## Supporting Information

Brokers, Social Networks, Reciprocity, and Clientelism

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## A Recruitment script

Hello, my name is ${ }^{* *}$ Full Name**. I am working with [Implementing Partner] along with the [PI Institutional Affiliation]. We are researching on the electoral dynamics of Philippine politics. We are asking you to participate because you are a resident of and a bona fide registered voter in Mahamot, Sorsogon.

If you agree to be part of the research study, you will be asked to participate in a survey. We will ask questions about your voting behavior in the past elections. We will also ask you to play a quick and easy game. While you may not receive a direct benefit from participating in this research, we hope that this study will contribute to our deeper understanding of electoral dynamics in the Philippines.

Are you available to participate in our study?
(If asked) This interview will take approximately 60 minutes. If you do not have time to do the interview right now, we can arrange to come back at a later time.

## Bikol Version

Dios marhay na adlaw, ako tabi si ${ }^{* *}$ Full Name**. Nagtatrabaho ako sa [Implementing Partner] kasabay san [PI Institutional Affiliation]. Igwa tabi kami sin research tungkol sa electoral dynamics in the Philippines o an mga nangyayari sa local na eleksyon sa PIlipinas. Iniimbitaran ka tabi namon mag-partisipar sa research na ini, bilang registradong botante nan residente kan Mahamot, Sorsogon.
Inhahagad tabi namon an partisipasyon nindo sa paagi san pagsimbag nindo sa saro na sarbey. An mga hapot sa sarbey tungkol sa mga hinimo mo kaugnay sa mga nakaaging eleksyon. Igwa man po kami sin halip-ot asin pasil na game/kanam kun saen hahagadun namon an saimong partisipasyon.

Maski ngani wara kami maipo-promisa sa imo na anuman na direktang benepisyo sa pagparticipar sa pagaadal na ini, inlalayon namon na makabulig an pag-aadal na ini para masabutan pa lalo namon an nangyayari sa pulitika asin local na eleksyon sa Pilipinas. May panahon ka tabi na mag-partisipar sa pag-aadal na ini?
(If asked) An interview na ini malawig sin mga 60 minutos. Kun wara ka tabi panahon sa interview na ini sa niyan, pwede man tabi kita mag-iskedyul sin iba na oras kun sano may panahon ka na.

## B Measuring intrinsic reciprocity

In our version of the trust game, the first mover was given PHP20 (or about 44 cents U.S. at the time of the lab experiment) and had to decide whether to send nothing, $5,10,15$, or 20 pesos to the second mover. Whatever she sent was tripled and the second mover could keep or return as much as he wanted. Before finding out how much was sent to him, the second mover was asked how much he would return if he received 15 pesos, how much if 30 pesos, how much if 45 pesos, and how much if 60 pesos.

The second mover may then choose how much to return. The more altruistic they are, the more they should return in all four cases. The more reciprocal they are, the more they should return when the first mover treats them well and the less they should return when the first mover treats them poorly. For comparability, following Finan and Schechter (2012, p. 869), we assume that when the first mover sends at least half, the second mover thinks that he has been treated well. On the other hand, if the first mover sends less than half, then the second mover thinks he has been treated poorly.

To measure reciprocity, we calculate the average share returned when receiving 30 pesos, 45 pesos, or 60 pesos (i.e. in cases when the first mover sent half or more of her endowment) minus the share returned when receiving 15 pesos (i.e. in the case when the first mover sent only a quarter of her endowment). In this way, altruism is netted out of a pure measure of reciprocity. ${ }^{24}$
${ }^{24}$ As in Finan and Schechter (2012), we censor this measure at 0. A negative value of the share difference means that the recipient returns a higher share when treated poorly than when treated well. Since monetary targeting of vote-buying must be non-negative, the worst thing a broker can do to an individual is give him nothing. Thus, it is optimal to transfer nothing to people with both negative and zero values of the share difference.

## B. 1 Game instruction (english translation)

Now you have an opportunity to play a game with another respondent in Mahamot. You can win money from playing this game. The amount of money that you can win depends on how the game is played.

There are two players in this game: Player 1 and Player 2. You will play this game for two rounds: first as Player 1 and then as Player 2. Every time you play the game, you will play it with a different respondent whom you do not know.

In Round 1, I will give you, as Player 1, 20 pesos. You may choose to pocket this money. However, you may also choose to give either 5 pesos, 10 pesos, 15 pesos, or 20 pesos to Player 2. Whatever amount you decide to give to Player 2, we will triple that amount. Player 2 will then decide whether he or she wants to pocket all of the money or return some to you. I will send a message to let our Game Coordinator know however much you decide to give to Player 2, and our Game Coordinator will then send back a message to let me know how much Player 2 is giving back to you. I will give you whatever is the amount indicated in the message. This ends Round 1.

In Round 2, you will take the role of Player 2, and you will play with a different respondent playing as Player 1. This new Player 1 will decide whether to keep all of the 20 pesos, or give you 5 pesos, 10 pesos, 15 pesos, or 20 pesos. Our Game coordinator will send me a message to let me know how much Player 1 is giving you. I will then triple this amount and give to you. However, before I tell you the amount that Player 1 is giving you, I will first ask you how much you will give back if you received 5 pesos, 10 pesos, 15 pesos, or 20 pesos. Once I reveal the amount Player 1 is giving you, whatever amount you pledged to give back, I will give back to Player 1.

Here are examples to help you better understand the game. Before I give these examples, do you have any questions?

