Online Appendix (Supporting Information) for “Motivating the Machine”

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A Survey sampling procedure (pg. 13)

We surveyed all NPP branches at 200 polling stations in 10 parliamentary constituencies.[SI.1] Interviews for Wave 1 were conducted immediately after the branch elections in January and February 2018. Interviews for Wave 2 were with the same brokers and took place between July and August 2019. Of the 1,140 brokers interviewed in the first survey, we successfully re-interviewed 1,001 (88%).

The sample was selected in several stages. First, we restricted focus to five administrative regions of Southern Ghana. The five eligible regions – Ashanti, Greater Accra, Volta, Central and Eastern – cover both the main strongholds of each party and some of the country's most competitive swing areas.

Second, we randomly selected 10 parliamentary constituencies by stratifying all constituencies in each of these regions by two variables – electoral competition and urban status – to create six blocks. We measure electoral competition using results from the 2016 presidential election; constituencies with over 60% of the vote for the NPP (NDC) were coded as NPP (NDC) strongholds. The number of constituencies selected from each of six blocks was proportional to block size. The selected constituencies were as follows:

- Urban NPP stronghold (2): Manhyia South (Ashanti Region), Dome Kwabenya (Greater Accra Region)
- Urban NDC stronghold (1): Ho Central (Volta Region)
- Urban competitive (2): Ayawaso Central (Greater Accra Region), Bortianor Ngleshie Amanfrom (Greater Accra Region)
- Rural NPP stronghold (2): Assin South (Central Region), Atwima Mponua (Ashanti Region)
- Rural NDC stronghold (1): North Tongu (Volta Region)
- Rural competitive (2): Agona East (Central Region), Lower Manya Krobo (Eastern Region)

Third, we drew a random sample of 20 polling stations within each of the 10 constituencies. In the urban constituencies we first stratified on ethnic diversity and wealth, measured using community-level census data (from 2010), creating six blocks after dividing polling station into above- and below-median wealth and into three ethnic categories: homogenous (>80% from single group), diverse-polarized (<80% from single group, above median ethnic polarization), diverse-non-polarized (<80% from single group, below median ethnic polarization). The selection probability was again proportionate to block size. Within the rural constituencies we stratified

SI.1

These polling stations became 232 party branches starting from 2018 with the further division of some of the polling stations by the Electoral Commission.

polling stations on the ethnic diversity measures only, given the much more limited variation in census measures of wealth in rural areas.

B Attrition of respondents (pg. 14)

Table OA.1 displays the correlates of attrition. A total of 155 respondents attrited between the two survey waves. In column 1, we include polling station fixed effects. In column 2, we instead include constituency fixed effects, and polling station controls. The only individual-level variable that is correlated with attrition is whether the respondent was newly elected to a branch position in the NPP's intra-party elections in 2018. This is by default, as we did not attempt to re-interview wave one respondents who had already retired from party life leading into the 2018 internal branch elections.[SI.2] Importantly, attrition is not correlated with broker payments: brokers who received either major or small patronage in period 2 (immediately after the general election in 2016) were just as likely as any other respondents to remain in the sample. Attrition is also not correlated with any other demographic characteristics.

SI.2

These are the small set of respondents who were incumbent branch chairmen, women's organizers, or organizers during the 2016 election, but did not recontest their positions in 2018.

Table OA.1: Individual-level correlates of attrition

	Dependent variable:	
	Attrit (0,1)	
	(1)	(2)
Campaign index (0,9)	0.003	−0.0001
	(0.006)	(0.005)
Newly elected	−0.144***	−0.104***
	(0.027)	(0.024)
Age	0.001	0.001
	(0.001)	(0.001)
Female	−0.005	−0.005
	(0.026)	(0.025)
Relative of chief	−0.009	−0.014
	(0.029)	(0.026)
Relative of constituency executive	0.017	−0.013
	(0.054)	(0.048)
Relative of district assembly member	−0.037	−0.039
	(0.040)	(0.035)
Relative of MP/DCE	0.074	0.032
	(0.071)	(0.064)
Local ethnic minority	−0.011	0.0004
	(0.033)	(0.024)
Live outside polling station community	−0.051	−0.056
	(0.052)	(0.046)
Petty trader	0.025	0.021
	(0.039)	(0.035)
Work in formal sector	−0.009	0.008
	(0.029)	(0.027)
Education (secondary)	−0.012	−0.021
	(0.026)	(0.023)
Education (tertiary)	0.070	0.058
	(0.045)	(0.041)
Asset index	0.006	0.001
	(0.008)	(0.007)
Years active in NPP	0.001	0.001
	(0.002)	(0.001)
Years in community	−0.001	−0.001
	(0.001)	(0.001)
Major patronage (Period 2)	0.008	0.041
	(0.039)	(0.036)
Minor patronage (Period 2)	−0.006	−0.020
	(0.035)	(0.032)
Distance from PS to district capital (km)		0.001
		(0.002)
Community-level wealth		0.027
		(0.024)
Observations	1,125	1,125
R^2	0.246	0.067
Adjusted R^2	0.065	0.041
Note:	*p<0.1; **p<0.05; ***p<0.01	

