Doctoral Dissertation Prospectus:

**SOCIAL NETWORKS AND PUBLIC GOODS PROVISION**  
**CLIENTELISM AND UPWARD SOCIAL MOBILITY IN SHANTYTOWNS**

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**General Overview**

Why are some slums successful at demanding public goods while others just receive rice and beans the day before the election? What governs the strategic choice of political actors facing the dilemma of resource allocation across poor neighborhoods? How does a poor settlement organize politically and manage to successfully demand public goods? This paper examines the effects of the social organization—at the neighborhood level—on the capacity of the poor to gain access to basic public services and better infrastructure. Through network analysis techniques, I assess the interaction between clientelistic linkages and the provision of public goods across shantytowns.

In general terms, the collective side of clientelism is underestimated. Political brokers\(^1\) not only distribute private goods. In poor informal settlements, access to public services, such as sanitation system or clean water is often mediated by local politicians. However, traditional literature on public goods lacks explanatory power in these cases, where clientelism regulates resources allocation. The non-excludability characteristic of local public goods requires us to examine collective action and coordination problems, underscoring the role of the slum leader or political broker. All in all, there is a void in the literature as rarely do studies try to understand jointly the phenomena of clientelistic dynamics and public goods provision. The literature of clientelism pays little attention to the effects of community organization on public goods provision. Whereas scholars on public goods, coordination problems and peer pressure effects generally ignore the role of the broker or even the existence of clientelism at all. In this project we aspire to integrate these dynamics into a single theory.

Initially, the literature on clientelism focused on the distributions of handouts across electoral districts. Recently, scholars redirected the attention towards the micro level, scrutinizing the relationship between voters and brokers. The goal in this project is to bring focus to the decision-making process at the neighborhood level. I shift the paradigm from the individual to the community level, while turning the attention to the dichotomy between private transfers and the provision of local public goods. More specifically, the paper explains how community organization shapes the feasibility that neighborhood leadership effectively demands public investment.

\(^1\)I use the words broker, leader, community leader and slum leadership interchangeable, all to refer to a politically influential person in the neighborhood. In the words of Taube “brokers are actors that allow or enhance resource flows between otherwise unconnected or only weakly connected actors; as a result they able to gain advantage due to their strategies position in social networks.” (Täube 2004:30).
Studies on clientelism have extensively covered the direct exchange of material benefits for political support between voters and politicians (Auyero 1999; Auyero 2000; Brusco, Nazareno and Stokes 2004; Calvo and Murillo 2004; Chandra 2004; Kitschelt 2000; Kitschelt and Wilkinson 2007; Krishna 2007; Levitsky 2003; Magaloni and Estevez 2007; Nichter 2008; Remmer 2007; Stokes 2005, among many other authors). Originally, scholars considered the exploitative or repressive aspect of the asymmetric relationship between voters and politicians. Attention was later redirected to the mutually beneficial side of the association (Auyero 1999). Building upon this framework, clientelism is conceptualized as a repeated game, in which, on the one hand, voters provide political support, participation in rallies and mobilizing other voters; and on the other hand a broker or local leader delivers handouts, access to subsidies, welfare programs, health assistant, etc. These linkages are part of a problem-solving network where favors are exchanged bidirectionally. Quite different from an anonymous machine only present during elections, relational clientelism portrays the voter-broker relationship as an on-going and durable one (Nichter 2010).

Who is mostly targeted by clientelistic strategies? This is precisely a central puzzle in the literature. Some studies suggest that the main target are those well-informed (Grossman and Helpman 1996) or those who can solve collective action problems (Persson, Roland and Tabellini 2000). Population size and poverty levels are also primary features determining clientelistic strategies (Dixit and Londregan 1996). Due to the diminishing returns of consumption, low-income constituencies are the principal target as they derive higher marginal utility from handouts. There is also empirical evidence supporting this theoretical claim (Brusco, Nazareno and Stokes 2004; Calvo and Murillo 2004; Remmer 2007; Keefer 2007). Given that they are more electorally responsive to direct transfers, in poor communities we should expect provision of public goods to be low –if not inexistent. Yet, variation in terms of public investment does exist across similarly impoverished populations and the current scholarship has failed to explain this divergence.