Okay, here are some examples of how the game can play out.
Here is 20 pesos. You may choose to pocket all the money, or you may give 5 pesos, 10
pesos, 15 pesos or 20 pesos to Player 2.
If you choose to pocket all the money, then Round 1 of the game is ended.
However, if you choose to give 5 pesos to Player 2, you may keep the remaining 15 pesos. I will triple the 5 pesos you gave to Player 2, so that he or she will receive 15 pesos. Player 2 then has the chance to keep all the money or return some of it to you. For example, Player 2 can give you back 5 pesos, 10 pesos, or 15 pesos. Whatever amount Player 2 decides to give back to you, I will give to you.

If, instead, you choose to give 10 pesos to Player 2, you make keep the remaining 10 pesos. I will triple the 10 pesos you gave to Player 2, so that he or she will receive 30 pesos. Player 2 then has the chance to keep all the money or return some of it to you. For example, Player 2 can give you back 5 pesos, 10 pesos, 15 pesos, 20 pesos, 25 pesos, or 30 pesos. Whatever amount Player 2 decides to give back to you, I will give to you.

If, instead, you choose to give 15 pesos to Player 2, you make keep the remaining 5 pesos. I will triple the 15 pesos you gave to Player 2, so that he or she will receive 45 pesos. Player 2 then has the chance to keep all the money or return some of it to you. For example, Player 2 can give you back 5 pesos, 10 pesos, 15 pesos, 20 pesos, 25 pesos, 30 pesos, 35 pesos, 40 pesos, or 45 pesos. Whatever amount Player 2 decides to give back to you, I will give to you.

If, instead, you choose to give 20 pesos to Player 2, then you keep nothing for yourself. I will triple the 20 pesos you gave to Player 2, so that he or she will receive 60 pesos. Player 2 then has the chance to keep all the money or return some of it to you. For example, Player 2 can give you back an amount up to 60 pesos or a smaller amount in multiples of 5 pesos. Whatever amount Player 2 decides to give back to you, I will give to you.

Round 1 of the game ends here.
In Round 2, you will play as Player 2 against a new respondent playing as Player 1. This new Player 1 will be given 20 pesos. Player 1 can choose to keep all the money or give you 5 pesos, 10 pesos, 15 pesos, or 20 pesos. However much Player 1 gives you, I will triple. However, before I tell you the amount that Player 1 is giving you, I will first ask you how
much you will give back if you received 5 pesos, how much you will give back if you received 10 pesos, how much you will give back if you received 15 pesos, and how much you will give back if you received 20 pesos. Once I reveal the amount Player 1 is giving you, whatever amount you pledged to give back, I will give back to Player 1.

Are you ready to play?
Okay, Round 1. Here is 20 pesos. How much will you give to Player 2?
Please give me back the amount you want to give Player 2. You make keep the remaining money. Round 1 ends here.
[Record respondent's answer.]
Okay, Round 2. How much will you give back to Player 1 if Player 1 gives you 5 pesos and I triple it so that you get P15 pesos?
[Record respondent's answer.]
How much will you give back to Player 1 if Player 1 gives you 10 pesos and I triple it so that you get P30 pesos?
[Record respondent's answer.]
How much will you give back to Player 1 if Player 1 gives you 15 pesos and I triple it so that you get P 45 pesos?
[Record respondent's answer.]
How much will you give back to Player 1 if Player 1 gives you 20 pesos and I triple it so that you get P 60 pesos?
[Record respondent's answer.]
Round 2 ends here. I will now send a message to let our Game Coordinator know of your play in Round 1 and your pledges in Round 2 . We will wait for the reply to find out how the other players played.
[Send the responses of the respondent to the Game Coordinator and wait for the reply.]
Okay, here is how Player 2 played in Round 1: He/she gave you back XX amount. Here is the money.

Here is how Player 1 played in Round 2: He/she gave you XX amount. You pledged to give back XX amount. Here is the money given to you by Player 1 less the amount you pledged.

Thanks very much for playing the game!

## C Measuring voter behavior

In the voter survey, each respondent was asked if they turned out to vote, and, conditional on turning out, which mayoral candidate they voted for. Reported turnout is $97.6 \%$ among our respondents, which is high compared to the average turnout in Mahamot in recent years (83$87 \%$ ), but is not surprising given that target respondents who took up are overwhelmingly those who were still in town even after the elections were over (see D). Given the lack of variation in turnout, we exclude it as an outcome in our analyses, even it was an intended outcome in our PAP (see Section D. 1 for further details on deviations from the PAP).

## D Surveying brokers and voters

To measure outcomes we use data from a voter-level and broker-level survey. The surveys were administered in August 2016, three months after the May 11, 2016 elections for mayor, vice-mayor, and city council. A local team of enumerators administered the survey. Surveys were administered on a hand-held device (an iPad) using an offline survey app (iSurvey).

For the voter survey, we randomly selected target respondents from the Commission on Elections (COMELEC) latest Certified Voters List (CVL). Randomization is stratified by barangay (equivalent to a village), so that a larger sample of respondents is drawn from larger barangays. The CVL lists the complete name, birthday, gender, and barangay (village) of residence of some 14,000 registered voters. Enumerators located primary respondents at their residential addresses, invited them to participate in the research study using a recruitment script (See Supporting Information Section A), and obtained consent to participate in the
study. When a primary respondent could not be interviewed due to out-migration, refusal, or being deceased, the enumerator sough to interview a randomly selected alternate respondent. Following this procedure, we generated a sample of 701 voter respondents. ${ }^{25}$

The broker survey was administered in collaboration with a non-incumbent candidate contesting the mayoral seat and his campaign team. We worked with the campaign manager to draw up the full roster of brokers employed by the campaign throughout the municipality. Each barangay had brokers that numbered between 2 and 17, depending on the size of the voting population. As in the voter survey, enumerators located primary respondents at their residential addresses, invited them and obtained consent to participate in the study. Following this procedure, we generated a sample of 199 brokers. ${ }^{26}$ Although some of these brokers also worked for other candidates running for other offices (e.g. vice-mayor, municipal councilors), they worked primarily for the aforementioned mayoral candidate.
${ }^{25}$ In total, enumerators sought to locate 989 voters (Response rate - 71\%). Reasons for unsuccessful surveys were as follows: failed to contact after repeated visits ( 27 voters), out of town (e.g. working in Manila) (185), migrated out of Mahamot (30), refused (7), moved to unknown location (11), deceased (11), and other (e.g. deaf) (17).
${ }^{26}$ The full roster of brokers employed by the collaborating campaign included 213 individuals. 6 brokers refused to be interviewed. 8 were out of town.