C Ruling out skimming and rent extraction (pg. 15 and pg. 30)

Our analyses use two main measures of payments to branch leaders: the indicators for major and minor payments defined in Table 2. Tables OA.2 and OA.3 help validate that these measures provide a comprehensive account of broker payments. If they were not fully characterizing the payments being made to brokers, we should be able to detect the presence of others payments indirectly by observing changes across the survey waves in branch leaders' personal economic conditions.

We examine three changes in economic conditions: (i) changes between survey waves in each respondent's self-evaluation of their personal economic situation compared to the previous year ("pocketbook evaluation");[SI.3] (ii) changes between survey waves in each respondent's consumer confidence, measured as their likelihood of making a "big purchase" in the near future;[SI.4] and (iii) changes between survey waves in their score on our household asset index.[SI.5]

These three variables are the outcomes in Table OA.2, which leverages the fact that our survey sample includes all aspirants for branch leadership positions in the 2018 internal branch elections at each polling station in the sample. Columns 1, 3, and 5 restrict to all branch positions in which there was a contested election among competing aspirants (most positions went uncontested). With branch-position fixed effects, we find no differences in each measure of economic conditions between the winning and losing aspirants for the same exact positions, controlling for our two measures of patronage. This suggest there is no remaining economic return to having won a branch position not already captured in our two patronage variables. Columns 2, 4, and 6 show similar null results using branch fixed effects to compare winning and losing aspirant regardless of which specific position they contested.

Next, using the full sample of respondents, Table OA.3 shows that having received major patronage benefits at some point in the electoral cycle is strongly correlated with improvement in two of the three economic indicators (pocketbook evaluation and consumer confidence). By contrast, our minor patronage variable is not correlated with any measure of respondents' economic situation. This validates that our distinction between major and minor patronage (Table 2) captures

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SI.3 This question is: *"Compared to 1 year ago, is your household doing better economically, doing worse, or is it about the same?"*

SI.4 This question is: *"Sometimes people make big purchases, such as buying new equipment for their business or new roofing material for their home. How likely are you to make a big purchase like this in the next 6 months?"*

SI.5 This is the sum of a 10-item index of basic household assets.

substantively important differences in the value of these benefits. Table OA.3 also shows that brokerage activities between the two survey waves are uncorrelated with brokers' economic outlook once already controlling for our two main measures of payment. This again suggests that there are not major additional benefits from brokerage activity – such as if brokers skimmed from benefits meant for voters or charged voters fees – not already captured in our two measures.

Table OA.2: Economic returns to being a branch leader: winners vs. losers

	Dependent variable:					
	Δ in pocketbook evaluation		Δ in consumer confidence		Δ in household assets	
	(1)	(2)	(3)	(4)	(5)	(6)
Selected to branch position in 2018 (0,1)	0.119	0.044	0.123	−0.071	0.155	−0.027
	(0.206)	(0.098)	(0.267)	(0.101)	(0.449)	(0.232)
Received major patronage across Periods 1-3 (0,1)	−0.125	0.042	−0.277	0.091	−0.201*	−0.075
	(0.375)	(0.049)	(0.404)	(0.061)	(0.647)	(0.118)
Received minor patronage across Periods 1-3 (0,1)	−0.122	−0.039	−0.046	−0.035	−0.535***	−0.342***
	(0.269)	(0.054)	(0.351)	(0.057)	(0.697)	(0.122)
Branch-positions FEs	Y	N	Y	N	Y	N
Branch FEs	N	Y	N	Y	N	Y
Data subset:	Contested positions only	All contestants	Contested positions only	All contestants	Contested positions only	All contestants
Observations	147	983	147	983	147	983
Adjusted R^2	−0.034	0.094	0.010	0.125	0.204	0.086

Notes: † significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$. OLS regressions with standard errors clustered by branch (polling station). Columns 1, 3, and 5 are subset to all aspiring branch leaders who contested for branch leadership positions with multiple aspirants in the 2018 intra-party elections; the "Selected to branch position" variable compares winners – those selected as brokers – to losers – those who failed to become brokers. Columns 2, 4, and 6 include all aspiring branch leaders seeking positions in 2018, regardless of whether the specific position they sought was contested.

