

Poverty, Social Networks, and Clientelism

Nico Ravanilla*

Allen Hicken†

Abstract

Why are the poor susceptible to clientelism, and what factors shield them from the influence of vote buying? We explore the role of both formal and informal social networks in shaping the likelihood of being targeted with private inducements. We argue that when the poor lack access to formal social networks, they become increasingly reliant on vote buying channelled through informal networks. To test our theory, we build the informal, family-based network linkages between voters and local politicians spanning a city in the Philippines. We then collect survey data on formal network connections, electoral handouts, and voting behaviour of 900 voters randomly drawn from these family networks. We show first that campaigns disproportionately target poorer voters. We then show that familial ties further influence targeting among poor voters. Finally, we show that access to formal networks such as workers' associations mitigate voter fears of punishment for failing to reciprocate.

Key words: social networks, poor, vote buying, clientelism, voter behaviour, Philippines

*University of California - San Diego; nravanilla@ucsd.edu.

†University of Michigan;

This study analyzes the role that social networks play in shaping how poor voters are targeted with offers of electoral clientelism—defined as the offer of material benefits to voters during election season in hopes of affecting their behavior (Hicken 2011). Most studies of electoral clientelism conclude that political machines disproportionately target the poor. Arguments for why this association exists vary, but many focus on the decreasing marginal utility of income. From the perspective of a candidate or party (the supply side), as incomes rise, so too does the value of material resources politicians must offer in order to sway a potential voter. Faced with resource constraints politicians thus prefer to target poorer, less expensive voters (Dixit and Londregan, 1996; Calvo and Murillo, 2004; Stokes et al., 2013). From a voter’s perspective, as incomes rise preferences shift away from private consumption via clientelism and towards more programmatic policies and the provision of public goods (Nathan, 2019; Kitschelt and Wilkinson, 2007; Bardhan and Mookherjee, 2012; Scott, 1977; Kitschelt, 2000; Stokes et al., 2013; Desposato, 2007).¹

However, while it may be true that poor voters are disproportionately targeted relative to richer voters, not all poor voters have an equal likelihood of receiving a handout. A large literature describes the various ways in which candidates and campaigns discriminate between different sets of poor voters. Campaigns might prefer to target their core supporters in a bid to induce them to turn out (Nichter, 2018; Aspinall et al., Forthcoming) or because targeting the poor, core supporters is less costly (Stokes et al., 2013). Alternatively, campaigns may prioritize voters who are weakly attached or undecided (Nichter, 2008; Schady, 2000). Campaigns also make efforts to target those who they think are most likely to be bound by norms of reciprocity (Finan and Schechter, 2012; Ravanilla, Haim and Hicken, 2021), and to reward those who show up to their political rallies (Kramon, 2017).

In this study we consider another factor that shapes the likelihood that a given poor voter is the target of clientelism: the nature of their social networks. Our focus is on electoral clientelism, but like other recent work in the field, we examine electoral clientelism in the context of a broader array of clientelistic relationships (e.g. ongoing relational clientelism)

(see Nichter 2018, Szwarcberg 2012, and Aspinall et al. n.d.). We argue that centrally located poor voters are more likely to receive handouts and we explore two competing mechanisms for why this might be the case. First, poor voters who occupy central positions in important social networks are better able to extract resources from campaigns (a demand story). Second, social networks enable campaigns to better monitor and enforce the clientelist exchange, making poor voters who are central to those networks particularly appealing targets (a supply story).

To test our theory, we rely on local naming conventions to build the informal, family-based network linkages between voters and local politicians spanning one entire city in the Philippines. (Family networks are the most salient networks in Philippines social and political life). We then collect survey data on formal network connections, the distribution of electoral handouts, as well as the beliefs and voting behavior of 900 voters randomly drawn from these family networks. Our resulting analysis makes three distinct contributions to our understanding of how electoral clientelism operates among poor voters. First, while we find evidence that brokers do disproportionately target poorer voters, we also show that network centrality has a positive effect on the probability that poor central voters will receive offers of electoral handouts. Second, we find no evidence that being central in these informal networks makes voters (poor or otherwise) more susceptible to monitoring or enforcement from politicians or their agents. Contrary to the fears and expectations of many scholars and practitioners, electoral clientelism does not appear to trap poor voters in situations of “perverse accountability” (Stokes, 2005). Finally, we show that access to alternative networks such as workers’ associations, community organizations, or other formal organizations can mitigate voter fears of punishment for failing to reciprocate.

2 Theory: Voter Demands, Monitoring and Enforcement, and Alternative Networks

To begin with, it is helpful to define what we mean by a social network in a political context. We follow Wasserman and Faust (1994)’s general definition of a social network as a “finite sets of actors and the relation or relations defined on them.” In political contexts, these social networks would be made up of the [political] actors and the relationships that link them together. These nodes and ties can be analyzed either by assessing the position of actors in the overall network, the relative position of actors to each other, or features of the network structure as a whole. The existing literature has found that social ties influence participation (Nickerson, 2008; McClurg, 2003), including voting behavior (Cruz, Labonne and Querubin, 2017) and the ability of individuals to cooperate (Larson, 2017). Social networks also transmit political information (Campos, N.d.) and affect the capacity of politicians to engage in political exchange (Cruz, Labonne and Querubin, 2018; Ravanilla, Haim and Hicken, 2021). In our theoretical discussion we will refer social networks in general, intending the theory to be broadly applicable, though our primary focus in this study are family networks, which are the foundation of political life in the Philippines. In this study context, it would be the voters and politicians that are the nodes of the social network, and the ties that connect the nodes are based on their kinship and marital ties.

In what ways do social networks shape the distribution of electoral clientelism, specifically, which poor voters are more or less likely to be targeted? Building on the rich literature in comparative clientelism we focus on two categories of explanations—one that focuses on the role of social networks in helping certain individuals make demands of politicians/campaigns, and another that focuses on the ways in which social networks can facilitate the monitoring and enforcement of the clientelist exchange. The expectation flowing from both sets of arguments is that poor voters who are centrally located in key social networks should be more likely to receive electoral handouts. In this section we describe the logic behind why

central voters are disproportionately targeted according to each perspective, and the derive distinct observable implications from each perspective. We then explore the extent to which access to multiple social networks can mitigate voter concerns about potential enforcement.

Voter Demands. By definition, the poor are more likely to lack the resources to fully meet the basic needs for themselves and their family. Poverty also increases individuals' vulnerability to external shocks (e.g. job loss, illness, or natural disaster) (Nichter (2018)). In many contexts, it is the stated responsibility of governments to ensure basic needs are met and to provide social insurance as a hedge against vulnerability and risk. Yet, governments often fail to effectively provide these needed goods and services. As a result people turn to other strategies for assistance. Accessing social networks to obtain clientelist resources from social and/or political patrons is one such strategy. Whether membership in such networks is determined by fate (e.g. family or clan membership) or by choice (e.g. membership in a farmers cooperative) individuals can use such networks to help meet their needs and and reduce their vulnerability. Obtaining resources is contingent on access to the given social networks and resources tend to flow through - and thereby reinforce - these networks.

But access to social networks that can provide needed assistance is not evenly distributed across voters. Voters vary in the degree to which they are central in their networks, as well as in the number and types of networks to which they are connected. We argue that voters who are more centrally located within their networks should be better able to leverage their connections to obtain access to patronage resources, including electoral clientelism. Why is this the case? First, being central conveys information advantages—centrally-located voters have better information about how the network functions, who to ask for help, etc., and political patrons are more likely to learn of the needs central voters. Second, by virtue of their position, centrally-located voters are more likely to be connect to and able to make demands of political patrons. Third, campaigns may be more likely to respond to request from more-central voters in hopes of producing a "social multiplier"—amplifying the effect of the electoral handout beyond that recipient (Schaffer and Baker, 2015).² Finally, it is often

the case that electoral clientelism has its roots in ongoing clientelist relationships (Nichter, 2018; Szwarcberg, 2012). Central voters who are better able to use their access to social networks to obtain clientelist resources from politicians in between elections, are also likely to be at the top of the list when it comes to electoral handouts.

Starting with the voter perspective may strike some as odd. We often approach the analysis of clientelism, particularly electoral clientelism, from the perspective of giver—the politician, candidate or party providing the resource. We imagine the designing their mobilization strategies in a top-down fashion, deciding which voters to target, subject to a budget constraint. However, more recent work has redirected attention towards a more bottom-up dynamic, where politicians fill the role of "request fillers", forced to respond to demands from voters (Nichter, 2018). This certainly describes the dynamic we have observed in our work in the Philippines, where voters readily approach politicians and candidates with request for assistance or handouts, and where patrons feel the need to respond favorably to those requests, particularly those that come from voters with whom they have a personal connection or from voters who occupy positions of potential influence (e.g. central voters) (**Self-citation deleted**). Even so, candidates are not solely reactive. They also attempt to make strategic choices about which voters to target, and in the next section we discuss the factors that shape those choices.

Monitoring and Enforcement. We have argued that poverty and vulnerability drive voters to seek redress through clientelism, and that they utilize the networks available to them to get access to clientelistic resources. But what about the supply side? What role do social networks play in shaping the incentives of campaigns to target electoral handouts to some poor voters over others? Here we need to remember an ever-present concern among all candidates distributing electoral clientelism—the possibility that voters will take a handout and either shirk (not vote) or defect (vote for a different party/candidate). Concern over voter shirking/defection, then, might help drive the choice of which voters to target. .