## D. 1 Deviations from pre-analysis plan

Here, we describe several ways in which our data analysis follows, or deviates from, the Pre-Analysis Plan (PAP), and the reason(s) why we deviated.

| Section | Included in PAP? (Yes/No) | Deviated? <br> (Yes/No) | Description of the deviation(s) | Reason(s) for deviating |
| :---: | :---: | :---: | :---: | :---: |
| Section 5.1: Who becomes a broker? | Yes | No | N/A | N/A |
| Section 5.2: Do brokers know the voters? | Yes | Yes | (1) Instead of voter $i$ 's response as the outcome, we look at an indicator for whether broker/voter $j$ 's guess matches voter $i$ 's response; we then correlate this with an indicator for whether the guesser is a broker or a voter | (1) The PAP specification only allows us to test whether brokers' guesses are correct, and does not allow us to compare how well brokers performed relative to the average voter |
| Section 5.3: Social networks, reciprocity, and vote-buying | Yes | Yes | (1) Actual regression specification excludes baseline affinity with mayoral candidates, and likelihood of turnout; and (2) also excludes network distance between voter $i$ and broker $j\left(S D i j_{i j}\right)$ | (1) Surveys were administered after elections were held, so it did not make sense to ask for baseline affinities and likelihood of voter turnout; and (2) results are robust to including $S D i j_{i j}$, but we exclude the term because it is not necessary for our theory |
| Section 5.4 <br> Do voters perceive brokers to be effective monitors? Do social networks activate instrumental reciprocity? | No | N/A | N/A | At the last-minute, we added questions in the voter survey that allow us to test mechanisms using a similar specification that we use for Section 5.3, but which we failed to document in our PAP |
| Section 5.5: Is vote buying effective? | Yes | Yes | (1) Actual regression specification excludes likelihood of turnout | (1) Same as the reason above |

## E SI Figures

Figure E.1: Distribution of barangay density in Mahamot relative to all rural villages


The unit of analysis in this plot is the barangay. The distribution of barangay-level network density for barangays in Mahamot (our sample Municipality) is shown in blue. The distribution of barangay-level network density for a random sample of 300 rural barangays is shown in red. We use a random sample as our comparison because calculating density using individual-level family ties is highly computationally intensive (hence why Cruz et al use families as nodes in their nationwide study). Here we define rural barangays as any barangay with a population less than 1,000 , which includes approximately $65 \%$ of the 42,000 barangays in the country.

In Figure E.1, we display the distribution of barangay-level network density in Mahamot relative to a random sample of all other rural barangays in the Philippines. The plot suggests that in terms of our key explanatory variable, the barangays in our study are generally representative of the broader set of barangays to which we think our theory best applies. This nationwide sample is also comparable to the sample of barangays in Cruz, Labonne and Querubin (2017). If anything, the barangays in our study are more condensed around the median barangay density, meaning that we may be underestimating the substantive effect of village density on vote buying strategies in the rural Philippines as a whole.

Figure E. 2 shows a scatter-plot of barangay population and network density in Mahamot relative to the same random sample of rural barangays nationwide. Once again, we see that the barangays in Mahamot are highly representative of this broader set. In addition, while

Figure E.2: Scatterplot of barangay population and network density

population and density are correlated, the plot suggests that at all levels of population in these rural barangays, significant variation exists in network density.

Figure E.3: Distribution of precinct population


Figure E. 3 shows the distribution of precinct populations in our sample. Each precinct has exactly one polling place and may only contain voters from the same barangay. All barangays in our sample contain between 1 and 4 precincts and the average barangay contains 2.7 precincts. Each registered voter is assigned a unique precinct. The maximum precinct size is capped at 200 voters, after which a new polling place is opened.

