislator's utilities are a function of whether or not they receive credit and the size of the club good they provided. The legislator's utility is $k(I_c\sigma_N - 1)$ In this utility function, I_c is an indicator function that determines whether the legislator has received credit. If they do, then the legislator receives the multiplicative benefit for receiving credit, less the cost of providing the benefit. If they do not, they simply pay the cost of providing the benefit.

The mayor's utility functions are a function of their benefit for receiving credit and their base payoff for receiving the benefit. If a mayor sends a network building signal, they pay

Parameter	Definition	Range of Values
k	Size of the benefit provided	$\in [0, 1]$
σ	Additional benefit of receiving credit	> 1
α	Base payoff for receiving a benefit	$\in (0, 1)$
c	Cost of network building	> 0
I_c	Indicator for receiving credit	$\{0, 1\}$
I_s	Indicator for sending the network signal	$\{0, 1\}$
N	Subscript referring to the national government	
L	Subscript referring to a low value	
H	Subscript referring to a high value	

Table 1: Model Parameters

an additional cost, c. The mayor's utility is $k(I_c\sigma + \alpha) - I_c 1 - I_s c$. In this function, I_c is the indicator that is one if the legislator received credit, and 0 otherwise while I_s is the indicator for whether the mayor sent the network-building signal. The mayor who claims credit will receive the additional benefit, σ, that is a function of the size of the good. However, this mayor will have to pay a normalized cost, 1, of jeopardizing their reputation with the national politician. This cost for claiming credit is the loss that a mayor has for no longer being a member of a politician's network, and thus losing potential future benefits and political allies within that network.

Since the ambitious mayor is concerned about their reputation beyond their own municipality, they value receiving a benefit, regardless of credit, more than a mayor who is more focused on their local reputation. As a result, the ambitious mayor will receive a larger benefit α for all potential benefits, k. The ambitious mayor will always receive α_H while the not ambitious mayor will receive α_L. Both mayors benefit from receiving club goods benefits, but the ambitious mayor benefits more because they place higher value on being part of the legislators political network. Likewise, the not ambitious mayor, since they are most focused on their local reputation, receive a higher benefit, σ, when they receive credit. As a result, the credit benefit for the ambitious mayor is σ_L and for the not ambitious mayor is σ_H. As with receiving benefits, both mayors have payoffs for receiving credit, but the payoff for the ambitious mayor is lower because they need to build a broader constituency outside their

own municipality. The full utility functions can be seen in Table 2

Legislator Strategy	Mayor Strategy	Legislator Payoff	Ambitious Mayor Payoff	Not Ambitious Mayor Payoff
Don't Provide	-	0	$-I_s c$	$-I_s c$
Provide $k \in (0, 1]$	Attribute credit	$k(\sigma_N - 1)$	$k\alpha_H - I_s c$	$k\alpha_L - I_s c$
Provide $k \in (0, 1]$	Claim Credit	$-k$	$k(\sigma_L + \alpha_H) - 1 - I_s c$	$k(\sigma_H + \alpha_L) - 1 - I_s c$

Table 2: Payoffs

3.1 Best Responses

3.1.1 Stage 3: Credit Attribution

In the final stage of the game, the mayor decides whether to attribute credit of claim credit. The mayor will attribute credit only where the utility from attributing credit is greater than the utility from claiming credit for themselves. For the ambitious mayor, this occurs when $k \leq \frac{1}{\sigma_L}$. This means that, as long as the contract is smaller than the inverse of their credit claiming benefit, the mayor will be willing to attribute credit. The larger the benefit for receiving credit, the smaller the benefit that the mayor is willing to attribute credit for.

The not ambitious mayor will attribute credit when $k \leq \frac{1}{\sigma_H}$. This means that it is harder for a non-ambitious mayor to attribute credit since this type of mayor will always receive a larger payoff for receiving credit than the ambitious mayor. When $k > \frac{1}{\sigma_L}$, neither the ambitious nor the not-ambitious mayors will attribute credit. When $k < \frac{1}{\sigma_H}$ both types of mayors will attribute credit. The third region, where $\frac{1}{\sigma_H} < k \leq \frac{1}{\sigma_L}$, is most interesting because in this range of benefits, k, the two types of mayor will behave differently. In this range, the ambitious mayor will attribute credit while the not ambitious mayor will claim credit for themselves.[7].

[7]Full proofs can be found in the appendix

3.1.2 Stage 2: Deciding Whether to Provide the Benefit

The legislator will always provide the benefit if they know that they will receive credit. The legislator will always provide the benefit if $k \leq \frac{1}{\sigma_H}$. The legislator will never provide the benefit if they will not receive credit. So, they will never provide the benefit if $k > \frac{1}{\sigma_L}$.

If the benefit $k \in (\frac{1}{\sigma_H}, \frac{1}{\sigma_L}]$, whether the legislator provides the benefit is a function of their belief, μ, that the mayor is ambitious. The legislator will provide the benefit if:

$$\begin{aligned} \mu(k(\sigma_N - 1)) + (1 - \mu)(-k) &\geq 0 \\ \mu k \sigma_N - k &\geq 0 \\ \mu \sigma_N - 1 &\geq 0 \\ \mu &\geq \frac{1}{\sigma_N} \end{aligned}$$

The legislator has beliefs, μ for whether they observe the network building signal or whether they do not observe the network building signal. If the legislator holds a belief, μ_s, that the mayor who sent the signal was ambitious. They will provide the benefit if $\mu_s \geq \frac{1}{\sigma_N}$. If the mayor does not observe the network building signal, they hold a belief, μ, that the mayor who did not invest in building a network is ambitious. The legislator will provide a club good benefit if $\mu \geq \frac{1}{\sigma_N}$.

Stage 1: Sending the Ambitious Signal

If the mayor will receive a club good regardless of sending a signal, then the mayor will always prefer not to send the signal to maximize their own returns and avoid paying the cost, c. However, if sending the signal is the only way to receive a contract, then the two mayors will only send the signal when the cost of doing so is sufficiently low. When both mayors attribute credit, or $k < \frac{1}{\sigma_H}$, then the ambitious mayor will send the signal when $c < k\alpha_H$ and the not ambitious mayor will send the signal when $c < k\alpha_L$. In this circumstance, the

ambitious mayor is more likely to pay to send the signal.