Even as social networks facilitate access to clientelism for poor, vulnerable voters, they

can also help enable the monitoring and enforcement of clientelistic exchanges for candidates. Information about individual political preference and behavior is easier to obtain when voters are part of identifiable social networks, particularly so for voters who are central in those networks (Brusco, Nazareno and Stokes, 2004; Stokes, 2005; Kitschelt and Wilkinson, 2007; Larreguy, 2012; Stokes et al., 2013; Cruz, 2019; Ravanilla, Haim and Hicken, 2021). Social networks also create additional opportunities for the punishment of non-reciprocating voters, including through social sanctioning (Ravanilla, Haim and Hicken, 2021).

Both the voter demand model and the monitoring and enforcement model predict that offers of electoral clientelism should increase in the network centrality of voters. However, they have very different implications for voter beliefs about monitoring and enforcement. If targeting is being driven by concerns over shirking or defection then we should observe that poor central voters are more likely to believe that a) politicians can learn about how they voted, and b) they will punish the voter if they fail to vote as expected.

If both arguments hold, then access to social networks can be a double-edged sword for poor voters. These networks help them access on going clientelist benefits, for which they are especially in need, including electoral clientelism, but at the potential cost of higher levels of monitoring and enforcement. This raises the possibility that the poor can become effectively trapped in these clientelist relationships. Given their reliance on clientelism voters may be unable/unwilling to hold incumbents accountable for poor performance outside the clientelist sphere, undermining accountability and freeing politicians from the need to address broader voter demands (Stokes, 2005; Weitz-Shapiro, 2014; Nathan, 2019). But again, we see variation across voters, even among those who are centrally located within social networks (Ravanilla, Haim and Hicken, 2021). Some voters report feeling bound by electoral handouts, while others feel little pressure to reciprocate. How do we explain this?

Alternative Networks. We argue that the extent to which voters are caught in a clientelist trap is partially a function of the nature of their social networks. Specifically, voters' freedom to shirk or defect grows in their access to multiple social networks. In our empirical analysis

we focus on voters who belong to formal organizations (e.g. women’s associations) in addition to being part of the informal family networks that are the lifeblood of Philippine politics, but the principle applies regardless of the nature of the networks involved. Where voters belong to only a single primary network, the consequences of losing access to or running afoul of that network are dire. But where voters are part of multiple networks that can provide access to patronage, the stakes involved in non-reciprocity are lower. Of course, to the extent campaigns are aware of voters’ networks connections, we would expect them to view multi-network voters a riskier bets than single-network voters.³ But, conditional on being targeted with electoral clientelism, we expect voters with access to more than one social network to be less fearful of shirking or defecting, *ceteris paribus*.

From our argument we derive the following hypothesis, which we evaluate in the following sections.

H1: Poor voters are more likely to receive electoral handouts.

H2: Among poor voters, those who are more centrally located in their social networks are more likely to receive electoral handouts.

H3: Among poor voters, those who are more centrally located in their social networks are more likely to believe campaigns can learn how they voted.

H4: Among poor voters, those who are more centrally located in their social networks are more likely to fear punishment if they fail to reciprocate.

H5: Access to alternative networks mitigates the extent to which voters fear enforcement.

3 Poverty and Clientelism in the Philippines

We evaluate our hypotheses in the context of the Philippines. For our purposes the Philippines is a good case in which to test our hypotheses. The Philippines is a lower-middle income country where the combination of poverty, poor or inconsistent governance, and exposure to natural disasters means that many citizens face economic vulnerability. Both relational and

electoral clientelism are common in almost all parts of the Philippines. Nationally, with 22 percent of respondents report receiving offers of electoral handouts prior to the 2016 election (Pulse Asia Research, 2019). Elections for national, provincial, and municipal offices occur every three years, with electoral clientelism a ubiquitous part of all races except for those elected from single national constituencies (i.e. president, vice president, and senators) (Hicken, Aspinall and Weiss, 2019). Philippines political parties are notoriously weak and candidates are political promiscuous, with most relying on personal, locally-based electoral machines to support their electoral bids (ibid.).

Our data were collected in a city in Southern Luzon, which we will call Paros.⁴ In most respects Paros is a typical, medium-sized city, with a mix of urban, semi-urban, and rural areas. It has a population of between 150,000 and 170,000, and a poverty incident rate of between 25 and 30 percent—somewhat higher than the national average of 16.6 percent. Elections in the city are generally competitive, with no single political group able to dominate.

4 Measuring Social Networks and Clientelism

In order to evaluate our hypotheses we need measures of both voter positions in social networks and their exposure to electoral clientelism. To do so, we develop a map of informal family networks within each *barangay* (village) within Paros, and pair these data with data from original surveys of voters and brokers in Paros during the 2016 election. The two voter surveys were conducted using a random sample of 659 voters, drawn from voters that appeared on the 2016 Certified Voter Lists. Partnering with a local team of enumerators working with Innovations for Poverty Action surveys were administered using iPads and an offline survey app (iSurvey). We randomly selected target respondents from the Commission on Elections’ (COMELEC) 2016 Certified Voters List (CVL). Stratifying randomization by barangay ensured that a larger sample of respondents was drawn from larger barangays. The

CVL lists the complete name, birthday, gender, and barangay of residence of all registered voters in each municipality. Enumerators located primary respondents at their residential addresses, invited them to participate in the research study using a recruitment script, and obtained their consent to participate in the study. When they could not interview a primary respondent due to their out-migration, refusal, or death, the enumerator sought out a randomly selected alternate respondent, instead. The first survey was conducted about three weeks prior to the election, and a second survey, targeting the same sample of voters, was conducted about three weeks after the elections. We primarily rely on results from the post-election survey in this paper.

4.1 Building kinship networks

Our analysis of voter social networks focuses on informal kinship networks—for most Philip-pines voters the chief network to which they have access. There are many kinds of networks that voters might utilize in order to get access to clientelist resources, including tribal or ethnic groups, religious networks, or professional associations (Adida, 2015; Carlson, 2015; Aspinall, Dettman and Warburton, 2011; Stithorn, 2012; Carlin, Singer and Zechmeister, 2015). The salience of particular networks will necessarily vary by political context, but there is a large body of literature on the Philippines that identifies informal kinship networks as central to accessing patronage resources for Filipinos (see for example Cruz, Labonne and Querubin (2018), Hicken, Aspinall and Weiss (2019)). Our primary measure of voters’ position in these social networks draws on methods developed by Cruz, Labonne and Querubin (2017) and adapted for use at the individual level by Davidson, Hicken and Ravanilla (2017) and Ravanilla, Haim and Hicken (2021). For each barangay in Paros we mapped the network ties between all pairs of individuals who share at least one common surname. We create these barangay-level family networks for all 64 barangays in Paros.

Two features of Filipino naming conventions allow us to map these local family networks with a high degree of confidence. First, the Philippines adopted the Spanish naming con-

vention of giving children two surnames, one from their father, and one from their mother (her maiden name). Second, colonial authorities assigned a unique set of Iberian surnames to each barangay. As a result, with the exception of large urban areas that experience lots of in-migration it is highly probable that individuals who share surnames in a given barangay are related. See Ravanilla, Haim and Hicken (2021) and Davidson, Hicken and Ravanilla (2017) for more details about this method.

4.1.1 Voter centrality

Our primary explanatory variable is voter position within the family network based on the full roster of voters spanning one whole city in the Philippines.⁵ Specifically, for each individual voter in our survey we calculate their degree and betweenness centrality in the family network. Degree centrality is a count of the number of direct family ties that connect to an individual and is essentially a measure of the extent to which an individual is connected to the network. Betweenness centrality measures the number of shortest paths between all pairs of individuals in the network on which the relevant individual is present. This captures the degree to which an individual connects different parts of the network.

4.2 Measuring access to formal networks

To test whether access to alternative networks ameliorates the effects of clientelism we also calculate whether voters are part of formal social networks available in the barangay, municipality, or province. We presented voters with a list of common groups and organizations and asked voters to indicate to which groups they belonged. The list of groups included: cooperatives, volunteer associations (e.g. Rotary), religious organizations, professional organizations (e.g. teachers associations), and various sectoral organizations (e.g. associations for women, youth, laborers, farmers, etc.). These groups are ubiquitous in the Philippines, in both urban and rural areas, and nearly every respondents would have ample opportunity to join one or more of these groups. We code as 1 any respondent who claims membership

in a least one of these formal organizations, and 0 for respondents who don't belong to any of the organizations listed.

4.3 Measuring electoral clientelism

We measure whether an individual survey respondent was exposed to electoral clientelism in two ways. First, as part of the voter survey respondents were asked whether, in the run up to the 2016 election, any political campaign had offered them money, food, or household items. One might understandably be concerned about the possibility of biased responses due to social desirability. Indeed, in other contexts social desirability bias leads to a severe under-estimate of the extent of electoral clientelism when respondents are asked directly (e.g. (Corstange, 2009)). However, in the context of the Philippines electoral clientelism carries very little social stigma. In our interviews with candidates, brokers, and voters most spoke openly of the practice (Hicken, Aspinall and Weiss, 2019), and this is confirmed through the use of list experiments as an alternative way to measure of the extent of electoral clientelism. There is very little difference between the reported incidence of electoral handouts whether measured directly, indirectly, or via a list experiments (Aspinall et al., Forthcoming). This is certainly born out in our survey. Around 60 percent percent of our surveyed voters reported receiving offers of a handout prior to the elections, substantially more than the national average of 22 percent in 2016. We measure both whether or not a voter received a offer of a handout, and the amount of money offered.

