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A TALE OF TWO VILLAGES: KINSHIP NETWORKS AND POLITICAL PREFERENCE CHANGE IN RURAL INDIA

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Abstract

This paper develops a theory on how voters form and change political preferences in democratic developing world contexts. In the developing world, where state institutions are often weak, voters tend to be more focused on the competence and capacity of parties and candidates to deliver benefits. Such information may be difficult to ascertain, so voters must glean information from how candidates conduct themselves during the electoral campaign. Voters use kinship networks to develop more accurate preferences by collectively reasoning through newly available information on candidates. In order to demonstrate these claims, this study analyzes data collected on political preferences and kinship networks in two villages just before and after the campaign period during the 2011 Assembly election in the Indian state of West Bengal. The paper finds very strong kinship network effects on changes in issue preferences and vote choice over the course of the campaign and explains the results through qualitative work and a series of network autoregressive statistical models. In sum, this paper demonstrates how voters develop independent preferences and implement political change, even in low information contexts with weak human capital.

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1 Introduction and Motivation

"The formation of political preferences ought to be one of the major subjects of political science." This is the first line in Aaron Wildavsky's article investigating political preference formation vis-à-vis social and cultural context. Yet, one must wonder if Wildavsky's wisdom would be taken seriously today in the study of developing world democracies, which is dominated by accounts of clientelism and patronage (Chandra, 2004; Stokes, 2005; Posner, 2005; Kitschelt and Wilkinson, 2007; Lust, 2009) and less focused on how the underlying political preferences of voters form and change. The chief narrative argues that political actors distribute the largesse of the state, be it jobs or other economic benefits, in a biased and targeted fashion in order to win elections by buying voters, which diminishes the importance of underlying political preferences of the electorate in a system of so-called "perverse accountability" (Stokes, 2005; Kitschelt and Wilkinson, 2007). Thus, at a minimum, one expects patronage to confer electoral advantages to those parties and politicians controlling state resources. Yet the developing world, where structural incentives seemingly favor the incumbent, often experiences party alternation and political change. In fact, the developing world is characterized by the greatest levels of electoral volatility (Mainwaring and Scully, 1995; Concha, 2014) and anti-incumbency (Linden, 2004; Roberts, 2008; Ravishankar, 2009; Uppal, 2009; Titiunik, 2011).

In order to understand processes of political change,[1] this paper proposes a theory that characterizes the basis for political preferences in the developing world, as well as when and how these preferences are updated. In the developing world, where state institutions are often weak, preferences tend to be more focused on a party's or candidate's capacity and competence to deliver benefits rather than ideology. Instead of constantly updating preferences, which can be time-consuming and difficult to do, voters update these preferences just prior to the election by gleaning information from how parties and candidates conduct themselves during the campaign period. In order to update preferences, kinship networks collectively reason over this new information to develop more accurate preferences.

In such settings, preference formation cannot be fully theorized from purely individualistic notions of voter behavior. A voter by herself, with little opportunity to reason through politically salient issues, is vulnerable to manipulation from political actors. However, by hooking into her kinship network, and reasoning over salient information, the voter is able to make an informed decision. In this manner, kinship networks engender the independence and collective power of voters, enabling voters to enforce democratic accountability and implement political change. Such a conception of voter behavior explains how voters function in a party system that is not constructed by longstanding socio-ideological differences (Lipset and Rokkan, 1967). Furthermore, if voters are able to express accurate preferences at the polling booth, it implies that analysts must grapple with why these same voters often elect "lower quality" politicians who are criminals (Vaishnav, 2012*a*) and/or corrupt (Besley et al., 2004).

This paper analyzes a census in two villages, Chaandinagar and Ranjanpur, just before and after the electoral campaign period during the 2011 Assembly election in the Indian state of West Bengal. West Bengal provides a unique opportunity to understand changes in preferences, as the election in 2011 generated a spectacular wave-like shift in political preferences in which the incumbent governing coalition lost the election for the first time in 34 years. By focusing on a period of preference change in a state that has not historically experienced party alternation, this study provides an opportunity to understand how voters change preferences, even when existing institutions are structured to favor the incumbent. Data is collected upon partisan preferences, as well as issue preferences that focus on retrospective evaluation of the incumbent and prospective evaluations of candidates and parties. Using this data, this paper discusses fine-grained qualitative and quantitative evidence on the role of kinship networks in changing vote choice and issue preferences over the electoral campaign. Using eight months of qualitative field research around

[1] There are many patterns of political change. For instance, the political system may face fairly regular party alternation as in the Indian states of Kerala and Tamil Nadu, or a stable system may face a sudden wave-like change in elected parties, as in the case studied here. The goal is not to characterize a single type of change, but rather to understand how voters generate a social space to implement political change.

a single election in these two villages, this paper provides detailed information on the characteristics of kinship networks, their structural connection to existing political preferences, and their role in changing both partisan and issue preferences. The micro-level analysis undertaken in this paper is particularly geared towards understanding and identifying exactly how kinship networks influence general political preferences.

1.1 Overview

Democracies in the developing world are largely characterized by two forms of institutional weakness, those of the state and political parties. Weak state institutions give political actors the ability to manipulate the distribution of benefits (Helmke and Levitsky, 2004; Acemoglu, 2005) and fundamentally affect what citizens can reasonably expect from the state, focusing voter preferences on a candidate's capacity and competence to deliver benefits. Weak political party institutionalization implies that parties have weaker ideological roots in society (Mainwaring and Torcal, 2006) and are thus unable to array themselves according concrete policy differences (Kitschelt, 1995). While in the West, partisan attitudes are seen as relatively stable, occasionally changing due to generational shifts (Campbell et al., 1960; Green, Palmquist and Schickler, 2002; Inglehart, 1971), a theory of preference formation in the developing world must address the inherent instability in electoral outcomes and political preferences.

This paper locates the unique patterns of electoral behavior and political preference formation in the developing world in the prominence of personal networks, namely kinship, in addressing challenges posed by weak institutions. Institutional weakness poses two major challenges for the standard model of democratic accountability.[2] First, when parties do not attempt to differentiate themselves or compete on the policy dimension, voters have a difficult time developing evaluative criteria to distinguish between candidates and generating an "interest" upon which to base voting decisions. Second, voters must be attuned to the attributes of candidates and parties that maximize these interests, in this case the capacity and competence to deliver benefits, information that is quite difficult to ascertain. Kinship networks mitigate these problems by collectively reasoning over new information released during the campaign to develop preferences over candidates. In doing so, voters generate a social space that allows for changing preferences without direct interference from political actors.

In order to support the proposed theory of political preference formation and change, this paper demonstrates three empirical claims. First, the campaign period has a strong impact on changes in both voting and issue-based preferences, with 20% (Chaandinagar) and 26% (Ranjanpur) of respondents changing their voting preferences and a 0.1 (Chaandinagar) and 0.3 (Ranjanpur) standard deviation change in issue-based preferences on a constructed scale. This demonstrates that many voters update their political preferences just prior to the election, and that this updating involves changes in underlying issue beliefs as opposed to simply strategizing over the vote. Second, there is a strong relationship between preferences of those in the kinship network and political preference change, with preferences of one's direct kin predicting a 9% (Chaandinagar) and 17% (Ranjanpur) change in voting preferences and a 0.08 (Chandinagar) and 0.1 (Ranjanpur) standard deviation change in issue-based preferences over the campaign period. A series of statistical models demonstrates that these effects are not driven by pooling over existing information or due to correlated types of campaign exposure over the kinship network. Finally, using survey-based evidence, this paper demonstrates that a majority of respondents report the importance of discussion and coordinated decision-making. Taken together, this implies the importance of kinship networks in updating political preferences through collectively reasoning over new information released during the campaign.

[2]Manin, Przeworksi and Stokes (1999) describe the classic democratic accountability model in two steps: (1) voters vote to retain the incumbent only when the incumbent acts in their best interest; and (2) the incumbent chooses policies necessary to get re-elected.

1.2 Contribution

This paper makes three important contributions to the political science literature. First, this paper explains why it makes sense for voters to update their preferences just before the election, after observing the campaign. Unlike the literature in the West, which has been ambivalent on the role of campaigns in preference formation, this paper explains why campaigns are central to preference change in developing world contexts. It further explains why one may observe volatility in stated preferences just prior to the election.

Second, this paper extends classic theories about social influence in personal networks. The original theories of the social influence developed in the United States described conditions of relatively stable partisan preferences, which were explained through developing personal networks with like-minded individuals and political socialization from an early age. By contrast, this paper investigates social influence in a context of volatile political preferences and is focused on explaining changing preferences through networks. There is also a robust literature on the use of personal networks for political persuasion through strategic interactions. This paper adds to this literature by describing how kinship networks collectively discuss and reason through newly obtained information, and demonstrates why it is important to separate the principles of information and preferences. Concretely, this means that kinship networks do more than trying to persuade each other of different ideological political positions, they have an explicit role in informing themselves about the underlying characteristics of political actors through coordinated reasoning, which translates into the development of new political preferences.

Finally, this paper makes innovations in the design and measurement of network influences on political opinions. One of the key methodological challenges of working in a network context is "reverse causality," i.e., connections between individuals in a social network are a function of the outcome of interest. In the context of this study, the fear is that individuals with similar political opinions are more likely to be married and out-migration is more likely among individuals who have conflicting political opinions with the rest of their kinship networks. In this paper, a census of political opinions is obtained both before and after the campaign period, over which kinship networks remain fixed. This paper explicitly shows that a network autoregressive model with the after-campaign opinion as the dependent variable, controlling for the pre-campaign opinion, retrieves the influence of the network on the change in opinions for a very general information diffusion process. The components of this network effect can be further understood through disaggregating correlations in individual-level effects and survey evidence and a series of statistical tests. In sum, this framework provides a rigorous way to determine the types of impacts social networks have on changes in political opinions.

Section 2 lays out the theory of how kinship networks affect political behavior through coordinated reasoning and discussion. Section 3 discusses the qualitative evidence and study design. Section 4 demonstrates that vote choice and issues preferences change over the campaign. Section 5 demonstrates strong kinship network effects in changes in vote choice and political opinions. Section 6 demonstrates that kinship network effects are largely due to political discussion and coordination of political behavior, and that this coordination is primarily over signals observed during the campaign. Section 7 concludes the paper, discussing methodological implications and larger implications for studying voting behavior in developing world democracies.

2 Theory

Today, democracies comprise a significant proportion of developing world countries. Beginning with democratic transitions in Southern Europe, and Latin America in the 1970s and 1980s, as well as transitions in Africa, Southeast/East Asia and Eastern Europe in the 1990s and the 2000s, the expansion of democracy is the fruit of what has collectively been referred to as the "third wave of democracy" (Huntington, 1991).

This expansion has spawned a literature on democratic transitions and democratic consolidation in the developing world (Stepan and Linz, 1996; Przeworski et al., 2000). There has also been investigation on performance-based preferences in Eastern Europe on the state of the economy (See Tucker (2002) for a review) and in Africa on the provision of collective goods (Weghorst and Lindberg, 2013), as well as differences in political preferences by social cleavage (Tucker, 2002; Lieberman and McClendon, 2013). Yet, there has been less focus on the structural aspects and processes involved in political preference formation.

In order to fill this lacuna, this paper develops a theory of preference formation and change in rural India. On the whole, India is more than two-thirds rural (Census of India, 2011), making it one of the most agrarian-based democracies in the world. Many recently consolidated democracies, in Africa, Central America, as well as South and Southeast Asia, display very large rural populations. Like India, many of these countries also exhibit weaker states (Migdal, 1988), which hamper their abilities to properly appropriate resources without bureaucratic or political manipulation. At the same time, Indian democracy is a strongly consolidated democracy; it is just one of 33 countries (and by far the poorest and least literate of such countries) that has been continuously democratic since 1977 (Lijphart, 2006). This makes India a particularly good place to understand the longer run aspects of preference formation in burgeoning developing world democracies.

2.1 A Model of Updating Preferences in Developing World Contexts

2.1.1 Common Knowledge, Information Pooling and Reasoning

The proposed model of changes in political preferences follows a widely accepted conception of Bayesian updating. In particular, voters hold some "prior" set of political preferences before the campaign, observe a series of "events" during the campaign and discuss them with their personal networks, updating accordingly to a set of "posterior" political preferences. The black box in this conception is exactly how the events over the campaign, and, more importantly for this paper, how discussion over personal networks affects the way in which voters update political preferences.

In trying to understand interpersonal effects on updating preferences, the existing voting behavior literature has focused primarily on issues of persuasion. This literature highlights the impact of individual and message characteristics, as well as the credibility of a discussion partner in sharing information and influencing political preferences (see Druckman and Lupia (2000) for a detailed overview); the updating of political preferences is then seen as the outcome of a series of strategic interactions between discussion partners (Lupia and McCubbins, 1998). This is a natural way to conceive of preference formation in which discussion partners can be ideologically diverse, and they are trying to convince each other of ideological positions. The developing world does not fit this model particularly well. Members of a kinship network are likely to have similar preferences on the delivery of benefits (as they jointly gain from them), and individuals are often collectively trying to determine who will most likely deliver such benefits. This is less about ideological persuasion and more about trying to solve a puzzle with relatively truthful diffusion of information between discussion partners. Accordingly, the model of updating in this paper draws its inspiration from the literature on "common knowledge," which focuses on how discussion partners observing events, such as the campaign, can reason with each to reach agreement. The innovation in using this approach is that it allows for an analytical separation between "beliefs" and "preferences", as described in some detail below.

A technical discussion of the common knowledge framework is beyond the scope of this paper, but an informal discussion can clarify the main points of the theory. The framework imagines a space of imperfectly observed "states of the world" over which individuals try to reason; there are very many states of the world and they can be quite complex. A state of the world might, for instance, be the complex outcome that a candidate wins the election, builds a school in a neighboring village, doesn't fix wells in the village,

steals from a social welfare program, attends legislative assembly regularly, and visits the village once a month. These kinds of complex outcomes are imperfectly observed or ascertained, and individuals who discuss politics with each other may have differing views on states of world. Individuals glean information about the true state of the world by observing a series of events, such as campaign promises, strength of the campaign organization, and so on. Crucially, discussion partners experiencing the same events may ascertain different pieces of information from them.[3] After experiencing the same campaign, one person may ascertain that the candidate is likely to win the election while her discussion partner may not realize that the candidate will likely win the election but notices that the candidate is likely to build a school in a neighboring village if elected.

Aumann (1976) showed that discussion partners who observe a common series of events will always reason to an agreement on posterior beliefs over states of the world if they can truthfully convey what they know, subject to some technical assumptions.[4] Substantively, the technical assumptions require that differences in observable beliefs are primarily due to differences in information, a fairly reasonable assumption when beliefs are largely driven by what is observed over the campaign. The result is deceptively simple. If differences in beliefs are primarily due to differences in information, then pooling all information and/or coordinated reasoning, should remove information asymmetries and lead to similar beliefs. While one may reasonably quibble that not all individuals interpret identical phenomena the same way, the process of discussion and collective reasoning over what has taken place is likely to mitigate many of those issues in this context.

The implications for theories of political behavior are that those in the same kinship network, with seemingly different views about candidates or parties before the campaign begins, may be induced to reach consensus through collective reasoning over the campaign. That is, before the campaign voters may reason with very different experiences and sources of information. Only when they experience the campaign and share information with each other will coordinated reasoning take place. This process need not involve strategic manipulation or hierarchy between members of the kinship network. Rather, it is a form of rational updating that requires many people to truthfully discuss what they know and collectively reason with each other. It thus forms the basis for how voters may update preferences in a way that is not necessarily consistent with a classically liberal or individualistic view of voter behavior.

2.1.2 Common Knowledge to Political Preferences

Even if voters have the same beliefs about the state of the world, they may choose to act on them differently. For instance, imagine that the belief is that a particular candidate is very likely to support abortion rights. Two individuals, who disagree on abortion rights, will also likely judge this candidate differently. Common beliefs about the state of the world only translate to common political preferences if such beliefs are interpreted the same way by all individuals. Classic models of the persuasion (e.g., Crawford Sobel cheap-talk models) or political competition (e.g., the Downsian model) do not separate beliefs from political preferences. Yet, creating this analytic distinction makes clear why coordination is so much more likely in developing world contexts. If preferences flow from beliefs about who will deliver benefits effectively, then there is no reason to be strategic within the kinship network about pooling information. Thus, the very basis of political preferences generates incentives for coordinated reasoning. This suggests that preference shifts are not just partisan shifts; they are accompanied by true updating of beliefs about underlying delivery-based issues.

This paper argues that kinship networks are the implement through with this information pooling and coordinated reasoning can occur. India is a weak state environment in which politicians are often able to

[3] Alternatively, discussion partners can share what events they have seen with each other.

[4] The technical requirement of "common prior beliefs" is quite strong and may be problematic according to other models of updating beliefs (Gul, 1998). Recent work has shown that a slightly weaker conception produces substantively similar insights; namely, if priors over states of the world are "close," then the posteriors after observing a series of common events will also be "close" (Hellman, 2013).

exercise discretion in the delivery benefits and public goods. Thus, voters require a significant amount of information about a candidate's targeting biases as well as competence in delivering benefits to personal networks; these form the basis for common preferences over the kinship network. Because accessing this information is so costly, voters typically update both partisan and issue-based preferences just prior to the election by experiencing the campaign. In order to mitigate the high costs associated with selecting a good candidate, kinship networks pool relevant information and engage in coordinated reasoning. Kinship networks are the natural implement to use in this context because of high levels of trust between their members as well as economic complementarities.

These arguments are discussed in detail in the following subsections. Section 2.2 describes the structure of political preferences in a context of weak state institutions and how these preferences relate to patronage. Section 2.3 discusses the informational demands of updating political preferences and why one observes significant updating of political preferences during political campaigns. Finally, section 2.4 discusses the role of social influences, in particular kinship, in forming and coordinating over political preferences.

2.2 Weak States and the Structure of Political Preferences

Countries in the developing world are often characterized by weak states. For Weber (1919), in a modern state, politicians and bureaucrats should be dominated "by the virtue of 'legality'," and "obedience is expected in discharging statutory obligations." A weak state is, by contrast, one in which the politicians may exercise significant discretion in the distribution (or lack of distribution) of benefits subject to statutory regulations. As Kapur (2013) has shown, the Indian state is particularly weak in those areas that address statutory enforcement. Nearly a quarter of nationwide police vacancies remain unfilled, and the judicial system has a current backlog of 32 million cases. Kapur calculates that if no new cases were filed, it would still take until 2330 for India to clear its dockets at the current pace of deciding cases. A further source of state weakness results from complex and inconsistent laws which empowers knowledgeable politicians to maneuver through the system for their own ends (Björkman, 2014*a*).

Weak state institutions structure political preferences in two important ways. First, citizens require extremely detailed information about parties and candidates in terms of their targeting biases as well as their competence and willingness to deliver benefits and public goods.[5] Second, the most salient political preferences for determining partisan support revolve less around core ideological attitudes, e.g., beliefs about state intervention or stances on social issues, rather than issues that relate to the ability to govern the economy and distribute benefits and public goods. In the West, while economic shocks are known to affect voting outcomes, parties are significantly more likely to have stable and discernible ideological and policy differences (Kitschelt, 1995; Mainwaring and Torcal, 2006). By contrast, a significant focus on delivery of benefits generates substantially similar political preferences among those in the same personal and kinship networks.

Political preferences consist of issue preferences and partisan preferences. At the outset, it is important to note that the distinction between issue preferences and partisan preferences is not always clear. Indeed, issue preferences that are tied to perceptions of delivery are endogenously intertwined with preferences for parties. In particular, one's beliefs about delivery are likely to affect partisan choice, just as commitment to a political party or candidate is likely to affect perceptions of delivery. Yet, as will be shown in the empirical sections of the paper, there are good reasons to separate out issue preferences and partisan preferences. Issue preferences do not map cleanly to partisan preferences, and the concurrent movement of both issue preferences and partisan preferences suggest a feedback loop between the two types of preferences. Unlike the literature in the United States, which has engaged in a lively debate about whether issue

[5]This is consistent with Thachil (2014), who shows that the Bharatiya Janata Party (BJP) used non-state organizations to signal its competence in delivering local public goods and build its base among disadvantaged voters in India.

preferences lead to partisan preferences (Downs, 1957) or if partisanship leads to issue preferences (Zaller, 1992; Lenz, 2012), this feedback between issue preferences and partisan preferences is a fundamental feature of the structure of preferences in a developing world setting.

2.2.1 Political Preferences and Clientelism in India

Much of the political science literature dealing with political behavior or voter behavior in such weak state contexts focuses on patronage, clientelism or vote-buying. Wilkinson (2007) defines patronage (in a democratic context) as "the direct exchange of a citizen's vote in return for direct payments or continuing access to employment, goods and services." This larger principle has been analyzed and demonstrated across Latin America, South Asia, and Africa (Van de Walle, 2003; Chandra, 2004; Stokes, 2005).

The study of electoral patronage in India has a long history. It has typically focused on "vote banks," a term coined by Srinivas (1955) to denote a group of voters whose political behaviors (e.g., voting) remained under the control of some patron.[6] This theoretical frame generated a literature on the so-called "Congress system,"[7] which focused attention on how the Congress Party, the party that controlled national government following Indian independence, co-opted elites and manufactured a strong patronage system in order to win elections. These elite-centric and party-centric arguments diminished the importance of the Indian voter and little effort was put into understanding how the average Indian voter forms political preferences. Even today, Chandra (2004) finds evidence that India is a "patronage democracy" where voters support a party so that the party may deliver benefits directly to its supporters through ethnic cues. However, there is a growing recent literature on the democratic deepening of India.[8] Many studies have shown an increase in formal political actors from lower classes and castes, signifying a breakdown of elite domination, as well as greater voter accountability in the Indian system.[9]

The literature has focused on two mechanisms that can explain why voters would forego their own political preferences and vote in a way to maximize their own patronage benefits. First, a party or candidate may use the largesse of the state to promise and perpetuate targeted benefits. In this situation, the incumbent party may guarantee re-election because it controls the levers of the state. But, while essentially characterized by single party rule from 1947-1977, India has, more recently, tended to be characterized by party/candidate alternation and anti-incumbency. Using a regression discontinuity approach, Linden (2004) has demonstrated that an incumbent is actually 14 percentage points *less* likely to be re-elected than a candidate who re-runs for election in India.