When the size of the benefit, k, incentivizes the two mayors to behave differently, $k \in (\frac{1}{\sigma_H}, \frac{1}{\sigma_L}]$, then the mayors have different considerations when deciding whether to pay to send the signal. Since the ambitious mayor will attribute credit, they will still send the signal whenever $c < k\alpha_H$. The not ambitious mayor, on the other hand, will pay to send the signal when the cost of network building is less than their benefit for claiming credit: $c < k(\sigma_H + \alpha_L) - 1$.

4 Equilibria

As seen in stage 3, whether a mayor is a reliable broker depends solely on the size of the benefit, k. An ambitious mayor will be reliable broker whenever the benefit is less than their additional benefit for receiving credit, when $k \leq \frac{1}{\sigma_L}$. For the not ambitious mayor, they will be a reliable broker whenever the benefit is less than their additional benefit for receiving credit, or $k \leq \frac{1}{\sigma_H}$. Thus, the legislators optimal decision can be determined based on the size of the benefit, k, that the legislator can use as a club good.

The legislator has to determine their best response in three separate conditions:

1. $k > \frac{1}{\sigma_L}$, the best response for the legislator is never to provide k because neither type of mayor will be a reliable broker. Instead, both types of mayor will claim credit for themselves.

2. $k \leq \frac{1}{\sigma_H}$, the best response for the legislator is always to provide k because both types of mayor will always be reliable brokers and attribute credit to the legislator.

3. $k \in (\frac{1}{\sigma_H}, \frac{1}{\sigma_L}]$ the best response for the legislator is a function of their belief that the mayor is ambitious. The legislator will provide k when their belief, μ, that the mayor is ambitious is at least $\frac{1}{\sigma_N}$

Since the beliefs are irrelevant for best responses if $k \leq \frac{1}{\sigma_H}$ or $k > \frac{1}{\sigma_L}$, the interesting

range to study occurs when $k \in (\frac{1}{\sigma_H}, \frac{1}{\sigma_L}]$. This case depends on two sets of beliefs, the belief, μ_s that the mayor who invests in building a network is ambitious and the belief, μ, that the mayor who does not invest in building a network is ambitious.

The legislator will only provide a benefit when their belief that the mayor is ambitious is at least $\frac{1}{\sigma_N}$. This means that, in order for providing a club good benefit to be rational, the legislator must believe the mayor is ambitious with a probability greater than the inverse of their benefit for receiving credit. The legislator has four possible strategies in pure strategies.

1. The legislator never provides the benefit, k.

2. The legislator provides the benefit, k, both when they observe the network building signal and when they do not observe the network building signal.

3. The legislator does not provide a benefit when they observe the network building signal but does provide a benefit when they do not observe the network building signal.

4. The legislator provides the benefit when they observe the network building signal and does not provide the benefit when they do not observe the network building signal.

In the first case, the legislator will never provide the benefit, k, regardless of what signal they observe. Neither type of mayor will invest in building a network because there is no positive utility for sending the signal. This case occurs when the legislator believes that the mayor is ambitious with a probability $\mu < \frac{1}{\sigma_N}$. The beliefs are consistent as long as the probability that any mayor is ambitious, p, is less than $\frac{1}{\sigma_N}$. This equilibrium can occur when the national legislator receives a relatively small payoff for receiving credit. The smaller the legislator's payoff for receiving credit, the more discerning they will be about providing benefits to mayors that might not be reliable brokers.

In the second case, the legislator will always provide the benefit, k, regardless of what signal they observe. In this case, both types of mayor will not invest in building a network because they can receive the same payoff from the benefit without paying the cost of sending

a signal about their political network. This case occurs when the legislator believes that the mayor is ambitious with a probability $\mu > \frac{1}{sigma_N}$. The beliefs are consistent as long as the probability that any mayor is ambitious, p, is greater than $\frac{1}{\sigma_N}$. This equilibrium can occur when the national legislator receives a relatively high payoff for receiving credit. The larger the legislator's payoff for receiving credit, the less discerning they will be about providing benefits to mayors who may not be reliable brokers.

The strategies for the mayor become more interesting when the legislator bases their actions on observing a signal about the strength of the mayors network. If the legislator does not provide the benefit when they observe the network building signal but does provide the benefit when they do not observe the network building signal, then the mayor will never invest in building a network in order to receive the benefit. This belief is consistent if the probability, p, that a mayor is ambitious is greater than $\frac{1}{\sigma_N}$ and the legislator believes that ambitious mayors will not invest in building political networks. This equilibrium result, therefore, depends on how the legislator evaluates mayors incentives. For example, if a legislator thought that a mayor with national ambitions would not invest in their local network, this equilibrium result could be observed. In each of these three conditions, there is a pooling equilibrium where neither type of mayor invests in building a local network.

Finally, I consider the case where the legislator provides benefits to mayors who send the network building signal and does not provide benefits to mayors who do not send the network building signal. If an ambitious mayor sends the signal, they will claim credit and their payoff will be a proportion of the benefit they receive, less the cost they paid to send the network building signal, $k\alpha_H - c$. However, if the ambitious mayor does not send the signal, they will receive a payoff of 0. As a result, the ambitious mayor will send the signal as long as the cost of sending the signal, c, is less than their benefit from attributing credit, $k\alpha_H$. On the other hand, the not ambitious mayor will claim credit if they receive the benefit. As a result, the not ambitious mayor will receive their benefit for receiving credit, less the penalty for being an unreliable broker and the cost of sending the network building signal,

$k(\sigma_H + \alpha_L) - 1 - c$. If the not ambitious mayor does not send the signal that they have build a political network, they will receive 0. The not ambitious mayor will send the signal as long as the cost, c is less than their benefit for claiming credit, $k(\sigma_H + \alpha_L) - 1$.

This leads to four cases of interest: one where both mayors will invest in building networks to receive the benefit, one where only the ambitious mayor is willing to pay the cost of network building, one where only the not ambitious mayor is willing to pay the cost of network building, and one where neither mayor is willing to pay the cost of building networks.

