A Tale of Two Villages
Kinship Networks and Preference Formation in Rural India

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India displays high levels of political clientelism and targeting biases. This is often thought to drive electoral outcomes:

- Various studies find 25%-56% of those receiving targeted benefits on socioeconomic criteria should be ineligible.

- More than half of these beneficiaries are nominated by politicians. (Wilkinson, 2006)

- Receipt of recurring benefits from Left Front dominated government correlated with vote for Left Front in West Bengal (Bardhan and Mookherjee, 2012)
Motivation

Political clientelism does not seem successful at a macro level:

- Huge volatility in electoral outcomes. An incumbent is 14 percentage points less likely to be re-elected (Linden, 2004)

- NREGA (workfare program) viewed in many quarters as attempt to build dependence on the state, but incumbent government (Congress) received lowest ever seat share in 2014 Lok Sabha elections

- Pure identity-based parties seem less successful today (contra Chandra, 2004)
Questions and Goals

Questions:

- Can we develop a more robust and nuanced theory of electoral behavior?
- Can we develop a more general theory of political preference formation and change?
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Goal: Describe the practice of democracy in a developing world context from the voter’s point of view.
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Goal: Describe the practice of democracy in a developing world context from the voter’s point of view

- How is the developing world different?
  - Weak state problem – levers of the state more susceptible to political capture
  - More reliance on personal networks to mitigate risk
Extending the Literature

- Gaps in current literature and approaches:
  - Focus on vote-buying and patronage – does not capture “democratic deepening” in India
  - Focus on identity-based politics – does not capture opinion formation and political change
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Idea: Focus on structure and process of opinion formation

- Bringing in political sociology – the role of kinship networks in political decision-making
- Modern empirical techniques to detect influence of kinship networks
Research Questions

1. Do families matter for the formation of political preferences?
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2. *How* do they matter?
   - Vote Choice
   - Issue Preferences
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2. How do they matter?
   - Vote Choice
   - Issue Preferences

3. What mechanisms explain updating and changes in preferences?
   - Strategic considerations
   - Political Education
“Columbia School” (Lazarsfeld et al., 1944, 1954) – starting point of social logic of politics

- Associate with like-minded people, which determines political attitudes
- Campaigns don’t matter much
- Decisions not individualistic
Literature

- “Columbia School” (Lazarsfeld et al., 1944, 1954) – starting point of social logic of politics
  - Associate with like-minded people, which determines political attitudes
  - Campaigns don’t matter much
  - Decisions not individualistic

- Rationalist School (Downs, 1957; Popkin, 1994; Lupia and McCubbins, 1998)
  - Highly individualistic theories
  - Campaigns might matter
  - Networks used as “information shortcuts” to make sense of political issues
Larger Theory

- India has a “weak state”
  - Politicians have significant discretion in allocation of benefits and goods (statutory obligations don’t bind)
  - 25% vacancies in police and 32 million case backlog (Kapur, 2014)
  - Preferences structured around performance and delivery, not deep-seated ideology

- Very costly to update political preferences
  - Need detailed information about party and candidate
  - 49% of those answering made decision during campaign and 25% within two days of election (NES, 2014)

- Use kinship networks to gather and process information
Role of Kinship Network in Preference Formation:

- Informational – Gather disparate pieces of information
- Reasoning – Discussion to help process complex information
- Coordination – Try to reach consensus
  - Publicly *demonstrate* support for party for access to benefits (costly signal)
  - Privately coordinate to avoid voting splits and maximize network strength
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**Key idea:** Kinship networks solve collective action problems and less scope for duplicitous behavior over kinship network

More than information shortcuts, also about processing information
Empirical Strategy

Look at two villages around the 2011 state assembly elections in the Indian state of West Bengal (TMC vs. CPM)
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- Difference measures an effect of the campaign on political preferences for each individual under reasonable assumptions.
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- Look at the influence of fixed kinship networks on vote choice and issue preferences.

- Paired with 8 months of close qualitative observation in villages
Case Selection

- Two villages selected in Magrahat Purba constituency, 30 to 90 minutes south of various points in Kolkata: Ranjanpur and Chaandinagar
  - Diverse case design – One wealthy, Hindu village and one poor, Muslim village
  - Same assembly constituency to control for candidate quality effects
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- Same assembly constituency to control for candidate quality effects

Ranjanpur – Poorer, Muslim village where primary vocation (men) is day labor, especially painting

Chaandinagar – Wealthier village, with general caste and SC neighborhoods. Many individuals have office jobs in Kolkata or do silver work. SC neighborhood poorer.
Qualitative Observations

- In Ranjanpur, access to contracts for painting, thus economic wealth, strongly connected to kinship networks. Zamindari connections and economic wealth predict TMC support in village.
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- Families get together approximately one week before vote and have serious political coordination discussions.
Protocol and Particulars

- All work done in a month before model code of conduct and after the election.