4.4 Measuring voter perceptions of broker monitoring and enforcement, and measuring poverty

Our voter survey also included questions that allow us to assess the extent to which voters feel obliged to vote for the candidate that offered them a handout. To get a sense for whether voters believe they could be monitored we asked respondents how likely it was that

different individuals, including campaign brokers, could find out how they voted. We also asked respondents about what would happen if they did not vote for a candidate whose broker gave them money or goods, in order to estimate the extent to which voters are fearful of being punished for shirking or defecting. Possible responses included no consequences, feelings of shame, not receiving future electoral handouts, an inability to ask for help in the future, and being subject to verbal or physical abuse. An alternative approach to measuring enforcement would be to ask voters directly whether they have suffered reprisals after failing to reciprocate. We prefer our approach to this alternative for three reasons. First, voters' direct experience with punishment already informs their beliefs about the likelihood of potential punishment. Second, we are interested in voter beliefs and perceptions. Even if a voter has not been punished themselves in the past, a belief that they may be punished in the future could still shape their behavior. And finally, asking only about past punishment presumes defection. The question excludes those who have always reciprocated, and may have done so out of fear of being punished for defecting.

Our measure of poverty is the household monthly income (USD) as reported by respondents in the voter survey, logged.

4.5 Control variables

In addition to our primary independent variables we control for a number of respondent characteristics, including, gender, age, educational attainment, religion, employment, marital status, and household size. We also control for a variety of respondent attitudes and attributes, including expressed levels of support for the vice-mayoral candidates prior to the election, levels of reciprocity, levels of trust, levels of risk acceptance, and discount rates. We also use barangay fixed effects in all models. Table 1 lists all of the variables and along with the descriptive statistics.

	Mean	Standard Deviation
Vote buying (binary variable)		
Offered by Team A	0.60	0.49
Vote buying (amount in USD)		
Offered by Team A	8.19	7.28
Voting attitudes & behavior		
Voted in 2016 election	0.96	0.19
Voted for Team A Mayor	0.68	0.47
Network centrality measures		
Degree centrality	54.78	58.98
Betweenness centrality	4.15	3.58
Demographics		
Female	0.61	0.49
Age	42.84	16.22
Educational attainment		
Elementary and below	0.28	0.45
High school and below	0.41	0.49
Above high school	0.31	0.46
Catholic	0.94	0.24
Employed	0.55	0.50
Never married	0.24	0.42
Number of family members	5.50	2.55
Monthly household income (USD)	171.46	202.36
Other controls		
Integrity	-0.39	0.99
Negative reciprocity	0.63	0.48
Risk preference	6.13	2.94
Time preference	0.71	0.46
Trust	0.47	0.50
Number of observations		659
Number of villages		61

Notes: For amount of vote buying and household income, the exchange rate used is: USD:PHP \$1/P45.

Table 1: **Summary statistics**

5 Empirical Results

Our goal in this paper is to explain why some poor voters are more likely to be targeted by campaigns, and the extent to which such targeting undermines accountability. We are especially interested in whether voters' positions in family networks shapes their probability of being targeted and their likelihood of reciprocating. We also explore whether the power of electoral handouts to induce reciprocity is mitigated by ties with formal networks.

5.1 Are the poor more likely to be targets of clientelism?

Our first step is to test whether poverty is indeed a predictor of being targeted with an electoral handout. To test H1 we run the following ordinary least squares (OLS) regression. If our expectations hold, there should be a negative relationship between logged household income ($Income_i$) and being targeted with money, controlling for observables ($\beta_1 < 0$).

$$\text{Targeted}_i = \beta_0 + \beta_1 \text{Income}_i + \beta_2 \text{Central_Family}_i + \beta_3 \text{Formal_Connection}_i + \Gamma' \text{Controls}_i + \epsilon_i$$

As expected, poor voters are more likely to be targeted with handouts (Table 2), consistent with most existing work and with our hypothesis. This is true whether our measure of targeting is at the intensive margin (the amount of money offered to voters) (Model 1) or extensive margin (the probability that they received a handout). (Model 3).

Dependent variable (DV):	Vote-buying Amount		Vote-bought = 1	
	(1)	(2)	(3)	(4)
Log HH monthly income (HMI)	-0.741* (0.419)	-0.266 (0.411)	-0.058** (0.025)	-0.025 (0.033)
Betweenness centrality (BC)	0.105 (0.090)	0.693* (0.364)	0.005 (0.003)	0.046** (0.021)
Formal network ties = 1	0.729 (0.722)	0.780 (0.591)	0.023 (0.040)	0.025 (0.035)
HMI x BC		-0.122* (0.070)		-0.009** (0.004)
Full set of controls	YES	YES	YES	YES
Adjusted R^2	0.060	0.061	0.046	0.048
Number of observations	629	629	659	659
Mean of DV		8.12		0.71

Notes: Unit of observation is voter. Robust standard errors clustered at the barangay level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Barangay fixed effects, measure of degree centrality, demographic controls, and 'other controls' included.

Table 2: **Are the poor more likely to be targets of clientelism?**

5.2 What role do voter centrality in informal networks play in the targeting of poor voters?

To what extent do informal social networks help shape the decisions of candidates about which poor voters to target. We hypothesized that poor voters who are central in family networks are more likely to be targeted (H2). To test this hypothesis we employ the following model specification, with the key variables of interest being *Income_i*, *Central_Family_i*, and the interaction between the two. Our expectation is that the coefficient on *Income_i* will be negative, the coefficient on *Central_Family_i* will be positive, and the coefficient on the interaction term will be negative.

$$\text{Targeted}_i = \beta_4 + \beta_5 \text{Income}_i + \beta_6 \text{Central_Family}_i + \beta_7 \text{Income}_i * \text{Central_Family}_i + \beta_8 \text{Formal_Connection}_i + \Gamma' \text{Controls}_i + \epsilon_i$$

Models 2 and 4 in Table 2 display the results. As expected, centrality (specifically betweenness centrality) is positively associated with being targeted. The coefficient on income remains negative, but no longer retains its significance when we include the interaction with centrality. However, our primary quantity of interest is the interaction term. As hypothesized, the coefficient on the interaction term is negative. Figure 1 displays the marginal effect of centrality on targeting across the range of income scores, using the results from Models 2 and 4, respectively. Among the poor, central voters are more likely to be targeted.⁶ Further, network centrality matters much more for poor voters than for wealthier voters. As household income increases, the positive effect of centrality attenuates. One might wonder whether this relationship is driven by differences between rich and poor voters in the extent to which they are central in family networks. For example, perhaps wealthier voters are more likely to have immigrated to the city from other areas, and are less connected to local family networks. However, this does not seem to be the case. With a correlation coefficient of -0.018 there appears to be no significant association between income and network centrality.

5.3 Do social networks make it easier to monitor and enforce vote buying among the poor?

We have thus far demonstrated that: 1) poor voters are more likely to be targeted, and 2) that poor voters that are more centrally-located in informal family networks are more likely to be targeted. We now turn to the question of whether family networks are valuable to campaigns because they help facilitate monitoring and enforcement. Are poor voters, particularly those who are centrally-located, easier to monitor and more vulnerable to enforcement if they fail to reciprocate? We first consider the relationship between poverty, network position, and a belief that others can learn how you cast your vote. As mentioned, we asked voters which, if any, of several types of actors could learn how they voted. For purposes of this analysis we analyze respondent views about three different sets of actors: brokers (termed *liders* in the Philippines), family members, or other actors. We estimate the following model. We expect a negative sign for *Income_i*, a positive sign for *Central_Family_i*, and a positive sign for the interaction term.

