Paying Party Brokers: How Patronage Sustains Machine Parties*

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This version: September 2020

Abstract

Parties rely on brokers to win elections in much of the developing world. How do parties use compensation to extract work from brokers? We argue that beyond rewarding brokers who deliver the most voters, parties also reward brokers who are most embedded in the party. This allows party leaders to balance the dual aims of promoting agent competence and loyalty. Using a multi-wave survey, we track the full range of payments to over 1,000 brokers from Ghana's ruling party – the party most capable of distributing prized patronage benefits – across an entire electoral cycle. We show that the party operates a hybrid payment system missed by previous studies of broker compensation focused narrowly on electoral periods. The party rewards the best performing brokers immediately after elections. But long after campaigns, when most payments are actually made, the party instead rewards brokers for their social connections to party elites.

Word count: 9,345 (including all notes and references)

*Thanks to Kate Baldwin, Dan Paget, Tesalia Rizzo, Svend-Erik Skaaning, Michael Wahman, Shana Warren, Joachim Wehner, and audience members at Aarhus University and LSE for their comments. Kate Baldwin, Rikhil Bhavnani, Shelby Grossman, Saad Gulzar, Imil Nurutdinov, Dan Paget, Shana Warren, and participants at Washington University-St. Louis, MPSA, APSA and MWEPS provided helpful comments on earlier versions of this paper. We thank Francis Addo, Mahmuda Ainoo, Gideon Addai Gyimah, and especially Samuel Yamoah for their assistance in collecting the data; Michelle Torres and Hannah Folsz for outstanding research assistance; Dr. Franklin Oduro, Alberta Adams, and the staff of CDD-Ghana; and the New Patriotic Party. Funding was provided by the Weidenbaum Center on the Economy, Government, and Policy at Washington University in St. Louis and the African Studies Center at the University of Michigan.

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Grassroots intermediaries, or brokers, link parties and voters in many developing democracies (Mares and Young 2016). While brokers provide crucial electoral assistance to parties, relying on brokers also creates challenges for party elites (Stokes et al. 2013, Camp 2017, Novaes 2018). How can parties contain brokers' incentives to shirk? And how can they empower brokers while minimizing the risk they will defect in the future? Party leaders often use their control over brokers' compensation to help solve these agency dilemmas. Understanding which brokers parties pay – with what, when, and why – is thus essential for understanding how parties build organizations and interact with voters. Broker compensation also has important implications for development: payments to brokers take valuable – and often vast – public resources away from ordinary citizens and encourage a lack of separation between party and state. In this paper, we propose a novel theory of broker compensation, which we assess with new micro-level data from Ghana.

We argue that party elites adopt a hybrid compensation structure that allows them to fulfill two goals. First, in the immediate campaign period, they use compensation to reward the most *competent* brokers: those who deliver the most votes. Second, well after campaigns are over, they reward *loyal* agents who have strong ties to party elites. While incentivizing competence helps parties achieve short-term electoral goals, incentivizing loyalty helps long-term goals such as organizational stability. Moreover, because party elites often rely on support from brokers to rise in internal party structures, loyalty also helps party elites advance their private political careers.

Our theory provides a more complete account of broker compensation than available in the existing literature. Despite a large literature that explores what brokers do for parties (e.g., Szwarcberg 2015, Auerbach 2016, Calvo and Murillo 2019), there is little systematic scrutiny of broker compensation.[1] The recent literature mostly overlooks that brokers' compensation is likely to occur over longer time horizons for reasons beyond campaign-season performance (Larreguy et al. 2016,

[1]Scholars have long recognized in general terms that clientelist parties provide patronage to their local agents (Wilson 1961, Scott 1969, Shefter 1977). But the older literature on clientelism offers little comprehensive evidence that can explain which brokers are paid with what benefits, when, and why.

Camp 2017, Novaes 2018, Gingerich 2020). Such accounts are at odds with the broader clientelism literature, which demonstrates that many of brokers' most important activities continue long after campaigns (Zarazaga 2014, Nichter 2018). By contrast, we recognize that brokers' employment relationships with parties are likely to continue throughout the electoral off-cycle.[2] Our theory also takes parties seriously as institutions, with party elites looking to design broker compensation to satisfy additional organizational imperatives beyond maximizing short-run vote share.

We use data from a panel survey that tracks payments to over 1,000 randomly sampled brokers in Ghana's ruling party across a full electoral cycle to assess our argument. To our knowledge, this is the largest survey – and first panel – of brokers in any contemporary developing democracy and the most comprehensive study of broker compensation to date. We measure a wide range of publicly and privately funded payments to brokers across Ghana's 2016 campaign season, the immediate post-election period, and the longer-run non-electoral period during the party's remaining term. In addition, we develop novel measures of brokers' embeddedness within the party. The panel structure of the data allows us to assess how brokers' actions, such as assisting voters or increasing embeddedness in the party, influence payment while holding fixed personal attributes and any community or constituency characteristics that remain constant across survey rounds.

We find support for a hybrid payment system across the election cycle. During the campaign, brokers mostly worked for free in expectation of future rewards. Immediately after the election, a small subset of brokers received valuable benefits as a reward for strong performance, as observed in the existing literature. However, the vast majority of compensation occurs between campaigns, outside the time frame of recent studies.

The ruling party uses the bulk of payments in the electoral off-cycle to reward brokers who maintain or develop close ties to local party elites. Rather than serving as retrospective rewards for performance, these payments encourage brokers' loyalty by embedding them in local party

[2]Driscoll (2017) also recognizes that payments are likely to occur after elections, but focuses on only one specific type of benefit (jobs in a particular bureaucracy) and does not examine the individual-level determinants of payment.

networks. Moreover, we show that direct payments from party leaders comprise the main benefits brokers receive, finding little evidence that brokers also extract substantial benefits from voters or that brokers skim excessively from benefits meant for voters (e.g., Zarazaga 2014, Auerbach 2016).

While we draw on a single case, we expect our theoretical framework to apply broadly to instances where brokers are employed through machine organizations that persist across elections.[3] Even where machines differ in their specific organizational structure, we expect party leaders to confront the same dual imperatives of ensuring brokers' competence and loyalty. Moreover, while we focus on the ruling party because it alone has access to valuable payments for brokers during our two surveys, observing this party's transition into power after the 2016 election allows us to make predictions about opposition parties. We expect they primarily motivate brokers to work for free upfront with promises of rewards once in office. Our theory applies less well in unstable party systems where there is a fully open market for brokerage before each election. There is less possibility for deferred compensation beyond election periods when brokers expect to switch parties regularly. Moreover, our focus on *party brokers* may not speak to compensation among non-party brokers (e.g., Baldwin 2015, Holland and Palmer-Rubin 2015) – local influencers never folded within a party's hierarchy.

This paper makes several contributions. First, we provide the most systematic theory and documentation of broker compensation in a contemporary developing democracy. Better understanding payments to brokers is important theoretically: we cannot explain how brokered clientelism works without understanding the private incentives structuring brokers' behavior (Stokes et al. 2013, Camp 2017). It is also important descriptively for estimating the burden clientelism places on the fiscal health of developing nations. Brokers are often compensated with public resources, especially employment, which can impede the development of state institutions.

[3]This includes canonical clientelist parties including the Argentinean Peronists (Levitsky 2003), the historical urban US (Wilson 1961), the Christian Democrats of Naples (Chubb 1982), and Mexico's PRI (Magaloni 2006).

Second, while clientelism occurs in both electoral and non-electoral periods (Nichter 2018), the recent literature on brokers' compensation focuses overwhelmingly on campaign seasons alone. This reflects a disproportionate focus in the broader literature on clientelism on electoral-season activities at the expense of the equally, if not more, important work that parties do *after* elections (Diaz-Cayeros et al. 2016). We show that most compensation for brokers unfolds in the context of "relational clientelism" in non-campaign periods (Nichter 2018), when brokers assist parties in governance activities (Zarazaga 2014), such as identifying recipients of welfare state programs, not in buying or mobilizing votes.

Third, we suggest that employment relationships with brokers can be a critical, but often overlooked, determinant of party institutionalization (Scott 1969, Novaes 2018). The organizational stability that allows parties to become embedded in society is only possible where grassroots activists have incentives to commit to a single party over time (Mainwaring 2018). Yet existing explanations for party institutionalization in new democracies often overlook intra-party bargaining between party leaders and brokers, focusing instead on the macro political or economic context (Hale 2008, Hicken 2009, Riedl 2014). By recognizing that efforts to incentivize party loyalty are a central element of party-broker relationships, we show that the study of brokers also has broader relevance to party-building and democratic consolidation.

1 The recent literature: election season compensation

Unless brokers volunteer their time, parties operate (implicit or explicit) labor contracts with them. Party leaders are principals, and brokers, agents. Like many principals, party leaders are typically unable to systematically monitor brokers' inputs (Stokes et al. 2013, Larreguy et al. 2016). Parties are thus unlikely to pay salaries for time worked. This monitoring challenge creates a moral hazard problem: because the party's overall prospects depend on the cumulative work of many brokers, individual brokers have an incentive to free ride on their peers (Camp 2017). They may also skim from benefits for voters or charge voters fees (Zarazaga 2014, Auerbach 2016).

A commonly proposed solution to the moral hazard problem is to focus only on outputs and peg compensation to brokers' revealed effectiveness in a pay-for-performance contract. Party leaders may not be able to identify perfectly the performance of every broker, but can still observe the output of small groups of brokers fairly accurately through disaggregated election results (Larreguy et al. 2016, Rueda 2016) or via monitoring attendance at local rallies (Szwarcberg 2015).