## F SI Tables

Table F.1: Summary statistics

|  | Voters |  | Team A Brokers |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Mean | Standard Deviation | Mean | Standard Deviation |
| Vote buying (binary variable) |  |  |  |  |
| Offered by Team A | 0.340 | 0.474 |  |  |
| Offered by Team B | 0.379 | 0.485 |  |  |
| Offered by either team | 0.568 | 0.495 |  |  |
| Vote buying (amount in USD) |  |  |  |  |
| Offered by Team A | 6.553 | 10.537 |  |  |
| Offered by Team B | 9.815 | 14.734 |  |  |
| Offered by either team | 17.469 | 18.191 |  |  |
| Voting attitudes \& behavior |  |  |  |  |
| Voted in 2016 election | 0.979 | 0.145 |  |  |
| Voted for Team A Mayor | 0.295 | 0.456 |  |  |
| Voted for Team B Mayor | 0.698 | 0.460 |  |  |
| Abstained for Mayor | 0.007 | 0.086 |  |  |
| Voted for Team A Vice-Mayor | 0.263 | 0.440 |  |  |
| Voted for Team B Vice-Mayor | 0.728 | 0.445 |  |  |
| Abstained for Vice-Mayor | 0.009 | 0.094 |  |  |
| Reciprocity | 0.072 | 0.090 | 0.074 | 0.091 |
| Network centrality measures |  |  |  |  |
| Degree centrality | 33.127 | 27.088 | 39.603 | 31.357 |
| Betweenness centrality | 3.940 | 3.113 | 4.648 | 3.014 |
| Demographics |  |  |  |  |
| Female | 0.583 | 0.493 | 0.196 | 0.398 |
| Age | 46.427 | 15.720 | 48.658 | 11.545 |
| Educational attainment |  |  |  |  |
| Elementary and below | 0.374 | 0.484 | 0.246 | 0.432 |
| High school and below | 0.439 | 0.497 | 0.553 | 0.498 |
| Above high school | 0.187 | 0.390 | 0.201 | 0.402 |
| Non-Catholic | 0.040 | 0.196 | 0.065 | 0.248 |
| Employed | 0.612 | 0.488 | 0.905 | 0.295 |
| Never married | 0.138 | 0.346 | 0.095 | 0.295 |
| Number of family members | 4.772 | 2.069 | 4.513 | 2.183 |
| Monthly household income (USD) | 117 | 124 | 122 | 144 |
| Other controls |  |  |  |  |
| Integrity | -1.100 | 1.880 | -0.683 | 1.991 |
| Altruism | 9.230 | 3.612 | 9.146 | 3.797 |
| Negative reciprocity | 0.636 | 0.481 | 0.668 | 0.472 |
| Risk preference | 5.628 | 2.919 | 5.970 | 2.807 |
| Time preference | 0.745 | 0.436 | 0.744 | 0.438 |
| Trust | 0.388 | 0.488 | 0.367 | 0.483 |
| Village network density | 0.062 | 0.018 | 0.062 | 0.018 |
| Village population | 547 | 178 | 543 | 178 |
| Number of observations |  | 01 |  | 199 |
| Number of villages |  |  |  |  |

Notes: For amount of vote buying and household income, the exchange rate used is: USD:PHP $\$ 1 / \mathrm{P} 45$.

Table F.2: Who becomes a broker? (Heterogeneity by network density)

| Dependent variable (DV): | Respondent is a broker |
| :---: | :---: |
| Reciprocity | -0.443 |
|  | (0.485) |
| Network centrality measures |  |
| Degree centrality (DC) | 0.001 |
|  | (0.001) |
| Betweenness centrality (BC) | 0.013 |
|  | (0.014) |
| Demographics |  |
| Female | $-0.230^{* * *}$ |
|  | (0.031) |
| Age | 0.004*** |
|  | (0.001) |
| Educational attainment |  |
| Elementary and below | $-0.160^{* * *}$ |
|  | (0.046) |
| High school and below | -0.014 |
|  | (0.034) |
| Non-Catholic | 0.075 |
|  | (0.078) |
| Employed | $0.137^{* * *}$ |
|  | (0.024) |
| Never married | -0.065 |
|  | (0.042) |
| Number of family members | -0.002 |
|  | (0.008) |
| Monthly household income | -0.000 |
|  | (0.000) |
| Other controls |  |
| Integrity | $0.017^{*}$ |
|  | (0.009) |
| Altruism | -0.002 |
|  | (0.004) |
| Negative reciprocity | -0.003 |
|  | (0.031) |
| Risk preference | 0.005 |
|  | (0.003) |
| Time preference | -0.016 |
|  | (0.031) |
| Trust | -0.012 |
|  | (0.028) |
| Reciprocity x village network density | 7.796 |
|  | (8.585) |
| DC x village network density | -0.006 |
|  | (0.024) |
| $\mathrm{BC} x$ village network density | -0.056 |
|  | (0.206) |
| Village network density | -28.871*** |
|  | (6.495) |
| Village population | $-0.003^{* * *}$ |
|  | (0.000) |
| Constant | 3.899*** |
|  | (0.661) |
| Adjusted $R^{2}$ | 0.173 |
| Number of observations | 900 |

Notes: Table F. 2 replicates Table 1 but includes interactions of respondent reciprocity and centrality with village density. We find no evidence that the campaign selects more (or less) central brokers in more (or less) dense villages. Unit of observation is respondent (broker and voter pooled). Robust standard errors clustered at the barangay level in parentheses. Barangay fixed effects included. *** $\mathrm{p}<0.01,{ }^{* *} \mathrm{p}<0.05,^{*} \mathrm{p}<0.1$.

Table F.3: Do brokers know the voters?