Likewise, studies on clientelism have extensively deliberated about the recipient’s ideological characteristics. The well-known controversy can be summarized as follows: parties tend to target core voters (Cox and McCubbins 1986; Calvo and Murillo 2004; Levitt and Snyder 1995; Magaloni 2006) or swing voters (Lindbeck and Weibull 1987, Stokes 2005) or both (Dixit and Londregan 1996; Magaloni and Estevez 2007, Stokes, Dunning, Nazareno and Brusco 2013; Nichter 2010). However, confusion arises when we seek a common definition for ‘core voters’: either those strongly ideologically identified with a party or candidate, or those embedded in the broker’s social network. Independently from any ideological dimension, partisan attachment or policy preference, I define ‘core’ or ‘machine voters’ as those loyal to the broker, from whom he is able to gather accurate information, and thus target resources more effectively. Building upon Dixit and Londregan (1996) this paper emphasizes local politicians’ strategy to target voters who belong to the broker’s network, in order to minimize the dead-weight loss or ‘leak in the bucket’. In this sense, uncertainty is significantly lowered if brokers are well informed about the handout-recipients. So far, studies have underscored the role of the network in terms of knowledge and efficiency in delivering goods, with a concentration on partisan networks (Cruz 2013). However, my

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2For her doctoral dissertation, Cruz highlights the effect of voters’ social networks on politicians’ strategies –and their different costs– to determine who to target for coercion or for vote buying. Through a survey in Philippines, she found
argument is that social networks influence more than just informational flows, but actually have a strong impact on voters’ political choices.

Regarding the distinction of type of resources distributed, scholars have focused mostly on those targeted at the individual or household level, such as handouts, food, cash, medicine, clothes, construction materials and among others, jobs in the government (Calvo and Murillo 2004; Robinson and Verdier 2013). Several scholars have also explored the electorally strategic distribution of club goods or pork barrel (Kitschelt 2000; Stokes et al. 2013). Nonetheless, studies on clientelism have devoted less attention to the allocation of local public goods (LPG) across small and poor localities. There are mainly three features of this type of goods that make them particularly interesting: i) non-contingent on individual vote choice; ii) non-excludable from any resident of the community; and iii) non-rival among the neighbors3. Some examples of LPG4 are sewage systems, water sanitation, clinics, schools, road pavement, electricity, legal recognition of the entire area, etc. I argue that LPG should not be studied as dichotomous to clientelism, but as part of the direct transfer from politicians to voters. Most importantly, local politicians often retain degrees of freedom to decide where exactly (in which locality), they will invest for LPG, making this strategic decision making quite relevant for Political Science scholars.

Due to the non-excludability character of public goods (Hardin 1982 called it impossibility of exclusion), we need to evaluate how the clientelistic linkages interact with coordination efforts. Classical studies on collective action and public goods lack explanatory power in the particular case of poor informal settlements, where patronage prevails. Indeed traditional explanations from the field of economics depict public goods as the summation of agents’ contributions, such as building a collective benefit through taxation (see Andreoni and McGuire 1993 for a complete summary). According to Olson (1965), individuals contribute to the provision of a public good as long as the extra benefit associated with his contribution exceeds the cost of contributing. This perspective identifies the solution to the free riding problem by modifying the incentives structure. Yet, this approach only applies for scenarios where public goods depend on wealth endowments or income contribution from the residents. This framework does not apply to communities excluded from access to clean water for political matters. To begin with, access to public services is non-contingent on taxation, but mediated by local political actors. More importantly, in a small locality dominated by clientelistic politics, there is no clear and direct translation between individual efforts and public goods. Not only there is a third party (i.e. government officials) deciding how to allocate resources, but also electoral politics chiefly determine which jurisdiction gets access to investment. Even if we consider the act of voting or participating as costly actions, we cannot understand the collective benefit as simply resulting from the sum of individual efforts. In this project, we disentangle the factors in the process of demanding government investment, by describing the mechanisms in the ‘black box’ that converts voters’ participation into LPG.

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3I do not consider ‘crowding effects’ in the consumption of local public goods at the slum level.

4Arguably, some de jure public goods could be treated as de facto private goods. For instance, in the case of access to water, brokers may eventually cut some households out of the system. However, once the sanitation infrastructure is built, I consider the LPG in place. To my theory, what matters is that politicians have invested in a non-excludable good. LPG could also be understood as club goods, where the non-excludability criteria is residency in a certain locality, and entering or leaving the club depend solely on residency and not on political choices.
With the notable exception of Ostrom (2000), and more recently of Auerbach (2013), so far scholars have paid more attention to materialistic incentives than to solidarity ones. Yet, to address LPG at the slum level, solidarity incentives are essential. Existent research on clientelism has failed to address the question of why some small poor localities have more access to public investment than others in similar conditions. These studies analyze dyadic relationships, paying little attention to the group dimension, and even less to the collective decision making process at the neighborhood level (Calvo and Murillo 2013 is an exception worth mentioning). Models for clientelism usually portray agent actions as individual level choices. Yet scholars in Political Behavior often embrace theories that claim that the act of voting is, to some extent, a collective activity (Baker, Ames and Renno 2006; Gerber, Green and Larimer 2008; Nickerson 2008; Remmer 2010; Abrams, Iversen and Soskice 2010; Fowler 2006). In this paper I argue that agents subject to political clientelism are particularly influenced by their neighborhood social environment, likely even more than citizens who are less prone to mobilization efforts -middle and high income voters.