Although most scholars do not analyze brokers' compensation systematically,[4] the modern literature on brokers alludes to two common labor contracts relying on these metrics. First are *tournament* systems in which the most valuable compensation are bonuses made contingent on being among the party's very best performers. In Mexico, Larreguy et al. (2016, 163) state, for example, that "brokers are paid throughout the campaign and receive a bonus – in terms of either cash or political favors – for strong electoral performance."[5] Stokes et al. (2013) and Camp et al. (2014) suggest similar compensation practices operate elsewhere. Under this first type of contract, parties deliver the most valuable payments immediately after elections, to a subset of brokers. Principals overcome free-riding and rent-seeking by creating a competition that incentivizes brokers to work hard (during the campaign) to win scarce, but valuable prizes distributed once performance is observed (Lazear and Rosen 1981).[6]

Second, parties and brokers may exchange a set number of voters in return for a set payment, which may be paid either upfront or shortly after the election. This is akin to *piece rate* compensation (Prendergast 1999). Unlike in a tournament, every broker is compensated per vote delivered. For example, Camp (2017) suggests piece rate compensation in Argentina by finding a direct rela-

[4]See Gingerich (2020), however, for an analysis of broker compensation prior to the secret ballot, when the moral hazard problem was less severe.

[5]In a tournament, bonuses are not necessarily reserved for brokers delivering the most votes; party leaders can condition payments on expected performance relative to precedents (Szwarcberg 2015, Gingerich 2020).

[6]Even if tournaments discourage free-riding, they also risk discouraging effort among low-skilled workers who anticipate they are incapable of winning (Prendergast 1999). This downside is not explicitly addressed in existing literature on brokers. But the alternative hybrid compensation scheme we propose may help incentivize "low types" to remain active in expectation of receiving other benefits later.

tionship between payments received and the number of voters a broker mobilizes to attend a rally. Novaes (2018) argues that brokers will have the bargaining power to negotiate piece rate contracts when voters have weak ties to parties. Under these conditions, brokers deliver their followers to the politician with the highest bid.[7] In Brazil, individual candidates assemble networks of brokers in each election by offering deals to multiple "local notables," who act as brokers. The size of brokers' payments are based on the size of their voter following (Novaes 2018). This also overcomes free-riding and skimming by incentivizing brokers to amass the largest voter followings possible to have the greatest leverage to extract payment (Stokes et al. 2013).

2 Theory: hybrid payments across the electoral cycle

2.1 Departures from existing literature

Both of these theories assume that most payments occur either immediately before or immediately after elections, and that parties reward brokers who assist in one goal: maximizing short-run vote share. Yet rather than ephemeral alliances of non-partisan notables (e.g., Novaes 2018), many cases of clientelism feature brokers employed within *machine parties* that persist beyond a single election. Between elections, machines continue to build electoral support by distributing targeted goods and services and solving their clients' problems through on-going exchanges (Zarazaga 2014) – activities that Nichter (2018) labels "relational clientelism." Because relational clientelism continues long after campaigns, machine parties likely exchange a significant share – or even the majority of – of payments to brokers beyond the immediate election period, for reasons that may be distinct from brokers' electoral performance.

Moreover, once clientelist parties are recognized as potentially durable institutions, we must consider how party elites may also structure broker compensation to satisfy additional goals: (i)

[7] As partisanship increases, brokers cannot as credibly promise to deliver their followers to the highest bidder. Party-switching in Brazil is unusually high (Novaes 2018, 88).

organizational longevity – maintaining the party's cohesion as an institution (e.g., Scott 1969) – and (ii) personal longevity – private career advancement. Maximizing the probability of winning multiple future elections, not solely the next election, requires sustaining the party organization. At a personal level, many party elites have ambitions to rise in the party hierarchy or be nominated as candidates in future elections. Advancing within most parties requires support from actors at lower tiers of the organization. This could be formalized, as when parties hold primaries and intra-party elections among grassroots members (Ichino and Nathan 2012). It can also occur informally, with party elites' internal bargaining power dependent on their ability to consolidate grassroots intra-party backing (Levitsky 2003, Tavits 2013).

As a result, parties are likely to compensate brokers not only for their performance, but also on the basis of the strength of their commitments to the party as an institution, and, especially, to the individual party leaders who make the actual decisions about how to compensate brokers. Indeed, scholars of US machines observed that most patronage to lower ranks was used to satisfy these other goals, not maximize vote share (Wilson 1961). Similar to principals in other political organizations (Egorov and Sonin 2011, Hassan 2020), we thus expect that party elites structure their agents' compensation in a fashion that seeks to balance two imperatives, not one – incentivizing brokers' *competence* and *loyalty*.

2.2 Implications for broker compensation

Compensation schemes that prioritize both goals are possible because party leaders make multiple payment decisions across an electoral cycle. In campaign periods, we expect, depending on their bargaining power, that brokers will either be paid piece rate (high bargaining power) or through a tournament (low bargaining power) for revealed output as of election day, at rallies, or both – whichever metric is available. These payments encourage electoral competence.

But a separate payment logic can begin once a party takes office and brokers' tasks change. In post-election periods, we expect ruling parties to compensate brokers with strong internal ties

to local party elites.[8] These upward ties serve two purposes. First, brokers with better upward ties to local elites – bureaucrats, politicians, and local party leaders – can more effectively solve the problems of their clients, with the knowledge of and connections to the government machinery needed to successfully link voters to individualized benefits (Zarazaga 2014, Nichter and Peress 2017, Auerbach and Thachil 2018). Brokers' connections to local party leaders should be especially important if key local bureaucracies have been captured by party leaders.

Party leaders continue to face a monitoring problem for brokers' post-election inputs, while outputs from relational clientelism may take years to be revealed at the next election. But party leaders can easily monitor which brokers are developing, or have already developed, strong upward ties to local bureaucrats, politicians, and party leaders: it is straightforward for elites to observe which brokers *they* know.[9] Any compensation scheme in non-campaign periods that incentivizes brokers to invest in these connections to party elites and other local officials will – even if unintentionally – encourage brokers' competence at relational clientelism.

Second, and most importantly, compensating brokers with strong upward ties fosters brokers' loyalty – to the party as an institution, and to specific party elites. Brokers who are more socially embedded in the machine face higher costs to abruptly defecting and switching parties. For example, they are less likely to be trusted by elites of a new party if their deep ties to their current party are already publicly observed.[10] In terms of personal loyalty, rewarding those with whom you have the strongest personal ties also helps party elites develop a loyal following among brokers who can

[8]Opposition parties should mirror this system, for the same reasons, to whatever extent possible with their private resources. But because opposition parties typically have fewer resources and their brokers often become dormant in non-campaign periods (unable to link clients to the state), we expect that opposition parties primarily motivate brokers via promises of rewards upon winning. Opposition parties have to forego hiring clientelist brokers altogether if they have neither significant private funding – needed to pay brokers when out of office – nor any credible expectation of soon winning – needed to motivate brokers to work for free in anticipation of future rewards (Shefter 1977).

[9]We are agnostic whether these ties are mostly initiated by aspiring brokers seeking to know more elites, or by elites seeking to connect with brokers. Each has personal incentives to proactively seek out the other.

[10]Moreover, if brokers depend heavily on personal ties to elites in their current party for access to benefits for voters, they can less credibly threaten to bring their followers *en masse* to another party; defecting would only sever the access needed to maintain voters' support.

then aide these elites' own ambitions.

We do not expect that party leaders always strategically design post-election broker compensation in a functionalist fashion to realize these specific benefits. Outside of electoral periods, many broker compensation decisions are decentralized. But it is in the *private* incentive of the individual elites who control compensation to reward the specific brokers to whom they are tied. The aggregate effect will be a system that directs the largest share of post-election payments to brokers who have connections to higher ranks of the machine. In turn, this may simultaneously incentivize brokers' competence at relational clientelism, which depends on brokers' ability to work closely with these same elites to provide benefits to voters.

3 Party brokers in Ghana

We focus on Ghana, where local party brokers (*branch executives*) are the main agents who link party leaders and voters (Bob-Milliar 2012, Fobih 2010).[11] Ghana holds concurrent, highly competitive presidential and parliamentary elections every four years, which are dominated by the New Patriotic Party (NPP) and the National Democratic Congress (NDC). The parties regularly alternate in office and the NPP became the ruling party after the 2016 election. The two parties have nearly identical organizational structures (Fobih 2010, Riedl 2014). Within the NPP, our focus below, there are five executives at every polling station.[12] Polling stations contain roughly 500 to 1,000 registered voters, representing either an entire village or portion of a town or urban neighborhood.

3.1 Branch executives as brokers

Both of Ghana's major parties often mobilize voters using non-programmatic appeals. These include spot exchanges with voters during campaigns and iterated forms of relational clientelism

[11] Parties also sometimes rely on other intermediaries, especially traditional chiefs.

[12] These are the branch chair, secretary, organizer, women's organizer, and youth organizer. The NDC has similar positions at each branch.

once in office. During campaign periods, branch executives serve as each party's main grassroots campaign labor force, engaging in a mix of clientelist and non-clientelist activities, including canvassing door-to-door, organizing rallies, spreading party messages, and distributing handouts. After the campaign, branch executives in the ruling party become "problem solvers" channeling targeted patronage to supporters.[13] This includes identifying recipients of government programs and linking them to local government officials. Branch executives are overseen in these activities by a committee of parliamentary constituency-level party executives.

Branch executives fit standard definitions of brokers, differing from both elites and ordinary canvassers. Unlike party elites, they engage face-to-face with citizens. Unlike mere canvassers, branch executives use interactions far beyond campaigns to distribute patronage and solve voters' problems (Stokes et al. 2013, 75).