If both mayors are willing to pay to send the signal, $c \leq k\alpha_H$ **and** $c \leq k(\sigma_H + \alpha_L) - 1$

The legislator will only provide the benefit if they believe that the mayor who sends the signal is ambitious with a probability $\mu_s \geq \frac{1}{\sigma_N}$. I update the mayor's beliefs given the mayors strategies and find that:

$$\begin{aligned} \mu_s &= \frac{1p}{1p + 1(1-p)} \\ &= p \end{aligned}$$

$$\begin{aligned} \mu &= \frac{0p}{0p + 0(1-p)} \\ &= \text{All Beliefs Consistent} \end{aligned}$$

If $p \geq \frac{1}{\sigma_N}$ there exists a pooling equilibrium where both types of mayors send the network building signal. The legislator will provide the benefit if they observe the signal and will not provide the benefit if they do not observe the signal. The ambitious mayor attributes credit and the not ambitious mayor claims credit. $\mu_s = p$ and $\mu < \frac{1}{\sigma_N}$. This equilibrium result reflects a situations where a legislator treats the network building signal as informative and

the not ambitious mayor will imitate the ambitious mayor so that they can benefit from being selected as a broker.

If the ambitious mayor pays to send the signal and the not ambitious mayor does not, $c \leq k\alpha_H$ **and** $c > k(\sigma_H + \alpha_L) - 1$

Here, it is only rational for a legislator to provide benefits after observing the network building signal if their belief, μ_s that the mayor who sends the signal is ambitious is greater than $\frac{1}{\sigma_N}$ and their belief, μ that the mayor who does not send the signal is ambitious is less than $\frac{1}{\sigma_N}$. The legislators updated beliefs are:

$$\begin{aligned}\mu_s &= \frac{1p}{1p + 0(1-p)} \\ &= 1\end{aligned}$$

$$\begin{aligned}\mu &= \frac{0p}{0p + 1(1-p)} \\ &= 0\end{aligned}$$

These beliefs are consistent. So, if $c < k\alpha_H$, and $c > k(\sigma_H + \alpha_L) - 1$ there is a separating equilibrium where the ambitious mayor sends the clientelist signal and the not ambitious mayor does not. The legislator will provide the good if they observe the signal and will not provide the good if they do not observe the signal. The ambitious mayor will attribute credit and the not ambitious mayor would claim credit if they sent the signal. $\mu_s = 1$ and $\mu = 0$. This equilibrium is possible when $k \in (\frac{1}{\sigma_H}, \frac{1}{\sigma_H - \alpha_H - \alpha_L})$, the point where both types of mayors will receive the same payoff. This equilibrium result is the ideal for a legislator because it allows them to select a reliable broker with minimal risk.

If the ambitious mayor does not pay to send the signal and the not ambitious

mayor sends the signal, $c > k\alpha_H$ **and** $c \leq k(\sigma_H + \alpha_L) - 1$

Again, it is only rational for a legislator to provide the benefit only after observing the signal if $\mu_s \geq frac1\sigma_N$ and $\mu < \frac{1}{\sigma_N}$. However, in this case, only the not ambitious mayor pays to send the signal. As a result, the legislators updated beliefs are:

$$\begin{aligned}\mu_s &= \frac{0p}{0p + 1(1-p)} \\ &= 0\end{aligned}$$

These beliefs are not consistent and there is no equilibrium.

If neither mayor pays the cost of clientelism,$c > k\alpha_H$ **and** $c > k(\sigma_H + \alpha_L) - 1$

In this condition, neither mayor is willing to send the network building signal. However, the legislator's strategy is still rational if $\mu_s \geq \frac{1}{\sigma_N}$ and $\mu < \frac{1}{\sigma_N}$. Based on the mayor's strategies, the legislator's updated beliefs are:

$$\begin{aligned}\mu_s &= \frac{0p}{0p + 0(1-p)} \\ &= \text{All Beliefs Consistent}\end{aligned}$$

$$\begin{aligned}\mu &= \frac{1p}{1p + 1(1-p)} \\ \mu &= p\end{aligned}$$

If $p < \frac{1}{\sigma_N}$ there is a pooling equilibrium where neither mayor sends the signal, the legislator will provide the benefit if they observe the signal and will not provide the benefit if they do not observe the signal, and the mayor would attribute credit if they received the benefit while the not ambitious mayor would claim credit if they received the benefit.

$\mu_s \geq \frac{1}{\sigma_N}$ and $\mu = p$. For this equilibrium to occur, it must be very expensive for a mayor to invest in building a network.

4.1 Comparative Statics

A mayor will only send the network building signal when the national legislator provides a benefit after observing the signal and does not provide the benefit if they do not observe the signal. In this condition, the legislator believes that a mayor who sends the signal is ambitious with a probability $\geq 1\sigma_N$ and believes a mayor who does not send the signal is ambitious with a probability $< \frac{1}{\sigma_N}$. While this is only one condition, it occurs quite frequently: mayors regularly explain that they invest in patronage strategies because it helps them gain resources from the national government.

In this common condition, it is possible to observe three types of equilibria: a pooling equilibrium where both types of mayors send the signal by investing in network building, a separating equilibrium where only the ambitious mayor invests in network building, and a pooling equilibrium where neither mayor invests in network building. The regions can be seen in Figure 2.

The model helps to explain when observing the signal informs a legislators decision to provide the benefit, k. When a legislator chooses to provide the benefit, they are choosing that mayor as their broker. For any moderately sized benefit $k \in (\frac{1}{\sigma_H}, \frac{1}{\sigma_L}]$, the ambitious mayor will attribute credit while the not ambitious mayor will claim credit for themselves. The benefit that the legislator has the ability to provide, therefore, will determine whether the mayors can be reliable brokers: the ambitious mayor is likely to be reliable, while the not ambitious mayor is not reliable. The challenge, then, remains: how can the legislator determine whether they are selecting an ambitious mayor as their broker.