Argument

In the southern part of the Brazilian city of Rio de Janeiro, two famous favelas (Vidigal and Rocinha) share the same geographic environment. But although they might look alike, they have large differences in terms of infrastructure and public services, such as sewage system and garbage recollection. Two random slum residents in the Indian city of Udaipur share most of their concerns. One lives in Shivaji Nagar Kachchi Basti and the other one in Sukhadiya Nagar Kachchi Basti. Ethnographic and socio-economic conditions are quite similar in these communities, but one community enjoys access to water, electricity and better roads, whereas the other one does not. What makes these homologous cases so different when it comes to services provided by the government? The answer resides in the intersection between electoral coordination, communal political organization, social pressure and the nature of non-excludable, non-rival LPG. More explicitly, the likelihood of successfully demanding public goods will be higher for communities that are well connected, improving their political organization, and hence leadership accountability.

The scope of the analysis is circumscribed to poor urban localities, ruled by clientelistic dynamics and under democratic regimes. A bargain process between politicians and beneficiaries takes place and is mediated entirely by the figure of the broker. Since political actors are resource constrained, they build a portfolio diversification strategy and decide how much to invest in each electoral district. In order to maximize their vote share, they allocate public and private goods accordingly. For this study I assume politicians are free to decide where to build a clinic or a sewage system according to their electoral strategies, in spite of any legal or institutional arrangement that may limit the allocation. Brokers negotiate with politicians for resources to distribute among slums’ residents. The former are entitled with high discretionality on how to allot particularistic benefits or handouts.
Typically, poor voters live side by side with their local leaders or political brokers, who are assumed to be independent from political parties. As previously described, relational clientelism is a problem-solving network where neighbors exchange favors—either personal or material. Low-income voters rely heavily on these direct transfers to get access to private and local public goods. During electoral campaigns, voters listen to politicians’ promises for future public investment, which will not take place unless they achieve a sufficiently large number of supporters from that jurisdiction. Voters maximize their well-being, evaluating the marginal utility of receiving private goods, but also weighing the probability and the significance of LPG for their neighborhood. Precisely, to evaluate the chances of receiving public investment in a particular electoral cycle, residents estimate how many others will vote for their same candidate.

In collective action problems when there are multiple equilibria, some kind of mechanism is often necessary, such that the interested parties coordinate. Social conventions and shared expectations aid coordination towards higher social utility scenarios (Schelling 1960; Young 1996; Shepsle 2006). In this case, the coordination problem is getting the majority of the slum behind the same candidate and a clear strong leader represents a focal point. The leader is in charge of aggregating individual preferences with respect to LPG. On the one hand, voters take leaders’ actions as key information and cues. On the other hand, politicians realize these leaders are considered focal points and thus, represent the main diffusion element of information across neighbors.

**Voting as a social experience**

My theory conceptualizes the electoral process as a group activity. Particularly in small communities, people do not perceive turnout as an individual experience, for example t-shirts with different colors are used to identify supporters and this brings a sense of belonging to a group (Remmer 2010). Recent evidence shows that citizens are often persuaded by their immediate social contexts, when taking political decisions (Baker, Ames and Renno 2006; Gerber, Green and Larimer 2008; Nickerson 2008; Abrams, Iversen and Soskice 2010; Fowler 2006). The neighborhood is the main environment where political communication thrives, either by word of mouth, yard signs or painted walls (Huckfeldt and Sprague 1995). This territory is the sphere “in which individuals think collectively” (Sinclair 2012: 18). It is the interdependence among individuals what makes residents of the same locality permeable to other people’s political choices (Marwell and Oliver 1993; Sinclair 2012).

The social network is conformed by those agents who are socially linked to each other and fundamentally discuss every-day personal problems, but also concerns about the neighborhood and politics in general. Voters’ political behavior is conditioned by the information at the very local level (Huckfeldt and Sprague 1995). For instance, an individual has a presumption about a certain issue, then encounters a neighbor and talk about it, and they both form a new opinion. Citizens are interconnected and they maximize utility by reducing informational costs (Downs 1957), in this case, by discussing politics with their neighbors.
Since agents sanction or reward their neighbors for their political actions or opinions—filtered by their own viewpoints—behavioral contagion is understood as a learning process with social influence (McPhee 1963; Huckfeldt and Sprague 1995). By emphasizing the interdependence between nodes in a social network (Marwell and Oliver 1993), we can clearly challenge the common assumption that under clientelism actors are isolated. A dense network intensifies informational flow—people hear how their neighbors are casting their ballot—which aids coordination. More ties between neighbors increase the speed of social reward/sanction, reinforcing the mechanism for peer pressure. Moreover, a highly-connected social network facilitates the broker’s task of signaling and monitoring political behavior across the community. Politicians know that the electorate is interdependent, and to optimally diffuse information they will seek to influence the most central node in the network—the broker. More explicitly, the social network impacts the informational flow, the monitoring structure (inherent to clientelistic linkages) and, consequently, the leadership’s role. In sum, a dense social network provides information on political behavior, promotes monitoring and facilitates social sanctioning among agents.