3.2 Branch executives' motivations

Although many branch executives report partisan or ethnic attachments to their party, branch executives are mostly motivated to work for parties in exchange for private benefits. Based on 200 interviews with these "foot soldiers," Bob-Milliar (2012) argues that "selective incentives are at the heart of party activism in Ghana" (680). In our survey data (see below), NPP branch executives report expecting a wide range of benefits from party leaders once the party takes office (see Table 1).

Employment is the most valuable incentive the party offers brokers. Branch executives are typically poor or working class and in the informal sector (Bob-Milliar 2012), highly valuing entry-tier jobs in local governments (Driscoll 2017), as well as other employment opportunities that become available as the government repurposes nominally-programmatic welfare state initiatives for patronage. Recent examples include employment schemes organized by the country's

[13] By contrast, the opposition's branch executives are mostly inactive until the next campaign.

Table 1: What compensation do brokers hope to receive?

	Percent (n)
A job	47.46% (541)
A loan	38.42% (438)
A job for a family member	17.89% (204)
Cash	16.75% (191)
Administrative fees (e.g., child's school fees)	10% (114)
Business inputs (e.g., farm equipment)	7.81% (89)
Motorbike	4.47% (51)
Other	1.67% (19)
Bureaucratic favors (e.g., child's school admission)	1.49% (17)
Housing	1.32% (15)

Respondents' hopes for payment now that NPP is in power. N=1,140. Respondents could give multiple answers.

Youth Employment Agency (YEA) and Forestry Commission. Branch women's organizers – a position for female brokers – are also the main beneficiaries of catering contracts under the national School Feeding Programme. Where public jobs are unavailable, party leaders also can help secure employment at private businesses of party sympathizers – a common tactic of many machines (Wolfinger 1972). In addition to employment, branch executives can receive differential access to loans, either through government micro-finance initiatives or from private lenders controlled by party supporters.

Payments to brokers occur at multiple points. In both the ruling and opposition party, aspiring parliamentary nominees direct personal funds to branch executives who serve as the electorate in intra-party primaries at the outset of each campaign (Ichino and Nathan 2012). During campaigns, constituency executives and parliamentary candidates target some campaign funds to branch executives. Many of these campaign payments come from private funds (Asante and Kunnath 2018).

But the resources – public and private – available to compensate brokers increase dramatically with incumbency. The winning party gains wide latitude to direct state resources to branch executives, and the voters beneath them, as well as to extract private rents that can be funneled back into the party (Brierley 2020, Luna 2020). Ghana's president appoints a local party official to

head each local government as a District Chief Executive (DCE), equivalent to mayor.[14] A constituency party executive is often selected as DCE. The remaining constituency executives take other positions, formally or informally, in the district governments from which they help control local spending.

Similar to ties of dependency in other machine parties (e.g., Levitsky 2003), Luna (2020) details that for constituency executives, "there is immense pressure to keep your foot soldiers [branch executives] satisfied" (63). Constituency executives' career advancement depends on the direct support of branch executives; in both parties, constituency executives are elected by branch executivesṪhe many constituency executives who aspire to become parliamentary nominees also require branch executives' support in primaries. These local elites thus have significant private incentives to use their influence over local governments to build personal support among branch executives.

4 Data

4.1 Survey design and timing

We construct a panel survey of NPP branch executives. We focus on the ruling party because the most valuable payments Ghana's parties give to brokers – such as public jobs – are only available to the national incumbent. Because the two parties are almost identically structured and rely on the same state resources to sustain clientelism when in power, we expect our results will apply to the NDC when they are in office instead.[15]

We interview branch executives at a random sample of 200 polling stations within 10 parliamentary constituencies in Southern Ghana.[16] Our two waves, 18 months apart, capture distinct points in the election cycle. The NPP won the December 2016 election and took power in 2017.[17]

[14] As of 2016, 275 parliamentary constituencies nest within 216 districts.

[15] Moreover, our analysis of the 2016 campaign – when the NPP was still in opposition – suggests how opposition parties incentivize brokers through promises of future rewards.

[16] More details on sampling are in the Online Appendix (SI.2).

[17] The NDC was in office since 2009.

The first wave interviewed 1,140 respondents in January 2018, which coincided with the NPP's quadrennial branch-level elections to select new branch executives.[18] These executives will be in their positions until after the next general election in December 2020. The first wave interviewed all aspirants (winners and losers) in these internal elections for the five positions at each branch. We also interviewed all incumbent chairs, organizers, and women's organizers – the three most important positions – regardless of whether they re-contested in 2018.[19] The second wave occurred just before the 2020 campaign, which began in August 2019 with the NPP's first parliamentary primaries to select 2020 candidates. We aimed to re-interview every respondent who had not already retired and consented to being re-contacted, reaching 1,001 (88%) respondents.[20]

4.2 Measuring major and minor patronage

The survey included a battery of questions on benefits received from the party. The first wave distinguished between compensation in two periods: the 2016 campaign itself (*"period 1"* below); and 2017, which represents the initial transitional period during which the NPP took office (*"period 2"*). These map to immediate pre- and post-election payments. The second wave instead identifies brokers' compensation over 2018 and 2019, the non-electoral period spanning from when the NPP was settled in office through the onset of the 2020 campaign (*"period 3"*). Each set of questions measures brokers' actual receipt of payments, not perceptions about possible payments.

Relying on self-reports is the only viable means to collect comprehensive information across all categories of possible payments.[21] Qualitative discussions during our pilot suggested that branch executives feel very comfortable discussing payments, which reduces concerns of downward bias.

[18] Broker selection is examined in a companion paper.

[19] Our sample thus includes current branch executives at each polling station – those (re-)selected in 2018 – and all leaders as of the 2016 election (selected in 2014).

[20] We examine attrition on pg. SI.3.

[21] For example, collecting administrative data at the bureaucrat level across the myriad public agencies that employ brokers is virtually impossible and would inevitably result in gaps. Beyond employment, most payments to brokers would never even be recorded.

Indeed, Table 2 confirms that brokers openly expect, discuss, and demand potential payments. To protect against potential boasting and upward bias, we asked detailed follow-up questions that required respondents to provide specific information about the major benefits they had received. Reassuringly, brokers' self-reports are not implausibly high: for example, our survey estimates that 21,625 public sector jobs were distributed to branch executives nationwide from 2017-2019, which is far below the total distributed through public employment schemes during the NPP's term.[22] This is consistent with the party distributing jobs both to brokers themselves and to ordinary supporters through those brokers.

Most payments are in-kind, not cash, and range in value. We distinguish between *major* and *minor* patronage. "Major patronage" includes jobs, loans, skills training, and new vehicles (e.g., motorbike).[23] These are high value benefits that have the potential to transform a recipient's livelihood. "Minor patronage" includes petty cash, clothing or cloth, fuel, minor farming or business inputs (e.g., cutlasses), or electronics (e.g., a new cellphone).[24] Table 2 presents summary statistics on the share of brokers receiving each type of patronage in each period.

4.3 Measuring broker embeddedness: *connections up* to local elites

To measure upward ties to local elites and embeddedness within party networks, we test each branch leader's knowledge of the 13 most important political and bureaucratic elites in their district with power over state resources: the five constituency party executives, the local party elites directly above branch leaders in the machine;[25] and eight local officials who can best help brokers

[22]The party claims to have distributed more than 250,000 jobs under three programs: the YEA and Forestry Commission (described above), and Nation Builders Corps (Modern Ghana 2020). Thousands more patronage jobs are available in the district governments (Driscoll 2017).

[23]"Jobs" includes government contracts, such as under the School Feeding Programme (see above).

[24]We code cash as "minor" because our respondents described they are rarely paid salaries or large quantities of cash. Instead, most cash reported represents token low-value handouts "dashed" by party leaders after meetings and other brief interactions. Pg. SI.5 validates that our "major" items are more economically consequential than those coded as "minor," linking payments to changes in respondents' economic conditions.

[25]These are the constituency party chair, secretary, treasurer, organizer, youth organizer, and women's organizer.

deliver benefits to, and solve problems of, their clients.[26]

Respondents were asked to name the current occupant of each position and provide the last four digits of his/her phone number without asking anyone for help. Respondents knew these numbers either by heart or through looking on their phones. This measures contacts that respondents already had (and presumably already use), not which names or numbers they hypothetically could get. Already knowing these names and numbers proves a broker's ability to directly contact an elite to request assistance for a voter; while names and numbers are not the only conceivable means of contact, they serve as strong proxies for an existing connection. For example, if a voter seeks a targeted benefit (e.g., enrolment in a social welfare program) controlled by one of these elites, a branch executive will be much less likely to secure it for the voter if he does not already know the official and have an established line of communication with her.[27]

We create a 25-item test of *connections up*, recording the percentage of items correctly identified by each respondent, with names and numbers counting separately.[28] We measure this variable in both waves and also compute the change between waves to identify brokers actively developing elite ties over time. Mean *connections up* in wave one is 0.22 (sd=0.15). This increased to 0.28 (sd=0.16) in wave two (see pg. SI.7).

4.4 Measuring performance

We measure electoral performance using 2012 and 2016 presidential results disaggregated by polling station. This is the same metric scholars argue party leaders use to observe broker performance (e.g., Larreguy et al. 2016, Rueda 2016); during our fieldwork, party leaders regularly

[26] These are the Member of Parliament, mayor (DCE), city/town council chair (presiding member of the District Assembly), city/town councilor (District Assembly member), district head bureaucrat (District Coordinating Director), district engineer (who supervises public works spending), the district coordinator for the National Disaster Management Organization and the district's Youth Employment Agency coordinator (key sources of patronage employment).

[27] Mobile phones are ubiquitous for government business in Ghana. Contact with local officials is highly personalized – these elites (even MPs and DCEs) answer their personal phones, rather than working through staff.