A second mechanism holds that directly monitoring how each voter casts her vote can support a patronage-based system because it allows political actors to directly trade benefits for votes (Stokes, 2005) . Over the past couple of decades, it has become increasingly difficult for parties to engage in such behavior in the Indian context. In the early 1990s, during a period of increasing party competition, Sridharan and Vaishnav (2014) demonstrate that the Election Commission of India (ECI) began a period of regulatory expansion and activism that has resulted in stronger democratic legitimacy in elections. Beginning under the stewardship of T.N. Seshan, the ECI began to systematically devoting a large share of its resources to implementing the "model code of conduct" (MCC). The MCC puts strong restrictions on the behavior

[6]The term was further popularized by Bailey (1963) who used the term to denote caste groups voting as blocs under a caste leader. Interestingly, Bailey himself believed that such vote banks would soon disappear.

[7]The term "Congress system" was first coined in Kothari (1964) and was further developed in a comprehensive study by Weiner (1967).

[8]Stepan, Linz and Yadav (2011) report robust support for democratic principles in India, even compared to many other developing world democracies. Furthermore, Banerjee (2011), also based upon anthropological work in West Bengal, shows that elections have taken on increased cultural significance, even displaying sacred and ritualistic elements.

[9]Krishna (2002) and Manor (2000) have demonstrated the rise of a new class of brokers, through whom villagers can access public goods and services, whose viability relies on the ability to deliver goods and not social status. Jaffrelot and Kumar (2009) and Michelutti (2009) have chronicled the "subalternization" of Indian politics, whereby lower castes are entering the formal political arena in greater numbers.

of political actors, media, and researchers for its duration, which helps control malfeasance around the elections.

Survey evidence finds that the ECI is one of the most trusted institutions in India (just behind the army) with 80% of respondents placing trust in the institution (State of Democracy in South Asia, 2008). The National Election Survey of India (2009) finds that only 13% of respondents believe that their votes can be monitored most or all of the time, and the same survey finds that only 16% of respondents believe voters feel obliged to vote for those who distribute benefits to them before the election. In fact, in a direct test of the partisan monitoring assumption, Schneider (2014) found that local elites are surprisingly poor at predicting the partisan preferences of voters in the Indian state of Rajasthan, guessing partisan preferences no better than a basic low information empirical model.

Recent literature points to an alternate mechanism to support patronage. In an environment where most behaviors are publicly observable, like a village, while vote choice cannot be observed, one's commitment to a party can reasonably be observed, from showing up to political rallies and canvassing to financial contributions and regular association with party members. Benefits distributed with respect to *demonstrated* support for a party (Bardhan et al., 2009, 2011),[10] constitutes an effective, if imperfect, method of targeting supporters. However, for a voter to strategically "opt in" to a clientelistic system, she must be willing to pay the costs of demonstrated support. Not everyone is willing to bear this cost, which can be very high if the aggregate quantum of benefits is low,[11] so this costly signaling mechanism separates voters who strategically demonstrate support for a party from those who vote sincerely. Ceteris paribus, however, one should expect that it is costlier for a voter to demonstrate support for a party or candidate that she does not support sincerely. Thus, this clientelistic mechanism is unlikely to severely alter the outcome of the election as compared to a scenario in which every voter casts her vote sincerely. This theory explains how clientelism can persist while politics can still primarily be a function of underlying political preferences and suggests the importance of developing a more precise theory of preference formation and change.

2.3 Updating Preferences and the Campaign

The West has typically been characterized by relatively stable partisan preferences with occasional generational shifts (Inglehart, 1971; Green, Palmquist and Schickler, 2002), whereas the developing world has exhibited less stability in preferences and greater short term electoral volatility (Mainwaring and Torcal, 2006; Concha, 2014). Even in the United States, political opinion polls show quite a bit of movement over the campaign period, but electoral outcomes are eventually well-predicted by such polls (Gelman and King, 1993). This is in stark contrast to India, where political opinion polls often fail to predict outcomes correctly (Hill, 2014). This is not simply due to higher quality polling in the United States. In the West, movements in opinions can often be cleanly predicted by accounting for demographic factors before the campaign (Gelman and King, 1993), whereas it is much harder to predict the updating of issue and partisan preferences based upon current party and candidate characteristics in a place like India.

Although Gelman and King (1993) develop their theory of campaigns and preference formation in the context of the United States, their theory of "enlightened preferences" is instructive for understanding preference formation in the developing world. They note that voters' preferences are a function of underlying fundamental variables, which include voters' perceived characteristics of the candidates. The campaign period serves to educate voters about these fundamental variables, and voters need not worry about updating political preferences until just before the election. In the context of the United States, the

[10] Using a survey 89 village across West Bengal, these surveys find that nearly 70% of respondent make financial contributions to political campaigns, and 48% participate in party meetings.

[11] There is much work showing that recurring private benefits, like employment, are subject to political manipulation (Wilkinson, 2006; Bardhan and Mookherjee, 2012). However, as Vaishnav (2012*b*) has shown, India actually has the lowest per capita public sector employment of any of the G20 economies.

underlying policy position is thought to be the most salient characteristic of a candidate, something an astute political observer will know before the campaign begins and can use to reliably predict electoral results. By contrast, in India, the most salient characteristic is the perception of the capacity of the candidate to deliver benefits and public goods, whether in a biased or unbiased fashion. These perceptions are fundamentally a function of signals during the campaign and cannot be easily ascertained ahead of time; these signals form the "events" over which voters update their beliefs and preferences.

A significant amount of necessary information, from a voter's perspective, is not apparent until the campaign begins. Given the relatively low intra-party democracy of most Indian parties, there is often little information about the selected candidates ahead of time. In addition to direct signals sent during the campaign, a candidate's ethnic background (Chandra, 2004) or criminal background (Vaishnav, 2012*a*) may serve as a credible signal of a candidate's ability to deliver benefits. The use of cash and money in campaigning is also best seen through this lens. Rather than vote buying, which as shown above is not particularly effective, the distribution of cash (or the use of it in hosting rallies and feasts) often demonstrates access to the "networks of power, knowledge and authority" necessary for effective delivery of benefits (Björkman, 2014*b*).

A second piece of crucial information during the campaign period concerns the winnability of a candidate's party. The major media houses will typically provide pre-election projections of outcomes during the campaign. In a system that often displays a significant amount of volatility in vote shares, this can provide new, concrete information. But even without knowledge of pre-election projections, one can often assess the winnability of a party through ground presence of the party organization. Patnam (2013) demonstrates that unexpected information about the winnability of a party (through exit polls) may cause as much as a twenty point increase in the probability of voting for that party. This support for winners may be due to a well-established psychological bias for wanting to vote for a winner, often called the "bandwagon effect" (McAllister and Studlar, 1991; Nadeau, Cloutier and Guay, 1993). But the sheer magnitude of the effect suggests more is at play. In a world where candidates are being evaluated on their capacity to deliver benefits and public goods, the job of the elected legislator is made significantly easier if he or she is a member of the party that forms government.[12]

According to the most recent national election study of India (NES 2014), 49% of respondents[13] indicated that they decided whom to vote for during the campaign. Of those 49% that made up their minds during the campaign, 60% of respondents indicate making up their minds in last two days before the the election. In short, a sizable number of Indian voters seem to make up their minds after observing the conduct of parties and candidates during the campaign. By contrast, according to the American National Election Survey (ANES), only 17%[14] of respondents made up their minds in the last two weeks of the campaign during the last presidential election in 2012.

2.4 Social Influence and Kinship Networks in Political Preference Formation

The investigation of social influence on voting behavior has its roots in the American political system in studies from the so-called "Columbia School." These theories operated in a very different context, as they were often trying to explain the stability of partisan preferences rather than changes and volatility in political preferences. The Columbia School of sociologists argued that vote choice and political opinions were largely a function of one's own personal network. Much like the present study, these claims were substantiated by survey research at the community level in Erie County, Pennsylvania (Lazarsfeld, Berelson and Gaudet, 1944) and Elmira, New York (Berelson, Lazarsfeld and McPhee, 1954). The Columbia

[12] As an example, Sircar and Vaishnav (2014), in a 30 year analysis of politics in the Indian state of Tamil Nadu, find that the building of schools at the legislative constituency level is strongly associated with legislators and vote share from the party forming government.

[13] This number removes non-response.

[14] This number removes non-response as well.

School also noticed the prominent role occupied by kinship networks, viewing them as the most important drivers of political identities. At the same time, they argued that individuals generally choose to seek out information that reinforces their views, thereby explaining the stability of political opinions. Campbell et al. (1960), also noticed the central role of kinship in preference formation, arguing that individuals are "socialized" into a particular partisan identity early in life (Glass, Bengtson and Dunham, 1986; Jennings, Stoker and Bowers, 2009), usually through parents, thereby explaining stability of preferences. This theory downplayed the importance of day-to-day political discussion, instead focusing on how this socialization had long-lasting impacts on subsequent political beliefs. Each of these theories focused on how kinship (or personal networks more generally) hardened and generated stable preferences, while finding little importance for electoral campaigns. By contrast, the rationalist theories found a role for campaigns and media. They argued that one's friends and family may provide "information shortcuts" for the political information generated in a campaign, after which voters make informed, rational political decisions (Downs, 1957; Popkin, 1994; Lupia and McCubbins, 1998).

Recent literature has investigated these theories of social influence using social network analysis of the personal networks of voters. The well-developed literature on social influences in the United States is instructive to think about ways the Indian case contrasts with and can extend upon theories developed in such a setting. A major source of debate in the American literature has been the extent to which voters are able to construct personal networks of friends and neighbors with similar preferences (Huckfeldt, Johnson and Sprague, 2004; Mutz, 2006; Klofstad, Sokhey and McClurg, 2013), given spatial and environmental constraints, and the resulting impact on political preferences. In the case of the developing world (especially rural areas), the primacy of kinship networks, in both spatial and personal relations terms, implies that personal network effects on political preferences are driven less by these sorts of selection effects.

Furthermore, in the United States, disagreement in political preferences within the personal network has been shown to increase tolerance and ambivalence about partisanship while decreasing political participation (Mutz, 2002*a*,*b*). In the developing world, there is a much stronger incentive for this disagreement to engender discussion and coordination on a specific set of political preferences within the kinship network, creating common partisan and issue preferences over the network. First, as discussed in section 2.2, partisan or issue based disagreement is less likely to be due to core ideological differences but rather differences in the information ascertained, increasing the prospects of agreement through reasoning and discussion. Second, political disagreement may hinder the larger cooperative and trust-based role of kinship networks in mitigating risk and vulnerability. Finally, to the extent that kinship networks want to opt in to the patronage politics described in section 2.2, coordination in support for a desired party or candidate is necessary.

2.4.1 Kinship

Little work exists on the importance of kinship networks for political decision-making in India or the rest of the developing world.[15] This is all the more surprising given the importance of families in Indian society. The last National Election Survey in India found that 20.2% of respondents report that the views of a spouse or other family member matter the most in voting decisions, representing 55.4% of those

[15]Defining kinship can be a difficult task. This paper puts forth a network conception of kinship, as opposed to a group-based conception of family. As Inden and Nicholas (1977) have shown, consanguinity, a standard criterion for kinship in Western societies, does not fully characterize the South Asian family. For instance, a woman who marries into a family becomes a part of that family. This cultural understanding of what constitutes a family is crucial to any analysis of kinship. At the same time, it is important distinguish between the relative distance in relationship between family members. Two women who have married into the same family are likely to be more distant than those who have spent a significant portion of their lives together, like siblings or parent/child. In the quantitative portion of this study, two individuals are linked in the kinship network if they satisfy a "nuclear relation": sibling, spouse, parent, or child. This effectively characterizes the South Asian notion of a family (since two women who have married into the same family will still be connected but more distant than two brothers), while accounting for the relative closeness of family members.

who named another individual as mattering the most in voting decisions.[16] Kinship represents the most prominent and influential social and personal network in a villager's life. Due to the traditional nature and spatial arrangement of villages, a villager typically interacts regularly with her extended family. Intra-household coordination is natural in a poorer rural context, as it is often used in employment and marriage decisions to mitigate risks from consumption shocks and other forms of vulnerability (Rosenzweig, 1988; Rosenzweig and Stark, 1989). The implicit assumption in this literature is that families are able to devise methods to maintain cooperative behavior among their members (Lucas and Stark, 1985).

This extraordinary ability of kinship ties to maintain cooperation makes it a natural place to observe coordinated political behavior. Disagreement in politics, especially since it relates to beliefs about access to benefits, may threaten the larger role of kinship networks in maintaining cooperation in social and economic arenas, so it behooves the kinship network to explicitly coordinate over political preferences. More importantly, regular coordination over economic and social issues implies a level of truthful and regular diffusion of pertinent information between those in the kinship network. Since salient information can be hard to discern and preferences must be updated quickly, kinship networks pool information and then collectively reason over the new information in order to generate new preferences. This updating process is likely to be all the more coordinated because the kinship network is collectively trying to solve who is most likely to distribute benefits and goods to them.[17]

Political coordination, especially between spouses, has also been observed in the West (Zuckerman, Dasović and Fitzgerald, 2007), but it is typically envisioned as a process that takes place over a generation. In a developing world context, the informational needs and social pressures in the process of updating preferences generate coordination over the kinship network in a short period of time (during the campaign period). The voter's opportunity to access salient political information and decide between candidates, using the coordinative functions of kinship networks, shields her from much of the political manipulation of political actors. Accordingly, voters have a social space to develop informed political opinions with sufficient distance from the incumbent to generate political change.[18]

In sum, due to a weak state environment, voters focus preferences upon who is most able to deliver benefits and goods to them. Most of the salient information to develop and update these preferences is observed during the political campaign. Kinship networks, comprising of individuals with relatively similar preferences, pool salient information gleaned from the campaign and collectively reason to generate updated political preferences. In order to demonstrate the theoretical framework, this paper conducts a detailed analysis of two villages in the Indian state of West Bengal and marshals the following pieces of evidence:

[16]These numbers remove non-response.

[17]Furthermore, a coordinated political choice implies a larger bloc of votes to the candidate/party of choice; an uncoordinated vote choice only serves cancel out the broader impact and importance of the kinship network in political outcomes. Each kinship networks often comprises a significant percentage of the village, and this coordination also may make the kinship network into a pivotal actor in an election. Finally, to the extent that a kinship network wishes to opt in to the patronage system, it must coordinate support for the appropriate party or candidate.

[18]There is a large literature on the association between social/ethnic identity of voters and partisan preferences in developing societies. The existing literature posits instrumental calculations between co-ethnic voters over patronage (Chandra, 2004), psychic rewards for voting for co-ethnics (Chandra, 2009), and elite manipulation to construct disparate ethnic "minimum winning" coalitions (Posner, 2005) as potential mechanisms to explain this association. While these may be useful mechanisms to describe politics in the aggregate, it can be difficult to apply these theories at the local level. In India, as in many other developing contexts, politics is coordinated at the village level through village-level political leaders and workers (Kruks-Wisner, 2011; Bussell, 2014) and identity is often too blunt an object to understand political differences and changes at the village level, which typically have a few castes and religions within them and where such caste and religious groups are spatially clustered. In fact, the recent National Election Survey finds that only 5.4% of respondents list the opinions of community leaders as mattering the most for their vote choice. For example, while Muslim voters may, in the aggregate, lean towards a specific party in the polity, this does not imply that entire population of a fully Muslim village will vote for that party. Generally, a fully Muslim village, like any other village, will have factions supporting multiple parties. The relationship between these factions and families has been known for some time; the seminal work on factionalism in Indian villages, Lewis (1954), found that villagers "tend to equate their faction with their kinship group." A theory of kinship network level coordination, thus, provides the microfoundations of many of the larger trends observed in the electorate.

1. Campaigns strongly affect both issue preferences and vote choice, and voters display a significant amount of preference updating during the campaign.
2. This effect flows through kinship networks in that changes in preferences of an individual's direct kin predict changes in preferences in the individual.
3. The effect of kinship networks can be attributed to political discussion, coordination and reasoning over signals observed during the campaign.

3 Study Design and Qualitative Evidence

This study took place in two villages in the Indian state of West Bengal. West Bengal has its own unique political history. The Communist Party of India (Marxist) or CPM was, at the time, considered the most organized political party in India, and, as a continuously elected leftist party for 34 years, the party exercised very strong control over all state institutions and personal networks in West Bengal through which it distributed patronage (Mallick, 1993). The election in 2011 in West Bengal, thus, represented a monumental change in the state's politics.

Altogether, 68% of the population of West Bengal is rural (Census of India, 2011). This suggests that large political shifts in West Bengal are likely to be due to changes in support from the rural population. The political history of West Bengal provides another interesting reason to focus on rural voters. After the CPM came to power in 1977, it forged a strong rural base through land redistribution programs. In 1972, a law was enacted to restrict formal landholding to a maximum of 5-7 hectares (about 12.5-17.5 acres) per family based on size, which was poorly enforced. Using a combination of violent takeover of land (Ruud, 2003) and policies to grant titles to land, the CPM built its rural base. This effectively took land away from the traditional landowning class, or *zamindars*, and redistributed the land to the landless. Two policies were particularly notable in this task: 1) *operation barga*, which sought to register and dole out land to sharecroppers, or *bargadars*; and 2) a *patta* (land titling) program which gave land titles on vested lands which had often been extracted from zamindars (Bardhan and Mookherjee, 2003).[19]

In the state election of 2006, the left front coalition, of which CPM was the dominant party, garnered 234 out of 294 seats (176 by CPM alone). The two other competitive coalitions formed by the Indian National Congress (Congress) and Trinamool Congress (TMC) garnered 23 and 31 seats, respectively. The incoming chief minister, Buddhadeb Bhattacharya, a member of CPM, was elected on a promise of industrial development for the state of West Bengal, which has been a economic laggard in the comparison to the rest of India for the previous several decades. The day that Bhattacharya was sworn in as the chief minister of the state, May 18, 2006, the chairman of the Tata Group announced a plan to acquire land in the Singur area of West Bengal with the incoming government's assent to build a car factory. This entailed the government acquiring contiguous pieces of land in Singur and offering a "fair price" to landowning villagers and handing over the land to the Tata Group. Protests to government's forcible acquisition began a week later, and Mamata Banerjee, the leader of TMC, joined the protests two months later, and began a hunger strike towards the end of 2006. Protests escalated, sometimes becoming violent, through 2007 and much of 2008 before the Tata Group decided to pull out of the project in West Bengal on October 3, 2008. Simultaneously, the government had contracted with the Salim Group of Indonesia to develop a "chemical hub" over 10,000 acres in the Nandigram area of West Bengal through a similar process of government-aided land acquisition. This again sparked off large protests which came to a head on March 14, 2008, when police fired on protestors, killing 14 people.

The CPM-led government's complicity in forcible land acquisition was seen as a major betrayal by the rural population of West Bengal. It signaled CPM's move from protecting and generating the property rights

[19] In addition to land reform, the CPM had developed a strong grassroots base, with connection to youth through campus politics and to people associated with various occupations through unionization.

of the rural poor without commensurate delivery of benefits. The actions of Mamata Banerjee in Singur immediately built sympathy among rural voters for her party, TMC. The next state election (contained in the period studied in this paper) took place in May 2011, this time with TMC and Congress in a coalition determined to defeat CPM and its left front coalition allies. In the final tally, the left front coalition mustered only 62 out of 294 seats (with CPM winning only 40 seats) and the new TMC-Congress coalition winning 227 seats (with the TMC winning 184 of those seats). The 2011 elections in West Bengal provide the analytical separation necessary to isolate claims about the method and structure of updating political preferences during a period of political change. Unlike a state which faces regular political alternation, state-level institutions and existing patronage networks were not geared towards fostering political change. Second, the information/policy shock that precipitated a political change occurred between 2006 and 2008, whereas the election being analyzed took place nearly 3 years later in 2011. The changes in preferences observed around the election in 2011 can, thus, be primarily attributed to the process of updating political preferences and the wave-like anti-incumbency that resulted from this process.

3.1 Villages under Study: Ranjanpur and Chaandinagar

Two villages, Ranjanpur and Chaandinagar, were chosen with respect to the *diverse case design* (Seawright and Gerring, 2008). In particular, two villages were selected from the same electoral constituency but with very different underlying demographic characteristics. Holding the constituency constant across the study guarantees that any observed differences between the villages of study are not due to constituency-level differences. As discussed in detail below, Ranjanpur is a poorer, underdeveloped village with a Muslim population, whereas Chaandinagar is wealthier village, both in economic and development terms, with a Hindu population.[20] Given the preponderance of development and religion and economic class explanations for political behavior and social structure, these are natural criteria upon which to base the diverse case selection. The differences between the two villages allow one to deduce the extent to which the discussion and coordination over kinship networks functions over very different social contexts. At the same time, close observation of the kinship mechanism in these contexts allows the researcher to deduce variation in the strength of the proposed mechanisms.

In many qualitative designs, case studies are chosen carefully from a larger universe of cases; that is, a small number of cases are chosen to deduce causal mechanisms from larger quantitative empirical patterns. In this study, the situation is reversed, the frame for the quantitative empirical analysis is taken to be the the villages under study.[21] There are three justifications for this approach. First, as discussed above, the larger empirical relationship between family as a stated influence is well-established in the Indian context, so there is little need to demonstrate this larger empirical pattern across India. Second, establishing the impact of kinship networks on changes in political opinions and vote choice requires extensive local within village data across constituent members. Finally, conducting survey research concurrently with qualitative research permits the researcher to bring detailed and focused knowledge of the context through direct observation to explain larger village-level empirical patterns.

3.1.1 Local Background

The selected villages are in the Magrahat Purba assembly constituency, which is approximately 70% rural according to the 2011 Indian census. The boundaries of the constituency are coincident with Magrahat 2 block in the district of South 24 Parganas. According to the 2001 Indian census (the latest census for which religious data are available), the constituency is 47% Muslim, well above the state average of 25%.

[20] In fact, the Ranjanpur is classified as a "backward village" by the government and Chaandinagar has been subsumed into what is referred as a "census town" due to so many villagers holding non-farm jobs instead of participating in subsistence-type agriculture.

[21] This is a common method in the study of American political behavior, where cities are often taken as the frame for careful empirical studies (Berelson, Lazarsfeld and McPhee, 1954; Huckfeldt and Sprague, 1995; Gerber and Green, 2000).