| Dependent variable (DV): | Know personally (1) | $\begin{gathered} \text { Age } \\ +/-3) \\ (2) \end{gathered}$ | Married <br> (3) | Educational attainment (4) | Altruism <br> (5) | Punish (6) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Respondent is broker (RB) | $\begin{array}{r} 0.1548^{* * *} \\ (0.0326) \end{array}$ | $\begin{array}{r} 0.1469 * * * \\ (0.0291) \end{array}$ | $\begin{array}{r} 0.1370^{* * *} \\ (0.0330) \end{array}$ | $\begin{array}{r} 0.1335^{* * *} \\ (0.0294) \end{array}$ | $\begin{array}{r} 0.0882^{* * *} \\ (0.0223) \end{array}$ | $\begin{array}{r} 0.0940^{* * *} \\ (0.0322) \end{array}$ |
| Shortest distance (SD) | $\begin{array}{r} -0.0202^{* * *} \\ (0.0037) \end{array}$ | $\begin{array}{r} -0.0123^{* * *} \\ (0.0036) \end{array}$ | $\begin{array}{r} -0.0181^{* * *} \\ (0.0039) \end{array}$ | $\begin{array}{r} -0.0186^{* * *} \\ (0.0039) \end{array}$ | $\begin{array}{r} -0.0107^{* * *} \\ (0.0037) \end{array}$ | $\begin{array}{r} -0.0161^{* * *} \\ (0.0045) \end{array}$ |
| Reciprocity | $\begin{array}{r} 0.1539 \\ (0.0943) \end{array}$ | $\begin{gathered} 0.1721^{* *} \\ (0.0738) \end{gathered}$ | $\begin{gathered} 0.1916^{*} \\ (0.0952) \end{gathered}$ | $\begin{gathered} 0.1874^{* *} \\ (0.0883) \end{gathered}$ | $\begin{array}{r} 0.0969 \\ (0.0842) \end{array}$ | $\begin{array}{r} 0.1596 \\ (0.1412) \end{array}$ |
| Network centrality |  |  |  |  |  |  |
| Degree centrality (DC) | $\begin{array}{r} 0.0003 \\ (0.0005) \end{array}$ | $\begin{gathered} -0.0003 \\ (0.0003) \end{gathered}$ | $\begin{array}{r} -0.0001 \\ (0.0004) \end{array}$ | $\begin{gathered} -0.0003 \\ (0.0003) \end{gathered}$ | $\begin{array}{r} 0.0002 \\ (0.0002) \end{array}$ | $\begin{array}{r} 0.0000 \\ (0.0004) \end{array}$ |
| Betweenness centrality (BC) | $\begin{array}{r} 0.0054 \\ (0.0034) \end{array}$ | $\begin{aligned} & 0.0042^{*} \\ & (0.0023) \end{aligned}$ | $\begin{gathered} 0.0065^{*} \\ (0.0034) \end{gathered}$ | $\begin{array}{r} 0.0042 \\ (0.0029) \end{array}$ | $\begin{array}{r} 0.0008 \\ (0.0041) \end{array}$ | $\begin{array}{r} 0.0018 \\ (0.0046) \end{array}$ |
| Demographics |  |  |  |  |  |  |
| Female | $\begin{array}{r} 0.0217 \\ (0.0248) \end{array}$ | $\begin{gathered} 0.0332^{*} \\ (0.0186) \end{gathered}$ | $\begin{gathered} 0.0488^{*} \\ (0.0253) \end{gathered}$ | $\begin{gathered} 0.0479 * * \\ (0.0204) \end{gathered}$ | $\begin{array}{r} 0.0368 \\ (0.0225) \end{array}$ | $\begin{gathered} 0.0496^{*} \\ (0.0277) \end{gathered}$ |
| Age | $\begin{array}{r} 0.0022^{* * *} \\ (0.0006) \end{array}$ | $\begin{array}{r} 0.0007 \\ (0.0005) \end{array}$ | $\begin{gathered} 0.0014^{* *} \\ (0.0006) \end{gathered}$ | $\begin{array}{r} 0.0019^{* * *} \\ (0.0005) \end{array}$ | $\begin{array}{r} 0.0010 \\ (0.0006) \end{array}$ | $\begin{array}{r} 0.0004 \\ (0.0007) \end{array}$ |
| Educational attainment |  |  |  |  |  |  |
| Elementary and below | $\begin{array}{r} -0.1091 * * * \\ (0.0217) \end{array}$ | $\begin{array}{r} -0.0753^{* * *} \\ (0.0174) \end{array}$ | $\begin{array}{r} -0.1018^{* * *} \\ (0.0227) \end{array}$ | $\begin{array}{r} -0.0974^{* * *} \\ (0.0164) \end{array}$ | $\begin{array}{r} -0.0751^{* * *} \\ (0.0247) \end{array}$ | $\begin{array}{r} -0.0899^{* *} \\ (0.0361) \end{array}$ |
| High school and below | $\begin{gathered} -0.0276 \\ (0.0187) \end{gathered}$ | $\begin{gathered} -0.0259^{*} \\ (0.0141) \end{gathered}$ | $\begin{gathered} -0.0337^{*} \\ (0.0178) \end{gathered}$ | $\begin{array}{r} -0.0344^{* *} \\ (0.0150) \end{array}$ | $\begin{array}{r} 0.0004 \\ (0.0199) \end{array}$ | $\begin{array}{r} -0.0135 \\ (0.0298) \end{array}$ |
| Non-Catholic | $\begin{gathered} -0.0662 \\ (0.0447) \end{gathered}$ | $\begin{gathered} -0.0512 \\ (0.0322) \end{gathered}$ | $\begin{gathered} -0.0655^{*} \\ (0.0370) \end{gathered}$ | $\begin{array}{r} -0.0489 \\ (0.0351) \end{array}$ | $\begin{gathered} -0.0183 \\ (0.0393) \end{gathered}$ | $\begin{array}{r} -0.0322 \\ (0.0443) \end{array}$ |
| Employed | $\begin{array}{r} 0.1191^{* * *} \\ (0.0181) \end{array}$ | $\begin{array}{r} 0.0573^{* * *} \\ (0.0099) \end{array}$ | $\begin{array}{r} 0.0982^{* * *} \\ (0.0133) \end{array}$ | $\begin{array}{r} 0.0843^{* * *} \\ (0.0134) \end{array}$ | $\begin{array}{r} 0.0996^{* * *} \\ (0.0151) \end{array}$ | $\begin{array}{r} 0.1180^{* * *} \\ (0.0222) \end{array}$ |
| Never married | $\begin{array}{r} -0.0470 \\ (0.0284) \end{array}$ | $\begin{array}{r} -0.0521^{* *} \\ (0.0217) \end{array}$ | $\begin{array}{r} -0.0477 \\ (0.0290) \end{array}$ | $\begin{gathered} -0.0417^{*} \\ (0.0243) \end{gathered}$ | $\begin{array}{r} -0.0387 \\ (0.0304) \end{array}$ | $\begin{array}{r} -0.0458 \\ (0.0342) \end{array}$ |
| Number of family members | $\begin{gathered} 0.0065^{*} \\ (0.0035) \end{gathered}$ | $\begin{array}{r} 0.0030 \\ (0.0031) \end{array}$ | $\begin{array}{r} 0.0023 \\ (0.0038) \end{array}$ | $\begin{array}{r} 0.0028 \\ (0.0032) \end{array}$ | $\begin{gathered} 0.0053^{*} \\ (0.0031) \end{gathered}$ | $\begin{array}{r} 0.0009 \\ (0.0052) \end{array}$ |
| Monthly household income | $\begin{array}{r} 0.0002^{* * *} \\ (0.0001) \end{array}$ | $\begin{array}{r} 0.0001 \\ (0.0000) \end{array}$ | $\begin{gathered} 0.0001^{* *} \\ (0.0000) \end{gathered}$ | $\begin{gathered} 0.0001^{* *} \\ (0.0000) \end{gathered}$ | $\begin{array}{r} 0.0000 \\ (0.0001) \end{array}$ | $\begin{array}{r} 0.0000 \\ (0.0001) \end{array}$ |
| Adjusted $R^{2}$ | 0.2076 | 0.2468 | 0.2390 | 0.1944 | 0.1966 | 0.1240 |
| Number of observations | 18,051 | 15,958 | 11,881 | 11,224 | 12,393 | 12,406 |
| Mean of DV among voter respondents | 0.41 | 0.15 | 0.34 | 0.26 | 0.26 | 0.28 |