Table OA.3: Economic returns to payments and brokerage activity

	Dependent variable:		
	Δ in pocketbook evaluation	Δ in consumer confidence	Δ in household assets
	(1)	(2)	(3)
Received major patronage across Periods 1-3 (0,1)	0.094**	0.096**	−0.009
	(0.043)	(0.046)	(0.105)
Received minor patronage across Periods 1-3 (0,1)	−0.023	−0.040	−0.242**
	(0.050)	(0.046)	(0.105)
Broker up (Wave 2)	−0.058	0.073	0.152
	(0.044)	(0.046)	(0.094)
Broker down (Wave 2)	0.080	−0.114**	−0.022
	(0.057)	(0.055)	(0.116)
Branch FEs	Y	Y	Y
Individual-level controls	Y	Y	Y
Observations	916	916	916
Adjusted R^2	0.036	0.113	0.055

Notes: † significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$. OLS regressions with standard errors clustered by branch (polling station). Subset to all branch leaders in their positions during the Wave 2 survey.

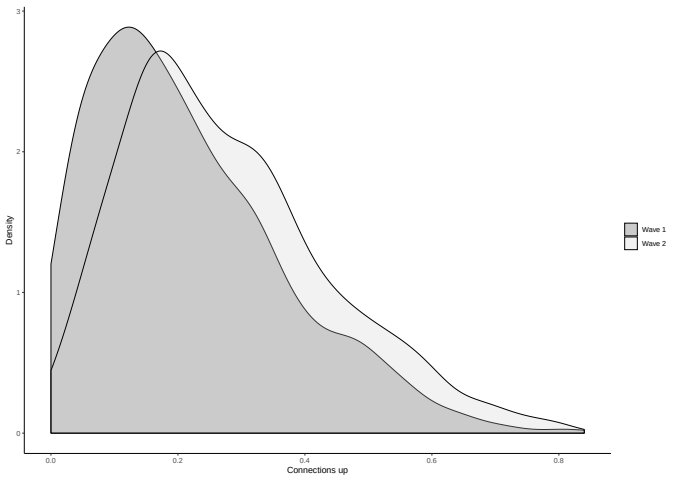
D Measuring *connections up* (pg. 16)

Our connections up variable tests respondents on the names and numbers of 13 public officials or local party elites. We ask respondents first if they can name the official (politician, bureaucrat or constituency party executive), and then to provide the last four digits of their phone number(s). Respondents could not go ask for help or look up names somewhere else – to indicate the presence of a real existing connection, this test measures whether they could immediately name officials and find numbers already saved in their phones.

We code correct answers for the items that comprise the *connections up* measure in two ways. First, responses are marked as correct if they match the name or one phone number from a list of these officials' names and contact information collected in each constituency by a team of research assistants immediately prior to the survey. This list was fully updated before the wave two survey. Second, to allow for the possibility that officials go by nicknames and/or have additional phone numbers, any responses are also marked as correct if 3 or more of the respondents quizzed about a particular official report that same nickname and/or alternative phone number.

Figure OA.2 displays the distribution of the *connections up* variable in wave one and wave two of the survey. The figure shows that on average, respondents had more upward ties in the second wave. Mean *connections* up was 22% in wave one and 28% in wave two. The standard deviation was 1.5 percent in wave one and 1.6 percent in wave two.

Figure OA.2: Distribution of connections up variable in each wave



E Campaign and brokerage activities of branch leaders (pgs. 17 and 26)

We use the survey to measure brokers' participation in both electoral and relational clientelism. In Table OA.4, *Campaign activity in 2016* sums activities conducted during the 2016 presidential and parliamentary campaigns. This is the main measure of campaign season activism in the paper.

Branch leaders on average performed about four of the nine activities listed (mean = 4.56); a majority reported that they canvassed, organized voters to attend rallies, and distributed handouts. We only measure campaign activity in the first wave of the survey, because this was nearest in time with the 2016 campaign.

Our measures of "broker up" and "broker down" are dichotomous variables that take a value of 1 when the respondent engages in any of the relevant activities. We collect data on these variables in both waves of the survey. The *broker up* variable measures two possible actions: helping citizens contact (i) party officials to discuss their problems and (ii) local government officials to discuss their problems. In wave one, 48% of respondents engaged in at least one of these activities. In wave two, 47% did. The *broker down* variable is composed of a single action: helping the party to identify recipients for government benefits in the community. In wave one, 31% of respondents engaged in this activity. In wave two, 21% of respondents did.

Overall, the respondents who engage in the most campaign activism are often different people from the respondents who engage in the most post-election brokerage activity. Table OA.5 presents pairwise correlations for the variables in Table OA.4.