This rural, Muslim character of the constituency largely defines the set of politically salient issues in the area, while Hindu-Muslim tensions are relatively low owing to the unique cultural character of this region in West Bengal.[22] Both villages are relatively close to a major rail line, and between 30 and 90 minutes south of various points in Kolkata by rail. While still sufficient for basic agricultural production, this particular region does not produce as much as the more fertile lands in other parts of West Bengal. The relative ease of accessing Kolkata, combined with slightly lower agricultural production, creates a larger wage premium for non-agricultural work and significant pressure to engage in day labor or other work connected to Kolkata. As such, villages in Magrahat Purba are reasonably connected to the political demands and information emanating from Kolkata. The two villages, Ranjanpur and Chaandinagar, fall within the same geographical area insofar as they are serviced by the same train station. At the same time, they are approximately a 45 minute walk apart from each other. This distance was selected to minimize spillovers across study villages.

The campaign began with the announcement of candidates from each party. The TMC/Congress alliance selected Namita Saha, a early supporter of Mamata Banerjee.[23] She was a political veteran who was known as somewhat of a political operator, and was widely expected to be selected for the candidate nomination. On the other hand, CPM, in a bit of surprise, selected a very young student leader, Chandan Saha, from the Students' Federation of India (SFI) from a nearby college. The SFI is broadly associated with CPM, and many of CPM's workers and leaders have come through SFI's ranks. Importantly, the candidates were not widely known ahead of time.

The political organization of the parties can shed light on how political actors and campaigns affect voter preferences. India's panchayat system is a three-tiered nested system, with the *zilla parishad* (district-level panchayat), *panchayat samiti* (block-level panchayat), and *gram panchayat* (village-level panchayat). Local politics is typically coordinated by block-level party leaders, who are associated with the panchayat samiti. This represents the lowest level at which political actors are relatively professionalized, with dedicated party headquarters that coordinate local party behavior. The panchayat samiti in Magrahat Purba, like many others across India, is housed in the same building as the block development officer (BDO), the lowest-level civil service bureaucrat in charge of executing government policy. Owing to this proximity, partisan responses to administrative decisions are crafted quickly.

At the village level there are two types of party workers, those that are more professionalized and look to organize party matters at the block level and those that deal with matters within the village. Block-level workers are those who can help to organize mass events and carry out the tasks of coordinating village-level party matters. Village-level workers usually work through informal organization, strategizing at tea shops and other meetings spots within the village. In addition to canvassing, they provide the crucial service of "counting" supporters. These counts are based upon direct observation of villagers. On voting day, these village-level workers from each party sit outside polling booths keeping a tally of exactly who enters the booth and the expected vote outcome. In a world where sophisticated microdata on voters is unavailable, this "counting" structure provides a flawed, but necessary, substitute as well as a monitoring device for voters.

3.1.2 Ranjanpur

Ranjanpur is a Muslim village and underdeveloped in comparison to many other villages in the area. Most village roads remain unpaved, and the village is often flooded during the monsoons because it

[22] Until recently, this area of southern Bengal was heavily forested, as can be deduced from a large shrine to "Bonbibi." As the story goes, Bonbibi was an orphaned girl chosen by Allah to be a 'mediator of peace,' who guaranteed protection of the resources of the forest and all of its citizens, regardless of religion or caste (Jalais, 2010). Today, Bonbibi is still worshipped by Hindus and Muslims alike. However, significant divisions do persist, as can be seen in the non-commensality between Hindus and Muslims, and local political leaders continue to be wary of potential Hindu-Muslim violence.

[23] Mamata Banerjee formed the TMC as a breakaway party from Congress in 1997 (formally founding the party in 1998).

sits on particularly low-lying land. The larger structure of political support is conditioned by two major factors: family history and economic wealth.

Ranjanpur is subdivided into "paras" or hamlets named after the surname of the villagers living in the hamlet. Priors about political opinions and party support are first formed from the surname of the individual, which is consistent with the name of a particular hamlet. It is understood that inhabitants of a particular hamlet are part of the same extended family. Thus, at a very broad level, partisan identity is associated with kinship. Traditionally, large landowning families, or ex-zamindari families, tend to vote for TMC or Congress due to the losses of land described above at the hands of the CPM.

A second major factor in Ranjanpur's political identity is class. Approximately, three to four generations ago, villagers started specializing as painters and plasterers across Kolkata. These are still the most common professions in Ranjanpur, but, over time, some individuals have become contractors, becoming significantly more wealthy. Access to contracts typically flows through personal and family networks, and so contractors are clustered by kinship. A second route to greater economic well-being has been government jobs, specifically joining the police force. Government jobs have educational requirements and hiring often works through personal networks. As such, one particular hamlet has used its kinship connections to bring many family members into the police force. Due to the incentives for education, this is now the most well-educated hamlet in the village.

There is a class dimension to the politics of CPM and TMC/Congress, and the more well-off families have a tendency to support TMC/Congress. Owing to the extended family culture of Ranjanpur, the leadership of TMC/Congress and CPM are dominated by the two numerically largest extended families in the village. The TMC/Congress-controlling family is broadly more well-off and a former zamindari family, whereas the family that controls CPM still has a significant portion of its family that remains undereducated and involved in day labor. In short, the structure of political identity in Ranjanpur is intimately tied to kinship. Kinship networks generate economic opportunity and social class, which then structures partisan support.

3.1.3 Chaandinagar

Chaandinagar is a large village, and this study only covers a portion of the village and consists of families in a single polling booth. It is a Hindu area, consisting of a "general caste" neighborhood, and a poorer scheduled caste neighborhood. Unlike Ranjanpur, family sizes are much smaller and many different surnames, among those who are seemingly unrelated, can be found in the same hamlet. In this sense, family is less structurally salient. At the same time, while kinship may not be geographically delineated as in Ranjanpur, kinship identities play a large part in political opinions. Chaandinagar is quite a bit more developed than Ranjanpur, having its own athletic grounds and swimming pool, as well as being located next to a high school. Much like Ranjanpur, political identity is intimately tied to kinship through economic opportunity and social class.

Families in Chaandinagar acquired wealth through two distinct paths. First, the village is home to what is reputed to be a *naib* family. The naib was an individual who managed the lands of a large landowner, and thus inherited a significant share of land. These lands were used for the athletic grounds. Members of this family are typically well-educated, some of them holding upper middle class office jobs in Kolkata. Second, a large number of families have taken up the skilled labor of silver work. Typically, a subcontractor within the village will act as a middleman carrying goods to and receiving contracts from the Burra Bazar marketplace in Kolkata. While the subcontractor accrues a significant amount of wealth, silversmiths often earn a significant wage as compared to day labor. As silver work is a semi-skilled trade, apprenticeship usually occurs within the family. These wealthy families are clustered within the general caste neighborhood, which, adhering to the class dimension of Bengali politics, tends to vote heavily for TMC or Congress and not for CPM. Families in the scheduled caste neighborhood on the other hand rely

on other professions, either as day labor or handicraft embroidery of saris (e.g., *zari*), which are far less lucrative, and are more likely to support CPM.

The structure of political leadership is a bit more disjointed in Chaandinagar. All of the major political leaders are associated with the general caste neighborhood, perhaps owing to to the importance of caste in the social structure. Since there are no natural connections for the CPM in the general caste neighborhood, the leadership is made up of family members [and family wings] which broke off from traditionally TMC/Congress-supporting families, in particular the family of the naib. This also demonstrates that when there are party switches, they often involve a particular branch of the kinship network.

3.2 Kinship and Personal Networks in Ranjanpur and Chaandinagar

This paper adopts the kinship network as the structure over which to conduct the analysis. The word "family" is one that makes no claim on structure and social distance, and thus is hard to use in a meaningful analytic way. In Ranjanpur, is everyone in the same hamlet in the same family, or is it just individuals in the same dwelling, and how does one draw these borders? Virtually any definition of the word "household" is too small a unit for analysis. Two brothers may very well be a part of two different households, but they may still share close kinship relations and engage in political discussion. The kinship network in the analysis accounts for those individuals who may engage in political discussion and coordination with each other due to common kinship, while accounting for the fact that they may come from different households. The kinship network structure also allows for the fact that individuals who are connected within it may differ in social distance (e.g., two women married into the same family are more distant than two brothers). Interestingly, the English word "family" is often used in common parlance in both villages to denote the kinship network as conceived in this paper. This gives some face validity to applying the concept in this setting.

The density and importance of kinship networks, and personal networks more generally, vary quite a bit in Ranjanpur and Chaandinagar, as will also be borne out in the quantitative data. One of the first observable differences in the density of personal networks between the two villages is that any villager in Ranjanpur essentially knows exactly where every other villager in Ranjanpur lives, whereas this is not true in Chaandinagar. The difference in density of kinship and personal networks can be partially understood through differences in marriage practices.

Ranjanpur practices endogamy, or consanguineous marriage, which is common among the Muslim community in India (Bittles, 2002). This is one reason why hamlets in Ranjanpur are consistent with the surnames of the individuals contained in them. As Ranjanpur is a far poorer village than Chaandinagar, the marriage prospects for men, in an arranged marriage system, are significantly weaker. Even when marriage is not consanguineous, wives tend to come from nearby villages due to the weaker drawing power of men in Ranjanpur in the marriage market. This results in dense but locally concentrated kinship and personal networks in Ranjanpur.

Chaandinagar, by contrast, is both a Hindu village, with lower rates of endogamy, and a more well-off village. The set of marriage partners come from a much a wider base of villages across West Bengal, and sometimes even the city, due to better economic conditions. The resulting personal networks in Chaandinagar are less dense but more spatially dispersed. Spatial variation in kinship networks makes individuals more able to mitigate local consumption shocks (Rosenzweig and Stark, 1989). Furthermore, a broader class of "weak ties" due to spatial dispersion in kinship may allow individuals to access a wider array of economic opportunities (Granovetter, 1973). At the same time, lower kinship network density, combined with higher economic status, in Chaandinagar might make families both less able to enforce coordinated behavior and less dependent upon it.

3.2.1 Kinship-Based Discussion and Coordination over the Campaign

The qualitative research suggests that there are a number of structural and historical reasons for families to have similar political preferences as well as economic dependence, while the precise form of this dependence differs across the villages of study. At the same time, it is important to distinguish between this existing political socialization over the kinship network from the sort of kinship-based discussion and coordination used to update political preferences that is the subject of this paper. In fact, it is precisely the existing cooperation across a kinship network required for economic access and social class that creates a natural environment for kinship-based discussion and coordination on political matters.

In contrast to urban areas, which tend to be inundated by chaotic political rallies and parades, the study villages experienced a quieter campaign season. Apart from a few visits from important politicians and the occasional procession through rural areas, the villages were largely isolated from mass political demonstrations. To the extent that such activities did occur, they were most often organized near the train station or at a busy market in order to maximize exposure. The chief form of campaigning in the village setting was door-to-door canvassing. Given the heavy hours required for day labor for many villagers, much of this activity would take place at night. Since the canvassers were themselves villagers, the village campaign took on a more personalistic character. An aspect of the political vernacular of the campaign season was the conspicuous use of kinship-based language in political engagements. Political leaders would refer to *ghars* (dwellings) of support, and villagers were open about the types of discussion taking place over the kinship network.

Members of the kinship network met to collectively discuss/coordinate vote choice shortly before voting day. A lot of weight is typically accorded to a head of the household in these discussions, but this coordination is complicated since a kinship network may have many heads of households or people of equal social position, and the primary breadwinner may not be the patriarch. These meetings offered an opportunity to pool information about the election and strategize over vote choice. Anecdotally, pre-election polling suggesting the TMC/Congress alliance would easily form government by large media houses (and the discussion around them) had a large impact on decisions about the vote. An election pre-poll conducted jointly by Star-Ananda and Anandabazar Patrika, the largest news channel in West Bengal and the largest newspaper in West Bengal, respectively, predicted the Congress-Trinamool Congress coalition to win 215 out of 294 seats. A second impact was campaigning and media coverage around the frustration over the land policy and weak economic development under the incumbent CPM. These issues, in addition to explicit incentives for coordination, provided the majority of substance for discussion across kinship networks.

Political leaders explained that their methods of monitoring partisan support, and counting, were based on demonstrated support and that overall support was very difficult to gauge in a secret ballot setting. In particular, leaders mentioned that they could conclusively determine a supporter by those who may themselves "close" during the campaign season, through party activism and engaging in conversations with other party members.[24] At the same time, it was clear that there was a certain segment of the population that could not be read by the political leaders. These were people who associated with leaders and workers from both parties, and seemingly promised their votes to both of them. These observations provided evidence that partisan identity was strategically invested in by families, as opposed to foisted upon them, and that kinship networks provided a space that was relatively immune from pressures from above.

[24]Party leaders were open about their engagement in using money during election to buy votes, but even they felt it had little impact due to the secret ballot.

4 Campaign Effects on Vote and Opinion Change

This paper models the influence of kinship network on voter preferences through a pre-post study design over an electoral campaign.[25] The quantity of interest is the average saturated effect of the campaign period, and how it varies over the kinship network. Here, the average saturated effect refers to the average effect under the scenario where each unit in the population experiences the campaign period, inclusive of network spillovers.[26]

The pre-post design, or other longitudinal data, has often been the tool of choice to study the effect of political/electoral campaigns. Two desirable properties for the pre-post design, and their relationship to the estimation of kinship network effects, are discussed in detail here: 1) The ability of pre-post designs to estimate saturated campaign behavior; and 2) the ability to of pre-post designs to capture outcomes at the individual level and remove reverse causality. This section demonstrates that the electoral campaign had an effect on both issue preferences and partisan preferences for the TMC/Congress alliance.

4.1 Using Pre-Post Designs to Understand Network-Based Campaign Effects

4.1.1 Changes over the Campaign Period

A standard pre-post study design measures the outcome of interest before a specified period (pre-test) and then measures the outcomes of interest again after the period of interest (post-test). Often such designs are structured so that the period includes some "intervention" of interest. Technically speaking, however, causal attribution in this context can only be given to the entire period between the two measurements, e.g., the campaign period, but not the components, or interventions, within that period, e.g., media exposure, clientelistic appeals (Campbell and Ross, 1968). Thus, we do not typically want to claim that a measurement between two points in time constitutes a "causal" measurement. At the same time, focusing on the measured difference over a period may provide meaningful, interpretable effects.

Brady, Johnston and Sides (2006) make the distinction between potential campaign effects and actual campaign effects. Political campaigns are a function of party workers and leaders making strategic decisions over a portfolio of strategies about how to maximize popular support, as well as strategic decisions by voters on the consumption of various campaign appeals. For instance, party functionaries might believe that it is best to make clientelistic appeals to the impoverished and ideological appeals to professionals. Unfortunately, such decisions are unknown to the researcher, and attempts to directly manipulate a campaign will necessarily fail to account for such decisions.[27]

Potential effects refer to those types of effects that are measured under a controlled scenario that excludes some realistic conditions, such as the personal agency of those creating and those consuming the campaign. These are the types of effects that are measured in randomized control trials and lab experiments, and they are valuable for isolating the effects of a certain intervention, like a message or advertisement during a campaign. In contrast, actual effects refer to those types of effects that do not compromise realistic conditions for the campaign, as in longitudinal studies such as a pre-post design. While the changes in a pre-post design can be attributed to the campaign period, it is typically not possible to deduce the causal effect of individual components of the campaign period because the type and magnitude of campaign exposure are not held constant across the population. In this paper, the phrase "campaign effect" will refer to such pre-post changes, not the causal effect.

[25] This is also often called a before-after design or a two-stage panel.

[26] Sircar (2014) shows that, in general, randomized experiments cannot retrieve the saturated effect in the presence of spillovers. In particular, under spillovers, the outcome of any unit is dependent upon the treatment status of every other unit. Since a randomized experiment necessarily only treats some subset of the population, the average saturated effect cannot be retrieved from such a design. By contrast, the average saturated effect is retrieved by a randomized experiment when there are no spillovers over the network.

[27] Although it is common to use the phrase "campaign experiment," such randomized experiments actually manipulate a single piece of information, not entire campaigns which are a mixture of various strategically determined appeals (Wantchekon, 2003).

In this paper, campaign behavior is envisioned as the equilibrium of strategic behavior of families and political actors, the sort of effect that cannot be measured with explicit researcher manipulation. In this context, the influence of a kinship network in a pre-post design over the campaign period has an intuitive interpretation–how equilibrium campaign behavior varies within and across kinship networks over time.

4.1.2 Isolating the Influence of Kinship Network

When political parties execute electoral campaigns, individuals in close social proximity are likely experience the campaign in a similar way. When an individual is the target of a campaign, it is often likely that another person in her personal or social network will also be targeted. Furthermore, individuals in the same network adopt similar behaviors that affects how they choose to react to campaign exposure, e.g., participating in certain social activities. Finally, as posited in this paper, individuals in the same social network share information, discuss politics, and, perhaps, even coordinate voting behavior. In this context, empirically meaningful estimates of campaign effects on any outcome need to account for spillovers and information spreading in a social network, as well as common exposures to the campaign. In this paper, the structure of the kinship network is accounted for using a network autoregressive structure, as detailed below.

Network effects can be difficult to deduce in a causal fashion (Fowler and Christakis, 2008). In particular, social relations are often a function of the outcome of interest and vice versa,[28] causing serious endogeneity concerns in the estimates. The most difficult aspect of estimating the effect of a social network upon any outcome of interest is "reverse causality" the fear that the outcome of interest or variables strongly correlated to the outcome of interest will be responsible for the structure of the network.[29] In order to address the concern of reverse causality, this design isolates the effects over a campaign period. One can then investigate how the campaign effects differ across a kinship network that stays fixed over the campaign period. In other words, by limiting inferences to campaign effects, this design isolates the influence an existing kinship structure has upon the outcome of interest.[30]

Network-based analyses require an estimate of the effect (of the campaign period) for *each* individual in the network since network heterogeneity occurs at the level of the individual. The difference between the post-test and a lagged pre-test outcome at the level of the individual provides such as estimate.[31] Other common designs, like the rolling cross sections, regression discontinuities, or randomized experiments, provide evidence for average effects at the aggregate level, not the individual level. Accordingly, none of these other methods can easily accommodate the estimation of the effect of spillovers over the entire network. A final benefit of using a pre-post design is that it allows the researcher to make nuanced claims about network effects. In particular, various network models allow the researcher to test whether observed network effects are due to common exposure to certain facets of the campaign, whether they are due to similar behaviors undertaken by kin, or whether they are driven by more general influence processes across the network.

[28] As an example, similarity in political beliefs between spouses may be due to the fact that spouses discuss politics with each other or because individuals with similar political attitudes tend to marry each other.

[29] Fowler et al. (2011) refer to these problems as problems of homophily and contextual effects in estimating network effects on an outcome of interest.

[30] It is important to note that these estimated influences are not the same as causal effects. In particular, there is no claim about how manipulating the kinship network affects the outcome of interest. Rather, the kinship network is treated as a "pre-campaign" variable, and the approach detects how particular campaign effects vary across the kinship network. This is a standard technique for isolating the effects of structural or identity-based variables on an outcome of interest, e.g., the effect of gender on many outcomes of interest.

[31] The lagged effect is required because the pre-test outcome may not perfectly predict the post-test outcome.

4.2 Survey Protocol

The population for the survey sample was taken to be the those individuals on the corresponding polling booth's official voter list for the two villages, which is available online from the Elections Commission of India (ECI). An individual is eligible to be registered to vote once he/she reaches the age of 18. Since the voter ID card is the principal form of identification in India, much like a driver's license in the US, essentially all eligible individuals register to vote. The voter list is a good source for family network information as each entry includes a family relationship (usually father or husband), which provides information for a basic family network rendering.[32]

The survey was conducted in two phases, a pre-test and a post-test phase. In India, political parties, media, and researchers are subject to the so-called "model code of conduct." This restricts media and researchers from collecting political data and political parties from making new policy promises. Only campaign behavior is allowed during the model code of conduct, so a pre-post survey that bookends this campaign period provides a good measure of campaign effects. The pre-test took approximately one month and ended the day before beginning of the model code of conduct. The post-test took approximately one month as well, and took place approximately one week after the vote results were announced.

In the pre-test, basic demographic information was collected about each individual, along with a first round of questions on political preferences, including: 1) vote choice, 2) opinions on local issues, 3) opinions on state-level issues, and 4) political demands. Finally, in the first round, data were collected on certain aspects of the individual's social network, such as: 1) friends, 2) preferred tea shop, 3) preferred social club, 4) individual turned to for a loan, and 5) individual turned to when needing to go to the hospital.

In the post-test, questions on the political preferences were repeated. In addition, new network data was collected on: 1) family relations in the village that cannot be gleaned from the voter list (e.g. two sisters married into the same village), 2) participation in women's groups, 3) land contracts between families, and 4) employment contracts between individuals. The data in this paper are drawn from voter preferences in the pre-test and post-test and a family network coding based upon the voter list.

The survey protocol was designed to: 1) derive a sufficient sample to estimate network effects, and 2) elicit truthful responses of private political information.

Villagers in India have very irregular schedules at home due to seasonal employment, day labor, and agricultural priorities, so the surveyor requires a careful strategy to boost response rates. Over the one month period in each phase, the survey team mapped out the schedules of all potential respondents. Surveys were conducted in morning/afternoon and evening shifts, with repeat visits to potential respondents to confirm refusal to participate or non-residence in the village.

The assembly elections were conducted under volatile security conditions which required the stationing of national paramilitary troops during the election. As such, along with a team of 8 surveyors, a coding protocol was created to protect the privacy of each respondent. Each survey was broken into four sections: 1) name sheet, 2) demographic and network information, 3) political preference information, and 4) vote choice. Each section of the survey was identified by a unique code that could only be connected to an individual by the surveyors. In the course of the survey, once the name of the respondent was written on the survey, the name sheet was separated from the rest of survey and kept with the surveyor. Each surveyor carried a large "ballot box." After the network and preference sections of the survey were completed, they were separated from the survey and dropped into the ballot box. Finally, each respondent was asked to fill out a sample ballot in private, fold up the ballot and drop it in the ballot box. This protocol had the advantage of demonstrating intent to keep information private as well as the fact that, even if data were

[32] However, these lists are often inaccurate, including names of deceased and people who no longer live in the village (most commonly due to marriage). In India, the voter ID card is generally used as a basic form of identification, much like a driver's license in the United States, and as such, people may hold on to voter ID cards to the village, even if they no longer reside there. The initial phase of the study involved vetting the village for residence.

seized by others, the information could not be tracked to any individual. This protocol was necessary to elicit truthful responses in a volatile setting that posed potential risks for the respondents.