In this scenario, individuals derive utility from conforming with social norms (Festinger 1954) and try to avoid disagreement within their main social environment (Sinclair 2012). The underlying mechanism is the need to seek for social approval (Lindenberg 1991). Ergo, incentives to coordinate electorally are driven by social norms, which in turn are enforced through social pressure. The intrinsic belief is that public scorn may result from violating or avoiding them. In order to anticipate that peers will praise those who uphold to informal norms, the perception has to be that these political choices are public (Cialdini and Trost 1998; Lerner and Tetlock 1999; Cialdini and Goldstein 2004). In localities ruled by clientelism, voters perceive themselves as being constantly monitored by political brokers and neighbors to the point to disbelieve the secrecy in the electoral process. Peer pressure is intensified by the following factors: i) political behavior is public; ii) peer monitoring is sufficiently visible.

This project does not address the issue of network formation, it takes the shape of the social network as given. Being part of a social network here depends solely on residency, thus is exogenous to the process of participating in local politics. Some scholars argue that individuals do not choose political networks (Sinclair 2012; Huckfeldt and Sprague 1995). This study assumes that in slums, social and political networks are exogenous. In the words of Huckfeldt and Sprague “Citizens do not choose their political discussion partners on the basis of free choice alone. The formation of this and every other relationship is subject to the constraints of social structure.” (Huckfeldt and Sprague 1995: page 110). In spite of the fact that agents seek to maximize homogeneity in their groups, we cannot assume that the networks are homogeneous since they are not formed according to individual political preferences (Sinclair 2012).
Fundamental Mechanisms

My theory distinguishes two main relevant factors in the political organization of the slum, affecting the likelihood of accessing better public services. The first one is the existence of a strong leader, which in network analysis terminology translates into **centrality**. There are distinct forms to measure centrality, for instance, degree centrality gauges how important is an agent, by adding up the total number of links towards this node (Freeman 1977; Freeman 1979)\(^5\). In this project, centrality corresponds to a directed network, where the links of a node represent the people that appointed him as the leader of the neighborhood. Estimating the centrality measure for the main leader is the first step towards defining the brokerage market. If a slum has one strong leader, the centrality measure is high leading to a brokers’ monopoly. Whereas low centrality is associated with several weak leaders, which depicts a scenario of brokers competition. The second relevant dimension is the level of **connectedness** between residents, or in other words, how tight is the community. The connectedness or the density of the network informs about the degree to which the agents are well connected among each other. This measure reports the speed at which information diffuses among the nodes, differentiating a dense network (high levels of social capital\(^6\)) from a sparse one. Measuring how well connected are the voters of the same locality, and how often they discuss politics improves our understanding of the decision-making process at the neighborhood level.

The following chart illustrates clientelistic dynamics as portrayed in this study:

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\(^5\)Other possible measures for centrality are Closeness, Betweenness and Eigenvector. The latter indicates not only how many connections, but also how central are these links in the whole network. Somebody connected to many people will have a lower Eigenvector Centrality value than an agent connected to a large number of nodes, who are also important ones. According to Bavelas (1948) and Freeman (1977, 1979), betweenness centrality is the best alternative to measure brokerage, since roughly it counts how many paths to other agents an specific node abridge.

\(^6\)There are mainly two types of social capital: leverage capital and support capital. The former is associated with brokerage (Täube 2004; Merton 1968), which enables transferring social capital. However, accumulating or building social capital does not require leverage.
The thesis in this paper is that network attributes directly affect the balance of power and the type of interaction between the three main actors: voters, brokers and politicians. It is a double folded argument: centrality affects the supply side of the market for private and public goods (brokers) while connectedness, the demand side. More specifically, the level of social connectedness in the residents’ network impacts positively the power residing in these voters, when posing demands to their local leader. Higher connectedness favors the likelihood of the group to organize politically, coordinate electoral choices and therefore extract more resources during campaigns. In well-connected networks, the relative power of the leader—for coordination purposes—diminishes with respect to sparse networks. If the local leader is not being responsive to the community, it is feasible for them to communicate—without the need for a leader—and to try to replace him. In this sense, a dense network will pose a credible threat to a negligent broker.\(^7\) Networks with high degree of connectedness embody the most effective and successful undertakings in demanding for benefits bottom-up. As shown in the following figure, I distinguish brokers by their level of responsiveness to the community, building a continuum between the types Liaison and Coordinator (brokerage typology in Gould and Fernandez 1990). A rent-seeking broker or Liaison is an outsider in a context of fragile networks, situation that later in the paper I identify with low provision of public goods or ‘poverty trap’. An accountable leader, or Coordinator, is fairly close to the neighborhood’s residents, responsive to their demands, and usually from inside the group (associated with high provision of public goods).