Table OA.4: Summary of activities that branch leaders perform

Statistic	N	Mean	St. Dev.	Min	Max
Wave one					
Campaign activity in 2016 (0,9)	1,129	4.563	2.057	0	9
1. House-to-house canvassing	1,152	0.920	0.271	0	1
2. Organize people to attend rallies	1,150	0.774	0.418	0	1
3. Organize community events	1,149	0.664	0.473	0	1
4. Distribute handouts (food, cloth, cash, t-shirts, phone credit)	1,150	0.570	0.495	0.	1
5. Organize transport for voters on election day	1,150	0.544	0.498	0	1
6. Provide financial assistance to people	1,146	0.449	0.498	0	1
7. Coordinate with the chief on behalf of the party	1,143	0.302	0.459	0	1
8. Personally drive voters to polling stations on election day	1,146	0.183	0.387	0	1
9. Help people find jobs	1,148	0.136	0.343	0	1
Broker up (0,1)	1,152	0.482	0.500	0	1
1. Help citizens contact party to discuss their problems	1,152	0.475	0.500	0	1
2. Help citizens contact local govt. to discuss their problems	1,152	0.356	0.479	0	1
Broker down (0,1)	1,152	0.308	0.462	0	1
1. Help party identify local citizens to provide with benefits	1,152	0.308	0.462	0	1
Wave two					
Broker up (0,1)	997	0.469	0.499	0	1
1. Help citizens contact party to discuss their problems	997	0.423	0.494	0	1
2. Help citizens contact local govt. to discuss their problems	997	0.236	0.425	0	1
Broker down (0,1)	997	0.212	0.409	0	1
1. Help party identify local citizens to provide with benefits	997	0.212	0.409	0	1

Table OA.5: Pairwise correlations among broker activities

	Campaign activity in 2016	Broker up (wave one)	Broker down (wave one)	Broker up (wave two)	Broker down (wave two)
Campaign activity in 2016	1.00	0.36	0.18	0.11	0.10
Broker up (wave one)	0.36	1.00	0.68	0.16	0.08
Broker down (wave one)	0.18	0.68	1.00	0.09	0.04
Broker up (wave two)	0.11	0.16	0.09	1.00	0.23
Broker down (wave two)	0.10	0.08	0.04	0.23	1.00

F Campaign activity and campaign season payment (pg. 17)

If brokers were paid an upfront or contemporaneous salary for the campaign season activity, payments received in Period 1 – during the 2016 campaign – should be correlated with campaign activity. Table OA.6 shows that they are not. These regressions are subset to all branch leaders in their positions as of the 2016 campaign.

Table OA.6: Campaign activity and campaign payment: 2016 election

Outcome: campaign activity index (0,9)	1	2	3
Paid during 2016 campaign (0,1)	−0.088		
	(0.171)		
Paid major patronage during 2016 (0,1)		0.418	
		(0.292)	
Paid minor benefits during 2016 (0,1)		0.140	
		(0.151)	
Paid cash during 2016 (0,1)			−0.073
			(0.221)
Individual-level controls	Y	Y	Y
Branch-level controls	Y	Y	Y
Constituency FEs	Y	Y	Y
N	728	728	728
adj. R^2	0.217	0.217	0.217

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$. OLS regression subset to branch executives serving as of the 2016 election. Standard errors in parentheses are clustered by polling station branch.

G Analyses for minor payments (pgs. 21 and 24)

Tables OA.7 and OA.8 repeat Tables 5 and 6 from the main text but switch the outcome variable to minor payments rather than major payments (see Table 2). Unlike for major patronage payments, minor payments in both periods follow no clear pattern. Minor payments in Period 2 did not reward polling station-level electoral performance. Minor payments in Period 3 did not reward well-connected brokers. We believe this is because the party does not exert much effort towards the strategic targeting of these low-value gifts and handouts. Instead, they are often simply given out to branch leaders as perfunctory tokens of appreciation at party gatherings and rallies. For example, unlike the targeting of valuable jobs and loans, it is common for constituency party leaders to "dash" a small amount of cash to brokers as "TnT" (travel and transport) or for "refreshment" (buying a meal) at the end of party events as a thank you for coming. This does not require any substantive relationship with the broker and is not explicitly meant to reward performance or loyalty.