4.2.1 The Campaign Period

Unlike many other places, the campaign period is well-delineated in India. Campaigns essentially start with the announcement of candidates and the model code of conduct. The model code of conduct (MCC) promulgated by the Election Commission of India (ECI), a non-partisan constitutional body with wide-ranging powers, helps significantly with this task. The MCC puts strong restrictions on the behavior of political actors, media, and researchers during the campaign, which helps dramatically narrow plausible sources of impact during the campaign period. The directives under the MCC are followed fairly strictly since behavior is carefully monitored by rival political parties, and the ECI has a high level of independence from political actors.

Under the MCC, government actors can neither announce new policies nor can they process or release new funds under existing welfare and beneficiary schemes. Furthermore, political advertisements in mass media are strictly regulated by the chief electoral officer of the state electoral commission, which works under the aegis of the ECI. Finally, public rallies were effectively banned within 48 hours of the election day. The majority of the impact of the campaign period was restricted to media coverage of campaigns, public rallies and smaller meetings further away from the election date, along with political deliberation and canvassing nearer to the election date. Finally, local observation by the research team failed to note any serious irregularities during the campaign period.[33]

4.3 Campaign Effects on Vote Choice

The data in this paper result from votes collected according to the protocol described in the previous subsection. The analysis is restricted to individuals who reported casting a vote for either CPM or the TMC/Congress alliance (henceforth, TMC) in order to conduct meaningful before/after analyses with a binary variable. After making these restrictions on the data, there were 837 usable individuals for the analysis in Ranjanpur and 257 usable individuals in Chaandinagar.

In each village, campaign period yields a 10% increase in vote share for TMC. In Ranjanpur, the vote share for TMC jumps from 54% to 64% (from 451 to 535 of 837 voters), and in Chaandinagar the vote share jumps from 68% to 78% (from 175 to 200 of 257 voters). Both of these positive jumps in vote share are highly significant ($p < 0.01$) under the Wilcoxon sign test for paired data. Tables 1 and 2 display the cross-table of vote shares for CPM and TMC in the pre-campaign and post-campaign phases in the two villages.

		Post-Campaign		
		CPM	TMC	
Pre-Campaign	CPM	233	153	**386**
	TMC	69	382	**451**
		302	**535**	

Table 1: Ranjanpur Votes

		Post-Campaign		
		CPM	TMC	
Pre-Campaign	CPM	44	38	**82**
	TMC	13	162	**175**
		57	**200**	

Table 2: Chaandinagar Votes

[33]One of the biggest concerns was that the announcement of election results may have had a significant effect upon reported vote choice in the posttest. The estimated effects are in line with other studies such as Patnam (2013). Furthermore, the strict secrecy employed in the survey protocol combined with the concurrent presence of the lead researcher, who was clearly non-partisan, bolstered the quality of the data.

To the casual observer, a ten percentage point swing may seem quite high, but "bandwagon effects" are known to be quite strong in India. This is a function of the political coordination discussed in section 2. For instance, using a geographic discontinuity design and election results, Patnam (2013) finds that surprises in exit poll data yields a twenty percentage point increase in support for the winning party. Presumably, the effect is smaller in this sample because there was some awareness among the population that TMC would win the election. Furthermore, the data show that a significant share (especially in Ranjanpur) actually switched their vote to the losing party. The magnitude and direction of the effects, combined with the design, provide strong evidence for believable measurements for the vote choice data. Overall, there is strong evidence of a sizable vote swing towards the winning party (TMC) over the campaign period.

4.4 Campaign Effects on Opinion

The issue preferences data in this paper consists of "ideal points" generated from a 2-parameter Rasch model. The ideal points are generated from the 7 questions (all as agree/disagree questions) described below that were asked before and after the campaign. These questions were selected after discussions with party leaders and close observation of campaign preparations and corresponded to what was believed to be core conflicts between the CPM and the TMC during the campaign period. It is immediately noticeable that these campaign issues are based around retrospective (and prospective) evaluations of delivering jobs and protection of land, as opposed what can be termed as core ideological differences between parties. In fact, despite the CPM being a communist party, the TMC was seen as the more anti-industry of the parties. There were also no major differences in beliefs on issues like unionization or protection of informal labor stated during the campaign between the parties.[34] The questions are listed below (note that the phrase "incumbent government" refers to the then outgoing CPM government):

- **P1.** The incumbent government of West Bengal has not attempted to create job for Muslims.
- **P2.** The incumbent government has not been very focused on developing industry.
- **P3.** It was inappropriate for the incumbent government to take land from farmers in Singur and Nandigram.
- **P4.** Mamata Banerjee has a plan for the land in Singur.
- **P5.** The incumbent government has explicitly attempted to take land from Muslims.
- **P6.** It is inappropriate to build the "Salim Rasta."
- **P7.** The incumbent (CPM) government hasn't done anything over the last 34 years.

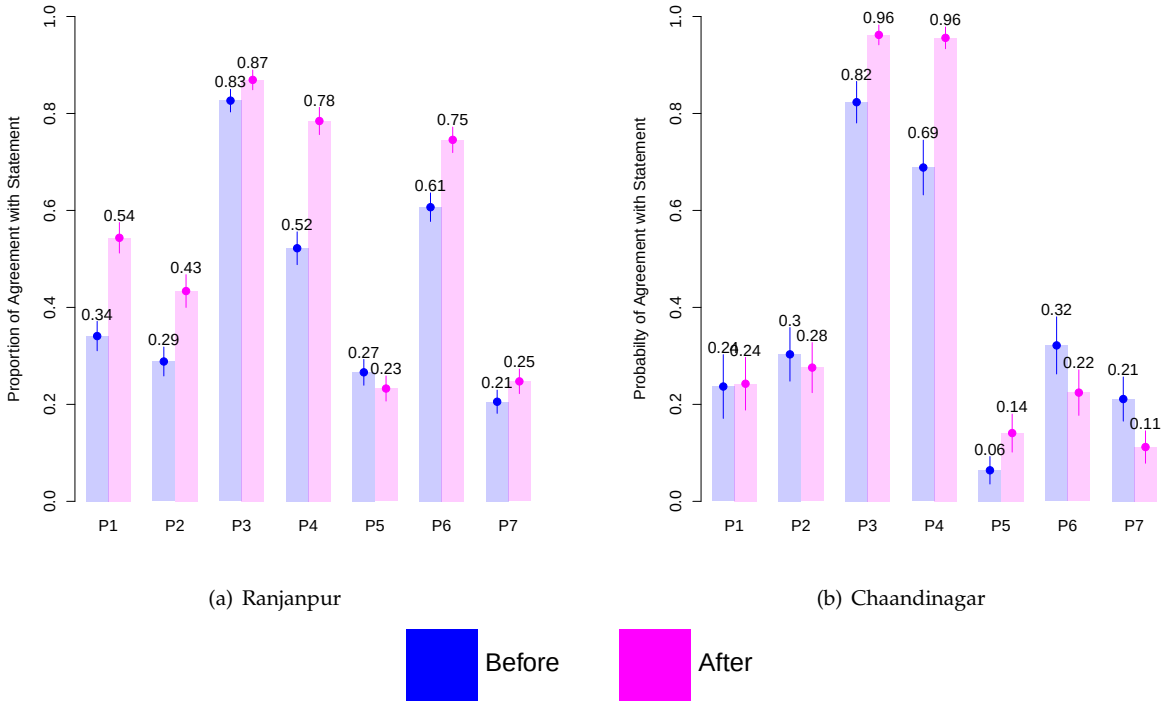
Several points are worth noting about the list of statements above. First, the questions have been transformed from a 4-point scale. Second, the questions listed have been transformed from the original question so that they all have the same orientation (agreement would be consistent with the position of TMC), which is required for the estimation of ideal points. Finally, the questions were chosen to be closely tied to prominent campaign issues over which the CPM and TMC disagreed during the election. The issues were tethered to partisanship for three reasons: a) partisanship is highly salient in West Bengal, b) connection to partisanship makes ideal points over a single dimension more likely, and c) partisan issues allow for assessment of the consistency between issue preferences and vote choice. Furthermore, in order to determine campaign effects, it is important to investigate the issues that were explicitly discussed during the campaign.[35] Figure 1 displays the overall proportion supporting each of the issues before and after the

[34] Furthermore, Ruud (2003) has argued that the actual knowledge of communist ideology in rural Bnegal was quite low.

[35] Each of the statements above referred to a major local campaign issue. In particular, the incumbent (CPM) government was criticized for four things: a) poor treatment of Muslims, b) problematic land grab policies for industry (particularly in Singur and Nandigram), c) inability to execute or support of controversial industrial policies, and d) malfeasance during its time in government. Under these guidelines, most of the statements above should be self-explanatory, except for P6. "Salim Rasta" refers to a controversial

campaign. In each case, the data were restricted to the voter sample constructed above for those who gave a preference on at least one of the issues, P1-P7, in both pre-campaign and post-campaign phases. This yields 243 respondents in Chaandinagar and 817 in Ranjanpur.

Figure 1: Before-After Comparison on Issue Preferences



(a) Ranjanpur

(b) Chaandinagar

Figure 1 displays the the proportion of respondents supporting each of the of the issues, P1 to P7, before and after the campaign period

A couple of things are worth noting after looking at figure 1. There seems to be a broad movement towards TMC-oriented opinions from the pre-campaign phase to the post-campaign phase. However, there is some variance in the extent of movement, as P6 and P7 actually move in the CPM direction in Chaandinagar, and P5 doesn't move much in Ranjanpur. This suggests that there is some variation in the movement of issue preferences across separate issues and geographies; more importantly, it shows that movement in vote choice doesn't map cleanly on to movement in issue preferences. In short, while partisan preferences and issue preferences are clearly associated, they also provide discernible axes of preferences. It may difficult to isolate the impact of issue preferences on partisan preferences, and vice versa, especially since both sets of preferences are being significantly updated simultaneously during the campaign period; however, the pattern of preferences suggests that it is important to consider partisan preferences and issue preferences separately.

4.4.1 Ideal Point Estimation of Opinion

In this paper, a 2-parameter Rasch model was used to estimate ideal points. Many scholars advocate fitting a 3-parameter model, including what is often called a "discrimination parameter," which puts different weights on the salience of the issues (Jackman, 2001). In the 2-parameter model, each issue is given a position on the issue spectrum, but the issues have identical weight in the estimation. In this model,

proposed highway to be built by the Salim Group of Indonesia (the same group contracted for a chemical hub in Nandigram) under the direction of the incumbent government, which required land from the villages under study.

one end (the right side) of the spectrum will correspond to views fully consistent with the positions of the TMC, and the other end (the left side) will be fully consistent with the positions of the CPM. Unfortunately, the 3-parameter model generally requires strong prior beliefs about the ideological position of each issue, which is avoided since there are only 7 questions. The benefit of fitting the 2-parameter model is that it can be fit fairly quickly without strong assumptions on the parameters. Each issue is placed on the spectrum based on the probability of agreement with the issue. In other words, if very few people agree with an issue (that is consistent with a TMC position), then only very strong supporters of the TMC position will agree with the issue. As such, this issue would be placed to the far right in the spectrum.

After each issue is placed on the issue spectrum, the model estimates the probability that an individual will agree with the statement (P1 through P7), and individuals are placed on the same spectrum based on their levels of agreement with each issue. If an individual is more likely to agree with an issue to that is on the far right in the spectrum, then she will also be placed in the far right of the spectrum. Finally, the underlying position of any given issue will be assumed to stay fixed over the study period (a fairly reasonable assumption given the short window of the study). Let y_{ik} be the response (agree/disagree) of person $i \in \{1, \ldots, n\}$ on issue $k \in \{1, \ldots, K\}$. The standard 2-parameter Rasch model estimates:

$$P(y_{ik} = 1) = logit^{-1}(\alpha_i - \beta_k) \tag{4.1}$$

where α_i denotes the ideal point of person i and β_k denotes the position of issue k on the issue spectrum. Notice, however, that the model is not identified since one can add a constant to α_i and subtract it from β_k. Normally, as is done here, the expected value of α_i is set to 0 to keep the model identified. Now consider issue beliefs in both the pre-campaign and post-campaign phases. Let y_{ikt} denote the value of y_{ik} in period $t \in \{0, 1\}$. There is now a second problem for the analysis. In order to deduce changes in issue beliefs, the changes must occur with respect to the "same" issues. Thus, one must freeze the β_k terms across $t = 0$ and $t = 1$ and estimate separate ideal points, α_{i0} and α_{i1}. To estimate the model, essentially α_{i0} and α_{i1} are treated as ideal points for two separate individuals. However, this form of estimation permits the ability to compare changes from α_{i0} to α_{i1}. The entire 2-parameter Rasch model across the pre and post periods may now be written over a population of n persons in periods $t \in \{0, 1\}$:

$$P(y_{ikt} = 1) = logit^{-1}(\alpha_{it} - \beta_k) \tag{4.2}$$

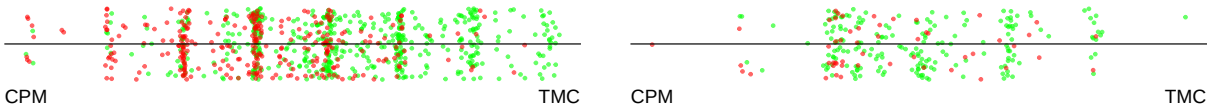
where

$$\alpha_{it} \sim N(0, \sigma_\alpha^2); \quad \beta_k \sim N(\mu_\beta, \sigma_\beta^2)$$

Finally, in order create an interpretable dimension for the analysis, the ideal points (opinions) are formed as $\frac{\alpha_{it}}{\sigma_\alpha}$, where α denotes the entire vector of pre-campaign and post-campaign ideal points. The opinions can be interpreted on a dimension with mean/median 0 and standard deviation 1. Comparing the mean opinion of two subgroups of the populations provides information about relative distance in beliefs between the two groups, where the difference in means can be interpreted in terms of standard deviations over the entire distribution of opinions. The models are fit separately for each village due to difference in salience of the issues (e.g., Muslim issues) across the two villages.

The estimated ideal points in the post-campaign phase are plotted against the vote choice in the post-campaign phase in figure 2. The clustering at various points is due to the fact that there are only seven items in the model, and many respondents answer the questions in an identical fashion. As mentioned above, this issue preference dimension is expected to be tied to partisan difference, and this is borne out in the figure. The red ideal points denote CPM voters, and the green ideal points denote TMC voters. In Ranjanpur, a CPM voter has a mean ideal point of -0.21, and TMC voter has a mean ideal point of 0.36, so shifting from CPM to TMC yields an increase of 0.57 standard deviations on the ideological scale. In Chaandinagar, the effects are much smaller, where the mean CPM voter has an ideal point of -0.09 and the mean TMC voter has a ideal point of 0.08, suggesting that a switch from CPM to TMC predicts a movement 0.17 standard deviations on the ideological scale. The Mann-Whitney test yields $p < 0.01$ for each of these differences.

Figure 2: Post-Campaign Ideal Points and Vote Choice



(a) Ranjanpur (b) Chaandinagar

Figure 2 displays the estimated ideal points in the post-camapaign phase on a single dimension, with red points denoting those who voted for CPM and green points denoting those who voted for TMC. There is a strong statistically significant relationship between vote choice and position on the "ideological spectrum" in both villages, suggesting validity for the constructed ideal points. In Ranjanpur in the post-campaign phase, the mean CPM supporter's ideal point is -0.21, and the mean TMC supporter's ideal point is 0.36. In Chaandinagar in the post-campaign phase, the mean CPM supporter's ideal point is -0.09, and the mean TMC supporter's ideal point is 0.08.

A similar pattern is seen in the difference between pre-campaign and post-campaign measurement of opinions in the two villages. In Ranjanpur, the mean ideal point in the population increases from -0.15 in the pre-campaign phase to 0.15 in the post-campaign phase, with $p < 0.01$ according to Wilcoxon sign test with paired data. In Chaandinagar, the mean ideal point in the population increases from -0.05 in the pre-campaign phase to 0.04 in the post-campaign phase, with $p < 0.05$ according to the Wilcoxon sign test with paired data. This suggests that the campaign has strong effects on issue preferences as well. Figure 3 summarizes the estimated campaign effects for vote choice and issue preferences in this section.

	Ranjanpur	**Chaandinagar**
Vote	0.10 (< 0.001)	0.10 (0.002)
Opinion (in SDs)	0.30 (< 0.001)	0.09 (0.031)

Table 3: Estimated Campaign Effects for Vote Choice and Opinion by Village

Figure 3 displays the differences in estimates for vote choice and ideal points by village for the pre-campaign and post-campaign phases. P-values estimated from a Wilcoxon sign test with paired data are given in parentheses.

This section demonstrates that the villages under study experienced a fairly large shift in vote choice over the campaign period, as well as an associated shift in issue preferences (i.e., beliefs about the competence and capacity of candidates and parties). This suggests that ultimately campaigns may have considerable effects on voter behavior, both in vote choice and in issue preferences. The movement of issue preferences indicates that most voters also update their evaluations of parties and candidates during the campaign, especially if those evaluations relate to retrospective and prospective evaluations of delivery.

5 The Influence of Kinship Networks on Vote and Opinion Change

This section investigates the role of kinship networks in the campaign effects deduced in the previous section. In particular, the focus of the section is to deduce an interpretable estimation strategy to understand the changes in vote choice and opinions over the campaign as a function of the kinship network. This section demonstrates that kinship networks have a strong, discernible impact on these changes over the campaign.

5.1 Measuring Kinship Networks

The sample population for this study is the set of individuals on the official voter lists of the polling booths corresponding to the villages of study. Voter lists are available online from the Elections Commission of India (ECI). An individual is eligible to be registered to vote once he/she reaches the age of 18. Since the voter ID card is the principal form of identification in India (e.g., which is used for proof of identification for mobile SIM cards), almost all eligible individuals were registered to vote in the villages studied.[36] The voter list is a good source for the (patriarchal) kinship network, as each entry includes a kinship relationship, usually the father for males and unmarried daughters and spouse for women who have married into the village. This provides enough information to generate a family network consisting of spouses, siblings, and parents/children. In this study, a link was formed between two individuals in the kinship network if they were siblings, married, or the parent/child of the other individual. Figure 5.1 displays an entry from the voter list with identifying information redacted.

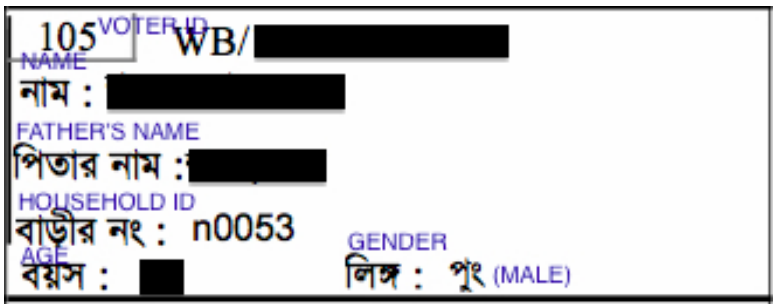


Figure 3: Estimated Campaign Effect on TMC Vote Share

Figure 5.1 shows an example of an entry in the voter list with kinship (and other) information.

In Ranjanpur, there are 731 unique pairs of individuals (dyads) with a link over 837 individuals satisfying the voting criterion. In Chaandinagar, there are 172 unique pairs of individuals with a link over 257 individuals. The number of links in the network emanating from an individual is typically referred to as the *degree* of the individual. In Ranjanpur, the average degree is 1.75, and, among those individuals with at least one link, the average degree is 2.28. In Chaandinagar, the average degree is 1.34, and, among those individuals with at least one link, the average degree is 1.80. In short, the network sample drawn in Ranjanpur represents more dense kinship relations than in Chaandinagar.

5.2 The Relationship between Kinship Networks and Post-Campaign Measures

This subsection demonstrates the existence of an association between kinship and vote choice and issue preferences. In figures 4 and 5, the kinship networks in Ranjanpur and Chaandinagar are displayed by vote choice and ideal points, respectively. In each figure, estimates of Moran's I, a standard measure of "network autocorrelation," are calculated for the post-campaign vote choice and ideal points.

Consider a network characterized by an adjacency matrix, A, such that the entry $A_{ij} = 1$ if there exists a link between i and j, and 0 otherwise. Let W, with entries W_{ij} be the row-standardized weight matrix calculated from A. That is, the terms A_{ij} are divided by the degree of i (if more than 0) so that rows of W sum to 1.[37] In essence, W provides weights over the network to ensure that those individuals with

[36] However, these lists are often inaccurate, including names of deceased and people who no longer live in the village (most commonly due to marriage). In India, the voter ID card is generally used as a basic form of identification, much like a driver's license in the United States, and as such, people may hold on to voter ID cards to the village, even if they no longer reside there. The initial phase of the study involved vetting the village for residence.

[37] This is equivalent to dividing each entry in A by the sum of entries in each row of A.

many links do not have disproportionate influence on the constructed measure. For a population of n individuals and outcome y_i for individual i, Moran's I is defined as:

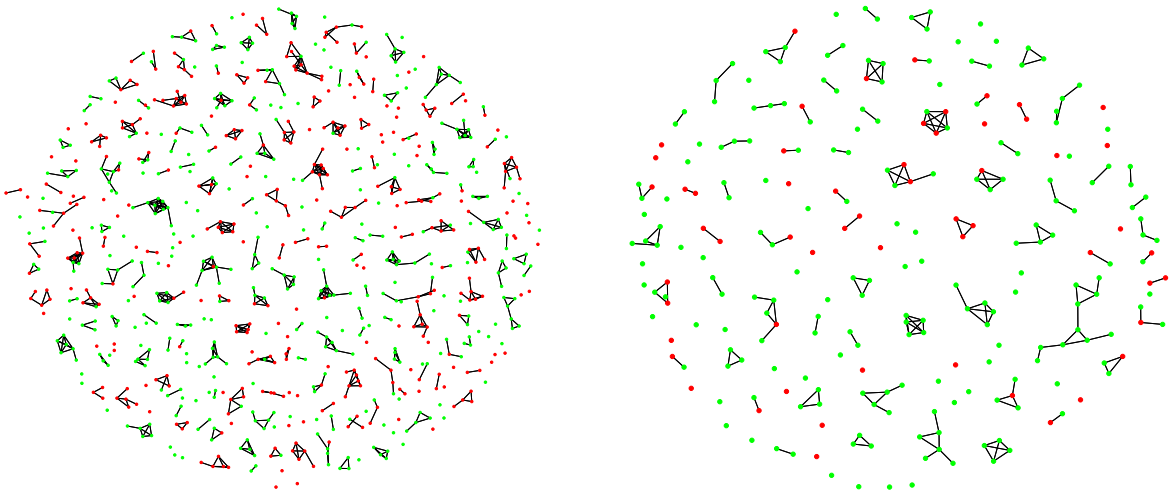
$$I = \frac{n}{\sum_{i \in V} \sum_{j \in V} W_{ij}} \frac{\sum_{i \in V} \sum_{j \in V} W_{ij}(y_i - \overline{y})(y_j - \overline{y})}{\sum_{i \in V}(y_i - \overline{y})^2} \tag{5.1}$$

where $\overline{y}$ is the mean of the y_i values.