Additionally, the leaders’ degree of centrality is indirectly proportional to brokerage competition. The more central a leader is, the more concentration of power when facing the electorate and also the politicians. To the limit, an extremely powerful broker represents a monopoly in the market of mediating for favors (votes and goods). The leaders’ degree of centrality affects positively their bargaining power when facing bottom-up demands, as well as when transmitting these demands to local politicians and negotiating for resources. According to my theoretical framework, social responsiveness—from leader to voters—is expected to increase with number of brokers. Under limited brokers competition, neighborhood residents lack bargaining power in clientelistic practices—exploitive clientelism. This translates into reduction of quantity or quality of the private goods exchanged. Furthermore, less competitive scenarios, turn brokers into more powerful actors in their own negotiation with politicians. Consequently, the fewer brokers, the higher likelihood of extracting rents from the process. However, at the same time brokerage monopoly may imply increasing likelihood for electoral coordination. The answer to this contradiction is that there is an interaction between these two effects—connectedness and centrality. This dichotomy exists, my theory goes, because strong single leaders do not necessarily enable monopoly scenarios. Combined with a thick social fabric, a single leader could actually represent and opportunity for the neighborhood to take advantage of political clientelism, in their favor. In the following pages, I address how the interaction between centrality and connectedness affects the ultimate decision that I want to explain: how politicians decide their diversification strategy.

\(^7\)Presumably there is some level of stickiness in leadership, and it might take several electoral periods, for a majority in the neighborhood to shift to a more dedicated leader.
Working Hypotheses

The core of the study resides in the interaction between the effects of centrality and connectedness. For simplicity we evaluate the continuous variables of Connectedness and Centrality as HIGH and LOW levels\(^8\). The following table depicts the four outcomes resulting from the interaction of these features, leading to distinct scenarios of redistributive politics. By describing the outcomes, I describe testable implications from the previously described argument.

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1. Accountable Leader

In this type of relational clientelism, communities are empowered by their network density. The high level of connectedness among neighbors allows them to increase the pressure towards the broker. By communicating and discussing local politics, the community gains accountability from their leader. As previously discussed, social capital enhances likelihood of extracting more resources, in this particular case, to better exploits the logic of political clientelism. Then, the mechanism is clearer when there is one strong leader who could claim to represent them. Electoral coordination is facilitated and local politicians reward this type of locality with government investment. In this line, the neighborhood’s main recompense are collective benefits such as building infrastructure or increasing public services. In combination with limited brokerage competition, high connectedness levels enable neighbors to take advantage of these favorable conditions more effectively.

H1) Conditioned on the existence of a strong leader, well connected communities are more successful in demanding public goods → LPG.

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\(^8\)Connectedness is a measure of the network, and Centrality of the node. In this project, high centrality slums refer to those where the most influential node(s) has high centrality.
2. Poverty trap

This scenario combines brokerage monopoly with low level of social capital. The advantage of a strong leader in terms of electoral coordination vanishes in a context of weak –poorly connected– communities, who fail to pressure the broker in their favor. As a consequence of limited competition in the brokers market, interacted with low level of connectedness among neighbors, the resulting type of leader is entirely rent-seeking, showing low level of responsiveness to the community. This is the worst possible scenario in terms of possibilities of social upward mobility, since government investment escapes them. Individuals will extract only private goods, as the best possible scenario. In this asymmetrical relationship, individuals fail to demand better services from brokers. Therefore, provision of local public goods is almost inexistent. Facing the absence of basic infrastructure such as sewage, their perspective of improving their quality of life is limited. It is denominated poverty trap because voters are condemned to accept minor gifts for their electoral support. This type of dynamic is associated with electoral clientelism, since relational one tends to build responsiveness from the leader, in comparison with more sporadic contacts. Furthermore, in loose communities, brokers’ special contacts with powerful politicians turn to be quite relevant to compensate for the lack of monitoring networks.

H2) Communities with low level of connectedness and high centrality receive low levels of both private and public goods → minor gifts.

3. Competition

Brokerage competition represents an improvement in terms of the type (and amount) of handouts that voters receive. Thus, even when facing the absence of local public goods, this type of communities are able to extract better resources from brokers. Initially, competing brokers lack power of coordination to demand for larger investment, and tend to direct their total resources towards individual transfers. This strategy allows them to control who in particular is under their network, which is necessary in this phase of competition. In the long run, the brokerage oligopoly is not a stable outcome, since weak leaders will realize that they are better off by colluding or by splitting the territory. This scenario does not involve commitment problems between competing leaders since these could be overcome with repeated interactions, occurring with more than one electoral period. A network with high level of clustering is an exception to H3b. For this reason, the analysis of this type of network should consider the interaction between the shape of the network and the nodes’ attributes (such as ethnicity, race, caste, etc.).