Notes: Table F. 3 shows the models underlying Figure 3 in the main text of the paper. Unit of observation is a dyad of either broker-voter (i.e. a broker $j$ 's guess about a voter $i$ 's response) or voter-voter (i.e. a voter $k \neq i$ 's guess about voter $i$ 's response). Robust standard errors in parentheses are clustered at the barangay level. *** $\mathrm{p}<0.01,{ }^{* *} \mathrm{p}<0.05$, * $\mathrm{p}<0.1$. Fixed effects for voter $i$ whose outcome is being predicted is included. 'Other controls' as specified in Table F. 1 all included in the regressions.

Table F.4: Do brokers know the voters? (Includes interactions with village network density)

| Dependent variable (DV): | Know personally (1) | $\begin{aligned} & \text { Age } \\ & (+/-3) \\ & (2) \end{aligned}$ | Married <br> (3) | Educational attainment (4) | Altruism <br> (5) | Punish <br> (6) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Respondent is broker (RB) | $\begin{gathered} 0.1525^{* *} \\ (0.0726) \end{gathered}$ | $\begin{gathered} 0.1454^{* *} \\ (0.0694) \end{gathered}$ | $\begin{gathered} 0.1541 * * \\ (0.0712) \end{gathered}$ | $\begin{array}{r} 0.1790^{* * *} \\ (0.0596) \end{array}$ | $\begin{array}{r} 0.0743 \\ (0.0545) \end{array}$ | $\begin{array}{r} 0.1041 \\ (0.0746) \end{array}$ |
| Shortest distance (SD) | $\begin{array}{r} -0.0191^{* * *} \\ (0.0033) \end{array}$ | $\begin{array}{r} -0.0106^{* * *} \\ (0.0031) \end{array}$ | $\begin{array}{r} -0.0153^{* * *} \\ (0.0036) \end{array}$ | $\begin{array}{r} -0.0160^{* * *} \\ (0.0038) \end{array}$ | $\begin{array}{r} -0.0095^{* * *} \\ (0.0032) \end{array}$ | $\begin{array}{r} -0.0145^{* * *} \\ (0.0041) \end{array}$ |
| Reciprocity | $\begin{array}{r} 0.0856 \\ (0.0963) \end{array}$ | $\begin{array}{r} 0.0925 \\ (0.0579) \end{array}$ | $\begin{array}{r} 0.0850 \\ (0.0954) \end{array}$ | $\begin{array}{r} 0.1240 \\ (0.0939) \end{array}$ | $\begin{array}{r} 0.0134 \\ (0.0816) \end{array}$ | $\begin{array}{r} 0.1274 \\ (0.1151) \end{array}$ |
| Network centrality Degree centrality (DC) Betweenness centrality (BC) | $\begin{array}{r} 0.0006 \\ (0.0005) \\ 0.0033 \\ (0.0032) \end{array}$ | $\begin{array}{r} -0.0002 \\ (0.0003) \\ 0.0028 \\ (0.0019) \end{array}$ | $\begin{array}{r} 0.0002 \\ (0.0005) \\ 0.0049 \\ (0.0032) \end{array}$ | $\begin{array}{r} 0.0002 \\ (0.0004) \\ 0.0031 \\ (0.0028) \end{array}$ | $\begin{array}{r} 0.0002 \\ (0.0004) \\ 0.0001 \\ (0.0032) \end{array}$ | $\begin{array}{r} 0.0002 \\ (0.0005) \\ 0.0000 \\ (0.0039) \end{array}$ |
| $R B \times S D$ | $\begin{array}{r} -0.0057 \\ (0.0058) \end{array}$ | $\begin{array}{r} -0.0096^{* *} \\ (0.0044) \end{array}$ | $\begin{gathered} -0.0100^{*} \\ (0.0051) \end{gathered}$ | $\begin{gathered} -0.0085^{*} \\ (0.0047) \end{gathered}$ | $\begin{array}{r} -0.0049 \\ (0.0058) \end{array}$ | $\begin{gathered} -0.0073 \\ (0.0043) \end{gathered}$ |
| RB x Reciprocity | $\begin{array}{r} 0.3035 \\ (0.3192) \end{array}$ | $\begin{array}{r} 0.3312 \\ (0.2669) \end{array}$ | $\begin{array}{r} 0.3094 \\ (0.2781) \end{array}$ | $\begin{array}{r} 0.1801 \\ (0.2341) \end{array}$ | $\begin{array}{r} 0.2523 \\ (0.2406) \end{array}$ | $\begin{array}{r} 0.1039 \\ (0.2814) \end{array}$ |
| $R B \times D C$ | $\begin{aligned} & -0.0010^{*} \\ & (0.0006) \end{aligned}$ | $\begin{gathered} -0.0004 \\ (0.0006) \end{gathered}$ | $\begin{array}{r} -0.0007 \\ (0.0005) \end{array}$ | $\begin{array}{r} -0.0011^{* *} \\ (0.0005) \end{array}$ | $\begin{array}{r} 0.0000 \\ (0.0007) \end{array}$ | $\begin{array}{r} -0.0003 \\ (0.0008) \end{array}$ |
| $R B \times B C$ | $\begin{array}{r} 0.0084 \\ (0.0085) \end{array}$ | $\begin{array}{r} 0.0058 \\ (0.0057) \end{array}$ | $\begin{array}{r} 0.0048 \\ (0.0074) \end{array}$ | $\begin{array}{r} 0.0029 \\ (0.0060) \end{array}$ | $\begin{array}{r} 0.0027 \\ (0.0082) \end{array}$ | $\begin{array}{r} 0.0049 \\ (0.0102) \end{array}$ |
| Adjusted $R^{2}$ | 0.2086 | 0.2481 | 0.2402 | 0.1953 | 0.1971 | 0.1242 |
| Number of observations | 18,051 | 15,958 | 11,881 | 11,224 | 12,393 | 12,406 |
| Mean of DV among voter respondents | . 41 | . 15 | . 34 | . 26 | . 26 | . 28 |