The range of values where it may be possible to separate ambitious and not ambitious mayors depends on the difference between each mayors additional benefit for receiving credit. If the mayor who is ambitious has almost the same additional benefit of credit as the not

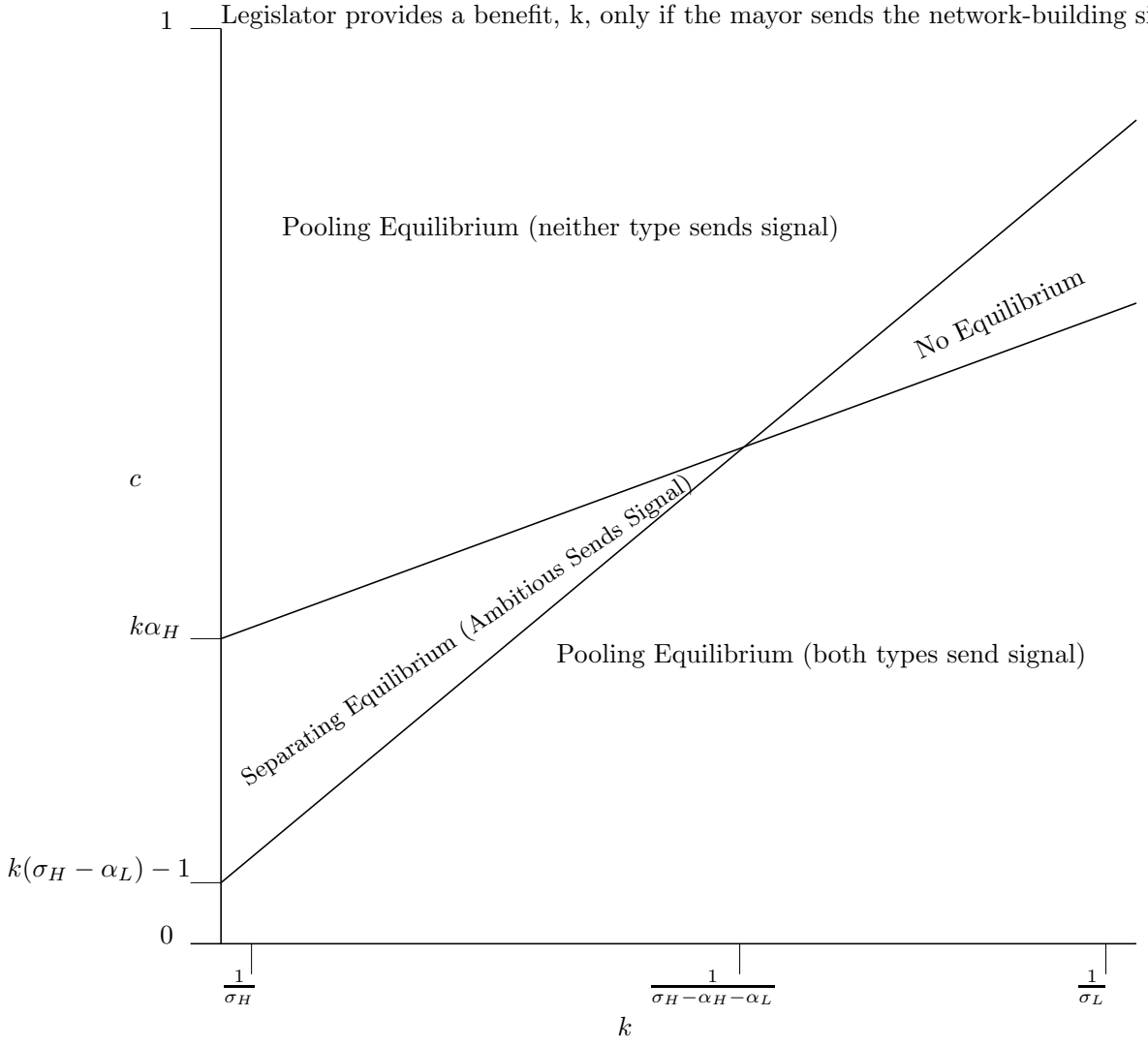

Figure 2: Equilibrium Space

ambitious mayor, which could be the case if a mayor was not locally popular and needed additional support within their municipality, then there are very few benefits where network building can behave as an informative signal. However, if the benefit for the not ambitious mayor of receiving local credit is much larger than the ambitious mayors, as would be the case if this mayor was particularly worried about their visibility for future reelection or anticipating a difficult challenger, then the space from $\frac{1}{\sigma_H}$ to $\frac{1}{\sigma_L}$ can represent a large range of benefits. In other words, when the two types of mayor have similar payoffs for claiming credit, then there is a limited range of benefits where it is possible to observe either type of mayor paying the cost of sending the signal or for a separating equilibrium to occur.

However, when there is a benefit, k, that causes the two types of mayors to behave differently, whether a mayor decides to pay to send the signal depends on the cost, c, of building a network. When the cost of sending the network building signal is sufficiently low, for example when there is already a strong network in place or there are a high number of jobs available that can be filled using patronage, then both types of mayors will invest in building a network. This creates a pooling equilibrium where the legislator cannot ascertain which type of mayor they are providing a benefit to. When the cost of building a network is low, therefore, then observing the network signal is not informative and the legislator still will be unable to separate the two types of mayors. The legislator may select a mayor as a broker, but they are risking selecting a not ambitious mayor who will fail to deliver votes.

Further complicating the decision is the fact that both mayors will be willing to pay a higher cost for a larger benefit. If the benefit that the legislator can extract from the ministry is larger, then the legislator is more likely to select a mayor without knowledge of that mayors type. Similarly, the larger $\sigma_H - \alpha_L$, or the difference between the payoff for receiving credit and the base payoff for receiving a good for the not ambitious mayor, the larger the area where there will be a pooling equilibrium. So, if the not ambitious mayor only receives a very small payoff for receiving a benefit, but receives a relatively large payoff for getting credit for that benefit, then the not ambitious mayor will be willing to invest more

in building a network. In sum, when the benefit is large, the cost of network building is low, and/or the difference between the benefit for receiving credit and the benefit for receiving a good for the not ambitious mayor is high, then the not ambitious mayor will mimic the ambitious network by investing in network building. If this is the case, then the legislator is always taking a risk when they select a mayor as a broker.

When the cost of sending the signal is sufficiently high, neither type of mayor will pay the cost of building a network. Regardless of how large the benefit, k, is that the mayor can receive, they will prefer to receive nothing. This is counter-intuitive: when politicians value their reputation with voters, they should always prefer receiving a benefit to not receiving a benefit. However, if it is expensive to build a network, as could be the case when there is no pre-existing infrastructure to connect with voters and the mayor is particularly unpopular, then a mayor might choose to forgo strengthening their network, and the potential benefits from the national government. When the payoff an ambitious mayor gets for receiving a benefit, α_H, is low, it's possible for there to be a quite large area where the cost of sending the signal is simply too large for a mayor to pay. As when the cost of network building is low, when the cost of network building is high the legislator cannot use network building signals as a way to select brokers.