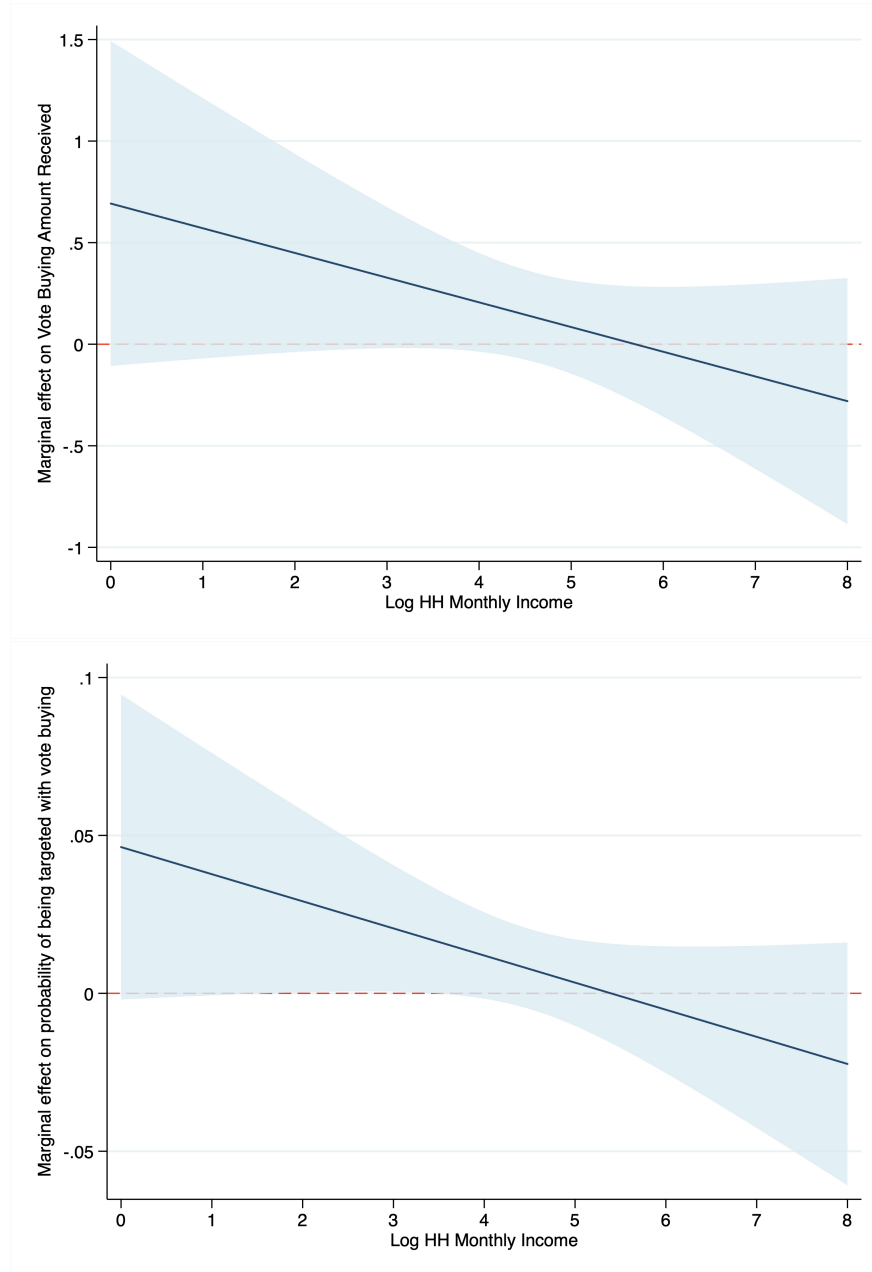
$$\begin{aligned} \text{Monitored}_i = & \beta_{10} + \beta_{11}\text{Income}_i + \beta_{12}\text{Central_Family}_i + \beta_{13}\text{Income}_i * \\ & \text{Central_Family}_i + \beta_{14}\text{Formal_Connection}_i + \beta_{15}\text{Income}_i * \text{Formal_Connection}_i + \\ & \Gamma'\text{Controls}_i + \epsilon_i \end{aligned}$$

The results of the analysis reveal no clear support for the monitoring hypothesis (Table 3). Income either has no significant effect or is incorrectly signed in all of the models. Whether it be family members or non-family members, including brokers, central voters are no more or less likely to believe that others can learn how they voted than less central voters, and income has no effect on monitoring beliefs, either on its own, or interacted with centrality, counter to our hypothesis.

What about enforcement? Are poor, central voters more likely to fear punishment (H4) compared to more wealthy, or less central voters? Again, the answer appears to be no, counter to our expectation, and to some findings elsewhere in the literature (Cruz, 2019).⁷

Table 4 repeats the analysis from Table 3, but with expectations about different enforcement outcomes as the outcomes of interests. Specifically, we examine expectations about the following four enforcement outcomes : non action (brokers can't do anything), feeling a sense of shame, losing access to future electoral handouts, or other, more severe forms of punishment (namely, verbal reprimands, losing access to patronage, or violence and intimidation). Across each of these outcomes neither centrality nor income, nor their interaction, has any consistent effect on enforcement expectations.

Figure 1: **What role do voter centrality in informal networks play in the targeting of poor voters?**



Note: The figures display marginal effects from models 2 and 4 in Table 2. In poorer households, central voters are more likely to be targeted, and as household income increases, voter centrality becomes less important.

Dependent variable (DV):	Brokers know		Family knows		Others know	
	(1)	(2)	(3)	(4)	(5)	(6)
Log HH monthly income (HMI)	0.009 (0.007)	0.009 (0.009)	0.030 (0.024)	0.066 (0.048)	0.007 (0.016)	0.016 (0.020)
Betweenness centrality (BC)	0.000 (0.001)	0.003 (0.004)	0.007 (0.006)	0.049 (0.039)	0.001 (0.003)	0.007 (0.016)
Formal network ties = 1	0.018 (0.016)	-0.021 (0.061)	0.024 (0.047)	0.080 (0.200)	0.022 (0.019)	0.094 (0.094)
HMI x BC		-0.001 (0.001)		-0.009 (0.008)		-0.001 (0.003)
HMI x Formal network ties		0.008 (0.013)		-0.011 (0.041)		-0.015 (0.020)
Mean of DV among voter respondents	0.01		0.37		0.05	
Full set of controls	YES	YES	YES	YES	YES	YES
Adjusted R^2	-0.002	-0.004	0.075	0.075	0.047	0.044
Number of observations	659	659	659	659	659	659

Notes: Unit of observation is voter. Robust standard errors clustered at the barangay level in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Barangay fixed effects, measure of degree centrality, demographic controls, and 'other controls' included.

Table 3: **Do poor voters perceive brokers to be effective monitors?**

Dependent variable (DV):	Brokers can't do anything		Will feel ashamed		Will stop receiving future handouts		Brokers will reprimand	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log HH monthly income (HMI)	-0.002 (0.023)	0.056 (0.040)	-0.020 (0.017)	-0.041 (0.033)	0.008 (0.014)	-0.007 (0.025)	0.016 (0.015)	-0.022 (0.017)
Betweenness centrality (BC)	0.004 (0.006)	0.047* (0.027)	0.004 (0.006)	-0.010 (0.019)	-0.002 (0.004)	-0.011 (0.017)	0.003 (0.004)	-0.012 (0.018)
Formal network ties = 1	0.099* (0.054)	0.493*** (0.169)	0.014 (0.036)	-0.147 (0.187)	-0.031 (0.024)	-0.168 (0.119)	-0.008 (0.021)	-0.447*** (0.123)
HMI x BC		-0.009* (0.005)		0.003 (0.004)		0.002 (0.003)		0.003 (0.004)
HMI x Formal network ties		-0.082** (0.038)		0.034 (0.040)		0.029 (0.027)		0.092*** (0.025)
Mean of DV among voter respondents	0.55		0.24		0.11		0.09	
Full set of controls	YES	YES	YES	YES	YES	YES	YES	YES
Adjusted R^2	0.039	0.044	0.118	0.116	0.106	0.104	0.101	0.111
Number of observations	659	659	659	659	659	659	659	659

Notes: Unit of observation is voter. Robust standard errors clustered at the barangay level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Barangay fixed effects, measure of degree centrality, demographic controls, and 'other controls' included.

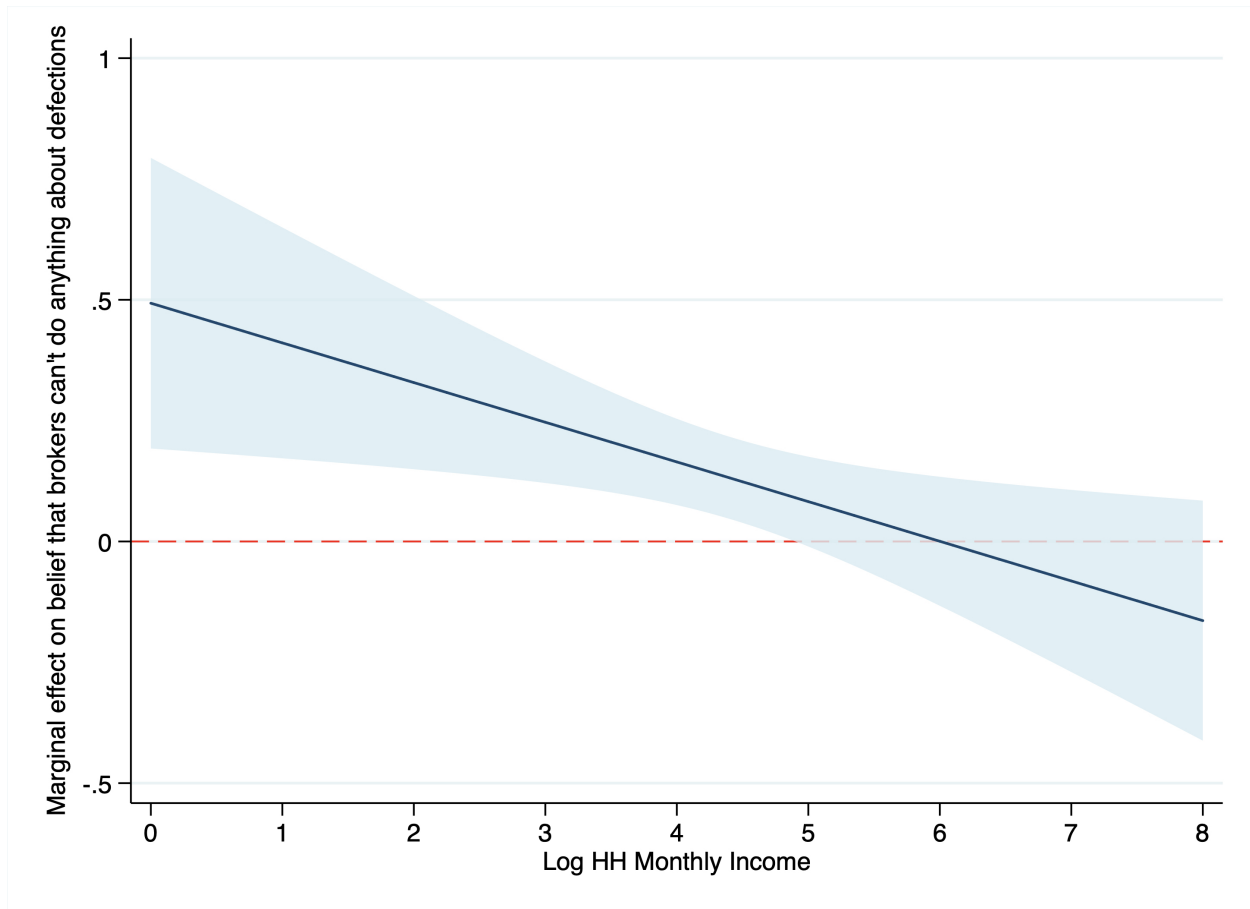
Table 4: **Do poor voters perceive brokers to be effective enforcers?**