[28] We only tested for the MP's phone number, as MP names are widely known. We confirmed phone numbers in advance. Our coding rules account for additional phone numbers or possible nicknames (pg. SI.7).

demonstrated detailed knowledge of changes in polling station results as a means of evaluating the party's performance. Below, we identify stations with better-than-expected performance by examining the swing in presidential vote share between 2012 and 2016, controlling for either constituency fixed effects or the party's constituency-level vote swing. This allows us to focus on branches that performed especially well relative to their immediate area, partialling out overall trends and constituency-wide changes in party support unrelated to polling station-level broker efforts (e.g., changes in the parliamentary candidate between 2012 and 2016).[29] Consistent with their electoral victory, the average polling station-level NPP vote swing was $+5.9$ p.p., with minimum of -8.0 p.p. and maximum of $+21$ p.p.

5 Analysis

5.1 What do brokers receive?

Table 2 summarizes the type and timing of compensation. Consistent with existing literature on both ruling and opposition parties, brokers are rarely paid for labor inputs: the vast majority (77%) worked for free during the 2016 campaign (Period 1), with no upfront or contemporaneous payment. While 21% received minor benefits, less than 1% received any major benefit. This is despite brokers being very active in the campaign: 92% engaged in house-to-house canvassing, 77% organized attendance at rallies; and 57% provided handouts to voters (pg. SI.7). Yet campaign activity is uncorrelated with Period 1 payments (pg. SI.8), suggesting brokers worked in anticipation of future rewards.

Payments increased immediately after the election, once the NPP took power. In Period 2, 10% of respondents received major patronage. Yet at odds with theories that focus on the immediate pre- and post-election periods, post-election benefits still represent a minority of the total benefits. In

[29]The same NDC and NPP presidential and vice presidential candidates contested in 2012 and 2016 and there was otherwise no major partisan realignment. The NDC was the incumbent in both.

Table 2: Broker payments across the electoral cycle

	Period 1 (campaign)		Period 2 (election aftermath)		Period 3 (off-cycle)	
Variable	%	N	%	N	%	N
Paid major patronage (0,1)	0.9%	791	9.9%	791	23.2%	667
A job	0	791	3.7%	791	12.1%	667
A loan	0.3%	791	0.6%	791	9.7%	667
Enrolled in training program	0	791	5.7%	791	4.9%	667
A motorbike or bicycle	0.8%	791	0%	791	0.1%	667
Paid minor patronage (0,1)	21.4%	791	13.7%	791	25.3%	667
Petty cash	10.9%	791	7.3%	791	16.3%	667
Food	11.8%	791	7.7%	791	12.9%	667
Cloth	5.3%	791	2.7%	791	12%	667
Electronics (phone, etc)	0.4%	791	0.3%	791	1.6%	667
Farm/business inputs (fertilizer, etc)	–	–	0.1%	791	1.9%	667
Paid major patronage cumulatively to date (0,1)	0.9%	791	10.7%	791	33.1%	667
Paid minor patronage cumulatively to date (0,1)	21.4%	791	29.3%	791	48.4%	667
Not paid in this period (0,1)	77.4%	791	78.4%	791	56.8%	667
Not paid cumulatively to date (0,1)	77.4%	791	63%	791	33.9%	667

Restricted to those serving as of 2016 to allow consistent comparisons across time. Indented items are sub-components of the **bold** categories.

Period 2, the vast majority (78%) of brokers again received no payment, and the high-value benefits distributed shortly after the election comprise only 29% of the total major patronage distributed by the end of Period 3.

It is in the longer non-electoral period – 2018-2019 – that the majority of major patronage reached brokers, outside the scope of the recent literature. In Period 3, a sizeable minority (23%) now received major benefits, while 25% also received more minor compensation. Jobs were the most common major patronage – more than one in every ten brokers (12%) received a job (or contract). In addition, roughly 10% received a loan, and 5% were enrolled in a skills training program meant to improve employment prospects. Scaling these figures up to 29,000 polling stations nationwide, this amounts to the party distributing 17,400 jobs, 14,500 loans, and 7,250 skills trainings in 2018-2019 – a substantial overall outlay. By the end of Period 3, most brokers (66%) had finally received some type of benefit from the party.

Table 2 is broadly comprehensive. The questions include payments regardless of whether they are sourced from public resources or party leaders' private funds; indeed, virtually all Period 1 payments are from private sources. There is also little evidence of alternative payments, such as if brokers separately skimmed from benefits meant for voters or extracted rents from voters. Unlike in other contexts (e.g., Auerbach 2016), we encountered no discussion during fieldwork that brokers routinely charge fees to clients. Our panel also allows us to indirectly test for this possibility through changes in brokers' personal economic conditions. Once controlling for payments in Table 2, there are no additional economic returns to being a broker that might indicate unobserved streams of compensation (pg. SI.5).

5.2 Why do they think they receive it?

Which brokers does the party reward, and why? A first cut at answering these questions is to simply ask brokers about the labor contract they perceive themselves to be working under. In wave two, we asked respondents what actions (if any) they thought they could take to increase their chances of receiving compensation.[30] We code open-ended responses into a categorical variable in Table 3.

While nearly half of the brokers (49%) are resigned to think that no actions would improve their compensation, the remaining responses suggest a hybrid compensation system illustrative of the argument above. A significant minority of brokers gave two common responses: (a) *perform better* – that is, by putting in more effort and/or attracting more voters to the party (20%); or (b) become more *embedded in the party* by developing closer personal connections up to local party leaders (19%). In terms of performance, brokers talked of the need to campaign more and "bring in new members." Typical answers about embeddedness mirror our *connections up* variable: e.g., "get closer to the top party officials."

[30]The question was: *"Are there any actions you could take that you think would increase the amount of benefits you receive from the NPP? What are they?"*

Table 3: What could you do to improve your compensation?

Response	Percent	#	Example quotes
No action	**48.7**	**486**	"Nothing you do will help" "I don't know what else to do" "I think I am already doing the best I could"
Improve *connections up*	**18.84**	**188**	"By getting closer to top party executives" "By contacting the party leaders at the constituency level" "I have to be calling the MP, the constituency chairman more"
More effort	**11.52**	**115**	"To work hard for the party to maintain power" "If I work hard to win votes" "Campaigning for the party and assisting needy people"
Improve performance	**8.82**	**88**	"Gather more votes for the party" "By getting supporters for the party" "By doing my job very well so that more people will join the party"
Work stoppage	**2.81**	**28**	"Sit down strike" "During campaign season will not go on campaign" "We have to refuse to vote if they don't heed to our plight"
Protest party leadership	**2.71**	**28**	"I will vote for new constituency executives" "Campaign against the party executives and change them for new ones" "Voting against incompetent MP in the... primaries"
Defect to another party	**0.80**	**8**	"Vote the [NPP] out" "We will have to rally behind a competitor for them to see we mean business" "Tell them to come fulfill the promises made... or risk losing votes"
Other	**5.81**	**8**	
Total	100	998	

5.3 The hybrid system: the immediate post-election period

We now turn to more systematic analyses. We first investigate which broker attributes predict receiving major patronage immediately after the 2016 election (Period 2).[31] We expect payments in the immediate post-election period to be based on revealed performance, consistent with anecdotal evidence in existing literature and the perceptions of many of our respondents. We also assess two alternatives: that major patronage payments are a function of activism during the campaign (inputs) or *connections up* to local elites.

Table 4 displays OLS regressions in which an indicator for receiving major patronage is the dependent variable.[32] The unit of the analysis is each branch executive during the 2016 campaign. We include constituency-fixed effects to account for heterogeneity across constituencies in overall benefits available (pg. SI.13). We also include polling station- and individual-level controls, such as respondents' tenure in the party, family ties to local elites, and demographic characteristics.[33] We cluster standard errors by polling station (branch), as this was our sampling unit.

Column 1 of Table 4 shows a positive association between NPP vote swing – a branch's relative performance compared to the rest of the constituency – and the likelihood of receiving major patronage. Column 2 shows similar results after replacing the constituency fixed effects with constituency swings in NPP vote share.[34] Column 3 replaces vote share with number of raw votes for the NPP, which is an alternative metric that parties may reward.[35] By contrast, across columns 1-3

[31] Separate analyses for the minor benefits in Table 2 are on pg. SI.9. Minor payments do not follow any discernible pattern in any time period.

[32] We replicate Tables 4 and 5 using logistic regression on pgs. SI.12 and SI.16.

[33] At the polling station, we control for distance to the district capital (remoteness) and wealth. At the individual level, we control for age, gender, education, wealth, years in the NPP, years in the community, whether the broker is a local ethnic minority, whether they live outside the community, whether they are related to the traditional chief, related to a local politician (DCE or MP), related to a constituency party executive, related to their district assemblymember, work in the formal sector, and work as a petty trader.

[34] The results are robust to region fixed effects or controlling for vote share at the constituency level (pg. SI.14).

[35] We do not have 2012 parliamentary results at the polling station level. In practice, parliamentary and presidential vote shares are usually highly correlated.