Table OA.7: Minor patronage payments immediately after the election

	Dependent variable:		
	Minor patronage (2017)		
	(1)	(2)	(3)
NPP pres. vote swing at polling station 2012 to 2016 (%)	−0.289	0.001	
	(0.385)	(0.323)	
NPP pres. vote swing at polling station 2012 to 2016 (raw votes)			−0.0001
			(0.0004)
Campaign activity in 2016 (0,9)	−0.005	−0.008	−0.004
	(0.007)	(0.007)	(0.008)
Connections up (%)	0.072	0.023	0.027
	(0.101)	(0.100)	(0.101)
NPP pres. vote swing at constituency 2012 to 2016		1.077*	
		(0.632)	
Constituency FEs	Y	N	Y
Individual-level controls	Y	Y	Y
Polling station-level controls	Y	Y	Y
Observations	722	722	700
Adjusted R^2	0.054	0.002	0.066

Notes: † significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$. OLS regression subset to branch executives serving as of the 2016 election (prior to the 2018 branch elections). Standard errors in parentheses are clustered by polling station branch in columns 1-3. The main explanatory variable in column 1-2 is the vote share swing for the NPP presidential candidate at each polling station, calculated as 2016 vote share - 2012 vote share. In column 3 this is instead the swing in raw votes.

Table OA.8: Predictors of minor patronage in the non-electoral period (2018-2019)

	Dependent variable:					
	Minor patronage (2018-2019)					
	(1)	(2)	(3)	(4)	(5)	(6)
Connections up	−0.066		−0.083			−0.095
	(0.108)		(0.106)			(0.105)
Connections up - politicians		−0.154^{+}				
		(0.083)				
Connections up - bureaucrats		0.163				
		(0.144)				
Connections up - const execs.		0.009				
		(0.084)				
Broker up (wave 1)	−0.020	−0.021		−0.023		−0.031
	(0.041)	(0.041)		(0.041)		(0.041)
Broker down (wave 1)	0.045	0.047		0.045		0.045
	(0.041)	(0.041)		(0.041)		(0.040)
Broker up (wave 2)					0.045	0.045
					(0.031)	(0.030)
Broker down (wave 2)					0.106*	0.109*
					(0.043)	(0.043)
Campaign activity in 2016 (0,9)	−0.004	−0.003		−0.005	−0.008	−0.006
	(0.008)	(0.008)		(0.008)	(0.008)	(0.008)
NPP pres. vote swing at polling station 2012 to 2016 (%)	0.055	0.060	0.144	0.016	−0.010	0.044
	(0.358)	(0.359)	(0.365)	(0.356)	(0.344)	(0.351)
Constituency FEs	Y	Y	Y	Y	Y	Y
Individual-level controls	Y	Y	Y	Y	Y	Y
Polling station-level controls	Y	Y	Y	Y	Y	Y
Observations	844	844	863	844	844	844
Adjusted R^2	0.181	0.183	0.189	0.182	0.194	0.193

Notes: † significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$. Standard errors cluster by polling station (branch). OLS regressions in which the DV is a binary indicator for receiving minor patronage in Period 3.

H Replication of Table 5: Logit model (pg. 22)

Table OA.9 below replicates Table 5 columns 1-3 of the main paper, changing the OLS model to a logit model. The coefficients on the explanatory variables of interest remain statistically significant in the directions shown in the main paper. We do not replicate Table 5 columns 4-6 because in these models the DV is not dichotomous.

Table OA.9: Logistic models (replication of Table 5: cols 1-3)

	Dependent variable:		
	Major patronage (2017)		
	(1)	(2)	(3)
NPP pres. vote swing at polling station 2012 to 2016 (%)	9.220**	6.617*	
	(3.702)	(3.429)	
NPP pres. vote swing at polling stat 2012 to 2016 (raw votes)			0.011**
			(0.005)
Campaign activity in 2016 (0,9)	0.143*	0.075	0.181**
	(0.083)	(0.077)	(0.089)
Connections up (%)	1.346	0.735	1.288
	(0.980)	(0.939)	(1.029)
NPP pres. vote swing at constituency 2012 to 2016		−19.930***	
		(7.366)	
Constituency FEs	Y	N	Y
Individual-level controls	Y	Y	Y
Polling station-level controls	Y	Y	Y
Observations	722	722	700
Log Likelihood	−192.751	−208.245	−183.140
Note:			*p<0.1; **p<0.05; ***p<0.01

I Payments in stronghold vs. non-stronghold areas (pg. 22 and pg. 30)

Table OA.10 replicates Column 1 from Table 6 in the main text to examine how major patronage payments in the non-electoral period (Period 3) vary with the overall partisanship of each parliamentary constituency. Overall, significantly more major patronage payments were made in both NPP stronghold and competitive constituencies compared to NDC strongholds. This is consistent with there being significantly less patronage to distribute overall in opposition party areas, but inconsistent with an expectation that brokers extract payments based on their leverage to threaten defection.