Notably, it is possible to observe a separating equilibrium where the ambitious mayor pays to send the signal while the not ambitious mayor does not send the signal. In this condition, the signal is informative for the legislator. Merely observing the signal informs the legislator that a mayor is ambitious and that, by providing the benefit, they are selecting a reliable broker. There are two conditions that must be met in order for legislators to be able to use a network building signal in order to select a reliable broker. The first is that the legislator must be providing a relatively small benefit where $k < \frac{1}{\sigma_H - \alpha_H - \alpha_L}$ In other words, the benefit must be smaller than the inverse of the benefit the not ambitious mayor receives from claiming credit, less the base benefit both mayors receive for getting a benefit. Within the range from the smallest benefit where the not ambitious mayor does not attribute credit

until this point, there are costs of network building that encourage an informative separating equilibrium.

The national legislator prefers a separating equilibrium since it means they are able to identify, and select, a reliable broker. This equilibrium space can be interpreted in two ways: as the range of benefits where the equilibrium is possible and as cost of network building where this equilibrium occurs. Holding the payoff the not ambitious mayor receives when they claim credit, σ_H, constant, the range of benefits where a separating equilibrium is possible is characterized by the difference between the payoffs for receiving a benefit for the ambitious and not ambitious mayors, $\alpha_H - \alpha_L$. When the two mayors receive similar payoffs just from being selected as a broker, the range of benefits where a separating equilibrium is possible is quite small. This means it is less likely to observe a desirable separating equilibrium. As the difference between these two values grows because being selected as a broker is more desirable to an ambitious mayor, then there are more benefits where the separating equilibrium is possible.

For the legislator to be able to identify ambitious mayors, it must also be true that the ambitious mayor is willing to pay a higher cost for building their network than the not ambitious mayor. This occurs when the ambitious mayor receives a larger benefit for attributing credit than the not ambitious mayor does for claiming credit and the cost of network building must fall between these two payoffs. This space can be interpreted by holding the payoff the ambitious mayor receives for any benefit, α_H, and the payoff the not ambitious mayor receives for any benefit, α_L constant. If the payoff the not ambitious mayor receives when they claim credit, σ_H, is relatively low, then the not ambitious mayor is less likely to invest in network building. As a result, there is a larger range of costs for network building where the ambitious mayor can be identified. Conversely, if the payoff the not ambitious mayor receives for claiming credit is relatively large, then this mayor is more likely to invest in building a network and it is less likely that a legislator will be able to separate ambitious and not ambitious mayors.

This tells us that it is quite difficult for legislators to select reliable brokers. While there is a separating equilibrium where the legislator can perfectly separate ambitious from not ambitious mayors, and thus can trust they are selecting a reliable broker, this equilibrium is relatively difficult to observe. This equilibrium space can only occur across a small range of both benefits and costs of network building. For the legislator, their best chance of providing a benefit to a reliable broker is when the benefit they provide is in the range $k \in (\frac{1}{\sigma_H}, \frac{1}{\sigma_H - \alpha_H - \alpha_L}]$, or between the lowest size benefit where the two mayors behave differently and the benefit where the two types of mayors can expect the same payoff. Furthermore, the cost of network building must be close to the payoff the ambitious mayor receives for getting the benefit. Otherwise, it is likely that the legislator cannot identify reliable brokers, and instead can only minimize their risk by providing a benefit when the mayor has a relatively low cost of network building.

4.2 Testing the Equilibria: Mayor Behavior Across Types

The signaling model assumes that legislators will want to select mayors as brokers. In interviews, I find support for this assumption. As one legislator from the Valle de Cauca department, when discussing the jam system, exclaimed "I don't use [jam] to reach my constituents, but every other legislator has their mayors who they like to work with because they know [the mayor] will work for them"[8]. In order to confirm that these mayors are investing in network building, I conducted interviews with mayors and local-level bureaucrats in the Antioquia and Valle de Cauca departments in Colombia. During these interviews, we discussed the process of receiving additional funds for local-level projects, interactions with officials at additional levels of government, future political aspirations, and maintaining relationships with citizens. We discussed network building broadly, but both ambitious and non-ambitious mayors referenced patronage as something "everyone" participates in. The universal acceptance of patronage as central to Colombian politics supports the idea that a

[8]Interview conducted October 2018

network-building signal is a frequent- and important- observation. In interviews, legislators further emphasized the idea that legislators look to mayors as brokers.

The model predicts that the most common equilibrium solution is a pooling equilibrium where both ambitious and non ambitious mayors will invest in building networks and be selected as brokers, but only ambitious mayors will attribute credit. This outcome is reflected in the Antioquia department, where I interviewed several mayors from small municipalities outside of Medellin. These municipalities can all be classified as predominately rural and are heavily dependent on funds from the central government. Moreover, these municipalities would have relatively low costs for network building because they have small populations and high levels of need, providing opportunities to connect with citizens and a situation where small investments in clientelist strategies could have a large impact. In both cases, even a small project funded through jam would improve the quality of life in the municipalities. Thus, jam projects would be valuable for the mayors, especially if they were to receive credit for the club goods.

In the first municipality, the former mayor was adamant in their insistence that they would only ever want to serve in municipal-level political office. The mayor was passionate about local issues and improving their municipality's economy, but felt that any step towards department or national government would hurt the mayor's ability focus on giving back to their hometown. This mayor would be classified as a not-ambitious type. A member of their administration further explained that this mayor ran whenever they were eligible and a personal friend and ally of the mayor ran in the off terms since mayors cannot serve two consecutive terms. The three officials had been friends since grade school and the bureaucrat served in both administrations in order to help provide continuity across terms. When asked about how projects are communicated with citizens, the mayor stated that any new project in the municipality was the mayor's success. The mayor put work into building the relationships and generating the funds, and the mayor did what needed to be done to encourage investments into the municipality. This work included building networks with

other mayors to apply for funds for larger projects that would benefit the municipality and, crucially, spending time in Medellin in order to strengthen relationships with higher-level government officials. Even when discussing projects that were joint efforts across several municipalities, the mayor claimed credit, explaining "I put together a group of mayors...".