5.4 Do formal network ties weaken voter susceptibility to clientelism?

Finally, we consider whether access to alternative networks affects voter beliefs about the likelihood of monitoring and enforcement (H5). Recall that our measure of access to formal networks is operationalized as whether or not respondents belong to one or more formal organizations. First, we note that being part of a formal network does not affect the likelihood that a respondent is targeted with an electoral handout in the first place—none of the coefficients for the formal networks variable approach statistical significance (Table 2). Access to formal networks, whether independently, or interacted with centrality, also has no effect on voter beliefs about monitoring, as we can see in Table 3.⁸ However, the access to alternative networks *does* appear to matter when it comes to beliefs about enforcement. Those respondents who are part of formal networks are significantly more likely to believe that campaigns can do nothing if they fail to reciprocate (Table 4, Model 1). In addition, there is evidence that access to alternative networks is particularly important for poorer voters. Model 2 in Table 4 includes the interaction of income and access to formal networks. The results indicate that poorer voters are less likely to believe they will not be punished for defecting compared to more wealthy voters, but membership in a formal organization attenuates that belief.⁹ Figure 2 illustrates this with graphs of the marginal effects of formal networks across the range of incomes. We can see that poor voters with access to formal networks are more likely to believe there will be no consequence for non-reciprocity. However, the relationship between formal networks and punishment expectations attenuates as income increases.

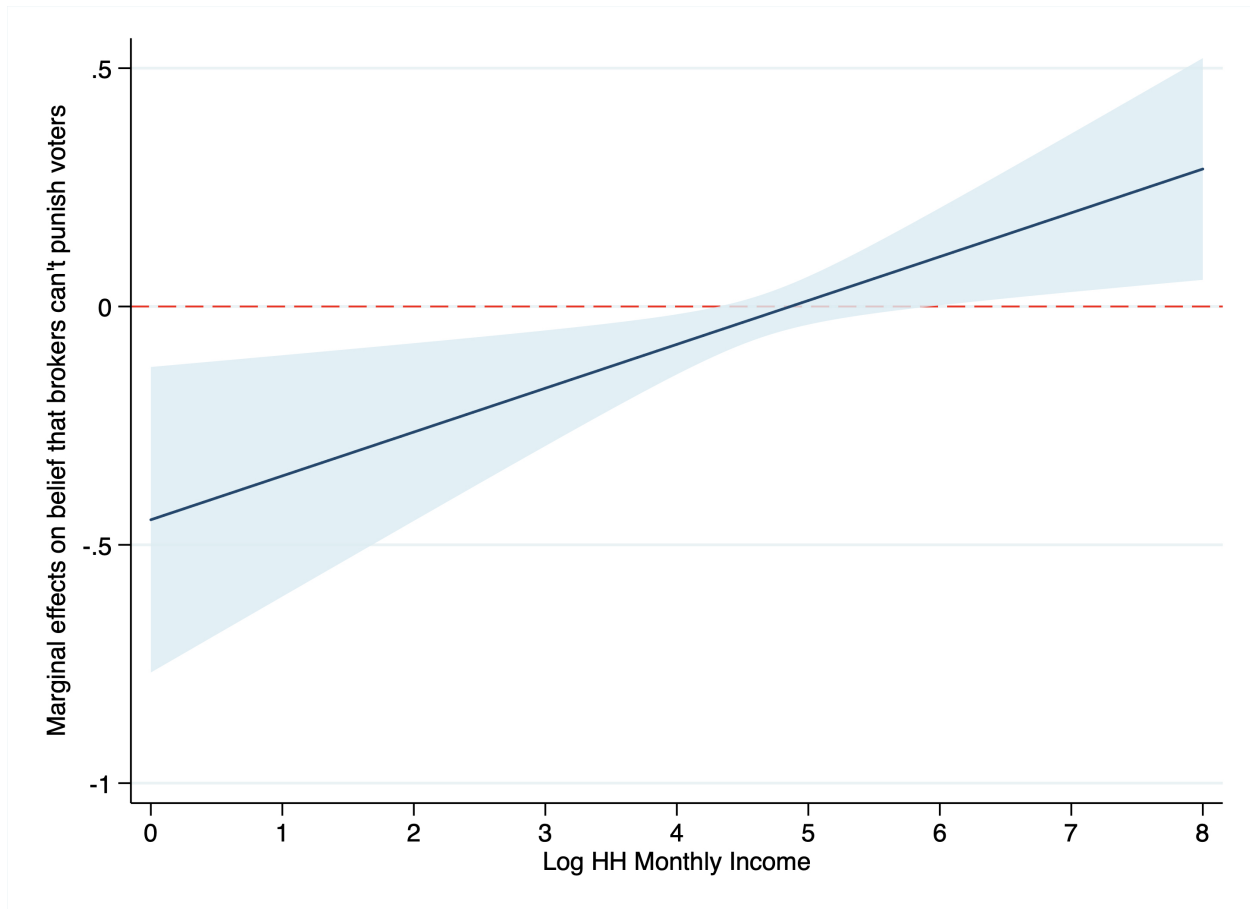
The results from Model 8 in Table 4 tell a similar story. Access to formal networks is associated with a reduced fear that campaigns might enact costly punishment as a result of a failure to reciprocate where income is low. However, the negative impact of formal networks becomes smaller as incomes rise (Figure 3).

Figure 2: **Do formal network ties weaken voter susceptibility to clientelism? (Voters believe brokers can't do anything about defections.)**



Note: The figure displays marginal effects from model 2 in Table 4. Poorer voters with access to formal networks are more likely to believe there will be no consequence for not reciprocating. As income increases, the relationship between formal networks and punishment expectations attenuates.

Figure 3: **Do formal network ties weaken voter susceptibility to clientelism? (Voters believe brokers won't be able to punish them physically or verbally.)**



Note: The figure displays marginal effects from model 8 in Table 4. Poorer voters with access to formal networks are less likely to fear that campaigns might enact costly punishment for failure to reciprocate. As income increases, the relationship between formal networks and punishment expectations attenuates.

6 Discussion

So what have we learned? As we expected, and consistent with the broader literature, we find that campaigns are more likely to target poor voters with electoral handouts (H1). We also find that all poor voters are not created equal in the eyes of candidates and brokers. Poor voters who are centrally located within informal family networks make especially appealing targets, as hypothesized (H2). (For wealthier voters, their location within family networks has no bearing on their likelihood of being targeted). However, poor and centrally located voters are not more likely to believe that they will be monitored or punished if they defected. This is contrary to our expectations and to some previous findings, but not inconsistent with the much of the recent empirical work in contemporary electoral clientelism (Hicken and Nathan, 2020).

But if centrality does not seem to aid monitoring and enforcement, why are poor, central voters more intensively targeted by campaigns? In the theory section we laid out for reasons why such voters are more likely to receive electoral handouts, including an information advantage, better connections to potential patrons, their appeal as potential catalysts for a social multiplier effect, and their embeddedness in ongoing clientelist relationships. In future work we hope to collect data to better distinguish between these mechanisms, but let us say a bit more about central voters and the relationship between ongoing and electoral clientelism. The targeting of central voters may be partially an artifact of the way that electoral machines are constructed in the Philippines. Social networks help voters gain access to patronage, and not just during election season. It is common for local politicians in the Philippines, for example, to have staff dedicated year-round to receiving, reviewing, and selectively responding to requests from voters. When electoral mobilization machines are created in the Philippines, the past recipients of patronage are generally the first in line to receive electoral handouts because campaigns believe those voters are more likely to be loyal (Aspinall et al., Forthcoming). If centrally-located voters have better access to patronage, they should also be more likely to appear on brokers' lists for electoral handouts.

Cruz (2019) offers another possible explanation, arguing that social networks allow candidates to engage in *collective* monitoring and enforcement,¹⁰ encouraging voters to weigh the “group-level ramifications of falling out of favor with politicians” (p. 8). Thus, central voters are targeted because they are part of networks that are easier to collectively monitor, and because they are more likely to feel a responsibility for that welfare of that network’s members. Future work could do more to disentangle the perceptions of individual- vs. group-focused monitoring and enforcement.