Importantly, interaction terms in columns 2 and 4 show that the relationship between *connections up* and major patronage payments does not significantly vary with the partisanship of each constituency. More upwardly connected brokers still receive the same payments in core NPP stronghold constituencies as in more competitive areas, or in opposition areas. This is inconsistent with a threat of defection explaining these payments. Brokers in NPP stronghold areas are those with the least leverage to plausibly defect to the NDC, yet they receive the same pattern of payments.

Table OA.10: Major patronage in Period 3 interacted with constituency competitiveness

	Dependent variable:			
	Major patronage (2018-2019)			
	(1)	(2)	(3)	(4)
Connections up (Wave 1)	0.345***	0.551**		
	(0.118)	(0.249)		
Connections up (Wave 2)			0.553***	0.628***
			(0.097)	(0.215)
NPP stronghold constituency	0.208***	0.278***	0.173***	0.198**
	(0.050)	(0.086)	(0.047)	(0.083)
Competitive constituency (0,1)	0.171***	0.206***	0.160***	0.181**
	(0.050)	(0.072)	(0.048)	(0.072)
Connections up (Wave 1) * NPP stronghold constituency		−0.323		
		(0.299)		
Connections up (Wave 1) * Competitive constituency (0,1)		−0.164		
		(0.270)		
Connections up (Wave 2) * NPP stronghold constituency (0,1)				−0.096
				(0.254)
Connections up (Wave 2) * Competitive constituency (0,1)				−0.086
				(0.241)
Urban constituency	0.027	0.027	0.031	0.030
	(0.053)	(0.053)	(0.048)	(0.048)
Observations	844	844	844	844
R^2	0.144	0.145	0.184	0.184
Adjusted R^2	0.115	0.115	0.157	0.155

Notes: † significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$. Standard errors cluster by polling station (branch). The omitted category is NDC stronghold constituency.

J Replication of Table 5 dropping data from outlier stations (pg. 22)

Table OA.11 replicates Table 5 of the main paper. In Table OA.11, we exclude data from stations that are outliers on NPP vote swing between the 2012 and 2016 elections (our main explanatory variable). Following the standard statistical definition, we define a station as being an outlier when the vote swing is 1.5 times larger or smaller than the median vote swing plus the interquartile range. A total of 15 stations are outliers on percent NPP vote swing, and 19 stations on the swing in raw NPP votes. The results are robust to these changes in model specification. The magnitudes of the coefficients on NPP vote swing are in fact larger than those we report in the main paper.

Table OA.11: Robustness check – OLS dropping outliers in vote swings

	Dependent variable:					
	Major patronage (2017)					
	(1)	(2)	(3)	(4)	(5)	(6)
NPP pres. vote swing at polling station 2012 to 2016 (%)	0.861**	0.822**		0.889*	1.008**	
	(0.424)	(0.400)		(0.470)	(0.447)	
NPP pres. vote swing at polling station 2012 to 2016 (raw votes)			0.002***			0.002***
			(0.001)			(0.001)
Campaign activity in 2016 (0,9)	0.008	0.002	0.010*	0.003	−0.013	0.012
	(0.006)	(0.006)	(0.006)	(0.014)	(0.013)	(0.015)
Connections up	0.100	0.071	0.086	0.246	0.173	0.070
	(0.102)	(0.103)	(0.097)	(0.193)	(0.187)	(0.197)
NPP pres. vote swing at constituency 2012 to 2016		−1.353**			−1.273*	
		(0.530)			(0.765)	
Constituency FEs	Y	N	Y	Y	N	Y
Individual-level controls	Y	Y	Y	Y	Y	Y
Polling station-level controls	Y	Y	Y	Y	Y	Y
Observations	655	655	620	169	169	160
R^2	0.122	0.082	0.137	0.337	0.224	0.355
Adjusted R^2	0.080	0.050	0.093	0.198	0.113	0.211
Note:						*p<0.1; **p<0.05; ***p<0.01

K Replication of Table 6: logistic regression (pg. 22)

Table OA.12 below replicates Table 6 of the main paper, changing the OLS models to logit models. The coefficients on the explanatory variables of interest remain statistically significant in the directions shown in the main paper.