Table 4: Major patronage payments immediately after the election

	Dependent variable:					
	Major patronage (2017)					
	(1)	(2)	(3)	(4)	(5)	(6)
NPP pres. vote swing at polling station 2012 to 2016	0.702**	0.556*		0.710**	0.687*	
	(0.321)	(0.310)		(0.358)	(0.353)	
NPP pres. vote swing at polling station 2012 to 2016 (raw votes)			0.001***			0.001**
			(0.0003)			(0.0005)
Campaign activity in 2016 (0,9)	0.007	0.004	0.010*	0.002	−0.009	0.007
	(0.005)	(0.005)	(0.006)	(0.013)	(0.013)	(0.014)
Connections up (%)	0.104	0.066	0.083	0.235	0.138	0.141
	(0.095)	(0.096)	(0.092)	(0.173)	(0.170)	(0.181)
NPP pres. vote swing at constituency 2012 to 2016		−1.468***			−1.302*	
		(0.528)			(0.709)	
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	722	722	700	184	184	179
Adjusted R^2	0.075	0.045	0.079	0.172	0.087	0.185

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$. OLS regressions subset to brokers serving as of 2016. In columns 1-3, Standard errors are clustered by polling station. In columns 4-6, data is collapsed by polling station among sitting branch executives during 2016. Vote swings are calculated as 2016 vote share - 2012 vote share.

we find no evidence that payments reflect brokers' inputs (campaign activity in 2016) or embeddedness (*connections up*).[36] Columns 4-6 show that these relationships also hold when responses are collapsed to the polling station (branch) level.[37] These patterns do not vary across different party positions within each branch (e.g., chairman vs. secretary; pg. SI.14).

The positive relationship between NPP vote swing and receiving major patronage is substantively large. Figure 1 plots the predicted probability of receiving major patronage in Period 2

[36]Campaign activity is an index of nine major actions (pg. SI.7).

[37]We also re-run the analyses in Table 4 dropping outliers on NPP vote swing. The results are robust (and in fact strengthen) with this restriction (pg. SI.15).

against the vote swing at each branch. The dashed horizontal line indicates the average predicted probability of receiving major patronage (just less than 0.1). Moving from a polling station where the NPP vote swing was one standard deviation below the mean to one standard deviation above results in more than doubling the probability of receiving major patronage (from 5 p.p. to 12 p.p.). Overall, the party rewarded a small subset of brokers in the immediate post-election period for the best electoral performance.

5.4 The hybrid system: the electoral off-cycle

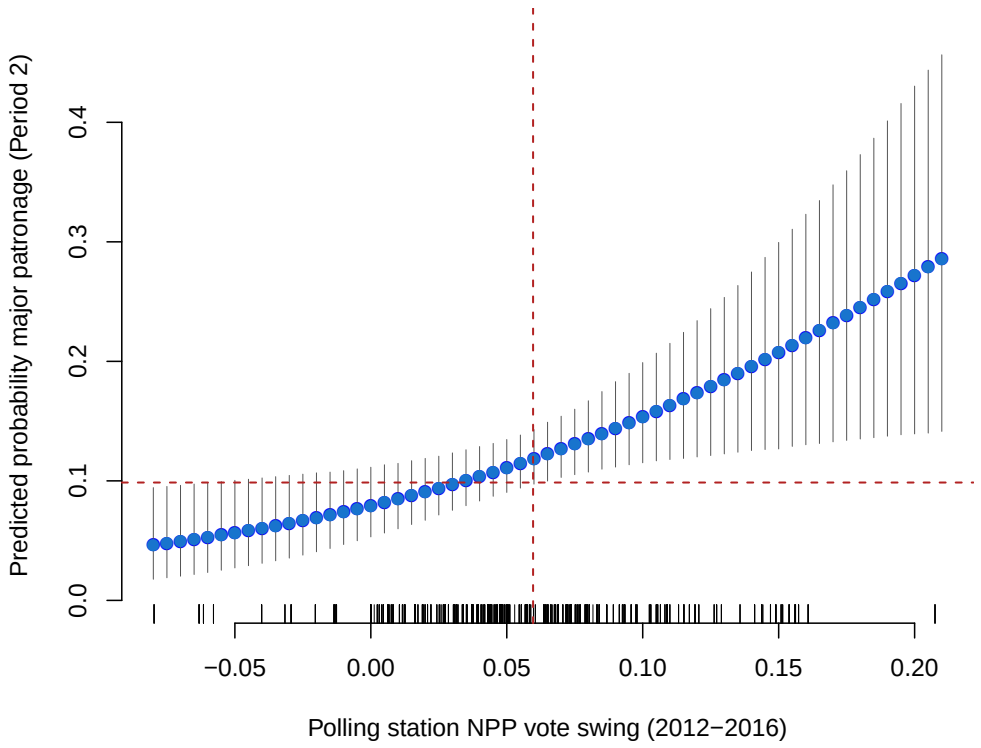
We next investigate which brokers receive major patronage in the years between elections (Period 3). As Table 2 shows, it is here that the NPP distributes the bulk of major payments. We assess whether there continues to be a positive relationship between electoral performance and payments. We also assess two alternatives: that payments are predicted by brokers' embeddedness with local elites (*connections up*), or by their activism, either during the prior campaign or since the election.

Columns 1-4 of Table 5 present OLS regressions with an indicator for receiving major patronage in Period 3 as the dependent variable. We include constituency fixed effects and the same individual- and polling station-level controls as above, continuing to control for respondents' tenure in the party, family ties to elites, and other demographics. Standard errors remain clustered by polling station. We include a measure of brokers' *connections up* in the wave one survey in columns 1 and 2 to isolate the relationship between brokers connections *before* Period 3 benefits were received (as measured in wave two). Columns 3 and 4 instead include *connections up* in wave two.[38]

In contrast to Period 2, Table 5 finds a null relationship between electoral performance and payments in Period 3. We continue to find a null relationship between 2016 campaign activism and

[38]There is an endogeneity concern with using *connections up* from the second wave to predict patronage in period 3: did brokers receive patronage *because* of these connections or gain connections through the process of receiving patronage? Columns 1 and 2 of Table 5 side-step this concern by focusing on *connections up* that are temporally prior to period 3.

Figure 1: *Major patronage after the election (Period 2)*



Predicted probability of receiving major patronage in 2017 by polling station swing in NPP presidential vote share (2012 to 2016), with all covariates held at observed values. The horizontal line is the mean proportion receiving these benefits. The vertical line is the mean NPP vote swing.

Table 5: Predictors of major patronage in the non-electoral period (2018-2019)

	Dependent variable:					
	Major patronage (2018-2019) (0,1)				Δ in total major patronage (2018-2019)	
	OLS				*First difference model*	
	(1)	(2)	(3)	(4)	(5)	(6)
Connections up (Wave 1)	0.233**					
	(0.109)					
Connections up – politicians (Wave 1)		0.055				
		(0.097)				
Connections up – bureaucrats (Wave 1)		−0.148				
		(0.133)				
Connections up – const. execs. (Wave 1)		0.190*				
		(0.098)				
Broker up	−0.045	−0.047				
	(0.045)	(0.045)				
Broker down	0.070	0.069				
	(0.046)	(0.046)				
Connections up (Wave 2)			0.407***			
			(0.094)			
Connections up – politicians (Wave 2)				0.009		
				(0.094)		
Connections up – bureaucrats (Wave 2)				0.121		
				(0.129)		
Connections up – const execs (Wave 2)				0.240***		
				(0.081)		
Broker up (Wave 2)			0.022	0.021		
			(0.029)	(0.029)		
Broker down (Wave 2)			0.065*	0.065*		
			(0.038)	(0.039)		
Campaign activity in 2016 (0,9)	0.006	0.006	0.001	0.001		
	(0.008)	(0.008)	(0.008)	(0.008)		
NPP pres. vote swing at polling station 2012 to 2016	−0.148	−0.163	−0.228	−0.192		
	(0.319)	(0.318)	(0.305)	(0.304)		
Δ in connections up					1.225***	
					(0.275)	
Δ in connections up – politicians						0.063
						(0.171)
Δ in connections up – bureaucrats						0.913***
						(0.282)
Δ in connections up – const. execs.						0.487***
						(0.160)
Δ in broker up					0.057	0.061
					(0.055)	(0.055)
Δ in broker down					0.158**	0.155**
					(0.062)	(0.062)
Δ in assets					0.0001	−0.002
					(0.021)	(0.021)
Constituency FEs	Y	Y	Y	Y		
Individual-level controls	Y	Y	Y	Y		
Polling station-level controls	Y	Y	Y	Y		
Observations	844	844	844	844	929	927
Adjusted R^2	0.141	0.141	0.159	0.158	0.035	0.039

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$. Standard errors clustered by polling station in columns 1-4 and respondent in columns 5-6. Columns 1-4 are OLS; the DV is an indicator for receiving major patronage in Period 3. Columns 5-6 are first difference models across waves; the DV is the change in the sum of major patronage benefits received. All time invariant variables drop out in Columns 5-6.

payments. Moreover, Columns 1 and 2 show no relationship between two measures of brokerage activity after the election (wave one) and payments in Period 3.[39] Importantly, these tests demonstrate that the majority of major patronage payments for brokers are not a retrospective reward for either past electoral performance or brokers' pre- or post-election brokerage activities.

Instead, major patronage in Period 3 is predicted by brokers' connections to local elites, even after controlling for brokers' current or past activities and performance. Column 1 shows that those who already had more *connections up* in wave one were more likely to receive major patronage by the end of Period 3. From column 1, a broker with *connections up* one standard deviation above the mean is 7 p.p. (a 34% increase) more likely to receive major patronage in Period 3 than a branch executive with connections a standard deviation below the mean. Column 2 disaggregates *connections up* into connections to local politicians, bureaucrats, or constituency party executives. The most important upward connections for payment are to constituency executives – the key local party elites who dominate the local government and control broker payment. Similar relationships, of even larger magnitude, also hold for *connections up* as measured in wave two (columns 3 and 4).[40]

There could be concern that the relationship between *connections up* and major payments in Period 3 is not due to brokers' network ties, but to other characteristics correlated with *connections up*. All models in columns 1-4 of Table 5 already include individual-level demographic controls, such as the years each branch executive has been active in the party and whether they are a relative of constituency party executives.[41] But there still could be unobserved characteristics that explain both *connections up* and Period 3 payments.

Columns 5-6 of Table 5 address this concern by using first difference regressions. These mod-

[39] These are whether branch executives were active in 2017 connecting local voters up to elites for patronage ("broker up") or were being contacted by local elites to help find voters to target with benefits ("broker down").