Notes: Table F. 4 replicates Table F. 3 and adds interaction terms of social distance, reciprocity, and centrality with the dummy variable for whether the respondent is a broker. These models suggest that for brokers, being socially proximate to a particular voter is an even better predictor of being able to guess their attributes that for an average citizen. This highlights the importance of social networks for facilitating information flows to brokers in particular. Unit of observation is a dyad of either broker-voter (i.e. a broker $j$ 's guess about a voter $i$ 's response) or voter-voter (i.e. a voter $k \neq i$ 's guess about voter $i$ 's response). Robust standard errors in parentheses are clustered at the barangay level. ${ }^{* * *} \mathrm{p}<0.01,{ }^{* *} \mathrm{p}<0.05,^{*} \mathrm{p}<0.1$. Fixed effects for voter $i$ whose outcome is being predicted is included. Demographic controls and 'Other controls' as specified in Table F. 1 all included in the regressions.

Table F.5: Social networks, reciprocity, and vote buying (Handout by Team A only)


[^0]Table F.6: Efficacy of vote buying (amount offered)

| Dependent variable (DV): | Voted for Team A candidate $=1$ <br> (1) <br> (2) <br> (3) |  |  |
| :---: | :---: | :---: | :---: |
| Amount offered by Team A (TA) | $\begin{gathered} 0.0120^{* * *} \\ (0.0010) \end{gathered}$ | $\begin{gathered} 0.0110^{* * *} \\ (0.0020) \end{gathered}$ | $\begin{gathered} 0.0110^{* * *} \\ (0.0020) \end{gathered}$ |
| Voter reciprocity (VR) | $\begin{array}{r} 0.0080 \\ (0.1890) \end{array}$ | $\begin{array}{r} -0.0570 \\ (0.2450) \end{array}$ | $\begin{array}{r} -0.0570 \\ (0.2460) \end{array}$ |
| Voter network centrality |  |  |  |
| Degree centrality (DC) | $\begin{gathered} -0.0000 \\ (0.0010) \end{gathered}$ | $\begin{array}{r} -0.0000 \\ (0.0010) \end{array}$ | $\begin{gathered} -0.0000 \\ (0.0010) \end{gathered}$ |
| Betweenness centrality (BC) | $\begin{gathered} -0.0060 \\ (0.0060) \end{gathered}$ | $\begin{gathered} -0.0060 \\ (0.0080) \end{gathered}$ | $\begin{gathered} -0.0060 \\ (0.0080) \end{gathered}$ |
| TA x VR |  | $\begin{array}{r} 0.0050 \\ (0.0090) \end{array}$ | $\begin{array}{r} 0.0090 \\ (0.0180) \end{array}$ |
| TA x DC |  | $\begin{array}{r} 0.0000 \\ (0.0000) \end{array}$ | $\begin{array}{r} -0.0000 \\ (0.0000) \end{array}$ |
| TA x BC |  | $\begin{gathered} -0.0000 \\ (0.0000) \end{gathered}$ | $\begin{gathered} -0.0010 \\ (0.0010) \end{gathered}$ |
| TA x VR x village network density |  |  | $\begin{array}{r} -0.0770 \\ (0.3060) \end{array}$ |
| TA x DC x village network density |  |  | $\begin{gathered} 0.0020^{*} \\ (0.0010) \end{gathered}$ |
| TA x BC x village network density |  |  | $\begin{array}{r} 0.0090 \\ (0.0110) \end{array}$ |
| Adjusted $R^{2}$ | 0.1670 | 0.1670 | 0.1690 |
| Number of observations | 3,839 | 3,839 | 3,839 |
| Mean of DV |  | 0.3145 |  |

Notes: Unit of observation is broker-voter dyad. Robust standard errors clustered at the barangay level. ${ }^{* * *} \mathrm{p}<0.01, * * \mathrm{p}<0.05$, * $\mathrm{p}<0.1$. Regression controls for being offered by Team B, broker fixed effects, and voter demographic controls.