Table OA.12: Table 6: Logistic regression

	Dependent variable:					
	Major patronage (2018-2019)					
	(1)	(2)	(3)	(4)	(5)	(6)
Connections Up (Wave 1)	1.829**		2.040**			1.673*
	(0.679)		(0.655)			(0.682)
Connections up – politicians (Wave 1)		0.365				
		(0.576)				
Connections up – bureaucrats (Wave 1)		−0.135				
		(0.891)				
Connections up – const. execs. (Wave 1)		1.154*				
		(0.579)				
Broker up (Wave 1)	−0.429	−0.435		−0.362		−0.506+
	(0.278)	(0.278)		(0.275)		(0.281)
Broker down (Wave 1)	0.549+	0.545+		0.535+		0.567*
	(0.282)	(0.282)		(0.280)		(0.285)
Broker up (Wave 2)					0.263	0.236
					(0.198)	(0.200)
Broker down (Wave 2)					0.603**	0.604**
					(0.216)	(0.218)
Campaign activity in 2016 (0,9)	0.069	0.068		0.095+	0.067	0.060
	(0.052)	(0.052)		(0.051)	(0.049)	(0.052)
NPP pres. vote swing at polling station	−0.491	−0.558	−0.922	0.600	0.429	−0.520
2012 to 2016	(2.429)	(2.434)	(2.401)	(2.358)	(2.370)	(2.440)
Constituency FEs	Y	Y	Y	Y		
Individual-level controls	Y	Y	Y	Y		
Polling station-level controls	Y	Y	Y	Y		
Observations	844	844	863	844	844	844
Log Likelihood	−401.691	−401.243	−412.178	−405.331	−401.516	−396.428
Akaike Inf. Crit.	871.382	874.486	886.356	876.663	869.032	864.857

L Table 6 – Disaggregating major patronage: jobs, training, loans (pg. 26)

Table OA.13 below disaggregates the main components of major patronage –jobs, loans and skills training – and re-analyzes Table 6, columns 1 and 2. The results in Table OA.13 show that the positive correlation between pre-existing *connections up* and major patronage in Table 6 (column 1) for Period 3 is driven by the receipt of jobs. Moreover, ties to constituency executives (Table 6, column 2) are primarily rewarded with the receipt of jobs.

Table OA.13: Major patronage (2018-2019): Disaggregated by jobs, loans, training

	Dependent variable:					
	Job		Loan		Training	
	(1)	(2)	(3)	(4)	(5)	(6)
Connections up (Wave 1)	0.304**		−0.091		0.089	
	(0.100)		(0.066)		(0.068)	
Connections up – politicians (Wave 1)		0.062		−0.037		0.052
		(0.080)		(0.053)		(0.062)
Connections up – bureaucrats (Wave 1)		−0.076		−0.104		0.033
		(0.110)		(0.079)		(0.102)
Connections up – constituency execs. (Wave 1)		0.209*		0.003		0.012
		(0.082)		(0.061)		(0.068)
Broker up (Wave 1)	0.007	0.006	−0.064*	−0.065*	−0.017	−0.016
	(0.036)	(0.036)	(0.025)	(0.025)	(0.026)	(0.026)
Broker down (Wave 1)	0.045	0.045	0.045+	0.045+	0.029	0.029
	(0.039)	(0.039)	(0.024)	(0.023)	(0.029)	(0.029)
Campaign activity in 2016 (0,9)	0.004	0.004	0.0003	0.0002	0.006	0.006
	(0.006)	(0.007)	(0.006)	(0.006)	(0.005)	(0.005)
NPP pres. vote swing at polling station	−0.186	−0.199	0.305	0.299	−0.450+	−0.449+
	(0.274)	(0.275)	(0.186)	(0.186)	(0.245)	(0.246)
Constituency FEs	Y	Y	Y	Y	Y	Y
Indiv. controls	Y	Y	Y	Y	Y	Y
PS. controls	Y	Y	Y	Y	Y	Y
Observations	844	844	844	844	844	844
Adjusted R^2	0.114	0.115	0.264	0.263	0.067	0.065

M Placebo test: past payments and future connections (pg. 26)

There could be concern that *connections up* is endogenous to payments already received. For example, perhaps brokers only develop connections to local elites because they had received a payment – e.g., a public sector job – that brings them into contact with new elites in the party or local government. To demonstrate that this is unlikely to be the main reason that *connections up* predicts Period 3 payments, we conduct a placebo test: in Table OA.14 we regress the change in *connections up* between the wave one and wave two surveys on major payments received in Period 2. Payments received in Period 2 occurred sometime in 2017, prior to the observation of *connections up* in wave two in 2019. If payments caused *connections up*, brokers who got major benefits, such as jobs, should become more connected by 2019 than they had been in 2017. We report estimates both with (Column 2) and without (Column 1) control variables. We find no evidence that *connections up* increases after brokers are paid, inconsistent with this alternative explanation.