Finally, our results support the idea that access to alternative networks can reduce the risk that clientelism generates perverse incentives that undermine the agency of voters (Stokes, 2005). We find that access to formal networks reduces the fear of punishment for the most vulnerable voters, consistent with our hypothesis.

7 Conclusion

The goal of this paper has been to critically examine the link between social networks, poverty, and electoral clientelism, using unique data from the Philippines. We examined the role that social networks play in shaping which voters are targeted with handouts and the likelihood that voters then reciprocate. Like numerous studies before, we find that campaigns prefer to target poorer voters, but not all poor voters have an equal probability of receiving a handout. Being centrally located within informal family networks is associated with more targeting for poorer voters, while network centrality has no effect on more wealthy voters. This is the first major take-away from the paper. What explains why being embedded in informal networks facilitates the targeting of poorer voters? One possibility, often discussed in the existing literature, is that social networks lower the cost of monitoring and enforcement, and hence, campaigns and their brokers prefer to target individuals who are central in those networks. However, the results of our analysis are inconsistent with the monitoring and enforcement story. Brokers rely on social networks to target poorer voters,

but not always because these networks enable better monitoring and enforcement. This is the second takeaway from the paper.

A third contribution of the paper is our exploration of the ways in which access to alternative social networks impacts the dynamics of electoral clientelism. We find that while access to formal networks does not make it more likely that a voter will be targeted or feel monitored, access to these alternative networks does appear to lower the perceived risk of defecting for voters. This is especially true for poor voters. Poor voters who are part of formal networks are more likely to believe they will not be punished if they fail to reciprocate compared to those who do not have access to formal alternatives to family networks.

Finally, our paper has interesting policy implications for those concerned with mitigating the effects of electoral clientelism, particularly when combined with other findings in the literature regarding the limits of anti-vote buying campaigns (Hicken et al., 2015). In addition to trying to shame voters into refusing money (or taking the money and voting their conscience), or trying to crackdown on the use of electoral handouts by campaigns, our findings suggest policymakers might wish to consider two other sets of reforms. First, as others have pointed out, policy reforms that reduce the vulnerability of voters, particularly the poorest, and take discretion for resource distribution out of the hands of politicians and their agents, can help free voters from the need to appeal to politicians in the first place (see also Bobonis et al. (2017)). Second, our findings suggest that the creation of and investment in formal local-level civil society institutions could be an antidote to some of the more pernicious consequences of electoral clientelism.

Notes

¹Although whether changing demands actually translate into a decline in clientelism is contingent on the broader sociopolitical context, as Nathan (2019) and Weitz-Shapiro (2014) ably demonstrate.

²Note, Cruz (2015) finds no support for the social multiplier mechanism in her work on the Philippines.

³The effect of access to alternative networks on the probability of being targeted is actually not straightforward. On the one hand, to the extent access to alternative networks lowers the cost of defection, we would expect a negative relationship between alternative network access and targeting. On the other hand, the fact voters are part of multiple networks could also raise the probability that they appear on some broker’s voter list. In the end, this is empirical question. As we will discuss below the positive and negative effects appear to cancel each other out—voters with access to alternative networks are not any more or less likely to be targeted.

⁴There are currently 135 cities and 1,496 municipalities in the Philippines. Cities are distinguished from municipalities by their larger population size and annual revenue.

⁵Building the full family network based on all the registered voters within the study context is key to credibly identifying social network effects that avoids the measurement error arising from missing nodes in the network Advani and Malde (2018).

⁶Figure A.1 in the Supplemental Information (SI) illustrates the marginal effect of income on targeting across the range of betweenness centrality, using the results from Models 2 and 4, respectively. Among the central voters, the poor are more likely to be targeted.

⁷It is worth noting, however, that Ravanilla, Haim and Hicken (2021) demonstrate that these effects are conditional on the density of the village network, which we do not examine in this paper.

⁸In Table A.1 in the Supplemental Information, we use the count of formal network membership instead of an indicator for being a member of any formal network, and the null

results hold.

⁹In Table A.2 in the Supplemental Information, we again use the count of formal network membership and the results are even stronger.

¹⁰For more on collective monitoring see Larreguy, Marshall and Querubin (2016) and Rueda (2017).

References

- Adida, Claire. 2015. “Do African Voters Favor Coethnics? Evidence from a Survey Experiment in Benin.” *Journal of Experimental Political Science* 2(1):1–11.
- Advani, Arun and Bansi Malde. 2018. “Credibly identifying social effects: Accounting for network formation and measurement error.” *Journal of Economic Surveys* 32(–):1016–1044.
- Aspinall, Edward, Meredith Weiss, Allen Hicken and Paul Hutchcroft. Forthcoming. *Mobilizing for Elections: Patronage and Political Machines in Southeast Asia*. Cambridge University Press.
- Aspinall, Edward, Sebastian Dettman and Eve Warburton. 2011. “When Religion Trumps Ethnicity: A Regional Election Case Study from Indonesia.” *South East Asian Research* 19(1):27–58.
- Bardhan, Pranab and Dilip Mookherjee. 2012. “Political clientelism and capture: Theory and evidence from West Bengal.”
- Bobonis, Gustavo J, Paul Gertler, Marco Gonzalez-Navarro and Simeon Nichter. 2017. Vulnerability and clientelism. Technical report National Bureau of Economic Research.
- Brusco, Valeria, Marcelo Nazareno and Susan Stokes. 2004. “Vote Buying in Argentina.” *Latin American Research Review* 39:66–88.
- Calvo, Ernesto and Maria Victoria Murillo. 2004. “Who Delivers? Partisan Clients in the Argentine Electoral Market.” *American Journal of Political Science* 48(4):742–757.
- Campos, Jose Edgardo. N.d. “Governance gone local: Does decentralization improve accountability?” . Forthcoming.

- Carlin, Ryan, Matthew Singer and Elizabeth Zechmeister. 2015. *The Latin American Voter: Pursuing Representation and Accountability in Challenging Contexts*. Ann Arbor, Michigan: University of Michigan Press.
- Carlson, Elizabeth. 2015. "Ethnic Voting and Accountability in Africa: A Choice Experiment in Uganda." *World Politics* 67(2):353–385.
- Corstange, Daniel. 2009. "Sensitive Questions, Truthful Answers? Modeling the List Experiment with LISTIT." *Political Analysis* 17(1):45–63.
- Cruz, Cesi. 2019. "Social Networks and the Targeting of Vote Buying." *Comparative Political Studies* 52:382–411.
- Cruz, Cesi, Julian Labonne and Pablo Querubin. 2017. "Politician Family Networks and Electoral Outcomes: Evidence from the Philippines." *American Economic Review* 107(10):3006–3037.
- Cruz, Cesi, Julien Labonne and Pablo Querubin. 2018. "Social Fragmentation, Electoral Competition, and Public Goods Provision." *American Political Science Review*.
- Davidson, Michael, Allen Hicken and Nico Ravanilla. 2017. "Family Networks and Voter Behavior: Evidence from the Philippines." *Working Paper*.
- URL:** <https://tinyurl.com/yxmaue9k>. Last accessed: 6-22-2-20
- Desposato, Scott W. 2007. "How does vote buying shape the legislative arena." *Elections for sale: The causes and consequences of vote buying* pp. 101–22.
- Dixit, Avinash and John Londregan. 1996. "The determinants of success of special interests in redistributive politics." *Journal of Politics* 58(4):1132–1155.
- Finan, Frederico and Laura Schechter. 2012. "Vote-Buying and Reciprocity." *Econometrica* 80(2):863–881.

- Hicken, Allen, Edward Aspinall and Meredith Weiss. 2019. *Electoral Dynamics in the Philippines: Money Politics, Patronage and Clientelism and the Grassroots*. Singapore: National University of Singapore Press.
- Hicken, Allen and Noah L. Nathan. 2020. "Clientelism's Red Herrings: Dead Ends and New Directions in the Study of Nonprogrammatic Politics." *Annual Review of Political Science* 23(1):277–294.
URL: <https://doi.org/10.1146/annurev-polisci-050718-032657>
- Hicken, Allen, Stephen Leider, Nico Ravanilla and Dean Yang. 2015. "Measuring Vote-Selling: Field Evidence from the Philippines." *American Economic Review* 105:352–356.
- Kitschelt, Herbert. 2000. "Citizens, politicians, and party cartelization: Political representation and state failure in post-industrial democracies." *European journal of political research* 37(2):149–179.
- Kitschelt, Herbert and Steven Wilkinson. 2007. Citizen-Politician Linkages: An Introduction. In *Patrons, Clients and Policies: Patterns of Democratic Accountability and Political Competition*, ed. Herbert Kitschelt and Steven Wilkinson. New York: Cambridge University Press.
- Kramon, Eric. 2017. *Money for votes: The causes and consequences of electoral clientelism in Africa*. New York: Cambridge University Press.
- Larreguy, Horacio Alejandro. 2012. Monitoring political brokers: Evidence from clientelistic networks in Mexico. In *EPSA 2013 Annual General Conference Paper*. Vol. 655.
- Larreguy, Horacio, John Marshall and Pablo Querubin. 2016. "Parties, Brokers, and Voter Mobilization: How Turnout Buying Depends Upon the Party's Capacity to Monitor Brokers." *American Political Science Review* 110(1):160–179.