H3a) In the short run, well connected communities with more than a single leader experience poor access to public goods → handouts.

H3b) In the long run, competing brokers realize they are better off by adding up their efforts and collude → transition to 1. Accountable leader.
4. No politics at slum level

Due to the absence of any type of broker or leader, there is no clientelistic exchange at all. Politicians will not waste resources if there is no broker capable of monitoring the exchange and delivering votes. However, in the long run, different scenarios could occur: i) competing brokers build social capital; ii) a strong powerful outsider is able to co-opt the majority of the residents before community links are developed. This story applies to young communities, like slum dwellers migrating from a different region. These populations tend to have a fragile social network and they are usually not registered to vote in the current electoral district. Hence, this is a territory that could be exploited by new political brokers –outsiders– who realize the potential of registering a large number of voters altogether. The brokers start organizing meetings, mobilizing people, and progressively social capital develops. In the long run, level of connectedness rises and the community transitions to an accountable leader. Alternatively, if the integration of the locality into clientelism occurs fast enough, the community may not experience a boost in social capital, transitioning directly to the poverty trap outcome.

H4a) In the short run, communities with low levels of connectedness and centrality are excluded from clientelistic benefits → neither public nor private goods

H4b i) In the long run, these communities experience an increase in their level of connectedness → transition to 3. Competition and/or 1. Accountable leader

H4b ii) In the long run, an outside broker takes over the territory before any ties are generated in the community → transition to 2. Poverty Trap

Rival Hypothesis

A. From a top-down perspective

Politicians estimate how much resources to distribute into local public goods and personal handouts, in terms of the potential electoral benefits of these gifts. In this line, the relative cost of clientelism with respect to public goods increases with population size. Hence, in densely populated slums, LPG tend to be more profitable for politicians. These actors may choose to invest in a collective benefit, if this is enough to get enough votes (rather than distributing private transfers to each resident).

H5a. Public goods provision increases with number of residents of the locality.
B. From a bottom-up perspective

In smaller localities, solidarity incentives are clearer and thus social pressure is a stronger mechanism to access collective benefits. Social reward and sanctioning is enforceable only in small groups. Moreover, in larger localities electoral coordination is more challenging, due to the fact that the number of leaders is likely to increase with the number of neighbors. More potential votes imply more contenders seeking to occupy the role of principal broker.

H5b. Effectiveness in demanding LPG decreases with population size.

Empirical Strategy

The hypotheses previously outlined will be tested using a mix methods approach in the following cities: Udaipur in India; Buenos Aires in Argentina; and Rio de Janeiro in Brazil. These three cities provide the necessary diversity –in types of slums and population– that my identification strategy requires. In this line, different neighborhoods will be selected, according to the main independent variables previously described. All else equal, I will seek to identify dissimilar slums in terms of connectedness levels. My argument also requires to observe variation in terms of the number of powerful leaders/brokers in a particular neighborhood. The ideal scenario will be to encounter some exogenous change in connectedness levels, holding constant centrality. By getting a balanced sample in terms of country-specific features, and controlling by relevant variables (e.g. size, socioeconomic development and education, among others), this identification strategy will allow me to test hypothesis H1 and H2.

Another key aspect of the research plan is to identify variation in the same unit across time. My argument anticipates that there will be significant differences in the short and long run in neighborhoods with low centrality. In other words, for slums with multiple competition in brokers, regardless of community connectivity, I state different possible outcomes as time goes by. Thus, building the leadership history of each neighborhood, enables me to evaluate hypothesis H3 and H4.

To ensure that I will have the necessary variation with respect to the main independent variables, I chose cities with large number of poor and informal settlements. Not only, there are plenty of slums to observe and eventually select or not, but also these developing countries provide a wide range of cultural and contextual differences. Having visited slums in all three of these places, I recognize similarities and differences (across and within cities) that will do nothing but to enrich my theory. For example, their electoral systems are quite different: single member district in India; PR with close list in Argentina; and PR with open list in Brazil. This produces particular incentives for politicians at the local level, which I hope to translate into divergences in slum politics. Naturally, this generates different dynamics for parties’ strategies, which could impact the distribution of partisan resources across localities. This variation assures me that I will have the opportunity to contemplate quite dissimilar scenarios regarding

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9For instance, in Brazil, I have observed more intra-party competition of brokers or politicians at the slum level.
the influx of both private and local public goods. Consequently, I expect to observe dissimilar dynamics between political brokers and political parties, which ultimately impacts on the effective number of brokers per neighborhood.