In the second municipality, another mayor, when asked about receiving fiscal transfers from the central government, lamented just how difficult it was to receive those transfers. The official channels for inter-governmental funds, where the municipalities can apply for specific projects, was "almost impossible" and the only way to get these funds was to focus on building relationships with legislators who would be able to help them. This mayor regularly talked about their desire to run for higher level government because only in department or national government would they have the power to do what they wanted to do. Until then, however, they said any new project in the municipality came from a relationship with another politician. For them, new investments in the municipality were joint efforts, and there was a clear respect for politicians in national government because they could select their allies and help distribute funds.

The above case illustrates that when investing in networks is inexpensive, it is likely that both types of mayors will invest in building networks and the legislator will have trouble separating the ambitious and not ambitious mayors. The legislator would only receive credit for a project in the second municipality and would prefer to work with this mayor. However, based on both mayors commitment to network building, the legislator is equally likely to select the first mayor as a broker. This mayors commitment to building political alliances might even make them more desirable on a surface level, illustrating just how challenging it is for legislators to select reliable brokers.

Support for the preferred separating equilibrium, where a legislator could identify ambitious and not-ambitious mayors and make more informed choices about their brokers, were evident in interviews in the Valle de Cauca department. Here, local officials spoke openly about their use of clientelism and the costs associated with this form of network-building.

One local level bureaucrat explained "In good politics, you make sure all the temporary positions are filled with your friends, or you make positions for them. Everyone needs to do it." This official emphasized that it made sense to use patronage so that a mayor could maintain their network. Later, when discussing relationships with national-level representatives, they returned to the idea of patronage, saying "The government likes when you provide jobs" and said "They help you more when you show you keep supporters, and that helps you". Here, building a network was important, but the more a mayor did to build that network, the better off they were. The signaling model predicts that ambitious mayors will be willing to invest more in network building for relatively small goods. The discussion of the variation in the cost of network building supports this: legislators not only considered whether the network existed, but also how much investment went into the network. As a result, it was possible to build well-established networks of mayors who would attribute credit.

5 Conclusion

When both mayors and legislators have incentives to cultivate strong voter networks, the challenge of choosing the right mayor as a broker is never straightforward. As a result, legislators are likely to be discerning in how they distribute benefits. Instead of maximizing how many municipalities receive goods, these legislators will instead look to provide goods where mayors are most likely to act as reliable brokers so that the legislators receives credit for their investment. This allows legislators to exercise more risk aversion, providing benefits only where they trust the benefits will translate into votes. By using political ambition to differentiate types of mayors, I am able to better analyze when legislators will be able to make informed decisions about which mayors they can use as brokers.

One may expect that non-ambitious politicians, who prioritize their relationships with local voters, may be the most likely to invest in building strong local networks if they hope to continue serving their municipality. These mayors need to maintain local support,

especially in places like Colombia where term-limits require mayors to maintain their loyal networks without serving consecutive terms. Ambitious mayors, on the other hand, may be more interested in just bringing goods to the municipality, regardless of credit. This intuition informs each mayor's utility function: ambitious mayors get more than non-ambitious mayors just for receiving a benefit. However, the model equilibria suggest that the opposite is true: ambitious mayors are willing to invest more in building a local network in order to receive relatively small club goods benefits. This finding suggests that, while non-ambitious mayors value receiving credit from their constituents for goods, they may only pay the cost of signaling their network strength for quite large projects. For legislators, ambitious mayors' willingness to pay more to invest in building networks creates a situation where the legislator can distinguish mayor types and select mayors as brokers who are likely to deliver votes.

This article also provides important insights about the behavior of mayors. The pooling equilibrium where all types of mayors invest in building networks suggests one possible reason why mayors, despite not being able to serve consecutive terms, may choose to invest in costly network building. While the payoffs for these investments cannot be realized until a future electoral cycle where external factors may have shifted public preferences, investing in building local networks is a tool that mayors can use to recruit funding for public works. If legislators see network-building as a sign of ambition, as is suggested in interviews across actors at different levels of government, then investing is not only a way to build a political following, but also a way to encourage the national government to invest locally. When local politicians use clientelist strategies to build their networks, the competition to receive limited resources from the national government may encourage clientelism as a way, not only to connect with voters, but also to signal their capacity to other politicians.

This article also highlights a future challenge for legislators. In the short term, legislators want to select ambitious mayors because these mayors are most likely to attribute credit. Thus, the legislator will look for mayors who invest in costly network building activities. However, by attempting to use ambitious mayors as brokers, legislators are providing re-

sources to brokers who may one day replace them. In the long term, legislators may be pursuing a strategy that contributes to their own electoral losses.

This model can be extended to allow the cost of network building to change for different types of mayors. Introducing more variation in the cost of clientelism will help explain when it is more likely to observe the pooling equilibrium or a separating equilibrium. Similarly, the cost of network building can be divided into relatively inexpensive activities, like town hall initiatives, and more costly strategies, like targeted clientelist benefits. Understanding exactly when it is rational for mayors to pay the cost of network building and for legislators to provide club goods benefits is important for understanding who voters reward- and why. When clientelism is used at the local-level as part of a network-building strategy, then knowing how this signal influences receiving club goods may provide insight about why voters continue to elect clientelist politicians. In surveys across contexts, voters complain about clientelist politicians and argue these politicians are either corrupt or are not acting in the best interest of citizens. Yet, in these same contexts, citizens elect and reelect clientelist politicians. Through a more thorough analysis of how clientelism, as one strategy politicians can use to build networks, can be used as a signal of a politicians capacity, it becomes more rational for voters to support these politicians.

References

Camp, Edwin. 2017. "Cultivating Effective Brokers: A Party Leader's Dilemma." *British Journal of Political Science* .

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

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

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.

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

Mazzalay, Víctor, Marcelo Nazareno & Mónica Cingolani. 2017. "Redes políticas y distribución de recursos públicos a nivel subnacional: Las relaciones provincia-municipios en el caso Córdoba, Argentina." *Latin American Research Review* 52(3):304–318.

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.

Roberts, Kenneth M. & Erik Wibbels. 1999. "Party Systems and Electoral Volatility in Latin America: A Test of Economic, Institutional, and Structural Explanations." *American Political Science Review* 93(3):575–590.

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

Vacía, La Sillav, ed. 2018. *El Dulce Poder: Asi Funciona la Politica en Colombia*. Penguin Random House Grupo Editorial Colombia.