- Larson, Jennifer M. 2017. "Networks and interethnic cooperation." *The Journal of Politics* 79(2):546–559.
- McClurg, Scott D. 2003. "Social networks and political participation: The role of social interaction in explaining political participation." *Political research quarterly* 56(4):449–464.
- Nathan, Noah L. 2019. *Electoral Politics and Africa's Urban Transition: Class and Ethnicity in Ghana*. New York: Cambridge University Press.
- Nichter, Simeon. 2008. "Vote Buying or Turnout Buying? Machine Politics and the Secret Ballot." *American Political Science Review* 102:19–31.
- Nichter, Simeon. 2018. *Votes for Survival: Relational Clientelism in Latin America*. New York: Cambridge University Press.
- Nickerson, David W. 2008. "Is voting contagious? Evidence from two field experiments." *American political Science review* 102(1):49–57.
- Pulse Asia Research. 2019. "Ulat ng Bayan June 2019 survey."
- Ravanilla, Nico, Dotan Haim and Allen Hicken. 2021. "Brokers, Social Networks, Reciprocity, and Clientelism." *American Journal of Political Science* .
URL: <https://onlinelibrary.wiley.com/doi/abs/10.1111/ajps.12604>
- Rueda, Miguel R. 2017. "Small Aggregates, Big Manipulation: Vote Buying Enforcement and Collective Monitoring." *American Journal of Political Science* 61(1):163–177.
- Schady, Norbert R. 2000. "The political economy of expenditures by the Peruvian Social Fund (FONCODES), 1991–95." *American political Science review* 94(2):289–304.
- Schaffer, Joby and Andy Baker. 2015. "Clientelism as Persuasion-Buying: Evidence From Latin America." *Comparative Political Studies* 48(9):1093–1126.
URL: <https://doi.org/10.1177/0010414015574881>

Scott, J.C. 1977. *The Moral Economy of the Peasant: Rebellion and Subsistence in Southeast Asia*. Yale University Press.

URL: https://books.google.com/books?id=qu5KUdN_rDkC

Stithorn, Thananithichot. 2012. “Political engagement and participation of Thai citizens: the rural–urban disparity.” *Contemporary Politics* 18(1):87–108.

Stokes, Susan. 2005. “Perverse accountability: A formal model of machine politics with evidence from Argentina.” *American Political Science Review* 99(3):315–325.

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

Szwarcberg, Mariela. 2012. “Revisiting clientelism: A network analysis of problem-solving networks in Argentina.” *Social Networks* 34(2):230–240.

Wasserman, Stanley and Katherine Faust. 1994. *Social network analysis: Methods and applications*. Cambridge University Press.

Weitz-Shapiro, Rebecca. 2014. *Curbing clientelism in Argentina: Politics, poverty, and social policy*. Cambridge University Press.

Supplemental Information for:
“Poverty, Social Networks, and Clientelism”

Table of Contents

Supplemental Information	SI 2
A.1 Ethics and Permission	SI 2
A.2 Supplementary Tables and Figures	SI 6

A.1 Ethics and Permission

Our study went through an IRB review and approval process to ensure that the activities were in line with the principles of the Belmont report regarding the protection of human subjects. The project received a full IRB review process at the University of Michigan (IRB No. HUM00111251). The study then received continued review and approval as amendments were made during the field implementation and throughout the entire period when the authors were analyzing data with identifying information.

Following the American Political Science Association’s “Principles and Guidance for Human Subjects Research” (ratified by the APSA council in April 2020), we list below each of the 12 principles from the APSA, and describe the potential benefits and risks associated with our project, and where applicable, the set of steps we took to mitigate the risks.

A.1.1 Principle 1: “Political science researchers should respect autonomy, consider the well-being of participants and other people affected by their research, and be open about the ethical issues they face and the decisions they make when conducting their research.”

In addition to the standard IRB and informed consent procedures, the authors were careful to avoid questions or approaches that could put respondents or enumerators at risk. Interviews were conducted in private, using hand-held tablets so no-one but the respondents could view the responses. We used messaging and language that were familiar to voters, and considered a normal part of the campaign environment in the Philippines.

A.1.2 Principle 2: “Political science researchers have an individual responsibility to consider the ethics of their research related activities and cannot outsource ethical reflection to review boards, other institutional bodies, or regulatory agencies.”

One of the authors is a local, with first-hand knowledge of the social and political culture of the area. To be certain we conducted small group discussions to understand the mores surrounding the issue of vote buying and selling; our take away (which has been confirmed in subsequent interview and survey data) was that there is little stigma to vote buying and selling, even though the transaction is illicit. However, given that vote buying is formally illicit, we made sure that respondents’ anonymity was protected, and they were aware of those protections.

A.1.3 Principle 3: “These principles describe the standards of conduct and reflexive openness that are expected of political science researchers. In some cases, researchers may have good reasons to deviate from these principles (for example, when the principles conflict with each other). In such cases, researchers should acknowledge and justify deviations in scholarly publications and presentations of their work.”

In the rest of the principles below, we identify to the best of our abilities the risks and trade-offs and justify the choices we made, in an open and transparent manner.

A.1.4 Principle 4: “When designing and conducting research, political scientists should be aware of power differentials between researcher and researched, and the ways in which such power differentials can affect the voluntariness of consent and the evaluation of risk and benefit.”

Aware of the power dynamics involved in a foreign team conducting the research, we elected to partner with a local research firm to conduct our survey, one that has a long history of research in this area, and which has built up high levels of community trust.

A.1.5 Principle 5: “Political science researchers should generally seek informed consent from individuals who are directly engaged by the research process, especially if research involves more than minimal risk of harm or if it is plausible to expect that engaged individuals would withhold consent if consent were sought.”

We sought informed consent from all respondents enrolled in the study. The consent form was written in the local language, and clearly explained the purpose of the study, the benefits and potential harm, and contact information of the IRB overseeing the study, among others. Our enumerators were trained to explain the contents of the consent form in rare cases when respondents are not able to read (for example, when too old and without their reading glasses, etc.).

A.1.6 Principle 6: “Political science researchers should carefully consider any use of deception and the ways in which deception can conflict with participant autonomy.”

No deception was used in this study.

A.1.7 Principle 7: “Political science researchers should consider the harms associated with their research.”

There was extensive discussion among the PIs and local research partner about any potential risks of harm associated with this research. Great was taken to protect the anonymity of participants, including the use of tablets and keeping paper consent forms containing identifying information separate from the electronic survey data. In consultation with our local partner we also ensured that vulnerable individuals (e.g. those in areas with active insurgencies) were excluded from the survey, for their protection and the protection of our enumerators.

A.1.8 Principle 8: “Political science researchers should anticipate and protect individual participants from trauma stemming from participation in research”

We deemed the risk of trauma low given that a) vote buying and selling carry with them negligible social stigma or risk of legal punishment in the Philippines, and b) vote switching is the norm in the Philippine politics. However, sensitive to the risk that pointing out that voters had switched their vote between pre- and post-election survey might inflict psychological distress on some voters, we did not include such information in the post-election survey. We opted instead to construct a measure of vote-switching that is based on respondent answers that were not subject to stigma or social desirability bias, and were not likely to inflict psychological distress.

A.1.9 Principle 9: “Political science researchers should generally keep the identities of research participants confidential; when circumstances require, researchers should adopt the higher standard of ensuring anonymity.”

By asking respondents their pre-election favorability ratings and post-election self-reported voting, we were putting voters at risk of losing the confidentiality of their voting behavior. To protect the confidentiality of the participants’ responses, we made sure that the actual survey implemented on the tablet was free of personally identifying information. Instead, each survey form had a unique identifier attached to it, which we can then use to match with the personally identifying information of the respondents, in case when we need them (for example, for when we had to revisit them for follow-up survey.) All data with personally identifying information were then encoded separately and stored in password-encrypted files, as we destroyed all the hard copies.

A.1.10 Principle 10: “Political science researchers conducting studies on political processes should consider the broader social impacts of the research process as well as the impact on the experience of individuals directly engaged by the research. In general, political science researchers should not compromise the integrity of political processes for research purposes without the consent of individuals that are directly engaged by the research process.”

We worked to be sure the language and content of our survey and experiments corresponded with language used by government and civil society actors as it related to elections. The experimental portion of the research did not present respondents with any information about candidates or parties that might affect their evaluations. We also sampled in such a way as to be sure that any unanticipated effects of our project could change the results of any electoral contest.

A.1.11 Principle 11: “Political science researchers should be aware of relevant laws and regulations governing their research related activities.”

We were diligent in following all laws and regulations governing this research, paying particular attention to the specific laws in place during an election period, which was the case when we implemented our baseline survey. For instance, we made sure to introduce our team as a non-partisan organization conducting research, as per requirement of the Commission on Elections. Our local research team and the Filipino PI are highly experienced in conducting survey research and experiments in the study site within the confines of the law.

A.1.12 Principle 12: “The responsibility to promote ethical research goes beyond the individual researcher or research team.”