Moran's I is defined over those individuals who have positive degree (i.e., only over individuals with links). Under these restrictions, the measure is constrained to be between -1 and 1, resulting in its interpretation as a correlation. The estimated Moran's I for figures 4 and 5 suggest significant network autocorrelation for vote choice and issue preferences.

However, this kinship network relationship can be difficult to interpret. It is not clear that the network relationship has anything to do with campaign effects or opinion formation. It may occur due to the fact that those with common kinship start with similar political opinions, as discussed in section 3. Furthermore, the magnitude of Moran's I is really due to spatial polarization and is a function of the underlying mean vote choice or ideal point. The goal of the analysis is to determine whether *change* in preferences over the campaign is related to the kinship network. The rest of the section describes a technique to deduce the impact of the kinship network on vote and issue preference change during the campaign.

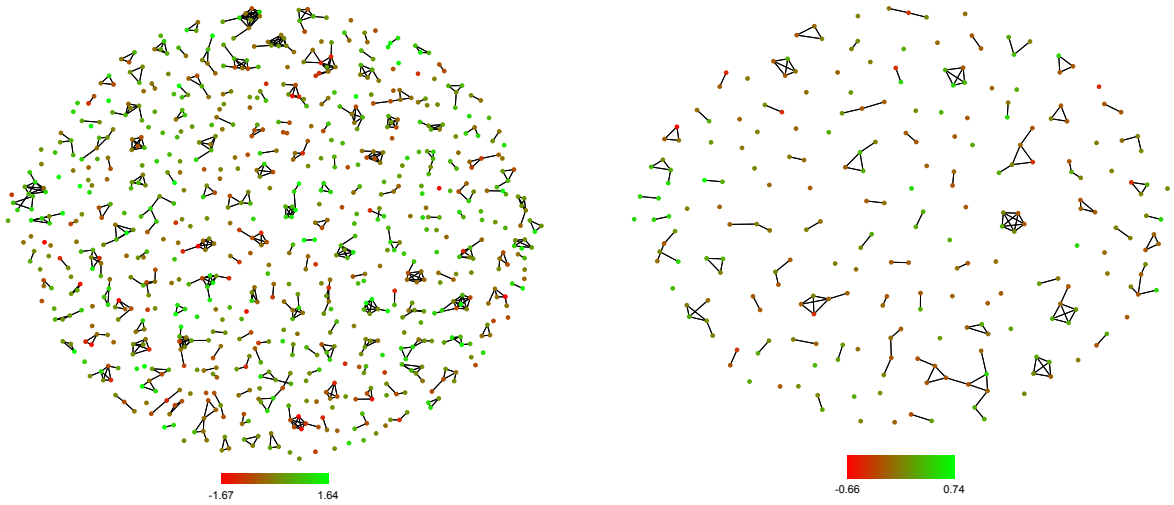
Figure 4: Post-Campaign Vote Choice over the Kinship Network



(a) Ranjanpur: $I = 0.33$ (b) Chaandinagar: $I = 0.17$

Figure 4 displays the vote choice of respondents overlaid on to the kinship network. In the subfigures, a red vertex denotes an individual who reported voting fro CPM, and a green vertex an individual who reported voting for TMC. In both villages, a significant amount of correlation in behavior is observed over the network.

Figure 5: Post-Campaign Ideal Points over the Kinship Network



(a) Ranjanpur: $I = 0.24$ (b) Chaandinagar: $I = 0.18$

Figure 5 displays the ideal points of respondents overlaid on to the kinship network. In the subfigures, the color of the vertex denotes (more red or more green) denotes the extent to which the respondent held views more consistent the CPM or TMC positions on the ideological scale. In both villages, a significant amount of correlation in behavior is observed over the network.

5.3 A Simple Model of Network Influence and Opinion Change

Consider a population of n individuals arranged over a (kinship) network, $G = (V, E)$, where V (with $|V| = n$) denotes the set of individuals over the network, and $E \subset V \times V$ consists of pairs of individuals that share an undirected link[38] in the network, i.e., direct family ties. Let $y_{it} \in \mathbb{R}$ denote the *opinion* on a particular unidimensional issue for individual $i \in V$ in time period $t \in \{0, 1\}$.

The model presented here describes a general process where individuals who share family ties may influence each other. To develop some intuition, consider the impact of one's direct kin, j, on individual i and vice versa, that is, $(i, j), (j, i) \in E$. Individuals i and j initially have opinions y_{i0} and y_{j0}, respectively. They engage in a discussion, and reformulate opinions. Between $t = 0$ and $t = 1$, individuals update opinions due to personal characteristics (unrelated to the kinship network), as well as due to the influence of the other direct kin. When there is no influence of the kinship link, an individual i updates opinions as a function of characteristics outside of the initial opinion, $\tau_i \in \mathbb{R}$, and relevance of the initial opinion, $\theta_i \in \mathbb{R}$,[39] for future opinion. Therefore, $y_{i1} = \theta_i y_{i0} + \tau_i$. On the other hand if i is fully convinced by opinion of family member j in period 1, then $y_{i1} = y_{j1}$. In reality, however, the influence of a family member is somewhere in between these two extremes:

$$y_{i1} = \gamma_{ij} y_{j1} + (1 - \gamma_{ij})(\theta_i y_{i0} + \tau_i) \tag{5.2}$$

$$y_{j1} = \gamma_{ji} y_{i1} + (1 - \gamma_{ji})(\theta_j y_{j0} + \tau_j)$$

$$\gamma_{ij}, \gamma_{ji} \in [0, 1];\ \theta_i, \theta_j, \tau_i, \tau_j \in \mathbb{R}$$

The magnitude of γ_{ij} is a measure of how much influence j has upon i.[40] While this works well for

[38] Formally, this implies that if $(i, j) \in E$, then $(j, i) \in E$.

[39] Intuitively, if the magnitude of θ_i is small, then the initial opinion matters little for future opinion. If, however, θ_i is large and positive, then moving from $t = 0$ to $t = 1$ causes the individual to become more extreme in her opinion.

[40] A simple rearranging of terms in (5.2) yields the change form: $y_{i1} - \theta_i y_{i0} = \gamma_{ij}(y_{j1} - \theta_i y_{i0}) + (1 - \gamma_{ij})\tau_i$. Intuitively, γ_{ij} measures how much the difference between the post-campaign opinion of individual j and the pre-campaign opinion i affects changes in preferences over the campaign in individual i.

two connected individuals, the analysis requires a method to characterize the expected impact of one's direct kin on an individual over the entire kinship network. Accordingly, the model considers a natural generalization of the process described in equation 5.2 to develop a meaningful parameter of interest. For each individual i, j is a family member if it is in the set $N(i)$, the neighborhood of i, i.e., $j \in N(i)$ implies $(i,j),(j,i) \in E$. The cardinality of the neighborhood, $|N(i)| = \delta_i$,[41] is called the degree of i. Once an individual i has many neighbors, one must also consider the relative importance of each family member upon the opinions of i. This captures the fact that j might be quite influential for i in isolation, but when in the context of other family members trying to influence i, j may not carry the importance to influence i heavily in her direction. Let ϕ_{ij} denote the relative importance of j to i. The opinion of i in period 1 can be modeled as the weighted average of influences from her family with weights ϕ:

$$y_{i1} = \sum_{j \in N(i)} \left(\phi_{ij}\gamma_{ij}y_{j1} + \phi_{ij}(1-\gamma_{ij})(\theta_i y_{i0} + \tau_i)\right); \quad \sum_{j \in N(i)} \phi_{ij} = 1,\ \phi_{ij} \in [0,1] \tag{5.3}$$

Since the goal of the model is to characterize the expected contribution of family member j to individual i, it will be useful to define three parameters: 1) the relative influence of family member j on individual i – ρ_{ij}; 2) the expected relative influence of a family member on individual i – ρ_i; and 3) the expected relative influence of family members on individuals in the population – ρ. In this analysis, ρ is the parameter of interest. The three parameters are defined formally below:

$$\rho_{ij} = \delta_i \phi_{ij} \gamma_{ij} \tag{5.4}$$

$$\rho_i = \frac{1}{\delta_i} \sum_{j \in N(i)} \rho_{ij} \tag{5.5}$$

$$\rho = \frac{1}{n} \sum_{i \in V} \rho_i \tag{5.6}$$

Each of the parameters defined above is constrained to be in the interval $[0,1]$. The relative influence of family member j to individual i, ρ_{ij}, has an intuitive interpretation. It is the fraction of the distance j moves i's uninfluenced opinion in period 1, $\theta_i y_{i0} + \tau_i$, towards j's opinion in period 1 (controlling for the relative influence of other family members), and ρ_i is simply the aggregate influence of the family. The parameter of interest, ρ, is simply the average of these aggregate influences from one's direct kinship linkages.

5.3.1 Regression Framework

It can now be shown that the parameter of interest ρ may be readily estimated through a network autoregressive model. To see this, let $\mathbb{E}_i$ denote the expectation function across individuals, and let $\mathbb{E}_{N(i)}$ denote the expectation across the neighborhood of i. Since opinions in $t = 0$ and $t = 1$ are taken to be observed data, the expectation function is taken conditional upon these values. Taking the conditional expectation, $\mathbb{E}_i([\mathbb{E}_{N(i)}(.)]|y_{0i}, y_{1i})$, on both sides of equation 5.3 yields:

$$y_{i1} = \mathbb{E}_i[\mathbb{E}_{N(i)}(\delta_i \phi_{ij}\gamma_{ij})]\frac{1}{\delta_i} \sum_{j \in N(i)} y_{j1} + \mathbb{E}_i[\mathbb{E}_{N(i)}(\theta_i \phi_{ij}(1-\gamma_{ij}))]y_{i0} + \mathbb{E}_i[\mathbb{E}_{N(i)}((1-\gamma_{ij})\tau_i)] \tag{5.7}$$

Letting $\mathbb{E}_i[\mathbb{E}_{N(i)}((1-\gamma_{ij})\tau_i)] = \alpha$ and $\mathbb{E}_i[\mathbb{E}_{N(i)}(\theta_i\phi_{ij}(1-\gamma_{ij}))] = \beta$ and simplifying yields:

$$y_{i1} = \rho * \frac{1}{\delta_i} \sum_{j \in N(i)} y_{j1} + \beta y_{i0} + \alpha \tag{5.8}$$

[41] Note that this definition implies that i is not a member of $N(i)$.

In matrix form, this equation becomes:

$$\mathbf{y}_1 = \rho \mathbf{W} \mathbf{y}_1 + \beta \mathbf{y}_0 + \alpha \tag{5.9}$$

where $\mathbf{W}$ is a matrix with elements w_{ij} such that:

$$w_{ij} = \begin{cases} \frac{1}{\delta_i} & \text{if } j \in N(i) \\ 0 & \text{if } j \notin N(i) \end{cases}$$

The regression form demonstrates a classic endogeneity problem, since the dependent variable $\mathbf{y}_1$ can also be seen on the right side of the equation. Furthermore, the error structure across family members may be very complicated. The trick to solving these issues is to notice that equation 5.9 can be rewritten by subtracting the first term from both sides:

$$(\mathbf{I} - \rho \mathbf{W})\mathbf{y}_1 = \beta \mathbf{y}_0 + \alpha \tag{5.10}$$

where $\mathbf{I}$ is the identity matrix.

One may now run the associated regression (with normally distributed errors) with the transformed dependent variable on the left side with unknown parameters ρ, α, β:

$$\begin{aligned} \mathbf{y}_1(\mathbf{I} - \rho \mathbf{W}) &\sim N(\beta \mathbf{y}_0 + \alpha,\ \sigma^2) \\ \Rightarrow \mathbf{y}_1 &\sim N((\mathbf{I} - \rho \mathbf{W})^{-1}(\beta \mathbf{y}_0 + \alpha),\ [(\mathbf{I} - \rho \mathbf{W})'(\mathbf{I} - \rho \mathbf{W})]^{-1}\sigma^2) \end{aligned} \tag{5.11}$$

The parameters may be estimated through maximum likelihood estimation. Details on the relative speed and quality of estimation in a maximum likelihood setting for network (spatial) autoregressive regression, vis-a-vis other estimation techniques, may be found in Franzese and Hays (2008). Causal interpretations of ρ hinge upon the links of the network being independent of underlying individual-level characteristics, which is certainly untrue in most cases.[42] The inclusion of $\mathbf{y}_0$ as a predictor guarantees ρ isolates the expected influence of a direct kinship relation on the *change* in opinion; that is, the estimated influence is not due to correlation in initial opinions between family members. Thus, one can interpret ρ as the expected influence of a direct kinship relation on changes in opinions in the population over a fixed time period.

5.4 Results

The network autoregressive model described above was fit to the data in Ranjanpur and Chaandinagar. In particular, the post-campaign vote for TMC and the ideal points estimated post-campaign from the Rasch model were taken as dependent variables, with the pre-campaign vote for TMC and ideal points taken as predictors corresponding to the initial political opinion for the regression form in equation 5.11. The models were fit in the `R` statistical environment, using the `lnam` function in the `sna` package. The estimated ρ, the average kinship network effect, from each regression is displayed below.

Figures 6 and 7 display estimates for the ρ for the vote choice and ideal point regressions in each of the villages. The estimates are displayed with 90% confidence bounds simulated from the asymptotic

[42] In a setting where the links are drawn with probabilities that are not a function of individual characteristics (e.g., the Erdos-Renyi model), the ρ parameter would provide a causal estimate for spillover effect of moving from a null network (no links) to the generated network. This is one general way to deduce the causal impact of the links in a network. Intriguingly, this approach does not require observation of each counterfactual or the randomization probabilities.

Figure 6: Value of ρ for Vote Choice

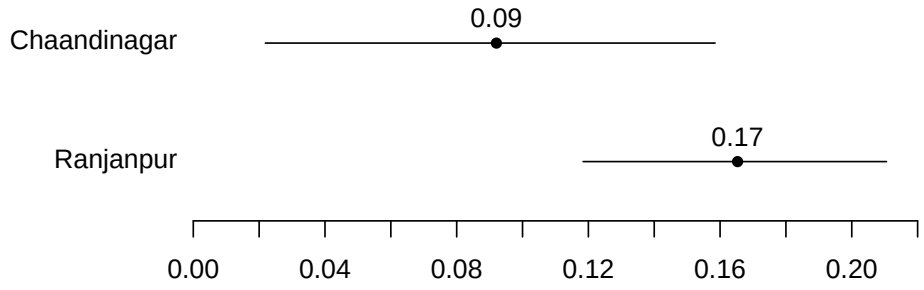
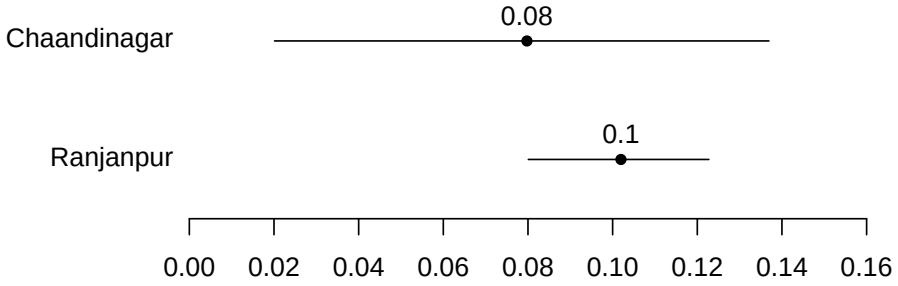


Figure 7: Value of ρ for Ideal Points



Figures 6 and 7 display the estimated ρ for vote choice and ideal points by village with 90% confidence bounds simulated from the asymptotic variance-covariance matrix of the estimated parameters (inverse of the Fisher information matrix).

variance-covariance matrix for the estimated parameters (using the inverse of the Fisher information matrix). The data suggest a very strong kinship network effect on both vote choice and issue preferences. In Chaandinagar, moving from a situation where one's kinship linkages completely support the CPM to a situation where one's linkages completely support the TMC predicts a 9% increase in the probability of voting for TMC, and Ranjanpur displays a stronger effect with such a change predicting a 17% increase in the probability of voting for TMC. By contrast, the models yield changes of similar magnitude with respect to issue preferences. In Chaandinagar, changing the average ideal point of one's kinship linkages by one standard deviation yields a 0.08 standard deviation movement in ideal points in the same direction; in Ranjanpur, this movement yields a 0.10 standard deviation movement in the same direction. These data demonstrate that kinship networks provide a discernible impact in the updating of voting and issue preferences.

6 Explaining Kinship Network Effects

This section demonstrates that the observed kinship network effects can be explained by political discussion and coordination over the network. In particular, a majority of respondents report political discussion and coordination within the kinship network for vote choice, and an overwhelming percentage of respondents describe family as the most important influence vis-à-vis other prominent sources of political influence. One of the difficulties in interpreting the impact of kinship networks is that the observed effects may be due to other factors correlated to kinship. First, individuals who are close to each other in the kinship network may undertake similar behaviors that mediate the effect of the campaign. Second, individuals who are close to each other in the kinship network may face similar levels and types of exposure to the campaign (because they are targeted in a similar fashion by political actors). This section shows

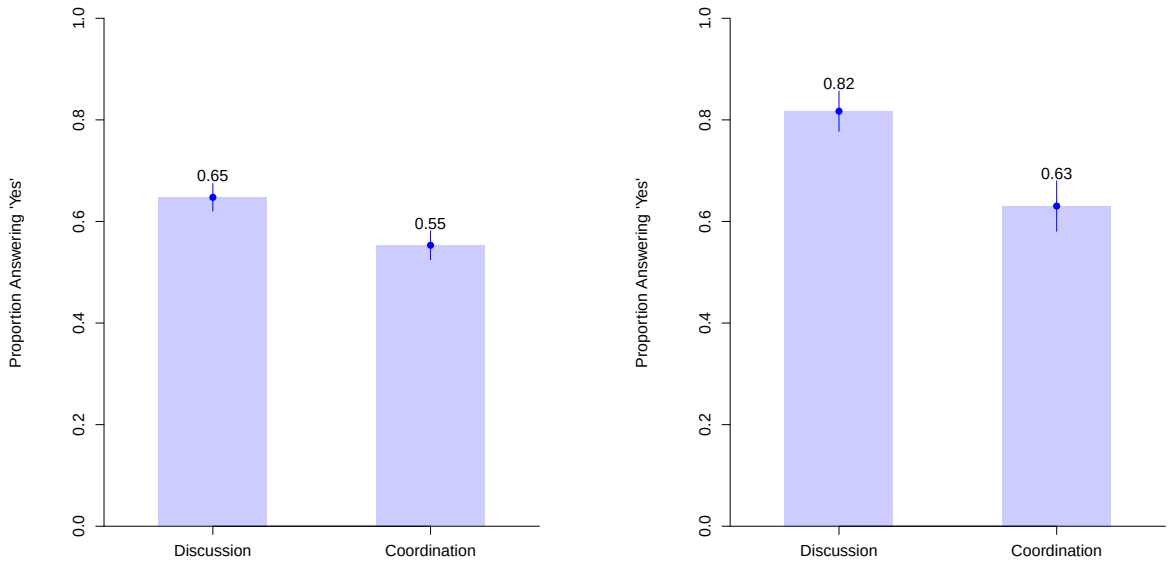
that the results are robust to controlling for other prominent behaviors that mediate campaign effects such as media exposure, associational life, and promises of benefits, as well as relevant demographic factors such as age and gender. Finally, it is shown that the network influence model constructed in this paper explains the patterns in the data better than a model predicated on close kin experiencing similar levels of campaign exposure. In short, this section provides robust evidence that the demonstrated kinship network effects are primarily due to the process of discussion and coordination described in section 2.

6.1 Political Discussion and Coordination within the Family

The survey evidence in the villages of study confirms the idea that political discussion and coordination drives the observed effect of kinship networks. In the post-campaign phase, respondents were asked the following questions:

- **C1.** Did your family have a discussion regarding the vote (i.e., about vote choice)?
- **C2.** Did your family decide who to vote for together?

Figure 8: Proportion of Respondents Who Engage in Family Discussion and Coordination



(a) Ranjanpur (b) Chaandinagar

Figure 8 displays the proportion of villagers in Ranjanpur and Chaandinagar who engage in family discussion and explicit family coordination of vote choice.

Figure 8 displays the proportion of respondents in each of the two villages who reported engaging in political discussion within the family for vote choice (C1) and explicit family-level coordination of vote choice (C2). The vast majority of villagers report engaging in each of these behaviors. In addition to political discussion which may be necessary for information pooling, families tend to engage in explicit coordination of vote choice. These data suggest that families play a crucial role in observable political outcomes. While this speaks to the prevalence of family influence and coordination, it does not say anything about the prominence or importance of family influence.

In order to address the relative importance family influence vis-à-vis other prominent influences on individuals, respondents were asked the most influential information source for vote choice between family, friends, newspapers, and television news. The results are displayed in tables 4 and 5.

Source	Percentage
Family	83
Friends	4
Newspaper	3
TV News	9

Table 4: Ranjanpur

Source	Percentage
Family	64
Friends	6
Newspaper	2
TV News	28

Table 5: Chaandinagar

In both villages, family is the overwhelmingly prominent source of political influence. The data also point to an increasingly important role for television news in political decision-making. Finally, there is some evidence that individuals rely more on kinship networks in Ranjanpur as compared to Chaandinagar.