Table OA.14: Placebo test: past payments and future connections

	Dependent variable:	
	Δ in *connections up* (wave one to wave two)	
	(1)	(2)
Major patronage in Period 2 (0,1)	0.013	0.016
	(0.015)	(0.013)
Constituency FEs	N	Y
Individual-level controls	N	Y
Polling station-level controls	N	Y
Observations	929	863
Adjusted R^2	0.038	0.101

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$. Standard errors clustered by polling station. All models are OLS. The DV is *connections up* (wave two) - *connections up* (wave one). Column 1 contains no controls. Column 2 contains the full set of controls mentioned in the main text, as well constituency fixed effects.

N *Connections up* predicts *broker up* and *broker down* (pg. 27)

In Table OA.15 we show that respondents' *connections up* in wave one predict their brokerage activity in both survey waves. The table regresses each broker activity measure on *connections up*, with the same controls and restricted to the same respondents as in Table 6 in the main text. However, *connections up* continues to predict payment in Period 3 in Table 6 even when controlling for brokerage activity.

Table OA.15: Broker activity on connections up among sample from Table 6

	Dependent variable:			
	Broker up (wave one)	Broker down (wave one)	Broker up (wave two)	Broker down (wave two)
	(1)	(2)	(3)	(4)
Connections up (Wave 1)	0.612***	0.295*	0.286*	0.221*
	(0.129)	(0.125)	(0.122)	(0.106)
Constituency FEs	Y	Y	Y	Y
Individual-level controls	Y	Y	Y	Y
Polling station-level controls	Y	Y	Y	Y
Observations	863	863	863	863
Adjusted R^2	0.138	0.077	0.135	0.102

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$. Standard errors clustered by polling station. All models are OLS. Restricted to the same respondents as Table 6 in the main text (branch executives in their positions during Period 3).

O Interaction between *connections up* and *broker up* or *broker down* (pg. 27)

Table OA.16 replicates column 6 of Table 6 in the main text, adding interaction terms between *connections up* (wave one) and *broker up* (wave two) and *broker down* (wave two). We find no statistically significant interaction. This suggests that brokers are paid in Period 3 on the basis of their existing upward ties to local elites irrespective of the degree of brokerage work they are currently doing for the party during Period 3.

Table OA.16: Interaction between *connections up* and current brokerage activity

	Dependent variable:	
	Major patronage (2018-2019)	
	(1)	(2)
Connections up (Wave 1)	0.348^{*}	0.250^{+}
	(0.157)	(0.129)
Broker up (Wave 2)	0.061	0.031
	(0.052)	(0.030)
Broker down (Wave 2)	0.101^{**}	0.082
	(0.038)	(0.072)
Connections up * Broker up	-0.140	
	(0.209)	
Connections up * Broker Down		0.080
		(0.260)
Constituency FEs	Y	Y
Individual-level controls	Y	Y
Polling station-level controls	Y	Y
Observations	844	844
Adjusted R^2	0.170	0.169

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$. Standard errors clustered by polling station. All models are OLS. Replicates the same model in Column 6 of Table 6 in the main text with the added interaction terms.

P Distance from polling station to district capital (pg. 30)

If *connections up* is simply a proxy for the branch leaders who were most often "hanging around" the party's constituency office or the local government office, then we should see that respondents who work at polling stations nearer to the district capital – where the party's constituency office and the local government are situated – are more likely to receive major patronage. Below we replicate Tables 5 and 6 of the main paper highlighting the coefficient for the variable that measures distance from the polling station to the district capital (a control in all our models). In all cases, this coefficient is negative and not statistically significant (see Tables OA.17 and OA.18 below).

Table OA.17: Table 5: coefficient for distance from polling station to district capital

	Dependent variable:					
	Major patronage (2017)					
	(1)	(2)	(3)	(4)	(5)	(6)
Distance between PS and district capital (km)	0.00004	−0.001	0.001	−0.0004	−0.001	−0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Observations	722	722	700	184	184	179
R^2	0.113	0.074	0.118	0.304	0.192	0.318
Adjusted R^2	0.075	0.045	0.079	0.172	0.087	0.185
Note:						*p<0.1; **p<0.05; ***p<0.01

Table OA.18: Table 6: coefficient for distance from polling station to district capital

	Dependent variable:					
	Major patronage (2018-2019)					
	(1)	(2)	(3)	(4)	(5)	(6)
Distance between PS and district capital (km)	−0.001	−0.001	−0.0003	−0.001	−0.001	−0.001
	(0.003)	(0.003)	(0.002)	(0.003)	(0.003)	(0.003)
Constituency FEs	Y	Y	Y	Y	Y	Y
Individual-level controls	Y	Y	Y	Y	Y	Y
Polling station-level controls	Y	Y	Y	Y	Y	Y
Observations	844	844	863	844	844	844
R^2	0.195	0.196	0.190	0.188	0.195	0.205
Adjusted R^2	0.162	0.161	0.161	0.156	0.163	0.170