It was important for us to work with a local team that had a firm grasp of the ethical underpinnings of the study. Before any human subject interaction took place, all local enumerators hired for the study went through the University of Michigan’s online Program for Education and Evaluation in Responsible Research and Scholarship (PEERRS) Certification. One of the PIs also oversaw the three-day enumerators’ training that included a half-day-long module on research ethics for everyone involved in the administration of the data collection and intervention onsite.

A.2 Supplementary Tables and Figures

Dependent variable (DV):	Brokers know		Family knows		Others know	
	(1)	(2)	(3)	(4)	(5)	(6)
Log HH monthly income (HMI)	0.008 (0.010)	0.004 (0.010)	0.029 (0.028)	0.065* (0.034)	0.007 (0.011)	0.018 (0.030)
Betweenness centrality (BC)	0.000 (0.001)	0.002 (0.006)	0.007* (0.004)	0.050** (0.020)	0.001 (0.002)	0.008 (0.017)
Formal network ties (count)	0.019* (0.011)	-0.079 (0.114)	0.054 (0.036)	0.085 (0.193)	0.024 (0.020)	0.114 (0.117)
HMI x BC		-0.000 (0.001)		-0.009** (0.004)		-0.001 (0.003)
HMI x Formal network ties		0.020 (0.025)		-0.006 (0.042)		-0.019 (0.022)
Mean of DV among voter respondents	0.01		0.37		0.05	
Full set of controls	YES	YES	YES	YES	YES	YES
Adjusted R^2	-0.000	0.004	0.077	0.078	0.048	0.046
Number of observations	659	659	659	659	659	659

Notes: Unit of observation is voter. Robust standard errors clustered at the barangay level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Barangay fixed effects, measure of degree centrality, demographic controls, and 'other controls' included.

Table A.1: **Do poor voters perceive brokers to be effective monitors?**

Dependent variable (DV):	Brokers can't do anything		Will feel ashamed		Will stop receiving future handouts		Brokers will reprimand	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log HH monthly income (HMI)	-0.002 (0.028)	0.059 (0.038)	-0.020 (0.019)	-0.041 (0.029)	0.008 (0.016)	-0.008 (0.021)	0.016 (0.014)	-0.021 (0.026)
Betweenness centrality (BC)	0.004 (0.007)	0.048* (0.027)	0.004 (0.006)	-0.010 (0.024)	-0.002 (0.004)	-0.011 (0.017)	0.003 (0.004)	-0.012 (0.018)
Formal network ties (count)	0.067 (0.042)	0.480*** (0.129)	0.013 (0.041)	-0.142 (0.139)	-0.017 (0.023)	-0.162 (0.121)	-0.007 (0.016)	-0.406*** (0.092)
HMI x BC		-0.009* (0.005)		0.003 (0.005)		0.002 (0.003)		0.003 (0.003)
HMI x Formal network ties		-0.085*** (0.024)		0.032 (0.028)		0.030 (0.026)		0.083*** (0.019)
Mean of DV among voter respondents	0.55		0.24		0.11		0.09	
Full set of controls	YES	YES	YES	YES	YES	YES	YES	YES
Adjusted R^2	0.039	0.044	0.118	0.116	0.106	0.104	0.101	0.111
Number of observations	659	659	659	659	659	659	659	659

Notes: Unit of observation is voter. Robust standard errors clustered at the barangay level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Barangay fixed effects, measure of degree centrality, demographic controls, and 'other controls' included.

Table A.2: **Do poor voters perceive brokers to be effective enforcers?**

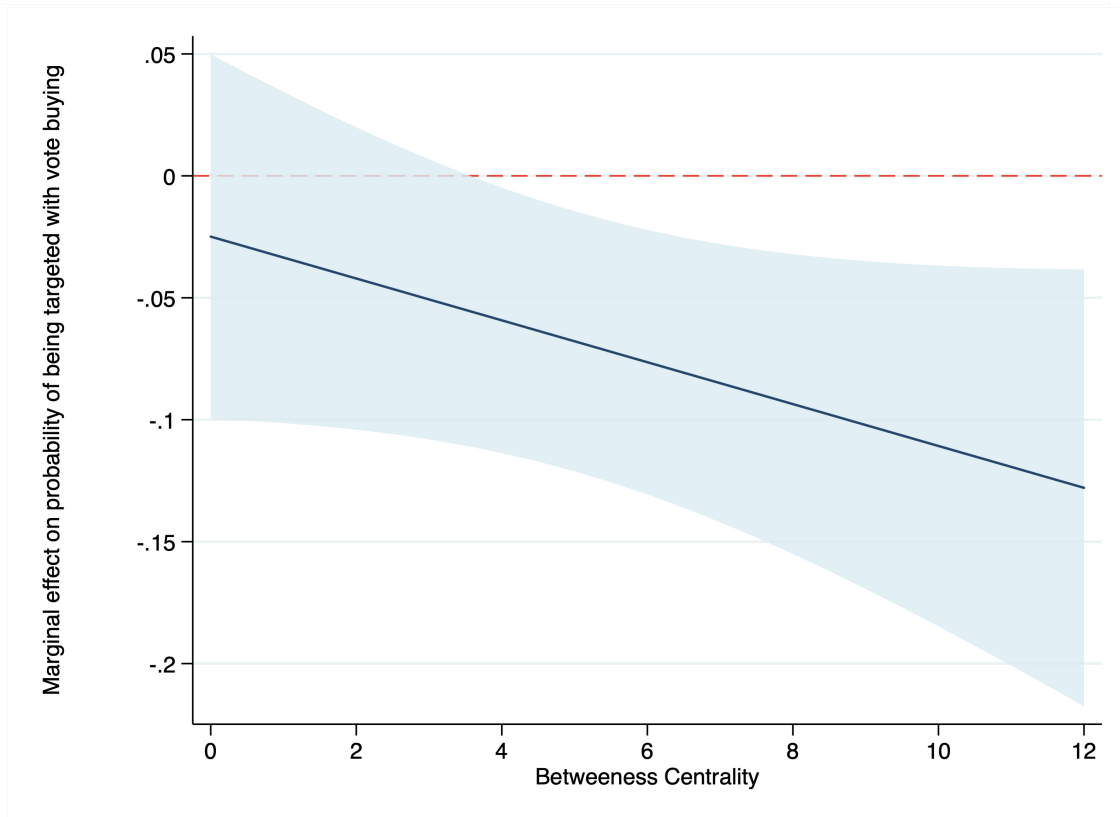
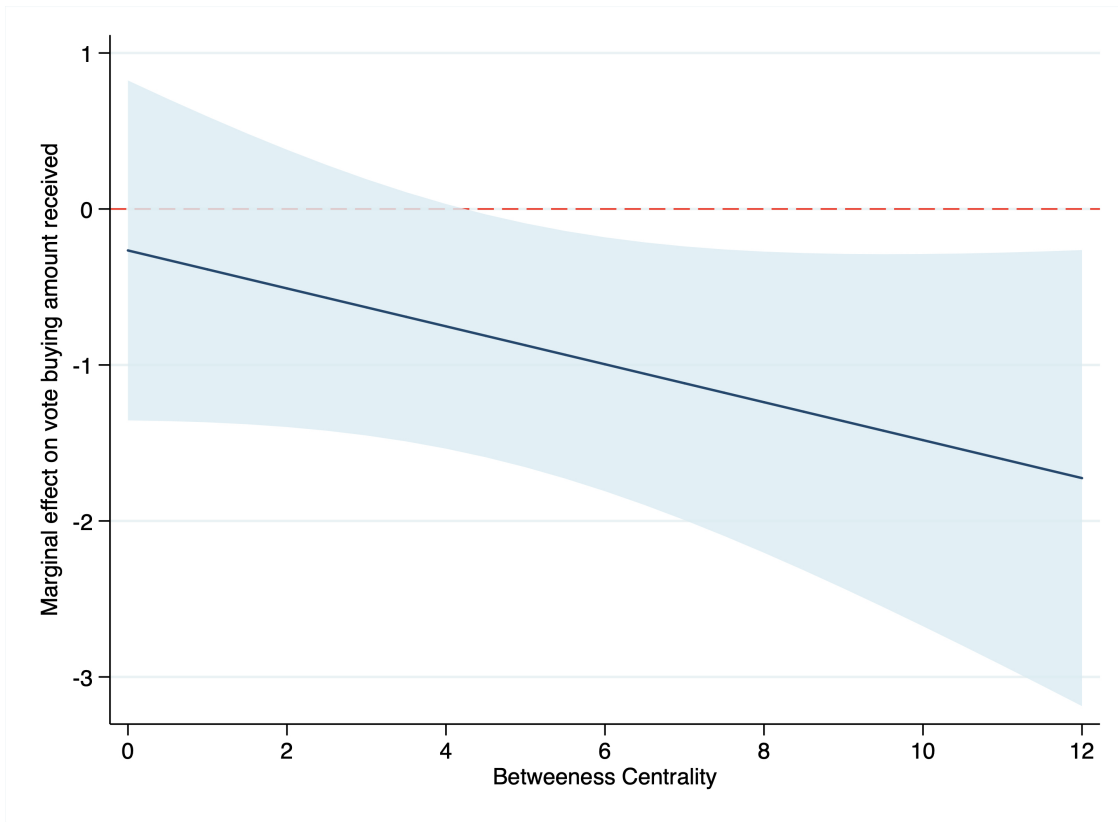


Figure A.1: What role do voter centrality in informal networks play in the targeting of poor voters?