6.2 Controlling for Other Prominent Political Influences

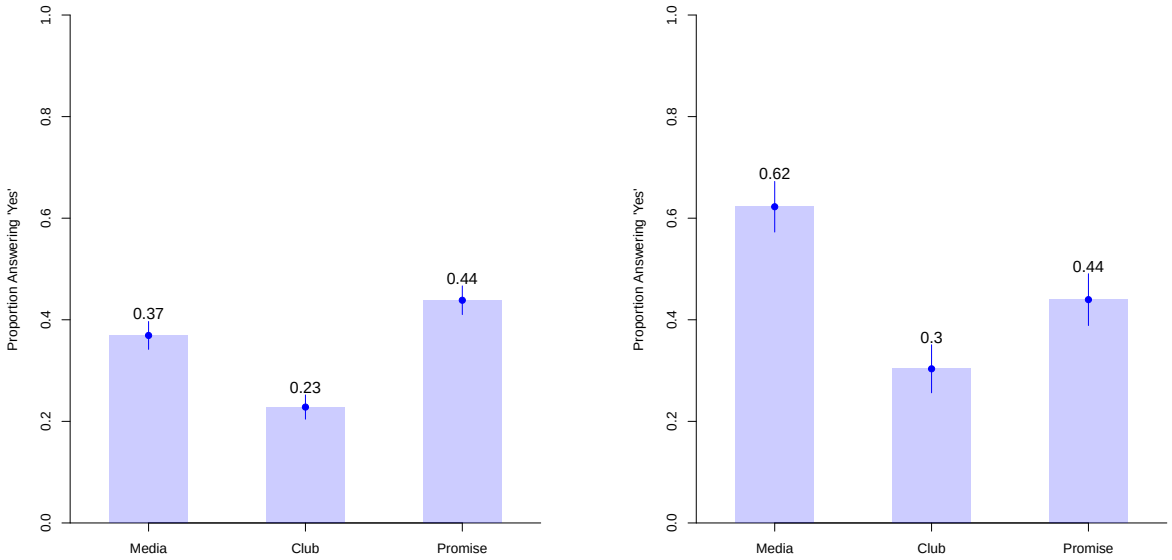
The subsection above shows that respondents attribute the strength of their kinship effects to political discussion and explicit political coordination. Nonetheless, it is possible that the observed effect is due to correlation of kinship networks to other prominent explanations of change in preferences over a campaign. This subsection tests the robustness of ρ controlling for prominent behavioral sources of mediating influence on kinship effects, namely media, promises of benefits, and associational life, as well as demographic factors of gender, age, and education.The prominent behaviors that mediate kinship network effects, i.e., are correlated to the network, considered in this analysis are:

- **Media.** As mentioned above, the Columbia School did not believe media effects to be strong, the so-called minimal effects hypothesis, due to the capacity of individuals to select their own personal networks who reinforce their opinions. Since then, there has been some concrete evidence of media effects on political opinions, even in the United States (Vavreck, 2001; Gerber, Karlan and Bergan, 2006; Vavreck, 2009), which has been critical of the Columbia School. Selection effects in kinship networks, as opposed to other personal networks, are likely to be weaker, and thus the Columbia School arguments may be less applicable in this context. Furthermore, since those in the kinship network are likely to access similar sources of media, and the specific source of media may have similar effects upon individuals consuming it, media exposure may mediate kinship network effects.
- **Associational Life.** The impact of social capital and "associations" in a robust civil society and on democratic behavior has been well-documented (Putnam, 1993). At the same time, Chhibber (2001) has argued that Indian democracy survives with fewer associations among its citizens. To the extent that associations matter in Bengali villages, they are reflected in the social clubs, which are often partisan in nature and may affect political opinions. Once again, attendance at social clubs is correlated with the kinship network, although it is typically restricted to men.
- **Promises of Benefits.** As described earlier, a major literature focuses on the importance of clientelism and patronage in the Indian system (Chandra, 2004; Kitschelt and Wilkinson, 2007). These promises are expected to be correlated over the kinship network, especially since political actors often target several family members at once, and "vote buying" may have large impacts on stated political preferences.

The data on media (whether the respondent watches news on television or reads the newspaper) and associational life (whether the respondent attends a social club) were collected in the pre-campaign phase to prevent biases in response. The data on promises were collected from the following question in the post-survey phase: *"Before the vote, did any party (do not name the party) make promises for personal benefits to*

you in order to get your vote?"[43] The relative proportion of individuals experiencing each type of influence is displayed in figure 9.

Figure 9: Proportion of Respondents Exposed to Each Type of Influence



(a) Ranjanpur

(b) Chaandinagar

Figure 9 displays the estimated proportion of respondents (with 90% confidence intervals) in Ranjanpur and Chaandinagar experiencing media exposure, attending a social club, and promises in exchange for votes.

A second class of predictors that may mediate network effects fall in the category of demographic predictors. The demographic predictors used in this analysis are gender, age, and years of education. In particular, the prominent demographic attributes considered in this analysis:

- **Gender.** In a society that is often thought to have strong patriarchal norms, one may believe that women are more likely to change opinions due to either intimidation or gender norms of agreement. If a kinship network has a higher percentage of females, it may experience higher levels of preference change.
- **Age.** Those who are older may have more ingrained political beliefs and thus may be more averse to preference change. The level of preference may thus be partially driven by the average age over the kinship network.
- **Education.** Those with less education may experience greater preference change during the campaign due to less ingrained beliefs and poorer information. Alternatively, the less educated may be more averse to political change away from the CPM due to the class dimension of politics of West Bengal. Levels of education across the kinship network are likely to be similar.[44]

Two categories of predictors were fit to the (saturated) network autoregressive model:

- **Behaviorial.** Pre-campaign ideal point/vote choice, media, associational life, promises (and all higher order interactions)

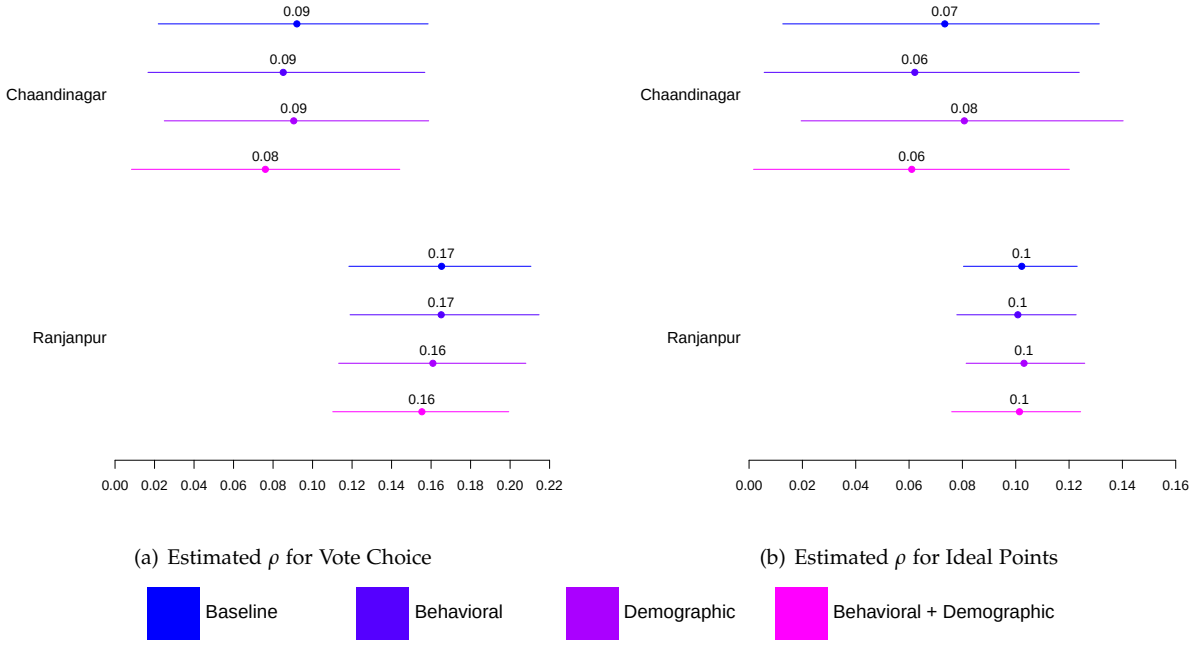
[43] The explicit instruction to not name a political actor was implemented to create incentives for truthful reporting.

[44] Note there is no variation at the level of the kinship network on economic class or identity in this type of data. To the extent that these attributes matter, they would demonstrate heterogeneous effects in the kinship network effect (but not invalidate the measured average effects).

- **Demographic.** Pre-campaign ideal point/vote choice, gender, age, years of education (and all higher order interactions)

Saturated models[45] are selected to purposely overfit the data and provide more conservative estimates of ρ. The results in figure 10 show that the value of ρ remains remarkably consistent over all models, suggesting a very robust result.

Figure 10: Estimates of ρ for Vote Choice and Opinion Under Various Models



(a) Estimated ρ for Vote Choice

(b) Estimated ρ for Ideal Points

Figure 10 displays the estimated ρ for vote choice and ideal points by village with 90% confidence bounds simulated from the asymptotic variance-covariance matrix of the estimated parameters (inverse of the Fisher information matrix) under various models. The estimated value is remarkably consistent in each village.

Even when controlling for other prominent sources of political influence that mediate the influence of kinship networks, one finds similar magnitudes of kinship influence in vote choice and issue preference change. In particular, voters may decide on the parts of the campaign with which they choose to engage and consume, possibly affecting political preferences. Yet, even controlling for uneven engagement and consumption from the voter's side, the estimates of kinship network effects remain consistent. Survey evidence suggests that these effects are best attributed to kinship network level discussion and coordination of preferences.

6.3 Appropriateness of the Network Influence Model

A final criticism of the proposed framework and estimation in this paper is that the model of network influence is inappropriate to address the patterns in the data. In particular, the question is whether an individual's political preferences are impacted by her own network connections, or whether the observed

[45]In particular, all possible interactions of the variable included in the "behavioral" and "demographic" categories are used as predictors when appropriate. When both behavioral and demographic predictors are fit simultaneously, the union of these predictors are fit to the data.

correlation to the kinship network in updating preferences is due to unobserved exogenous factors. Substantively, this question boils down to whether the network influence model is appropriate for the data, or if the observed pattern is due to close kin experiencing similar levels of campaign exposure or similar types of information. If parties target kinship the networks the same way, or if they pool information and nothing else, then the changes in preferences of an individual's direct kin would be correlated but not predictive of the individual's preferences. If on the other hand, meaningful discussion and reasoning occurs over kinship networks, then changes in these preferences should be predictive. In the language of regression, this is a question of whether the data follow a network autoregressive or network autocorrelative structure; this is a well-known statistical issue, often referred to as "Galton's Problem" (Dow et al., 1984). For the purposes of this paper, a proposed solution to this problem can be used to detect whether the purported network influence model is appropriate for the observed data.

Franzese and Hays (2014) show that one can make headway on solving Galton's Problem by considering robust Lagrange multiplier tests developed in Anselin et al. (1996). The developed robust Lagrange multiplier test adjudicates between an autoregressive (AR) and autocorrelative (AC) structure by allowing for misspecification from an autocorrelative (AC) or autoregressive (AR) structure, respectively. These tests can be calculated quickly from residuals of a standard ordinary least squares (OLS) regression, where the test statistic follows a chi-square distribution with one degree of freedom. In simplest terms, the model which yields the highest robust Lagrange multiplier statistic (lowest p-value with respect to a null of 0) is taken to be the best fitting model to the data.

In order to implement the most conservative form of test, saturated OLS regression models were fit using the influence and demographic predictors described above, i.e., the largest regression model. The residuals from this regression were then used to calculate the appropriate statistic. In both Ranjanpur and Chaandinagar, the network influence model proposed (AR) fit the data better than the AC model whether vote choice or ideal points were taken as the dependent variable (with very clearcut results in Ranjanpur). Note that the test may be somewhat low-powered, and thus the statistic does not find strong evidence for either model in Chaandinagar, although the evidence is stronger for an AR model and, as demonstrated above, the AR model yields a significant estimate for ρ.

Dependent Variable	Model	Statistic	p-value
Vote Choice	AR	6.43	0.01
Vote Choice	AC	0.66	0.42
Ideal Point	AR	6.38	0.01
Ideal Point	AC	0.45	0.50

Table 6: Ranjanpur

Dependent Variable	Model	Statistic	p-value
Vote Choice	AR	0.99	0.32
Vote Choice	AC	0.07	0.79
Ideal Point	AR	0.32	0.57
Ideal Point	AC	<0.01	0.98

Table 7: Chaandinagar

6.4 Unpacking Coordination over the Kinship Network

The previous subsections demonstrate that the observed influence of kinship networks on political preferences is likely due to discussion and coordination. But, what can the structure of the data explain about why coordination takes place?

This subsection distinguishes between two types of coordination. In one type, a few individuals in the kinship network, who may be less politically inclined, update their preferences to those consistent with existing preferences in a majority of the kinship network.[46] In this type, coordination occurs over existing preferences over the kinship network. In normal times, individuals have access to very different sources

[46] Alternatively, a few opinion leaders (e.g., Berelson, Lazarsfeld and McPhee (1954)) might have the rest of the kinship network bend to their existing preferences.

of information due to occupation, gender, and other relevant characteristics. The vote may offer an opportunity cooperate over existing preferences, offering information pooling and addressing such information asymmetries.

In a second type of coordination, members of the kinship network coordinate and update preferences based on signals during the campaign. During the campaign, while sources (and their credibility) might differ, voters are likely to face fewer information asymmetries due to the incentives of political actors to target the whole population. This type of coordination is less geared to addressing information asymmetries and more upon collectively reasoning through signals observed during the campaign.

Of course, both types of coordination are likely to occur simultaneously. In order to estimate the importance of each type of coordination, the framework in section 5.3 is modified accordingly. In particular, it is necessary to distinguish the impact on changes in political preferences over the campaign of existing preferences before the campaign of one's direct kin from the rest of the coordination effects.[47] The modified equations adapted from (5.2) are given below:

$$\begin{aligned} y_{i1} &= \gamma_{ij} y_{j1} + (1-\gamma_{ij})(\theta_i(\lambda_{ij} y_{j0} + (1-\lambda_{ij}) y_{i0}) + \tau_i) \\ y_{j1} &= \gamma_{ji} y_{i1} + (1-\gamma_{ji})(\theta_j(\lambda_{ji} y_{i0} + (1-\lambda_{ji}) y_{j0}) + \tau_j) \\ \gamma_{ij}, \gamma_{ji}, \lambda_{ij}, \lambda_{ji} &\in [0,1];\ \theta_i, \theta_j, \tau_i, \tau_j \in \mathbb{R} \end{aligned} \tag{6.1}$$

These equations are slight modifications of those in (5.3). The difference is that impact of existing opinions on person i is now envisioned as a weighted average between the initial opinions of person i and those of direct kin j. Intuitively, if the existing opinions of j do not matter at all to i (the original model), then $\lambda_{ij} = 0$ and if it is all that matters (the pure information asymmetry case), then $\lambda_{ij} = 1$. In reality, λ_{ij} is likely to be between these extreme cases. The γ_{ij} term can now be interpreted as the impact of the change in individual j's opinion over the campaign on individual i's opinion after the campaign, given that all of the impact of j's initial opinion is subsumed into the second term on the right side of the equation. Once again, this equation is calibrated to control for the entire network:

$$y_{i1} = \sum_{j \in N(i)} \left(\phi_{ij} \gamma_{ij} y_{j1} + \phi_{ij}(1-\gamma_{ij})(\theta_i(\lambda_{ij} y_{j0} + (1-\lambda_{ij}) y_{i0}) + \tau_i) \right); \quad \sum_{j \in N(i)} \phi_{ij} = 1,\ \phi_{ij} \in [0,1] \tag{6.2}$$

The decomposition yields two parameters of interest, ρ^{pre} and ρ^{post}, corresponding to the average kinship network effect of existing preferences and the change over the campaign on changes in preferences, respectively. These are constructed in a nearly identical fashion to the parameters in section 5. Namely,

$$\rho_{ij}^{pre} = \delta_i \phi_{ij} (1-\gamma_{ij}) \theta_i \lambda_{ij} \quad \rho_{ij}^{post} = \delta_i \phi_{ij} \gamma_{ij} \tag{6.3}$$

$$\rho_i^{pre} = \frac{1}{\delta_i} \sum_{j \in N(i)} \rho_{ij}^{pre} \quad \rho_i^{post} = \frac{1}{\delta_i} \sum_{j \in N(i)} \rho_{ij}^{post} \tag{6.4}$$

$$\rho^{pre} = \frac{1}{n} \sum_{i \in V} \rho_i^{pre} \quad \rho^{post} = \frac{1}{n} \sum_{i \in V} \rho_i^{post} \tag{6.5}$$

In these equations, ρ_{ij}^{pre} and ρ_{ij}^{post} correspond to the impact on changes in i's preferences over the campaign of j's pre-existing preferences and j's changes in preferences over the campaign, respectively. The parameters of interest, ρ^{pre} and ρ^{post} correspond to the average impact on changes in i's preferences over the campaign of pre-existing preferences and changes in preferences over the campaign in the kinship network, respectively.

[47] I am grateful to Debraj Ray for suggesting this decomposition.

Taking $\mathbb{E}_i([\mathbb{E}_{N(i)}(.)]|y_{0i}, y_{1i})$ on both sides, letting $\mathbb{E}_i[\mathbb{E}_{N(i)}((1-\gamma_{ij})\tau_i)] = \alpha$ and $\mathbb{E}_i[\mathbb{E}_{N(i)}(\theta_i(1-\lambda_{ij})\phi_{ij}(1-\gamma_{ij}))] = \beta$, and a little bit of algebra shows that the mean post-campaign preference function can be written as:

$$\mathbf{y}_1 = \rho^{pre}\mathbf{W}\mathbf{y}_0 + \rho^{post}\mathbf{W}\mathbf{y}_1 + \beta\mathbf{y}_0 + \alpha \tag{6.6}$$

where $\mathbf{W}$ is a matrix with elements w_{ij} such that:

$$w_{ij} = \begin{cases} \frac{1}{\delta_i} & \text{if } j \in N(i) \\ 0 & \text{if } j \notin N(i) \end{cases}$$

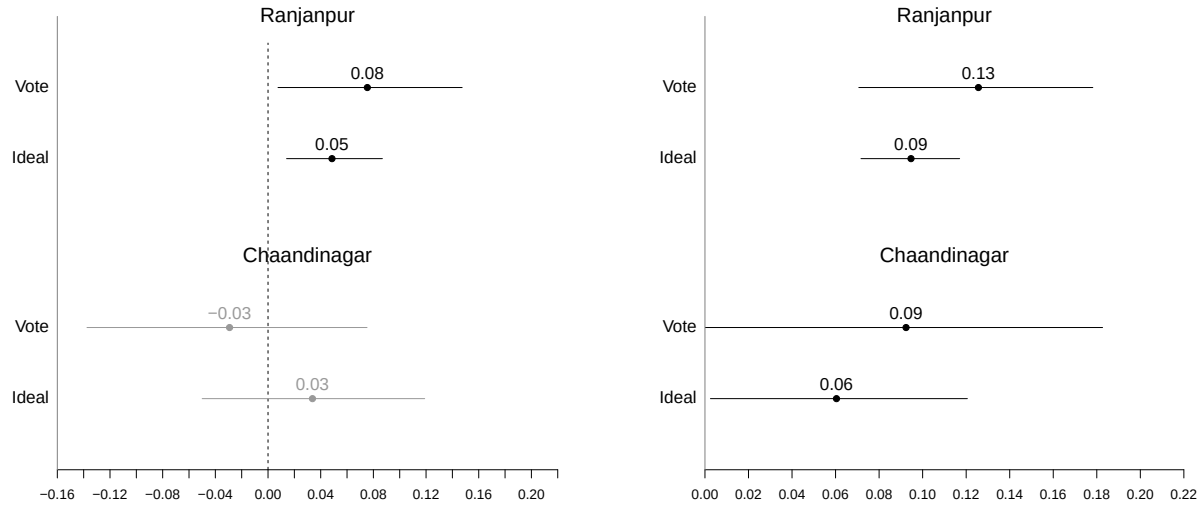
The induced regression form (for likelihood estimation) is given by:

$$\mathbf{y}_1 \sim N((\mathbf{I} - \rho^{post}\mathbf{W})^{-1}(\rho^{pre}\mathbf{W}\mathbf{y}_0 + \beta\mathbf{y}_0 + \alpha),\ [(\mathbf{I} - \rho^{post}\mathbf{W})'(\mathbf{I} - \rho^{post}\mathbf{W})]^{-1}\sigma^2) \tag{6.7}$$

where $\mathbf{I}$ is an appropriately sized identity matrix.

These equations were once again estimated using the `lnam` function (maximum likelihood estimation). The estimates for ρ^{pre} and ρ^{post} are displayed in figures 11(a) and 11(b):

Figure 11: Distinguishing Between Types of Coordination



(a) ρ^{pre} – Coordination over Existing Preferences

(b) ρ^{post} – Coordination over Signals during Campaign

Figure 11(a) displays the estimated values of ρ^{pre} in Ranjanpur and Chaandinagar, when vote choice and ideal points are used as dependent variables with 90% simulated confidence intervals. Figure 11(a) displays the estimated values of ρ^{post} in Ranjanpur and Chaandinagar with 90% simulated confidence intervals, when vote choice and ideal points are used as dependent variables. The figures demonstrate that coordination over signals during the campaign (ρ^{post}) is present in each village, while coordination over existing preferences (ρ^{pre}) is only observed in Ranjanpur.

Figure 11(a) displays estimated values for ρ^{pre} in Ranjanpur and Chaandinagar, when vote choice and ideal points are used as dependent variables with 90% simulated confidence intervals. A statistically significant impact for ρ^{pre}, measuring coordination over existing preferences, can only be seen in Ranjanpur. This suggests that coordination in Ranjanpur involves addressing great information asymmetries, while this is not the case in Chaandinagar. Although two villages are not sufficient to make larger statistical claims,

perhaps due to poorer human capital and development, Ranjanpur constitutes a particularly information-poor environment for some voters, which must be addressed during political coordination.