[40] Disaggregating the dependent variable, the positive coefficients in columns 1 and 2 are mainly driven by jobs, while columns 3 and 4 are consistent across each major benefit (pg. SI.18).

[41] Columns 1-4 of Table 5 are also robust to controlling for branch positions (e.g., chairman vs. secretary; see pg. SI.17).

els leverage the panel data to examine the impact of *changes in* branch executives' connections up between survey waves. The dependent variable now measures changes in receipt of major patronage benefits. The advantage of a first-difference model is that all demographic attributes, as well as any other time invariant confounders such as polling station or constituency characteristics, are controlled for because they remain constant over the two surveys. This allows us to isolate whether a branch executive developing more *connections up* between 2017 and 2019 increases her probability of being paid by the end of Period 3, irrespective of the branch executive's other characteristics. Standard errors are clustered at the individual level.

We find that changes in *connections up* strongly predicts receiving more major patronage payments. Positive changes in upward connections to both constituency party executives and the local bureaucrats administering government spending now predict positive changes in major benefits received.[42] This is consistent with the brokers who invest most in actively developing personal connections to local elites receiving the most compensation from the party.

6 Alternative arguments

We consider three alternative interpretations. First, what we interpret as a strategic decision by party elites to build loyalty among brokers to whom they have close personal connections could instead be non-strategic behavior. It may simply be easier for local party elites to distribute the goods they control to brokers to whom they are related or happen to be more socially proximate. This is unlikely to account for our results, however. We already control for whether each branch executive is related to a constituency party executive, their Member of Parliament, local mayor, or district assembly member. We find no evidence that these variables predict receiving major patronage during Period 3, when most high value benefits were distributed. This non-strategic

[42]Sample sizes differ between columns 1-4 and 5-6 because of missingness on some controls. The results in columns 5-6 are robust to subsetting only to observations in columns 1-4.

view is also at odds with the clear evidence of strategic payments for performance in Period 2. Moreover, an alternative measure of proximity to party elites – the distance from each brokers' home to the constituency party office, which may proxy for how often a broker is simply in the presence of constituency party executives – is uncorrelated with access to patronage (pg. SI.20).

Second, there may be an additional logic at play alongside the dynamics we uncover. As noted above, we already rule out any major alternative streams of payments, such as fees from voters (e.g., Auerbach 2016). Another alternative explanation for variation in payments could be a brokers' ability to credibly threaten to defect to a rival party (Novaes 2018). If threats of defection explain payments, brokers with the lowest ability to credibly defect should be paid least. Threats of defection are least credible in strongholds of the NPP, where the NDC only has a limited presence, compared to more ethnically diverse, politically competitive polling stations where both parties have robust organizations. Yet we find the same patterns in both types of areas, and an overall higher amount of patronage distributed to brokers in NPP stronghold regions where defection is least likely (pg. SI.13). Moreover, very few respondents (n=8) believe threats of defection would be a successful way to induce more payment (Table 3). Instead, receiving major patronage in Period 3 is systematically correlated with doing the opposite of trying to defect: drawing yourself *closer* to the party by developing more ties to party leaders (columns 5-6 of Table 5).

Finally, and most broadly, we cast doubt on any other alternative explanations for the patterns above by returning to branch executives' own explanations for their compensation. Table 6 uses the responses in Table 3 to show that branch executives who received major patronage in Period 2 are precisely those who say payments follow from effort or performance, while branch executives who received major patronage in Period 3 are specifically those who say developing better ties to constituency elites best increase one's chances of compensation.[43] It is only possible to believe other payment logics are operating instead if we believe our respondents systematically misunderstood

[43]The dependent variable in Table 6 are the responses in Table 3, regressed on indicators for having received payments in each period, with constituency fixed effects and the same individual- and branch-level controls noted above.

Table 6: Understanding of reasoning for payments on payments received

	Dependent variable:	
	Expect more pay if you improve *connections up* (0,1)	Expect more pay if more effort or performance (0,1)
Received major patronage in Period 2 (0,1)	0.022	0.117^{*}
	(0.050)	(0.060)
Received major patronage in Period 3 (0,1)	0.079^{**}	-0.014
	(0.037)	(0.032)
Constituency FEs	Y	Y
Indiv. controls	Y	Y
PS. controls	Y	Y
Observations	831	831
Adjusted R^2	0.088	0.107

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$. OLS; the DVs are indicators of common responses in Table 3, regressed on payments received. Standard errors clustered by polling station.

why they were being paid.

7 Conclusion

Using a panel survey of brokers in Ghana's ruling party, we show that the party compensates its grassroots agents with a range of payments across the electoral cycle. Consistent with existing literature, the party rewards a small subset of branch executives who performed well immediately after the election. But the large bulk of payments to branch executives are given years later, during the electoral off-cycle. In this non-electoral period the party rewards agents for their loyalty, with the most valuable payments going to those who invest in the party by developing upward ties to local elites. By mixing the logic of payments across time, party leaders are able to balance their dual imperatives of incentivizing their agents to be competent – effective at winning votes – and loyal – unlikely to defect with their followers to a rival party.

While we expect our argument to extend to other machine parties, there are several scope conditions. First, our findings may not apply where brokers are free agents and party organizations simply do not exist outside of campaign periods (Novaes 2018). In these extreme situations, there is likely no means for party leaders to commit to compensating brokers other than through immediate,

upfront payments during campaigns. Second, we recognize that payments to non-party brokers who never officially work for a party – such as chiefs or union leaders – may follow different logics (Holland and Palmer-Rubin 2015). Third, the NPP was an opposition party during the 2016 election campaign. It is possible that the overall level of compensation in direct electoral periods is higher in ruling parties that already have access to state resources. But, theoretically, we expect that given the difficulty of observing labor inputs, the ruling party would still defer most payments until after the election.

Ultimately, our results have important normative implications for democracy in low- and middle-income countries. Scholars typically view patronage by party machines as bad for governance because its diverts state resources from citizens. Indeed, we estimate that in 2018-2019 alone, the NPP diverted more than 17,000 public sector jobs nationwide to its brokers. This may be just the tip of the iceberg: these brokers were very active, in turn, securing employment for voters.

Yet, paradoxically, the machine's compensation of brokers may also have positive implications for democratic consolidation. These payments in the electoral off-cycle allow the party to discourage brokers' defection, facilitating party stability and institutionalization. Party institutionalization is important for democracy, lowering electoral stakes, improving accountability, and allowing for peaceful alternations in power (Riedl 2014, Mainwaring 2018). By lengthening brokers' time horizons this payment system might even allow a party to mobilize its grassroots workforce at *lower* aggregate cost to the public than in an alternative system in which disloyal brokers instead have more bargaining power to secure larger payments from parties upfront (Novaes 2018). Future research across contexts can valuably explore relationships among broker payments, party institutionalization, and the democratic consequences of machine politics.

References

Asante, Kojo and George Kunnath. 2018. "The Cost of Politics in Ghana." Westminister Foundation for Democracy, http://www.wfd.org/wp-content/uploads/2018/03/Cost_Of_Politics_Ghana.pdf.

Auerbach, Adam M. 2016. "Clients and Communities." *World Politics* 68(1):111–148.

Auerbach, Adam and Tariq Thachil. 2018. "How Clients Select Brokers: Competition and Choice in India's Slums." *American Political Science Review* 112(4):775–791.

Baldwin, Kate. 2015. *The Paradox of Traditional Chiefs in Democratic Africa*. New York: Cambridge University Press.

Bob-Milliar, George M. 2012. "Political Party Activism in Ghana: Factors Influencing the Decision of the Politically Active to Join a Political Party." *Democratization* 19(4):668–689.

Brierley, Sarah. 2020. "Unprincipled Principals: Co-opted Bureaucrats and Corruption in Ghana." *American Journal of Political Science* 64(2):209–222.

Calvo, Ernesto and Maria Victoria Murillo. 2019. *Non-Policy Politics: Richer Voters, Poorer Voters, and the Diversification of Electoral Strategies*. Cambridge University Press.

Camp, Edwin. 2017. "Cultivating Effective Brokers: A Party Leader's Dilemma." *British Journal of Political Science* 47(3):521–543.

Camp, Edwin, Avinash Dixit and Susan Stokes. 2014. "Catalyst or Cause? Legislation and the Demise of Machine Politics in Britain and the United States." *Legislative Studies Quarterly* 39(4):559–592.

Chubb, Judith. 1982. *Patronage, Power, and Poverty in Southern Italy: A Tale of Two Cities*. New York: Cambridge University Press.

Diaz-Cayeros, Alberto, Federico Estévez and Beatriz Magaloni. 2016. *The political logic of poverty relief: Electoral strategies and social policy in Mexico*. New York: Cambridge University Press.

Driscoll, Barry. 2017. "Why Political Competition Can Increase Patronage." *Studies in Comparative International Development* .

Egorov, Georgy and Konstantin Sonin. 2011. "Dictators and their Viziers: Endogenizing the Loyalty-Competence Trade-Off." *Journal of the European Economic Association* 9(5):903–930.

Fobih, Nick. 2010. "Dynamics of Political Parties' Administration in Ghana." *Africa Today* 57:25–41.

Gingerich, Daniel W. 2020. "Buying Power: Electoral Strategy Before the Secret Vote." Forthcoming, *American Political Science Review*.

Hale, Henry E. 2008. *Why Not Parties in Russia? Democracy, Federalism, and the State*. New York: Cambridge University Press.

Hassan, Mai. 2020. *Regime Threats and State Solutions: Bureaucratic Loyalty and Embeddedness in Kenya*. New York: Cambridge University Press.