I am confident that the initial exploration I have done in Rio de Janeiro and Buenos Aires, shows as much variance in the social structure, as we observed in household surveys implemented in Udaipur during 2013\textsuperscript{10}. The figures below illustrate quite different shapes of social networks in the following Indian slums:

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{networkplot.png}
\caption{Network plots of social networks in Bheelu Rana Kachchi Basti and Shivaji Nagar Kachchi Basti.}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{networkplot2.png}
\caption{Network plots of social networks in Bheelu Rana Kachchi Basti and Shivaji Nagar Kachchi Basti.}
\end{figure}

\textsuperscript{10}This a joint project with Erik Wibbels as part of collaborative research project between Duke University and the Indian Institute of Management Udaipur (IIMU).
Furthermore, these countries provide contrasts in the characteristics of the social fabric. For example, Indian politics are shaped by ethno-religious cleavages. Slums politics in Udaipur are highly influenced by the particular social structure of the different castes living together, which is a key element when analyzing their political organization. Ethnicity in India not only molds politics at the top levels, but also conditions social and political organization at the grassroots (i.e. caste heterogeneity affects the capacity of the poor to organize themselves). Quite opposite, in Argentina and Brazil this cleavage is nonexistent, although in the latter –particularly in Rio de Janeiro– slum politics are intertwined with violence and dynamics inherent to drug cartels disputes.

Finally, a significant difference resides on their political parties systems and traditions. Whereas Brazil is historically associated with multipartism and quite unstable alliances at the local level, India shows an even bipartisan system. In contrast, Argentina experiences the preponderance of the Peronist party in Buenos Aires shantytowns. On the other hand, all three countries are democratic federations where local politics are important, and have an extensive history of clientelistic politics. The expectation is that all cases share the core of my argument, besides their unique features.

Research Agenda

Namely, the design consists of a combination of quantitative and qualitative methods to build a more solid basis for causal inference (Brady and Collier 2004). On the quantitative side, I will conduct original household surveys within urban slums of the aforementioned cities. The survey instrument allows to measure the two key independent variables: connectedness and centrality. Testing the hypotheses empirically is not straightforward. As in any voting model, the unit of analysis of classic studies on clientelism is the individual. However, the incorporation of collective considerations shifts the lens to the slum level. This change is not in itself problematic, but aggregation can be detrimental of the statistical power by dropping the number of cases significantly. To assess this matter, it is necessary to follow two different strategies to measure investment in public goods (Dependent Variable). The first approach is to collect data on local expenditures circumscribed at the slum. For this strategy I will rely on governmental sources, such as the “Instituto Municipal de Urbanismo Pereira Passos” (IPP) in Rio de Janeiro. To increase statistical power, the analysis will be conducted in a pooled cross-sectional dataset. For these cases, running a multilevel model is the most efficient technique. The first approach is to collect data on local expenditures circumscribed at the slum. For this strategy I will rely on governmental sources, such as the “Instituto Municipal de Urbanismo Pereira Passos” (IPP) in Rio de Janeiro. To increase statistical power, the analysis will be conducted in a pooled cross-sectional dataset. For these cases, running a multilevel model is the most efficient technique. The advantage of this model over traditional ones is that it allows me to account for clusters in the data without loosing efficiency. Also in relation to government data, I plan to use census data (on access to water sanitation for example), which enables me to assess short and long run changes at the smallest possible district.
The second approach is to measure the dependent variable by changing the unit of analysis to the individual. Improvements in specific slums in terms of local public goods can be examined through surveys, by asking about satisfaction with public infrastructure, and/or quality of services. For instance, as in one questionnaire already implemented for original household surveys in Udaipur, I consider the following questions as alternatives for proxies to measure public investment:

- Compared to two years ago, do you think services in your community have gotten much better, somewhat better, worse, much worse, or stayed about the same?

- How helpful is the slum/neighborhood leader likely to be in helping you get access to the most important service [selected in previous question among: Access to Water, Waste Disposal, Roads, Electricity, Public Bathroom]

In this line, the methodological approach is also Multilevel, where the n is all interviewed subjects, but variance at the neighborhood and country level can also be explored. Overall the idea is to identify factors affecting the likelihood of improvement in the living conditions of informal settlements. Besides assessing satisfaction (and existence) of local public goods, in the questionnaire, we explore leadership patterns, voting behavior and the importance of electoral coordination. The following questions inspect these dynamics:

- Thinking of the coming election, do you think these promises of better services will matter a lot, a little or not at all for how members of your neighborhood vote?

- How much do you care about how others in neighborhood vote?

- Do most members of your neighborhood vote for the same party?

- Has your neighborhood leader suggested that you vote for a specific candidate in the coming elections?

- If yes, how important is his or her suggestion when you make your decision about who to vote for?

- Has your neighborhood leader ask people who live here how others in the neighborhood are going to vote?
Because of sensitivity issues, resulting from social desirability bias in this type of questions, I will implement techniques such as list experiments. This should mitigate the underreporting of clientelism and the over-reporting, for instance, of political participation and/or interest in politics. Finally, I have two possible strategies for the survey to estimate the network analysis variables (centrality and connectedness). Ideally, if resources and time allow it, I will interview every member of the neighborhood, asking them the following questions:

- **Centrality**: Can you give me the names of the main leader/s of your neighborhood?