On the other hand, political coordination over signals during the campaign (ρ^{post}) is statistically significant across the study villages. Figure 11(b) displays estimated values for ρ^{post} in Ranjanpur and Chaandinagar, when vote choice and ideal points are used as dependent variables with 90% simulated confidence intervals (each of which is bounded away from zero), suggesting that coordination over what is gleaned during the campaign constitutes a more general phenomenon. This provides further evidence that coordination at the level of the kinship network does more than pool information and address information asymmetries, it explicitly processes and reasons through observed political information.

In sum, using survey data, this section demonstrates that the observed kinship network effects can be primarily associated with discussion and coordination over the kinship network. Furthermore, controlling for other behaviors that might mediate this kinship network effect barely changes the magnitude of the effect. A series of empirical tests provide strong evidence that the proposed network influence model, as opposed to alternative models of similar exposure, best fit the patterns observed in the data. Finally, decomposing the impact of kinship networks finds evidence that coordination over information gained from the campaign constitutes a more general phenomenon, pointing to the importance of kinship-level coordination in processing and reasoning through signals observed during the campaign.

This notion of coordination may not always be normatively desirable. A natural question is whether coordination at the kinship network level accords a reasonable amount of agency to each individual, or whether the observed results are due to a high degree of social conformity. This is extraordinarily difficult to disentangle from an empirical perspective, as those in socially advantageous positions, such as the head of the household, are also likely to have personal attributes (like higher levels of education) that make them more credible sources of information. At the same time, a close look at the regression results may provide some tentative answers to the type of coordination observed. One concern is that a small number of opinion leaders in the kinship network may engender social conformity, yet the fact that estimated value of ρ is consistently positive and significant suggests that, to the extent there is conformity, it is due to "going with the crowd" rather than a few important people. Another concern is that those in weaker social positions in the kinship structure, such as women, are systematically the individuals who are forced to coordinate. In such a situation, we would not expect gender to predict post-campaign preferences. However, the regressions systematically finds different regression coefficients for men and women for three out of the four dependent variables (the exception is issue preferences in Ranjanpur). This suggests that women have systematically different post-campaign political preferences as compared to men and do not completely bend to the rest of the kinship network.

These results paint a more nuanced picture of how coordination operates over a kinship network. Personal attributes matter a lot for political preferences, but changes in preferences over one's own kinship network predicts further changes in preferences. Post-campaign preferences are shaped by personal biases, but signals observed over the campaign may be interpreted in a coordinative fashion over the kinship network. The final preference, thus, is a combination of existing biases and coordinative updating over signals observed during the campaign.

7 Conclusion

Using data from two villages in the Indian state of West Bengal, this paper demonstrates that kinship networks have a strong impact on the formation of political preferences. This occurs primarily through political discussion and coordinated reasoning over signals observed during the campaign. Furthermore, kinship networks affect more than just vote choice, they also affect issue preferences, suggesting that a campaign period entails a genuine updating of political preferences through kinship networks. Through

these avenues, kinship networks are able to engender the independence and collective power of voters to enforce democratic accountability and implement political change.

This paper proposes a novel approach that juxtaposes qualitative observation at the local level with micro-level data collection, providing strong evidence for the mechanisms proposed. An entire empirical strategy is developed to deduce personal network effects on opinion change by integrating pre-post data over a fixed network with measurement of political opinions through vote choice and ideal point estimation. In particular, this paper demonstrates how network autoregressive models may be used to understand fairly general decision-theoretic processes, and how these models can be implemented to make nuanced claims about the type of network-level coordination observed.

7.1 Implications for Empirical Research on Networks

This paper has put forward a mixed methods approach to deduce empirical claims about network effects on political outcomes. One may classify the difficulties of conducting empirical research over networks along three axes: 1) measurement - the difficulty of accurately measuring network linkages between units of interest; 2) attribution - the difficulty of isolating how the network impacts outcomes of interest; and 3) isolating mechanisms - the difficulty of deducing why network do or do not matter for outcomes of interest. In order to address these issues, this project has undertaken a qualitative and quantitative examination in the exact same villages. Qualitative data allow the researcher to deduce mechanisms that explain network effects, while micro-level quantitative network data can be used to isolate the impact of the network on outcomes of interest. Official or otherwise standardized measures to construct network measures, as opposed to survey response, may be particularly helpful in deducing network effects.

Furthermore, the quantitative data can be used to make more nuanced claims about the precise nature of kinship network effects, even in ways that may escape qualitative observation. For instance, in this paper, quantitative measurement of political preferences before and after the campaign allowed for an analysis of the relative importance of pre-campaign preferences over the kinship network in determining post-campaign preferences. This is information that is difficult to characterize purely from qualitative observation. At the same the mechanisms through which kinship networks can foster political change would be difficult to understand without direct qualitative observation.

Finally, one might be concerned about the generalizability of the results in this paper, given that the study was implemented in two villages. However, the importance and ubiquity of dense kinship networks in developing rural societies is well established in both anthropology and development economics. Unlike caste relations, which, in their form, is unique to South Asia, and which even varies significantly in practice across Indian states, there is a certain commonality across contexts in using kinship networks to mitigate risk. Micro-level characterizations of mechanisms that are likely to matter in a number of contexts can contribute to an understanding of more general developing world social and political phenomena. However, without explicit examinations in other contexts, it is too early to say the extent to which the results here generalize across the developing world.

7.2 Implications for the Study of Voting Behavior

The empirical results demonstrated in this paper hinge upon three phenomena: 1) weak state institutions that focus political preferences on delivery of goods and benefits instead of ideology; 2) dearth of necessary political information until the campaign period; and 3) kinship networks that can aid in processing and understanding new political information in a short period of time. These phenomena undergird the patterns of political change that are observed in India and, perhaps, much of the developing world, suggesting processes of preference formation and change that are quite different from those studied in the West.

Kinship networks have been shown to matter for preference formation in a variety of contexts, including the West, through processes of political socialization and discussion. However, the precise form of kinship effects, and the speed and extent to which it matters, sheds light on the unique process of preference formation in India. While kinship matters for many things in the developing world, the explicit role of kinship in processing new political information, and the reasons for doing so, have remained understudied. By shedding light on the importance of personal networks in voting behavior, one may begin to understand and explore the nuances of the practice of democracy in the developing world.

Like much of the post-colonial world, India was tasked with developing stronger state institutions after having extended the franchise to its citizens. Unlike the West, where the process of state formation broadly took place much before the transition to democracy, political behavior in India sheds light on a democratic context that is impacted by weaker state capacity. This paper demonstrates that social structures may address concerns associated with low information and weak state institutions in developing societies. This shows how democracy can thrive even in contexts where commonly believed requisites for a robust democracy, such as urbanization, economic development, and high levels of education, are absent. In particular, kinship networks can allow voters to reason through disparate pieces of information and coordinate on informed choices. This underscores the importance of accounting for existing social structure, and its impact on political behavior, in settings where state institutions are weak.

Liberal or individualistic notions of democratic practice (e.g., Downs (1957)) suggest that a relatively informed individual observes a set of candidates and their respective ideal points, choosing the candidate whose ideal point is closest to her own ideal point. The voting behavior described in this paper is quite different. India, like much of the developing world, lacks a coherent ideological spectrum across its political parties (although they may still have discernible social bases). Voters instead base decisions upon a candidate's capacity and competence to deliver goods and benefits, and they must use their personal networks to gather and process information in order to make political decisions. By explicitly incorporating social structure into the analysis, this paper shows how non-individualistic forms of preference formation can persist in robust democracies. In particular, this demonstrates that procedural notions of democracy may be all that is required for voters to meaningfully and effectively express their preferences (see Saffon and Urbinati (2013) for a detailed defense of this position).

One may also wonder what would occur if this study were conducted in settings with weaker personal networks, such as urban slums. Short-term migration and questionable tenancy in slums often fragments kinship networks, and an urban worker will send remittances to his home village instead of moving the family to the slum. It is exactly in this setting, without deep personal network connections, that individuals are most vulnerable politically. Looking across the literature in highly urbanized countries, as in South America (Auyero, 2001; Stokes, 2005), or even studies of slums in India (Auerbach, 2013) one notices some common features, in particular, the prominence of party machines in co-opting voters and access to the state. A natural hypothesis in this setting is that it is precisely when voters are vulnerable with weaker personal networks that strong party machines are more likely, and political change may be more a function of allegiances of middlemen rather than discussion and reasoning over personal networks.

High levels of electoral volatility and political change have often been associated with lower quality democracies. Yet India, which exhibits all of these characteristics, is a robust democracy with forms of democratic practice that are less prevalent in the West. The manner of political change in this setting results from preferences that are focused on the delivery of benefits instead of core ideological positions. These preferences are a direct result of weak state institutions. In the post-colonial period many countries, like India, have been tasked with extending the franchise while building the capacity of the state. The observed patterns of behavior in this paper may, thus, be instructive to a wide array of cases in the newly democratizing world. At the very least, this paper suggests that any analysis of voter behavior, and preference formation, in the developing world requires special attention to the unique challenges faced by such voters.

References

Acemoglu, Daron. 2005. "Politics and economics in weak and strong states." *Journal of Monetary Economics* 52:1199–1226.

Anselin, Luc, Anil K. Bera, Raymond Florax and Mann J. Yoon. 1996. "Simple diagnostic tests for spatial dependence." *Regional Science and Urban Economics* 26:77–104.

Auerbach, Adam. 2013. "Demanding Development: Democracy, Community Governance, and Public Goods Provision in India's Urban Slums." Manuscript.

Aumann, Robert. 1976. "Agreeing to Disagree." *The Annals of Statistics* 4(6):1236–1239.

Auyero, Javier. 2001. *Poor People's Politics*. Duke University Press.

Bailey, F. G. 1963. *Politics and Social Change: Orissa in 1959*. Berkeley, CA: University of California Press.

Banerjee, Mukulika. 2011. "Elections as Communitas." *Social Research* 78(1):75–98.

Bardhan, Pranab and Dilip Mookherjee. 2003. "Political Economy of Land Reforms in West Bengal 1978-98." Unpublished.

Bardhan, Pranab and Dilip Mookherjee. 2012. "Political Clientelism and Capture: Theory and Evidence from West Bengal, India." UNU-Wider Working Paper 2012/97.

Bardhan, Pranab, Sandip Mitra, Dilip Mookherjee and Abhirup Sarkar. 2009. "Local Democracy and Clientelism: Implications for Political Stability in Rural West Bengal." *Economic and Political Weekly* 44(9):46–58.

Bardhan, Pranab, Sandip Mitra, Dilip Mookherjee and Abhirup Sarkar. 2011. "Political Participation, Clientelism, and Targeting of Local Government Programs: Analysis of Survey Results from Rural West Bengal, India." CSSS Working Paper, No. 19.

Berelson, Bernard, Paul Lazarsfeld and William McPhee. 1954. *Voting: A Study of Opinion Formation in a Presidential Campaign*. University of Chicago Press.

Besley, Timothy, Rohini Pande, Lupin Rahman and Vijayendra Rao. 2004. "The Politics of Public Good Provision: Evidence from Indian Local Governments." *Journal of the European Economic Association* 2(2/3):416–426.

Bittles, Alan H. 2002. "Endogamy, consanguinity and community genetics." *Journal of Genetics* 81(3):91–98.

Björkman, Lisa. 2014*a*. 'Vote Banking' as Politics in Mumbai. In *Patronage as Politics in South Asia*, ed. Anastasia Piliavsky. Cambridge University Press.

Björkman, Lisa. 2014*b*. "You can't buy a vote: Meanings of money in a Mumbai election." *American Ethnologist* 41(4):617–634.

Brady, Henry E., Richard Johnston and John Sides. 2006. The Study of Political Campaigns. In *Capturing Campaign Effects*. Ann Arbor: University of Michigan Press pp. 1–26.

Bussell, Jennifer. 2014. "Representation Between the Votes: Informal Citizen-State Relations in India." Unpublished.

Campbell, Angus, Philip E. Converse, Warren E. Miller and Donald E. Stokes. 1960. *The American Voter*. University of Chicago Press.

Campbell, Donald T. and H. Laurence Ross. 1968. "The Connecticut Crackdown on Speeding: Time-Series Data in Quasi-Experimental Analysis." *Law and Society Review* 3(1):33–54.

Census of India. 2011. Accessed June 9, 2014.

Chandra, Kanchan. 2004. *Why Ethnic Parties Succeed: Patronage and Ethnic Headcounts in India*. Cambridge University Press.

Chandra, Kanchan. 2009. "Why voters in patronage democracies split their tickets: Strategic voting for ethnic parties." *Electoral Studies* 28:21–32.

Chhibber, Pradeep K. 2001. *Democracy without Associations: Transformation of the Party System and Social Cleavages in India*. Ann Arbor: Michigan University Press.

Concha, Eduardo Olivares. 2014. "Institutionalization of Party Systems: A Cross-Regional Approach Using the Weighted Volatility Index." Manuscript.

Dow, Malcolm M., Michael L. Burton, Douglas R. White and Karl P. Reitz. 1984. "Galton's Problem as network autocorrelation." *American Ethnologist* 11(4):754–770.

Downs, Anthony. 1957. *An Economic Theory of Democracy*. Harper.

Druckman, James N. and Arthur Lupia. 2000. "Preference Formation." *Annual Review of Political Science* 3:1–24.

Fowler, 2011 39: 437 Betsy Sinclair James H., Michael T. Heaney, David W. Nickerson, John F. Padgett and Betsy Sinclair. 2011. "Causality in Political Networks." *American Politics Research* 39(2):437–480.

Fowler, James H. and Nicholas A. Christakis. 2008. "Estimating Peer Effects on Health in Social Networks." *Journal of Health Economics* 27(5):1400–1405.

Franzese, Jr., Robert J. and Jude C. Hays. 2008. Empirical Models of Spatial Interdependence. In *Oxford Handbook of Political Methodology*, ed. Jan Box-Steffensmeier, Henry E. Brady and David Collier. Oxford University Press.

Franzese, Jr., Robert J. and Jude C. Hays. 2014. "Testing for Spatial-Autoregressive Lag versus (Unobserved) Spatially Correlated Error-Components." Manuscript.

Gelman, Andrew and Gary King. 1993. "Why are American Election Candidate Polls so Variable when Votes are so Predictable?" *British Journal of Political Science* 23(4).

Gerber, Alan S., Dean Karlan and Daniel Bergan. 2006. "Does the Media Matter? A Field Experiment Measuring the Effect of Newspapers on Voting Behavior and Political Opinions." Unpublished.

Gerber, Alan S. and Donald P. Green. 2000. "The Effects of Canvassing, Telephone Calls, and Direct Mail on Voter Turnout: A Field Experiment." *American Political Science Review* 94(3):653–663.

Glass, Jennifer, Vern L. Bengtson and Charlotte Chorn Dunham. 1986. "Attitude similarity in three generational families: Socialization, status inheritance, or reciprocal influence?" *American Sociological Review* 51:685–698.

Granovetter, Mark. 1973. "The Strength of Weak Ties." *American Journal of Sociology* 78(6):1360–1380.

Green, Donald, Bradley Palmquist and Eric Schickler. 2002. *Partisan Hearts and Minds: Political Parties and the Social Identities of Voters*. New Haven: Yale University Press.

Gul, Faruk. 1998. "A Comment on Aumann's Bayesian View." *Econometrica* 66(4):923–928.

Hellman, Ziv. 2013. "Almost Common Priors." *International Journal of Game Theory* 42(2):399–410.

Helmke, Gretchen and Steven Levitsky. 2004. "Informal Institutions and Comparative Politics: A Research Agenda." *Perspectives on Politics* .

Hill, Jonah Force. 2014. "In India's National Election, Don't Trust the Polls." *The Diplomat* February 24, 2014.

Huckfeldt, Robert and John Sprague. 1995. *Citizens, Politics, and Social Communication: Information and Influence in an Election Campaign*. New York: Cambridge University Press.

Huckfeldt, Robert, Paul E. Johnson and John Sprague. 2004. *Political disagreement: The survival of diverse opinions within communication networks*. Cambridge, UK: Cambridge University Press.

Huntington, Samuel P. 1991. "Democracy's Third Wave." *Journal of Democracy* 2(2).

Inden, Ronald B. and Ralph W. Nicholas. 1977. *Kinship in Bengali Culture*. University of Chicago Press.

Inglehart, Ronald. 1971. "The Silent Revolution in Europe: Intergenerational Change in Post-Industrial Societies." *American Political Science Review* 65(4):991–1017.

Jackman, Simon. 2001. "Multidimensional Analysis of Roll Call Data via Bayesian Simulation: Identification, Estimation, Inference and Model Checking." *Political Analysis* 9(3):227–241.

Jaffrelot, Christophe and Sanjay Kumar, eds. 2009. *Rise of the Plebeians? The Changing Face of the Indian Legislative Assemblies*. Routledge India.

Jalais, Annu. 2010. *Forest of Tigers: People, Politics and Environment in the Sunderbans*. New Delhi: Routledge.

Jennings, M. Kent, Laura Stoker and Jake Bowers. 2009. "Politics across Generations: Family Transmission Reexamined." *Journal of Politics* 71(3):782–799.

Kapur, Devesh. 2013. "Building an Indian State for the 21st Century." Manuscript.

Kitschelt, Herbert. 1995. "Formation of Party Cleavages in Post-Communist Democracies: Theoretical Propositions." *Party Politics* .

Kitschelt, Herbert and Steven Wilkinson. 2007. Citizen–Politician Linkages: An Introduction. In *Patrons, Clients, and Policies*, ed. Herbert Kitschelt and Steven Wilkinson. Cambridge University Press.

Klofstad, Casey A., Anand Edward Sokhey and Scott D. McClurg. 2013. "Disagreeing about Disagreement: How Conflict in Social Networks Affects Political Behavior." *American Journal of Political Science* 57(1):120–134.

Kothari, Rajni. 1964. "The Congress 'System' in India." *Asian Survey* 12(4):1161–1173.

Krishna, Anirudh. 2002. *Active Social Capital*. Columbia University Press.

Kruks-Wisner, Gabrielle K. 2011. "Making Claims: Citizenship and Service Delivery in Rural India." MIT Political Science Department Research Paper No. 2011-16.

Lazarsfeld, Paul, Bernard Berelson and Hazel Gaudet. 1944. *The People's Choice: How a Voter Makes Up His Mind in a Presidential Campaign*. Columbia University Press.

Lenz, Gabriel S. 2012. *Follow the Leader?: How Voters Respond to Politicians' Policies and Performance*. Chicago: University of Chicago Press.

Lewis, Oscar. 1954. *Group Dynamics in a North-Indian Village: A Study in Factions*. Programme Evaluation Organisation, Planning Commission.

Lieberman, Evan S. and Gwyneth C. H. McClendon. 2013. "The Ethnicity-Policy Preference Link in Sub-Saharan Africa." *Comparative Political Studies* 46(5):574–602.

Lijphart, Arend. 2006. *Patterns of Democracy: Government Forms and Performance in Thirty-Six Countries*. New Haven: Yale University Press.

Linden, Leigh. 2004. "Are Incumbents Really Advantaged? The Preference for Non-Incumbents in India." Job Market Paper.

Lipset, Seymour Martin and Stein Rokkan. 1967. Cleavage Structures, Party Systems, and Voter Alignments: An Introduction. In *Party Systems and Voter Alignments: Cross-National Perspectives*, ed. Seymour Martin Lipset and Stein Rokkan. The Free Press.

Lucas, Robert E. B. and Oded Stark. 1985. "Motivations to Remit: Evidence from Botswana." *Journal of Political Economy* 93(5):901–918.

Lupia, Arthur and Mathew McCubbins. 1998. *The Democratic Dilemma: Can Citizens Learn What They Need to Know?* New York: Cambridge University Press.

Lust, Ellen. 2009. "Competitive Clientelism in the Middle East." *Journal of Democracy* 20(3):122–135.

Mainwaring, Scott and Mariano Torcal. 2006. Party System Institutionalization and Party System Theory After the Third Wave of Democratization. In *Handbook of Party Politics*, ed. Richard S. Katz and William J. Crotty. Sage.

Mainwaring, Scott and Timothy R. Scully. 1995. Introduction: Party Systems in Latin America. In *Building Democratic Institutions*, ed. Scott Mainwaring and Timothy R. Scully. Stanford: Stanford University Press pp. 1–36.

Mallick, Ross. 1993. *Development Policy of a Communist Government: West Bengal Since 1977*. Cambridge University Press.

Manin, Bernard, Adam Przeworksi and Susan C. Stokes. 1999. Elections and Representation. In *Democracy, Accountability and Representation*, ed. Adam Przeworski, Susan C. Stokes and Bernard Manin. Cambridge University Press chapter 1, pp. 29–54.

Manor, James. 2000. "Small-Time Political Fixers in India's States: "Towel over Armpit"." *Asian Survey* 40(5):816–835.

McAllister, Ian and Donley T. Studlar. 1991. "Bandwagon, Underdog, or Projection? Opinion Polls and Electoral Choice in Britain, 1979–1987." *The Journal of Politics* 53(3):720–741.

Michelutti, Lucia. 2009. *The Vernacularisation of Democracy: Politics, Caste and Religion in India*. Routledge India.

Migdal, Joel S. 1988. *Strong Societies and Weak States: State-Society Relations and State Capabilities in the Third World*. Princeton, NJ: Princeton University Press.

Mutz, Diana C. 2002*a*. "The Consequences of Cross-Cutting Networks for Political Participation." *American Journal of Political Science* 46(4):838–855.

Mutz, Diana C. 2002*b*. "Cross-Cutting Social Networks: Testing Democratic Theory in Practice." *American Political Science Review* 96(1):111–126.

Mutz, Diana C. 2006. *Hearing the Other Side: Deliberative Versus Participatory Democracy*. Cambridge: Cambridge University Press.

Nadeau, Richard, Edouard Cloutier and J.-H. Guay. 1993. "New evidence about the existence of a bandwagon effect in the opinion formation process." *International Political Science Review* 14(2):203–213.

Patnam, Manasa. 2013. "Learnign from Exit Polls in Sequential Elections: Evidence from a Policy Experiment in India." Unpublished.

Popkin, Samuel. 1994. *The Reasoning Voter: Communication and persuasion in presidential campaigns*. Chicago: University of Chicago Press.

Posner, Daniel. 2005. *Institutions and Ethnic Politics in Africa*. Cambridge University Press.