Hicken, Allen. 2009. *Building Party Systems in Developing Democracies*. New York: Cambridge University Press.

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

Ichino, Nahomi and Noah L. Nathan. 2012. "Primaries on Demand? Intra-Party Politics and Nominations in Ghana." *British Journal of Political Science* 42(4):769–791.

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.

Lazear, Edward P. and Sherwin Rosen. 1981. "Rank-Order Tournaments as Optimum Labor Contracts." *Journal of Political Economy* 89(5):841–864.

Levitsky, Steven. 2003. *Transforming Labor-Based Parties in Latin America: Argentine Peronism in Comparative Perspective*. New York: Cambridge University Press.

Luna, Joseph. 2020. *Political Finance in Developing Countries: A Case from Ghana*. Routledge.

Magaloni, Beatriz. 2006. *Voting for Autocracy: Hegemonic Party Survival and Its Demise in Mexico*. New York: Cambridge University Press.

Mainwaring, Scott. 2018. *Party systems in Latin America: Institutionalization, decay, and collapse*. New York: Cambridge University Press.

Mares, Isabela and Lauren Young. 2016. "Buying, Expropriating, and Stealing Votes." *Annual Review of Political Science* 19:267–288.

Modern Ghana. 2020. NPP Youth Wing Boasts Of 60 Achievements Of NPP Gov't. Technical report.
URL: *https://www.modernghana.com/news/1016629/npp-youth-wing-boasts-of-60-achievements-of-npp.html*

Nichter, Simeon. 2018. *Votes for Survival: Relational Clientelism in Latin America*. New York: Cambridge University Press.

Nichter, Simeon and Michael Peress. 2017. "Request Fulfilling: When Citizens Demand Clientelist Benefits." *Comparative Political Studies* 50(8):1086–1117.

Novaes, Lucas M. 2018. "Disloyal Brokers and Weak Parties." *American Journal of Political Science* 62(1):84–98.

Prendergast, Canice. 1999. "The Provision of Incentives in Firms." *Journal of Economic Literature* 37:7–63.

Riedl, Rachel Beatty. 2014. *Authoritarian Origins of Democratic Party Systems in Africa*. New York: Cambridge University Press.

Rueda, Miguel R. 2016. "Small Aggregates, Big Manipulation: Vote Buying Enforcement and Collective Monitoring." *American Journal of Political Science* 61(1):163–177.

Scott, James C. 1969. "Corruption, Machine Politics, and Political Change." *American Political Science Review* 63:1142–1158.

Shefter, Martin. 1977. "Party and Patronage: Germany, England, and Italy." *Politics and Society* 7:403–451.

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

Szwarcberg, Mariela. 2015. *Mobilizing Poor Voters: Machine Politics, Clientelism, and Social Networks in Argentina*. New York: Cambridge University Press.

Tavits, Margit. 2013. *Post-Communist Democracies and Party Organization*. New York: Cambridge University Press.

Wilson, James Q. 1961. "The Economy of Patronage." *Journal of Political Economy* 69(4):369–380.

Wolfinger, Rayomnd E. 1972. "Why Political Machines Have Not Withered Away and Other Revisionist Thoughts." *Journal of Politics* 34(2):365–398.

Zarazaga, Rodrigo. 2014. "Brokers beyond clientelism: A new perspective through the Argentine case." *Latin American Politics and Society* 56(3):23–45.

Online Appendix (Supporting Information) for "Paying Party Brokers"

Contents

A Survey sampling procedure (pg. 12)

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. 13)

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. 14 and pg. 18)

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)	(0.232)	(0.126)
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)	(0.118)	(0.128)
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)	(0.122)	(0.120)
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.

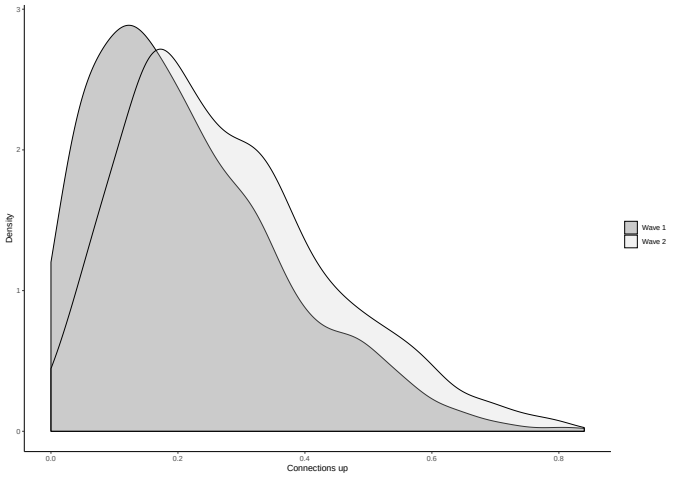
D Measuring *connections up* (pg. 15)

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 (pg. 16)

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.

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

F Campaign activity and campaign season payment (pg. 16)

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.5 shows that they are not. These regressions are subset to all branch leaders in their positions as of the 2016 campaign.

Table OA.5: 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)		0.407	
		(0.303)	
Paid minor benefits during 2016 (0,1)		0.140	
		(0.151)	
Paid cash during 2016 (0,1)			−0.071
			(0.222)
Individual-level controls	Y	Y	Y
Branch-level controls	Y	Y	Y
Constituency FEs	Y	Y	Y
N	728	728	728
adj. R^2	0.214	0.214	0.214

† 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 (pg. 20)

Tables OA.6 and OA.7 repeat Tables 4 and 5 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.6: 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.7: Predictors of minor patronage in the non-electoral period (2018-2019)

	Dependent variable:			
	Minor patronage (2018-2019) (0,1)			
	(1)	(2)	(3)	(4)
Connections up (Wave 1)	−0.066			
	(0.108)			
Connections up – politicians (Wave 1)		−0.154*		
		(0.083)		
Connections up – bureaucrats (Wave 1)		0.163		
		(0.144)		
Connections up – constituency execs. (Wave 1)		0.009		
		(0.084)		
Broker up (Wave 1)	−0.020	−0.021		
	(0.041)	(0.041)		
Broker down (Wave 1)	0.045	0.047		
	(0.041)	(0.041)		
Connections up (Wave 2)			0.091	
			(0.113)	
Connections up – politicians (Wave 2)				0.024
				(0.082)
Connections up – bureaucrats (Wave 2)				−0.112
				(0.116)
Connections up – constituency execs. (Wave 2)				0.101
				(0.080)
Broker up (Wave 2)			0.042	0.041
			(0.031)	(0.031)
Broker down (Wave 2)			0.104**	0.107**
			(0.043)	(0.043)
Campaign activity in 2016 (0,9)	−0.004	−0.003	−0.009	−0.009
	(0.008)	(0.008)	(0.008)	(0.008)
NPP pres. vote swing at polling station 2012 to 2016	0.055	0.060	−0.055	−0.045
	(0.358)	(0.359)	(0.352)	(0.349)
Constituency FEs	Y	Y	Y	Y
Individual-level controls	Y	Y	Y	Y
Polling station-level controls	Y	Y	Y	Y
Observations	844	844	844	844
Adjusted R^2	0.181	0.183	0.194	0.194

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 4: Logit model (pg. 20)

Table OA.8 below replicates Table 4 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 4 columns 4-6 because in these models the DV is not dichotomous.

Table OA.8: Logistic models (replication of Table 4: cols 1-3)

	Dependent variable:		
	Major patronage (2017)		
	(1)	(2)	(3)
NPP pres. vote swing at polling station	9.220**	6.617*	
2012 to 2016 (%)	(3.702)	(3.429)	
NPP pres. vote swing at polling stat			0.011**
2012 to 2016 (raw votes)			(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		−19.930***	
2012 to 2016		(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. 20 and pg. 27)

Table OA.9 replicates models 1 and 3 from Table 5 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.9: Table 5 with constituency competitiveness

	Dependent variable:			
	Major patronage (2018-2019) (0,1)			
	(1)	(2)	(3)	(4)
Connections up (Wave 1)	0.285**	0.206		
	(0.114)	(0.213)		
Connections up (Wave 2)			0.449***	0.339
			(0.099)	(0.213)
NPP stronghold constituency (0,1)	0.208***	0.211**	0.181***	0.154*
	(0.048)	(0.084)	(0.046)	(0.083)
Competitive constituency (0,1)	0.170***	0.131*	0.163***	0.122*
	(0.050)	(0.070)	(0.049)	(0.072)
Connections up (Wave 1) * NPP stronghold constituency (0,1)		0.001		
		(0.271)		
Connections up (Wave 1) * Competitive constituency (0,1)		0.192		
		(0.240)		
Connections up (Wave 2) * NPP stronghold constituency (0,1)				0.110
				(0.255)
Connections up (Wave 2) * Competitive constituency (0,1)				0.160
				(0.239)
Urban constituency (0,1)	−0.018	−0.020	−0.015	−0.013
	(0.051)	(0.051)	(0.047)	(0.047)
Constituency FEs	N	N	N	N
Individual-level controls	Y	Y	Y	Y
Polling station-level controls	Y	Y	Y	Y
Observations	844	844	844	844
Adjusted R^2	0.095	0.094	0.125	0.124

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 Branch position and region fixed effects (pg. 20 and pg. 21)

Table OA.10 replicates Table 4 (column 1) of the main paper. In Table OA.10 column 1, the model includes branch position fixed effects. In column 2, the model includes region fixed effects, and controls for the NPP vote share in 2016 at the constituency level. We note that the coefficient on NPP vote swing in column 2 is now not quite statistically significant. The p-value on this coefficient is 0.11.