Appendices

A Full Model Solution

Parameters

Parameter	Definition	Range of Values
k	Size of the benefit provided	$\in [0, 1]$
σ	Additional benefit of receiving credit	> 0
α	Reputation benefit as fraction of k	$\in (0, 1)$
c	Cost of sending a network building signal	> 0
I_c	Indicator for receiving credit	$\{0, 1\}$
I_s	Indicator for if clientelist signal sent	$\{0, 1\}$
N	Subscript referring to the national government	
L	Subscript referring to a low value	
H	Subscript referring to a high value	

Table A.1: Model Parameters

Utility Functions

Legislator: $U_N = k(I_c\sigma_N - 1)$

Mayor: $U = k(I_c\sigma + \alpha) - I_c - I_s$

For the ambitious mayor, they value their reputation with the national government, so they have α_H while the not ambitious mayor has α_L. This means that the ambitious mayor will a higher payoff for attributing credit than the not ambitious mayor.

The ambitious mayor is less focused with their local reputation, so if they claim credit, they receive σ_L while the not ambitious mayor receives σ_H.

Legislator Strategy	Mayor Strategy	Legislator Payoff	Ambitious Mayor Payoff	Not Ambitious Mayor Payoff
k $\in [0, 1]$	Attribute credit	$k(\sigma_N - 1)$	$k\alpha_H - I_s c$	$k\alpha_L - I_s c$
k $\in [0, 1]$	Claim Credit	$-k$	$k(\sigma_L + \alpha_H) - 1 - I_s c$	$k(\sigma_H + \alpha_L) - 1 - I_s$ c

Table A.2: Payoffs

A.1 Stage 3: Mayor Attributes Credit

The mayor will attribute if:

$$k\alpha \geq k(\sigma + \alpha) - 1$$
$$1 \geq k\sigma$$
$$k \leq \frac{1}{\sigma}$$

This means that the ambitious mayor will attribute credit when $k \leq \frac{1}{\sigma_L}$ and the not ambitious mayor will attribute credit when $k \leq \frac{1}{\sigma_H}$. The not ambitious mayor will attribute credit for larger projects than the ambitious mayor. If $\sigma < 1$ a mayor will attribute for any sized project, but if $\sigma > 1$ they will attribute for some k.

A.2 Stage 2: The Legislator Determines Whether to Provide the Benefit, k

The legislator will always provide the benefit if they know that they will receive credit. So, the legislator will provide the benefit if $k \leq \frac{1}{\sigma_H}$. The legislator will never provide the benefit if they will not receive credit. So, they will never provide the benefit if $k > \frac{1}{\sigma_L}$.

If the benefit $k \in (\frac{1}{\sigma_H}, \frac{1}{\sigma_L}]$, whether the legislator provides the benefit is a function of their belief, μ, that the mayor is ambitious. The legislator will provide the benefit if:

$$\mu(k(\sigma_N - 1)) + (1 - \mu)(-k) \geq 0$$
$$\mu k\sigma_N - k \geq 0$$
$$\mu\sigma_N - 1 \geq 0$$
$$\mu \geq \frac{1}{\sigma_N}$$

The legislator will never provide the benefit if $\sigma_N \leq 1$.

A.3 Stage 1: The Mayor Decides whether to send the Clientelist Signal

All else equal, a mayor will never send the clientelist signal in order to receive the same payoff without the additional cost.

A.4 Best Responses and Equilibrium

The legislator has several best responses that need to be checked based on the size of the benefit, k, and the legislator's beliefs, μ.

The mayors best responses are to:

1. $k \leq \frac{1}{\sigma_H}$, the best response is always to provide k if $\sigma_N > 1$
2. $k > \frac{1}{\sigma_L}$, the best response is never to provide k
3. $k \in (\frac{1}{\sigma_H}, \frac{1}{\sigma_L}]$ the best response is to provide k if $\mu \geq \frac{1}{\sigma_N}$

Since the beliefs are irrelevant for best responses if $k \leq \frac{1}{\sigma_H}$ or $k > \frac{1}{\sigma_L}$, the interesting range to study occurs when $k \in (\frac{1}{\sigma_H}, \frac{1}{\sigma_L}]$.

Let μ_s = the belief that the mayor who sends a clientelist signal is ambitious and μ = the belief that the mayor who does not send the clientelist signal is ambitious. The probability that a mayor is ambitious is simply p. This leads to 5 conditions to check:

1. $\sigma_N \leq 1$
2. $\mu_s < \frac{1}{\sigma_N}$ and $\mu < \frac{1}{\sigma_N}$
3. $\mu_s \geq \frac{1}{\sigma_N}$ and $\mu \geq \frac{1}{\sigma_N}$
4. $\mu_s < \frac{1}{\sigma_N}$ and $\mu \geq \frac{1}{\sigma_N}$
5. $\mu_s \geq \frac{1}{\sigma_N}$ and $\mu < \frac{1}{\sigma_N}$

A.4.1 Case 1: $\sigma_N \leq 1$

In this condition, regardless of k, the best response of the legislator is to not provide the good. Neither type of mayor will send the signal in order to avoid paying the cost, c. There is an equilibrium where no mayor sends a signal and the legislator never provides the benefit.

A.4.2 Case 2: $\mu_s = \mu < \frac{1}{\sigma_N}$

In this condition, the legislator will not provide the benefit regardless of the signal. Neither type of mayor will send the signal in order to avoid paying the cost, c.

The legislators beliefs are:

$$\begin{aligned}\mu_s &= \frac{0p}{0p + 0(1-p)} \\ &= \text{All Beliefs Consistent}\end{aligned}$$

$$\begin{aligned}\mu &= \frac{1p}{1p + 1(1-p)} \\ &= p\end{aligned}$$

If $p < \frac{1}{\sigma_N}$ there is an equilibrium where neither mayor sends a signal and the legislator never provides the benefit k. $\mu_s < \frac{1}{\sigma_N}$ and $\mu = p$.

A.4.3 Case 3: $\mu_s = \mu \geq \frac{1}{\sigma_N}$

In this condition, the legislator's best response is to provide the benefit regardless of the signal. Since they will receive the benefit, neither type of mayor will pay the cost, c, of sending the signal.