Table F.7: Alternative Hypotheses: Electoral competition and precinct size

| Dependent variable (DV): | Handout $=1$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| Voter reciprocity (VR) | $\begin{array}{r} 0.0223 \\ (0.0967) \end{array}$ | $\begin{gathered} 0.4392^{* *} \\ (0.1889) \end{gathered}$ | $\begin{array}{r} 0.4281 \\ (0.4365) \end{array}$ | $\begin{array}{r} 0.5999 \\ (0.3836) \end{array}$ | $\begin{aligned} & -3.4128 \\ & (3.5367) \end{aligned}$ | $\begin{array}{r} -2.1911 \\ (3.5749) \end{array}$ |
| Voter network centrality |  |  |  |  |  |  |
| Degree centrality (DC) | $\begin{array}{r} 0.0002 \\ (0.0006) \end{array}$ | $\begin{array}{r} -0.0031^{* *} \\ (0.0012) \end{array}$ | $\begin{gathered} -0.0014 \\ (0.0025) \end{gathered}$ | $\begin{gathered} -0.0022 \\ (0.0022) \end{gathered}$ | $\begin{array}{r} 0.0121 \\ (0.0162) \end{array}$ | $\begin{array}{r} 0.0050 \\ (0.0178) \end{array}$ |
| Betweenness centrality (BC) | $\begin{array}{r} 0.0099^{* * *} \\ (0.0032) \end{array}$ | $\begin{gathered} 0.0222^{* *} \\ (0.0096) \end{gathered}$ | $\begin{array}{r} -0.0113 \\ (0.0102) \end{array}$ | $\begin{array}{r} -0.0055 \\ (0.0094) \end{array}$ | $\begin{array}{r} 0.1051 \\ (0.0714) \end{array}$ | $\begin{array}{r} 0.1154 \\ (0.0787) \end{array}$ |
| VR x village network density |  | $\begin{array}{r} -7.5614^{* *} \\ (3.6479) \end{array}$ |  | $\begin{gathered} -7.7048^{*} \\ (3.8161) \end{gathered}$ |  | $\begin{array}{r} -7.3064^{* *} \\ (3.4604) \end{array}$ |
| DC x village network density |  | 0.0501** |  | 0.0520*** |  | 0.0484** |
|  |  | (0.0193) |  | (0.0165) |  | (0.0204) |
| BC x village network density |  | $\begin{array}{r} -0.1941 \\ (0.1667) \end{array}$ |  | $\begin{array}{r} -0.3966^{* * *} \\ (0.1031) \end{array}$ |  | $\begin{array}{r} -0.2048 \\ (0.1791) \end{array}$ |
| VR x precinct-level vote-share in 2013 |  |  | $\begin{gathered} -0.9046 \\ (0.8900) \end{gathered}$ | $\begin{gathered} -0.3639 \\ (0.7827) \end{gathered}$ |  |  |
| DC x precinct-level vote-share in 2013 |  |  | 0.0029 | -0.0019 |  |  |
|  |  |  | (0.0055) | (0.0044) |  |  |
| BC x precinct-level vote-share in 2013 |  |  | $\begin{gathered} 0.0477^{* *} \\ (0.0205) \end{gathered}$ | $\begin{array}{r} 0.0859^{* * *} \\ (0.0197) \end{array}$ |  |  |
| VR $\times \log$ of precinct population |  |  |  |  | 0.6584 | 0.5015 |
|  |  |  |  |  | (0.6723) | (0.6858) |
| DC $\mathrm{x} \log$ of precinct population |  |  |  |  | -0.0023 | -0.0015 |
|  |  |  |  |  | (0.0031) | (0.0034) |
| $\mathrm{BC} \times \log$ of precinct population |  |  |  |  | -0.0184 | -0.0179 |
|  |  |  |  |  | (0.0138) | (0.0150) |
| Precinct-level vote-share in 2013 | 0.6433* | 0.6787* | 0.5436* | 0.4974* | 0.6540* | 0.6823* |
|  | (0.3399) | (0.3327) | (0.2940) | (0.2805) | (0.3367) | (0.3324) |
| Log of precinct population | -0.0033 | -0.0098 | 0.0022 | -0.0012 | 0.0805 | 0.0635 |
|  | (0.0482) | (0.0468) | (0.0497) | (0.0479) | (0.0798) | (0.0876) |
| Full set of controls | YES | YES | YES | YES | YES | YES |
| Adjusted $R^{2}$ | 0.2190 | 0.2224 | 0.2213 | 0.2248 | 0.2192 | 0.2225 |
| Number of observations | 4,370 | 4,370 | 4,370 | 4,370 | 4,370 | 4,370 |
| Mean of DV | 0.34 |  |  |  |  |  |

Notes: Unit of observation is broker-voter dyad (i.e. a broker $j$ 's report of whether their campaign offered money to voter $i$ ). Robust standard errors clustered at the barangay level in parentheses. ${ }^{* * *} \mathrm{p}<0.01,{ }^{* *} \mathrm{p}<0.05$, $^{*} \mathrm{p}<0.1$. Broker fixed effects, demographic controls, and 'other controls' included.


[^0]:    Notes: Unit of observation is broker-voter dyad (i.e. a broker $j$ 's guess of whether the opponent's campaign offered money to voter $i$ ). Sample excludes voters receiving inducements from Team A and Team B, as reported by Team A brokers. Robust standard errors clustered at the barangay level in parentheses. ${ }^{* * *} \mathrm{p}<0.01,{ }^{* *} \mathrm{p}<0.05,^{*} \mathrm{p}<0.1$. Broker fixed effects, demographic controls, and 'other controls' included.