- **Connectedness**: Can you give me the names of the individuals in your neighborhood with whom you discuss politics?

However, if this strategy is not feasible, the alternative is to follow the “Scale-Up Method” described in McCarty (2001), which assumes that the number of people that agents know in a certain subpopulation (e.g. in a particular neighborhood) is a function of the number of people they know in general (i.e. their complete social network). Thus, we ask a respondent: “how many ...... do you know?” where the blank is filled with reference categories such as common names (Peter, Mary, etc.) and widespread professions (teacher, doctor, constructor, etc). Naturally this commonality will be adapted to the specific city and locality studied. The assumption is that we know the distribution of these specific categories in the population. For instance, if we know the true proportion for the reference category “teacher” in Buenos Aires, by asking a respondent how many teachers they know, we can estimate how many people they know in total. According to McCarty (2001) the formula is the following:

$$\frac{X}{Y} = \frac{A}{U}$$

Let agent $i$ be the respondent and $X$ the number of people $i$ knows in a specific locality (i.e. the slum). Then, $Y$ is the size of $i$’s complete network, everyone he knows inside in the country. For now, $X$ and $Y$ are unknown. The proportion $A/U$ is the proportion of this subpopulation over the total population. For example, in my case, $A/U = \text{population in slum} / \text{population in the country}$. To estimate $X$ is my ultimate goal, but first I need to estimate $Y$. In order to do so, we ask how many people $i$ knows in another subpopulation that is easy for $i$ to estimate more accurately (e.g. teachers).

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11For example, Calvo and Murillo (2013) employed the following categories in a survey conducted in Argentina: “Silvia, Patricia, Antonio, Francisco, Angel, who work for the police, as a teacher, medical doctors, receive work programs, had a son within the last year, married within the last year, or have a physical disability”.

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\[ Y = \frac{Z \times U}{B} \]

In the formula above, \( Y \) is still \( i \)'s full network; \( Z \) is the number of teachers \( i \) knows; \( B \) is number of teachers in the country and \( U \) is still total population. By asking a few reference categories (e.g. teachers, Peters, doctors, Marys), we approximate \( Y \). Now only \( X \) is unknown and can be estimated with the original formula:

\[ X = \frac{Y \times A}{U} \]

Given that respondents tend to over-recall uncommon groups and under-recall common ones (Calvo and Murillo 2013), categories need to be sufficiently unambiguous, with little variation in terms of their true proportion.

Finally, the qualitative part of the research consists of two different methods. On the one hand, I will conduct semi-structure interviews with community leaders, brokers and NGOs working in the selected slums. The goal in the interviews is to disentangle the demand side of the process, the steps in the decision-making, how leaders are proclaimed at the neighborhood level and what is the relationship between these leaders and local officials in the government. On the other hand, I plan to conduct a series of focus groups with slums residents segmented by their geographic location, in order to get a better understanding of the political organization structure at the neighborhood level. This methodology will allow me to compare responses among groups (and between residents and leaders) and above all, check the robustness of the survey questionnaire and implementation. Furthermore, it is fundamental for my work to accurately understand how local politicians strategize the allocation of resources across slums. In order to gain such information, I intend to conduct additional interviews with government officials and check their answers against the collected data. Besides gathering public information on investment, I seek to approximate how much resources that politicians send to political brokers, either through discretionary funds or more commonly, channeled through non-profit foundations.
Concluding Remarks

This dissertation aims to understand why some poor localities are able to significantly improve their quality of life, while others (similarly poor) seem to live in a vicious cycle. I argued that current models of clientelism fail to consider local public goods as a part of politician’s discretionary allocation. Moreover, the literature assumes that there is a dyadic relationship between brokers and voters, without acknowledging that clientelism is embedded in a neighborhood context where social networks greatly influences voting behavior. Taking into account the collective side of clientelism enables us to better understand dynamics of monitoring and electoral coordination.

The core of my argument resides in the interaction of two social network features: level of connectedness and centrality degree. Conditioned on the existence of a dense network, the existence of a single strong leader could potentially bring positive results to the locality, through electoral coordination under a context of clientelism. However, lack of brokerage competition in a weakly connected neighborhood will most likely show the worst side of asymmetrical clientelism, where voters are condemned in a poverty trap scenario. Slums with weak social ties are associated with individual-level exchanges (generally poor quality and quantity handouts) at the expense of local public goods. In contrast, communities that are able to take advantage of their social capital will ultimately experience more and better public investment in infrastructure and services. The fundamental mechanism behind the positive use of social capital is social pressure, monitoring and incentives for electoral coordination at the neighborhood level.
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