Table OA.10: Robustness check – OLS with different FEs

	Dependent variable:	
	Major patronage (2017)	
	(1)	(2)
NPP pres. vote swing at polling station 2012 to 2016	0.706**	0.472
	(0.326)	(0.290)
Campaign activity in 2016 (0,9)	0.008	0.002
	(0.005)	(0.006)
Connections Up (%)	0.100	0.071
	(0.102)	(0.096)
NPP pres. vote swing at constituency 2012 to 2016		−0.055
		(0.248)
Constituency FEs	Y	N
Region FEs	N	Y
Individual-level controls	Y	Y
Polling station-level controls	Y	Y
Observations	722	722
R^2	0.119	0.079
Adjusted R^2	0.075	0.045
Note:	*p<0.1; **p<0.05; ***p<0.01	

K Replication of Table 4 dropping data from outlier stations (pg. 21)

Table OA.11 replicates Table 4 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

L Replication of Table 5: columns 1-4, logistic regression (pg. 20)

Table OA.12 below replicates Table 5 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 5 cols 1-4: Logistic regression

	Dependent variable:			
	Major patronage (2018-2019)			
	(1)	(2)	(3)	(4)
Connections up (Wave 1)	1.484**			
	(0.688)			
Connections up- politicians (Wave 1)		0.430		
		(0.582)		
Connections up- bureaucrats (Wave 1)		−0.919		
		(0.929)		
Connections up- constituency execs. (Wave 1)		1.159**		
		(0.590)		
Connections up (Wave 2)			2.621***	
			(0.641)	
Connections up- politicians (Wave 2)				−0.007
				(0.588)
Connections up- bureaucrats (Wave 2)				0.823
				(0.767)
Connections up- constituency execs (Wave 2)				1.585***
				(0.515)
Broker up (Wave 1)	−0.268	−0.278		
	(0.280)	(0.280)		
Broker down (Wave 1)	0.454	0.447		
	(0.283)	(0.284)		
Broker up (Wave 2)			0.191	0.189
			(0.204)	(0.205)
Broker down (Wave 2)			0.424*	0.421*
			(0.221)	(0.222)
Campaign activity in 2016 (0,9)	0.038	0.035	0.013	0.015
	(0.053)	(0.053)	(0.051)	(0.051)
NPP pres. vote swing at polling station	−1.200	−1.361	−1.548	−1.243
2012 to 2016	(2.431)	(2.440)	(2.426)	(2.443)
Constituency FEs	Y	Y	Y	Y
Individual-level controls	Y	Y	Y	Y
Polling station-level controls	Y	Y	Y	Y
Observations	844	844	844	844
Log Likelihood	−392.774	−391.511	−383.897	−382.919
Note:				*p<0.1; **p<0.05; ***p<0.01

M Replication of Table 5: columns 1-4, position FEs (pg. 25)

Table OA.13 replicates Table 5 (cols 1-4) including position fixed effects (e.g., chairman vs. secretary). We do not replicate columns 5-6 because in the first difference model position would drop out. The results show that position is not a relevant explanatory variable in period 3.

Table OA.13: Table 5: cols 1-4 (including position FEs)

	Dependent variable:			
	Major patronage (2018-2019)			
	(1)	(2)	(3)	(4)
Connections up (Wave 1)	0.226**			
	(0.114)			
Connections up- politicians (Wave 1)		0.058		
		(0.097)		
Connections up- bureaucrats (Wave 1)		−0.129		
		(0.137)		
Connections up- constituency executives (Wave 1)		0.175*		
		(0.098)		
Connections up (Wave 2)			0.405***	
			(0.098)	
Connections up- politicians (Wave 2)				0.009
				(0.094)
Connections up- bureaucrats (Wave 2)				0.122
				(0.129)
Connections up- constituency executives (Wave 2)				0.237***
				(0.081)
Broker up (Wave 1)	−0.046	−0.047		
	(0.045)	(0.045)		
Broker down (Wave 1)	0.072	0.071		
	(0.046)	(0.046)		
Broker up (Wave 2)			0.022	0.021
			(0.029)	(0.029)
Broker down (Wave 2)			0.066*	0.066*
			(0.039)	(0.039)
Campaign activity in 2016 (0,9)	0.007	0.006	0.002	0.002
	(0.008)	(0.008)	(0.008)	(0.008)
NPP pres. vote swing at polling station 2012 to 2016	−0.148	−0.162	−0.236	−0.198
	(0.322)	(0.321)	(0.307)	(0.306)
Polling station chair	−0.012	−0.010	−0.017	−0.019
	(0.050)	(0.051)	(0.050)	(0.050)
Polling station organizer	−0.042	−0.039	−0.031	−0.035
	(0.045)	(0.044)	(0.045)	(0.045)
Polling station youth organizer	0.025	0.021	0.017	0.016
	(0.058)	(0.058)	(0.057)	(0.057)
Polling station women's organizer	0.054	0.049	0.062	0.057
	(0.077)	(0.078)	(0.077)	(0.077)
Constituency FEs	Y	Y	Y	Y
Individual-level controls	Y	Y	Y	Y
Polling station-level controls	Y	Y	Y	Y
Observations	844	844	844	844
R^2	0.177	0.179	0.194	0.196
Adjusted R^2	0.139	0.140	0.157	0.157
Note:				*p<0.1; **p<0.05; ***p<0.01

N Table 5 – Disaggregating major patronage: jobs, training, loans (pg. 25)

Table OA.14 below disaggregates the main components of major patronage –jobs, loans and skills training – and re-analyzes Table 5, columns 1 and 3. Figure OA.3 plots the coefficient on *connections up* from these models.

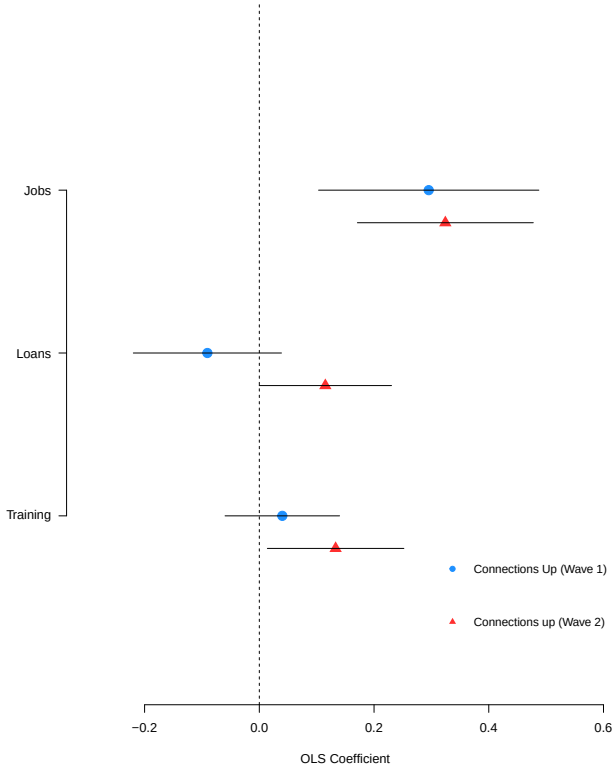
The results in Table OA.14 columns 1, 3, and 5 show that the positive correlation between pre-existing *connections up* wave one and major patronage in Table 5 (column 1) in Period 3 is driven by the receipt of jobs. In contrast, there is a positive and statistically significant relationship between *connections up* in wave two and all three of these items in Period 3.

Table OA.14: Major patronage (2018-2019): Disaggregated jobs, loans, training

	Dependent variable:					
	Job		Loan		Training	
	(1)	(2)	(3)	(4)	(5)	(6)
Connections up (Wave 1)	0.295***		−0.091		0.040	
	(0.098)		(0.066)		(0.051)	
Connections up (Wave 2)		0.324***		0.115*		0.133**
		(0.078)		(0.059)		(0.061)
Broker up (Wave 1)	0.008		−0.064**		−0.013	
	(0.035)		(0.025)		(0.020)	
Broker down (Wave 1)	0.048		0.045*		0.025	
	(0.038)		(0.024)		(0.022)	
Broker up (Wave 2)		−0.009		0.007		0.027
		(0.025)		(0.020)		(0.017)
Broker down (Wave 2)		0.079**		0.001		0.054**
		(0.033)		(0.024)		(0.025)
Campaign activity in 2016 (0,9)	0.003	0.004	0.0003	−0.006	0.006*	0.003
	(0.006)	(0.007)	(0.006)	(0.006)	(0.004)	(0.004)
NPP pres. vote swing at polling station	−0.137	−0.123	0.305	0.173	−0.514**	−0.569***
2012 to 2016	(0.268)	(0.258)	(0.186)	(0.191)	(0.210)	(0.200)
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
R^2	0.156	0.165	0.293	0.289	0.103	0.124
Adjusted R^2	0.122	0.131	0.264	0.260	0.066	0.089
Note:						*p<0.1; **p<0.05; ***p<0.01

Figure OA.3 plots the coefficients on the two Connections Up variables from Table OA.14.

Figure OA.3: Relationship between connections up and major patronage (disaggregated)



O Distance from polling station to district capital (pg. 27)

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 4 and 5 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.15 and OA.16 below).

Table OA.15: Table 4: 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.16: Table 5: coefficient for distance from polling station to district capital

	Dependent variable:			
	Major patronage (2018-2019)			
	OLS			
	(1)	(2)	(3)	(4)
Distance between PS and district capital (km)	−0.002	−0.002	−0.001	−0.001
	(0.002)	(0.002)	(0.002)	(0.002)
Constituency FEs	Y	Y	Y	Y
Individual-level controls	Y	Y	Y	Y
Polling station-level controls	Y	Y	Y	Y
Observations	844	844	844	844
R^2	0.174	0.177	0.192	0.193
Adjusted R^2	0.141	0.141	0.159	0.158
Note:				*p<0.1; **p<0.05; ***p<0.01