The updated beliefs are:

$$\begin{aligned}\mu_s &= \frac{0p}{0p + 0(1-p)} \\ &= \text{All Beliefs Consistent}\end{aligned}$$

$$\begin{aligned}\mu &= \frac{1p}{1p + 1(1-p)} \\ &= p\end{aligned}$$

If $p \geq \frac{1}{\sigma_N}$ there is an equilibrium where neither mayor sends a signal and the legislator provides the benefit $k \in (\frac{1}{\sigma_H}, \frac{1}{\sigma_L}]$. The ambitious mayor will attribute credit and the not ambitious mayor will claim credit. $\mu_s \geq \frac{1}{\sigma_N}$ and $\mu = p$.

A.4.4 Case 4: $\mu_s < \frac{1}{\sigma_N}$ and $\mu \geq \frac{1}{\sigma_N}$

In this condition, the legislator's best response is to not provide a benefit if they observe the clientelist signal and to provide the benefit if they do not observe the clientelist signal.

If the ambitious mayor sends the signal, they receive $-c$ and if they do not send the signal, they receive $k\alpha_H$. The ambitious mayor will never send the clientelist signal.

If the not ambitious mayor sends the signal, they receive $-c$ and if they do not send the signal, they receive $k(\sigma_H + \alpha_L) - 1$. The not ambitious mayor will never send the clientelist signal.

The updated beliefs are:

$$\begin{aligned}\mu_s &= \frac{0p}{0p + 0(1-p)} \\ &= \text{All Beliefs Consistent}\end{aligned}$$

$$\mu = \frac{1p}{1p + 1(1-p)}$$
$$= p$$

If $p \geq \frac{1}{\sigma_N}$ then there is a pooling equilibrium where neither mayor sends a signal and the legislator provides the benefit $k \in (\frac{1}{\sigma_H}, \frac{1}{\sigma_L}]$ when they do not observe the signal and do not provide the benefit when they observe the signal. The ambitious mayor will attribute credit and the not ambitious mayor will claim credit. $\mu_s < \frac{1}{\sigma_N}$ and $\mu = p$.

A.5 Case 5: $\mu_s \geq \frac{1}{\sigma_N}$ and $\mu < \frac{1}{\sigma_N}$

In his condition, the legislator's best response is to provide the benefit if they observe the clientelist signal and not to provide the benefit if they do not observe the clientelist signal.

If the ambitious mayor sends the signal, they receive $k\alpha_H - c$ and if they do not send the signal they will receive 0. The ambitious mayor will send the signal as long $c \leq k\alpha_H$. Given the possible range of values, k, the ambitious mayor will always send the signal if $c < \frac{\alpha_H}{\sigma_L}$.

If the not ambitious mayor sends the signal, they receive $k(\sigma_H + \alpha_L) - 1 - c$ and if they do not send the signal they will receive 0. The not ambitious mayor will send the signal as long as $c \leq k(\sigma_H + \alpha_L) - 1$. Given the possible range of values, k, the not ambitious mayor will always send the signal if $c < \frac{\alpha_L + \sigma_H - \sigma_L}{\sigma_L}$.

If $\alpha_H - \alpha_L > \sigma_H - \frac{1}{k}$ the ambitious mayor will pay a higher cost of clientelism.

If both mayors are willing to pay the cost of clientelism, $c \leq k\alpha_H$ **and** $c \leq k(\sigma_H + \alpha_L) - 1$

The legislator's updated beliefs are:

$$\mu_s = \frac{1p}{1p + 1(1-p)}$$
$$= p$$

$$\mu = \frac{0p}{0p + 0(1-p)}$$
$$= \text{All Beliefs Consistent}$$

If $p \geq \frac{1}{\sigma_N}$ there exists a pooling equilibrium where both types of mayors send the clientelist signal. The legislator will provide the benefit if they observe the signal and will not provide the benefit if they do not observe the signal. The ambitious mayor attributes credit and the not ambitious mayor claims credit. $\mu_s = p$ and $\mu < \frac{1}{\sigma_N}$

If the ambitious mayor pays the cost of clientelism and the not ambitious mayor does not $\alpha_H - \alpha_L > \sigma_H - \frac{1}{k}$**,** $c \leq k\alpha_H$ **and** $c > k(\sigma_H + \alpha_L) - 1$

The legislator's updated beliefs are:

$$\mu_s = \frac{1p}{1p + 0(1-p)}$$
$$= 1$$

$$\mu = \frac{0p}{0p + 1(1-p)}$$
$$= 0$$

These beliefs are consistent. So, if $\alpha_H - \alpha_L > \sigma_H - \frac{1}{k}$, $c < k\alpha_H$, and $c > k(\sigma_H + \alpha_L) - 1$

there is a separating equilibrium where the ambitious mayor sends the clientelist signal and the not ambitious mayor does not. The legislator will provide the good if they observe the clientelist signal and will not provide the good if they do not observe the clientelist signal. The ambitious mayor will attribute credit and the not ambitious credit would claim credit if they sent the signal. $\mu_s = 1$ and $\mu = 0$.

If the ambitious mayor does not pay the cost of clientelism and the not ambitious mayor pays the cost clientelism, $\alpha_H - \alpha_L < \sigma_H - \frac{1}{k}$**,** $c > k\alpha_H$ **and** $c \leq k(\sigma_H + \alpha_L) - 1$

The legislator's updated beliefs are:

$$\begin{aligned}\mu_s &= \frac{0p}{0p + 1(1-p)} \\ &= 0\end{aligned}$$

These beliefs are not consistent and there is no equilibrium.

If neither mayor pays the cost of clientelism,$c > k\alpha_H$ **and** $c > k(\sigma_H + \alpha_L) - 1$

The legislator's updated beliefs are:

$$\begin{aligned}\mu_s &= \frac{0p}{0p + 0(1-p)} \\ &= \text{All Beliefs Consistent}\end{aligned}$$

$$\begin{aligned}\mu &= \frac{1p}{1p + 1(1-p)} \\ \mu &= p\end{aligned}$$

If $p < \frac{1}{\sigma_N}$ there is a pooling equilibrium where neither mayor sends the clientelist signal, the legislator will provide the benefit if they observe the signal and will not provide the

benefit if they do not observe the benefit, and the mayor would attribute credit if they received the benefit while the not ambitious mayor would claim credit if they received the benefit. $\mu_s \geq \frac{1}{\sigma_N}$ and $\mu = p$.