Przeworski, Adam, Michael E. Alvarez, Jose Antonio Cheibub and Fernando Limongi. 2000. *Democracy and Development: Political Institutions and Well-Being in the World, 1950-1990*. New York: Cambridge University Press.

Putnam, Robert D. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press.

Ravishankar, Nirmala. 2009. "The Cost of Ruling: Anti-Incumbency in Elections." *Economic and Political Weekly* 44(10):92–98.

Roberts, Andrew. 2008. "Hyperaccountability: Economic voting in Central and Eastern Europe." *Electoral Studies* 27:533–546.

Rosenzweig, Mark R. 1988. "Risk, Implicit Contracts and the Family in Rural Areas of Low-Income Countries." *The Economic Journal* 98(393):1148–1170.

Rosenzweig, Mark R. and Oded Stark. 1989. "Consumption Smoothing, Migration, and Marriage: Evidence from Rural India." *Journal of Political Economy* 97(4):905–926.

Ruud, Arild Engelson. 2003. *The Poetics of Village Politics: The Making of West Bengal's Rural Communism*. Delhi: Oxford University Press.

Saffon, Maria Paula and Nadia Urbinati. 2013. "Procedural Democracy, the Bulwark of Equal Liberty." *Political Theory* 41(3):441–481.

Schneider, Mark. 2014. "Does Clientelism Work? A Test of Guessability in India." Unpublished.

Seawright, Jason and John Gerring. 2008. "Case Selection Techniques in Case Study Research: A Menu of Qualitative and Quantitative Options." *Political Science Quarterly* 61(2):294–308.

Sircar, Neelanjan. 2014. "Analyzing Randomized Experiments with Spillovers." Unpublished.

Sircar, Neelanjan and Milan Vaishnav. 2014. "Core or Swing? The Role of Electoral Context in Shaping Pork Barrel." Manuscript.

Sridharan, E. and Milan Vaishnav. 2014. "Election Commission of India." Manuscript.

Srinivas, M. N. 1955. The Social Structure of a Mysore Village. In *Village India: studies in the little community*, ed. McKim Marriott. University of Chicago Press pp. 1–35.

State of Democracy in South Asia. 2008. Centre for the Study of Developing Societies.

Stepan, Alfred C. and Juan J. Linz. 1996. *Problems of Democratic Transition and Consolidation: Southern Europe, South America, and Post Communist Europe*. Baltimore: John Hopkins University Press.

Stepan, Alfred, Juan J. Linz and Yogendra Yadav. 2011. *Crafting State-Nations: India and Other Multinational Democracies*. Baltimore, Maryland: John Hopkins University Press.

Stokes, Susan C. 2005. "Perverse Accountability: A Formal Model of Machine Politics with Evidence from Argentina." *American Political Science Review* 99(3):315–325.

Thachil, Tariq. 2014. "Elite Parties and Poor Voters: Theory and Evidence from India." *American Political Science Review* 108(2):454–457.

Titiunik, Rocio. 2011. "Incumbency Advantage in Brazil: Evidence from Municipal Mayor Elections." Manuscript.

Tucker, Joshua. 2002. "The First Decade of Post-Communist Elections and Voting: What Have We Studied, and How Have We Studied It?" *Annual Review of Political Science* 5:271–304.

Uppal, Yogesh. 2009. "The Disadvantaged Incumbents: Estimating Incumbency Effects in Indian State Legislatures." *Public Choice* 138(1):9–27.

Vaishnav, Milan. 2012*a*. "The Merits of Money and "Muscle": Essays on Criminality, Elections and Democracy in India." Unpublished.

Vaishnav, Milan. 2012*b*. "Resizing the State." *Caravan* October 1.

Van de Walle, Nicholas. 2003. "Presidentialism and Clientelism in Africa's Emerging Party Systems." *Journal of Modern African Studies* 41(2):297–321.

Vavreck, Lynn. 2001. Voter Uncertainty and Candidate Contact: New Influences on Voting Behavior. In *New Agendas: Communication and U.S. Elections*, ed. Rod Hart and Daron Shaw. New York: Rowman and Littlefield.

Vavreck, Lynn. 2009. *The Message Matters: The Economy and Presidential Campaigns*. Princeton University Press.

Wantchekon, Leonard. 2003. "Clientelism and Voting Behavior: Evidence from a Field Experiment in Benin." *World Politics* 55:399–422.

Weber, Max. 1919. "Politics as Vocation." Translated by H. H. Gerth and C. Wright Mills.

Weghorst, Keith R. and Staffan I. Lindberg. 2013. "What Drives the Swing Voter in Africa?" *American Journal of Political Science* 57(3):717–734.

Weiner, Myron. 1967. *Party Building in a New Nation: The Indian National Congress*. University of Chicago Press.

Wildavsky, Aaron. 1987. "Choosing Preferences by Constructing Institutions: A Cultural Theory of Preference Formation." *The American Political Science Review* 81(1):3–22.

Wilkinson, Steven I. 2006. "The Politics of Infrastructural Spending in India." Typescript. University of Chicago.

Wilkinson, Steven I. 2007. Explaining Changing Patterns of Party-Voter Linkages in India. In *Patrons, Clients, and Policies: Patterns of Democratic Accountability and Political Competition*, ed. Herbert Kitschelt and Steven I. Wilkinson. New York: Cambridge University Press.

Zaller, John R. 1992. *The Nature and Origins of Mass Opinion*. New York: Cambridge University Press.

Zuckerman, Alan S., Josip Dasović and Jennifer Fitzgerald. 2007. *Partisan Families: The Social Logic of Bounded Partisanship in Germany and Britain*. Cambridge: Cambridge University Press.

A Regression Tables

Table 8: Autoregressive Linear Probability Models of Vote Choice in Ranjanpur

	Post-Campaign Vote for TMC in Ranjanpur			
	(1)	(2)	(3)	(4)
ρ	0.165***	0.165***	0.160***	0.155***
	(0.028)	(0.028)	(0.028)	(0.028)
Pre-Campaign Vote for TMC (Pre)	0.399***	0.322***	0.744***	0.715***
	(0.030)	(0.053)	(0.186)	(0.198)
Social Club Attendance (Club)		−0.040		−0.115
		(0.134)		(0.135)
Promises Made in Exchange for Vote (Promise)		−0.100*		−0.111**
		(0.055)		(0.054)
Watched TV News or Read Newspaper (Media)		−0.031		−0.126
		(0.077)		(0.082)
Pre×Club		−0.020		0.054
		(0.175)		(0.175)
Pre×Promise		0.015		0.089
		(0.172)		(0.075)
Pre×Media		0.077		0.080
		(0.075)		(0.113)
Promise×Media		−0.057		0.005
		(0.113)		(0.112)
Club×Media		0.00005		0.038
		(0.167)		(0.160)
Club×Promise		0.137		0.038
		(0.195)		(0.160)
Club×Promise×Media		−0.134		−0.216
		(0.243)		(0.236)
Pre×Club×Promise		−0.164		−0.119
		(0.269)		(0.265)
Pre×Promise×Media		−0.016		−0.052
		(0.153)		(0.152)
Pre×Club×Media		−0.042		−0.040
		(0.215)		(0.209)
Pre×Club×Promise×Media		0.285		0.295
		(0.332)		(0.325)
Female			0.093	0.057
			(0.173)	(0.177)
Age			0.004	0.004
			(0.003)	(0.003)
Years of Education (Educ)			0.029	0.047**
			(0.021)	(0.022)
Pre×Female			−0.464*	−0.494*
			(0.245)	(0.252)
Pre×Age			−0.010**	−0.011**
			(0.004)	(0.004)
Pre×Educ			−0.036	−0.052*
			(0.028)	(0.028)
Female×Age			−0.002	−0.003
			(0.004)	(0.004)
Female×Educ			−0.034	−0.045
			(0.033)	(0.033)
Age×Educ			−0.0005	−0.0006
			(0.001)	(0.0004)
Pre×Female×Age			0.011**	0.012**
			(0.005)	(0.005)
Pre×Female×Educ			0.069*	0.084**
			(0.041)	(0.042)
Pre×Age×Educ			0.001	0.0012*
			(0.001)	(0.0006)
Female×Age×Educ			0.001	0.001
			(0.001)	(0.001)
Pre×Female×Age×Educ			−0.001	−0.001
			(0.001)	(0.001)
Constant	0.343***	0.420***	0.160	0.269**
	(0.023)	(0.041)	(0.127)	(0.134)
N	837	837	837	837
R^2	0.218	0.232	0.243	0.264
Adjusted R^2	0.216	0.216	0.227	0.235

*p < .1; **p < .05; ***p < .01. Standard errors are in parentheses.

Table 9: Autoregressive Linear Regression Models of Issue Preferences in Ranjanpur

	Post-Campaign Ideal Point in Ranjanpur			
	(1)	(2)	(3)	(4)
ρ	0.103***	0.102***	0.104***	0.102***
	(0.014)	(0.014)	(0.014)	(0.014)
Pre-Campaign Ideal Point (Pre)	0.156***	0.074	0.331*	0.347*
	(0.036)	(0.071)	(0.197)	(0.215)
Social Club Attendance (Club)		−0.165		−0.136
		(0.130)		(0.138)
Promises Made in Exchange for Vote (Promise)		0.014		0.00006
		(0.061)		(0.061)
Watched TV News or Read Newspaper (Media)		0.054		0.037
		(0.080)		(0.089)
Pre×Club		−0.209		−0.237
		(0.210)		(0.224)
Pre×Promise		0.127		0.121
		(0.102)		(0.103)
Pre×Media		0.188		0.213
		(0.119)		(0.131)
Promise×Media		−0.049		−0.016
		(0.128)		(0.128)
Club×Media		0.096		0.080
		(0.165)		(0.169)
Club×Promise		0.083		0.127
		(0.207)		(0.207)
Club×Promise×Media		0.017		−0.056
		(0.264)		(0.264)
Pre×Club×Promise		−0.369		−0.426
		(0.314)		(0.324)
Pre×Promise×Media		−0.234		−0.216
		(0.186)		(0.187)
Pre×Club×Media		0.203		0.156
		(0.250)		(0.260)
Pre×Club×Promise×Media		0.475		0.570
		(0.383)		(0.392)
Female			0.351*	0.314
			(0.198)	(0.209)
Age			0.003	0.0025
			(0.003)	(0.0034)
Years of Education (Educ)			0.030	0.023
			(0.021)	(0.021)
Pre×Female			−0.267	−0.311
			(0.302)	(0.317)
Pre×Age			−0.003	−0.004
			(0.004)	(0.004)
Pre×Educ			−0.006	−0.005
			(0.004)	(0.004)
Female×Age			0.014	0.004
			(0.028)	(0.029)
Female×Educ			−0.0003	−0.0002
			(0.0005)	(0.0005)
Age×Educ			−0.062*	−0.057*
			(0.031)	(0.032)
Pre×Female×Age			0.004	0.004
			(0.006)	(0.007)
Pre×Female×Educ			0.001	0.001
			(0.001)	(0.001)
Pre×Age×Educ			−0.050	−0.045
			(0.047)	(0.048)
Female×Age×Educ			−0.0005	−0.0006
			(0.0007)	(0.0007)
Pre×Female×Age×Educ			0.0020	0.0021*
			(0.0013)	(0.0013)
Constant	0.154***	0.158***	−0.089	−0.032
	(0.023)	(0.041)	(0.149)	(0.163)
N	817	817	817	817
R^2	0.030	0.048	0.049	0.067
Adjusted R^2	0.026	0.027	0.029	0.030

*p < .1; **p < .05; ***p < .01. Standard errors are in parentheses.

Table 10: Autoregressive Linear Probability Models of Vote Choice in Chaandinagar

	Post-Campaign Vote for TMC in Chaandinagar			
	(1)	(2)	(3)	(4)
ρ	0.092**	0.084**	0.092**	0.076*
	(0.042)	(0.042)	(0.041)	(0.042)
Pre-Campaign Vote for TMC (Pre)	0.449***	0.393***	−0.138	0.060
	(0.047)	(0.109)	(0.404)	(0.421)
Social Club Attendance (Club)		−0.008		0.157
		(0.258)		(0.274)
Promises Made in Exchange for Vote (Promise)		−0.148		−0.107
		(0.126)		(0.127)
Watched TV News or Read Newspaper (Media)		−0.302**		−0.185
		(0.138)		(0.156)
Pre×Club		0.065		−0.051
		(0.359)		(0.370)
Pre×Promise		0.132		0.091
		(0.155)		(0.155)
Pre×Media		0.366**		0.213
		(0.161)		(0.179)
Promise×Media		0.515***		0.520***
		(0.186)		(0.190)
Club×Media		0.366		0.311
		(0.291)		(0.291)
Club×Promise		0.148		0.020
		(0.364)		(0.355)
Club×Promise×Media		−0.518		−0.478
		(0.419)		(0.410)
Pre×Club×Promise		−0.132		−0.018
		(0.508)		(0.494)
Pre×Promise×Media		−0.541**		−0.541**
		(0.224)		(0.225)
Pre×Club×Media		−0.477		−0.323
		(0.393)		(0.389)
Pre×Club×Promise×Media		0.412		0.357
		(0.565)		(0.551)
Female			−0.924**	−0.668
			(0.446)	(0.464)
Age			−0.008	−0.004
			(0.008)	(0.008)
Years of Education (Educ)			−0.065	−0.068
			(0.047)	(0.047)
Pre×Female			1.111**	0.867*
			(0.508)	(0.526)
Pre×Age			0.007	0.005
			(0.009)	(0.009)
Pre×Educ			0.053	0.051
			(0.052)	(0.052)
Female×Age			0.014	0.010
			(0.009)	(0.009)
Female×Educ			0.112*	0.124**
			(0.063)	(0.063)
Age×Educ			0.0006	0.0003
			(0.0011)	(0.0011)
Pre×Female×Age			−0.018	−0.015
			(0.010)	(0.010)
Pre×Female×Educ			−0.129*	−0.137*
			(0.073)	(0.073)
Pre×Age×Educ			−0.0005	−0.0002
			(0.0012)	(0.0012)
Female×Age×Educ			−0.002	−0.0020
			(0.002)	(0.0015)
Pre×Female×Age×Educ			0.003	0.003
			(0.002)	(0.002)
Constant	0.419***	0.465***	1.022***	0.826**
	(0.043)	(0.093)	(0.358)	(0.372)
N	257	257	257	257
R^2	0.276	0.313	0.320	0.364
Adjusted R^2	0.267	0.265	0.272	0.277

*p < .1; **p < .05; ***p < .01. Standard errors are in parentheses.

Table 11: Autoregressive Linear Regression Models of Issue Preferences in Chaandinagar

	Post-Campaign Ideal Point in Chaandinagar			
	(1)	(2)	(3)	(4)
ρ	0.079**	0.069*	0.088**	0.068*
	(0.036)	(0.036)	(0.035)	(0.035)
Pre-Campaign Ideal Point (Pre)	0.190***	0.109	−1.278**	−1.508***
	(0.058)	(0.149)	(0.538)	(0.539)
Social Club Attendance (Club)		0.198		0.064
		(0.204)		(0.200)
Promises Made in Exchange for Vote (Promise)		0.022		0.077
		(0.089)		(0.087)
Watched TV News or Read Newspaper (Media)		0.173**		0.152*
		(0.087)		(0.089)
Pre×Club		−0.221		−0.465
		(0.537)		(0.526)
Pre×Promise		−0.245		−0.401*
		(0.223)		(0.220)
Pre×Media		0.148		−0.064
		(0.191)		(0.207)
Promise×Media		−0.183		−0.215*
		(0.123)		(0.118)
Club×Media		−0.387*		−0.411**
		(0.221)		(0.209)
Club×Promise		−0.414		−0.496*
		(0.312)		(0.293)
Club×Promise×Media		0.774**		0.834***
		(0.338)		(0.317)
Pre×Club×Promise		−0.309		0.504
		(1.841)		(1.740)
Pre×Promise×Media		0.074		0.173
		(0.281)		(0.283)
Pre×Club×Media		0.357		0.551
		(0.564)		(0.535)
Pre×Club×Promise×Media		0.590		−0.043
		(1.860)		(1.751)
Female			−0.221	−0.394
			(0.264)	(0.265)
Age			−0.005	−0.007*
			(0.004)	(0.004)
Years of Education (Educ)			−0.001	0.003
			(0.023)	(0.024)
Pre×Female			2.040***	2.552***
			(0.715)	(0.710)
Pre×Age			0.023**	0.028***
			(0.011)	(0.010)
Pre×Educ			0.001	0.005
			(0.005)	(0.005)
Female×Age			0.117*	0.137**
			(0.058)	(0.061)
Female×Educ			−0.0002	−0.00006
			(0.0005)	(0.00005)
Age×Educ			−0.016	−0.014
			(0.042)	(0.044)
Pre×Female×Age			−0.037***	−0.044***
			(0.014)	(0.014)
Pre×Female×Educ			0.0008	0.0004
			(0.0010)	(0.001)
Pre×Age×Educ			−0.159*	−0.182**
			(0.087)	(0.088)
Female×Age×Educ			−0.001	−0.0016
			(0.001)	(0.0013)
Pre×Female×Age×Educ			0.002	0.002
			(0.002)	(0.002)
Constant	0.053**	0.004	0.371**	0.451**
	(0.026)	(0.064)	(0.189)	(0.195)
N	243	243	243	243
R^2	0.045	0.132	0.158	0.248
Adjusted R^2	0.033	0.067	0.094	0.138

*p < .1; **p < .05; ***p < .01. Standard errors are in parentheses.

Table 12: Distinguishing Between Types of Coordination in Chaandinagar and Ranjanpur

	Post-Campaign Vote for TMC		Post-Campaign Ideal Point	
	(1)	(2)	(3)	(4)
ρ^{post}	0.126***	0.093*	0.097***	0.066*
	(0.033)	(0.056)	(0.014)	(0.036)
ρ^{pre}	0.075*	−0.030	0.049**	0.032
	(0.042)	(0.064)	(0.023)	(0.499)
Pre-Campaign Dependent Variable (Pre)	0.686***	0.069	0.320	−1.490***
	(0.199)	(0.421)	(0.215)	(0.539)
Social Club Attendance (Club)	−0.115	0.152	−0.101	0.063
	(0.135)	(0.274)	(0.138)	(0.200)
Promises Made in Exchange for Vote (Promise)	−0.116**	−0.107	0.008	0.077
	(0.054)	(0.127)	(0.061)	(0.086)
Watched TV News or Read Newspaper (Media)	−0.128	−0.183	0.050	0.150*
	(0.082)	(0.156)	(0.089)	(0.089)
Pre×Club	0.062	−0.037	−0.225	−0.473
	(0.175)	(0.371)	(0.224)	(0.526)
Pre×Promise	0.098	0.089	0.116	−0.394*
	(0.075)	(0.155)	(0.102)	(0.221)
Pre×Media	0.090	0.212	0.232*	−0.076
	(0.109)	(0.179)	(0.131)	(0.208)
Promise×Media	0.007	0.519***	−0.025	−0.215*
	(0.112)	(0.190)	(0.128)	(0.118)
Club×Media	0.032	0.318	0.055	−0.408*
	(0.160)	(0.291)	(0.169)	(0.209)
Club×Promise	0.144	0.033	0.076	−0.516*
	(0.191)	(0.356)	(0.208)	(0.295)
Club×Promise×Media	−0.203	−0.495	−0.027	0.860***
	(0.236)	(0.411)	(0.264)	(0.320)
Pre×Club×Promise	−0.119	−0.039	−0.440	0.530
	(0.265)	(0.495)	(0.323)	(1.739)
Pre×Promise×Media	−0.059	−0.539**	−0.211	0.168
	(0.152)	(0.225)	(0.187)	(0.283)
Pre×Club×Media	−0.041	−0.336	0.138	0.554
	(0.209)	(0.390)	(0.260)	(0.535)
Pre×Club×Promise×Media	0.277	0.377	0.576	−0.064
	(0.326)	(0.552)	(0.391)	(1.750)
Female	0.055	−0.670	0.300	−0.393
	(0.177)	(0.463)	(0.209)	(0.264)
Age	0.004	−0.004	0.002	−0.0072*
	(0.003)	(0.008)	(0.003)	(0.00040)
Years of Education (Educ)	0.045**	−0.069	0.021	0.002
	(0.022)	(0.047)	(0.021)	(0.022)
Pre×Female	−0.480*	0.865*	−0.269	2.547***
	(0.252)	(0.525)	(0.317)	(0.709)
Pre×Age	−0.011***	0.004	−0.004	0.028**
	(0.004)	(0.009)	(0.004)	(0.011)
Pre×Educ	−0.052*	0.051	−0.004	0.0047
	(0.028)	(0.052)	(0.004)	(0.0053)
Female×Age	−0.003	0.010	0.002	0.137**
	(0.004)	(0.009)	(0.029)	(0.061)
Female×Educ	−0.043	0.125**	−0.0001	−0.00004
	(0.033)	(0.063)	(0.0005)	(0.00051)
Age×Educ	−0.0006	0.0003	−0.056*	−0.012
	(0.0004)	(0.0011)	(0.032)	(0.041)
Pre×Female×Age	0.012**	−0.015	0.003	−0.044***
	(0.005)	(0.010)	(0.007)	(0.014)
Pre×Female×Educ	0.083**	−0.137*	0.0012	0.0003
	(0.042)	(0.073)	(0.0008)	(0.0010)
Pre×Age×Educ	0.0011*	−0.0002	−0.042	−0.178**
	(0.0007)	(0.0011)	(0.048)	(0.088)
Female×Age×Educ	0.0007	−0.0020	−0.0006	−0.0016
	(0.0009)	(0.0014)	(0.0007)	(0.0013)
Pre×Female×Age×Educ	−0.001	0.0027	0.0020	0.003
	(0.001)	(0.0017)	(0.0013)	(0.002)
Constant	0.269**	0.823**	−0.012	0.0023
	(0.134)	(0.372)	(0.163)	(0.0021)
N	837	257	817	243
R^2	0.275	0.362	0.083	0.251
Adjusted R^2	0.246	0.272	0.045	0.138

*p < .1; **p < .05; ***p < .01. Standard errors are in parentheses.

Note: Regressions (1) and (2) correspond to models of vote choice in Ranjanpur and Chaandinagar, respectively. Regressions (3) and (4) correspond to models of ideal points/issue preferences in Ranjanpur and Chaandinagar, respectively. The variable "Pre" denotes the pre-campaign value of the corresponding dependent variable.