- Three segments: Demographic/Network, Preferences, Vote Choice
  - Separate codes for each section and dumped into “ballot box”
  - Demonstrated secrecy
Vote Preferences in dataset for those who answered TMC/Congress or CPM in both pre and post surveys. There 257 observations in Chaandinagar and 837 observations in Ranjanpur.

Data from vote preferences is further subdivided by those individuals for whom an issue “ideal point” can be measured through a 2-parameter item response model (described later).

Two individuals connected in the kinship network if they are siblings, parent-child, or spouses.
### Campaign Effect on Votes in Ranjanpur

<table>
<thead>
<tr>
<th>Pre-Campaign</th>
<th>Post-Campaign</th>
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<tbody>
<tr>
<td>CPM</td>
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<tr>
<td>CPM</td>
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</tr>
<tr>
<td>TMC</td>
<td>69</td>
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### Results and Concluding Thoughts

54% to 64% TMC Support
## Campaign Effect on Votes in Chaandinagar

<table>
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<tr>
<td>CPM</td>
<td>44</td>
<td>38</td>
</tr>
<tr>
<td>TMC</td>
<td>13</td>
<td>162</td>
</tr>
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<td></td>
<td>57</td>
<td>200</td>
</tr>
</tbody>
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68% to 78% TMC Support
Campaign Issues

- **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.
Pre and Post Issue Beliefs in Ranjanpur

![Graph showing pre and post issue beliefs in Ranjanpur with data points for each issue (P1 to P7). The graph compares 'Before' and 'After' with a range of proportion of agreement with statement from 0.0 to 1.0.]

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Pre and Post Issue Beliefs in Chaandinagar

Before

After

Probability of Agreement with Statement

0.0 0.2 0.4 0.6 0.8 1.0

P1 P2 P3 P4 P5 P6 P7

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Two Parameter Ideal Point Model

- $y_{ikt}$ is 0/1 belief of person $i$ on issue $k$ in period $t$
- $\alpha_{it}$ is the ideal point for person $i$ in period $t$
- $\beta_k$ is the issue parameter for issue $k$

Estimate:

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

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

Ideal points normalized within each village (for SD interpretations)
Ranjanpur Ideal Points vs. Vote Choice

CPM  ||  TMC

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Chaandinagar Ideal Points vs. Vote Choice
### Campaign Effects for Vote Choice and Opinion

<table>
<thead>
<tr>
<th></th>
<th>Ranjanpur</th>
<th>Chaandinagar</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vote</strong></td>
<td>0.10 (&lt; 0.001)</td>
<td>0.10 (0.002)</td>
</tr>
<tr>
<td><strong>Opinion (in SDs)</strong></td>
<td>0.30 (&lt; 0.001)</td>
<td>0.09 (0.031)</td>
</tr>
</tbody>
</table>
Network Data

Kinship Connection = Sibling, Parent/Child, or Spouse
Network Correlations of Vote Choice in Ranjanpur

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Network Correlations of Vote Choice in Chaandinagar

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Network Correlations of Ideal Points in Ranjanpur

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Network Correlations of Ideal Points in Chaandinagar

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General Influence Process

Imagine the update process for an individual \((i)\) and a single influencer \((j)\) over the campaign:

- Individual-level update of prior belief
- Influenced by the posterior opinion of influencer
- This is dynamic and reciprocal

\(y_{it} \in \mathbb{R}\) is opinion of person \(i\) in time period \(t\)
\(\gamma_{ij} \in [0, 1]\) is influence of \(j\) on \(i\)
\(\theta_i \in \mathbb{R}\) is relative stability of opinion over time
\(\tau_i \in \mathbb{R}\) is the direct effect on \(i\)

\[
y_{i1} = \gamma_{ij}y_{j1} + (1 - \gamma_{ij})(\theta_i y_{i0} + \tau_i)
\]
\[
y_{j1} = \gamma_{ji}y_{i1} + (1 - \gamma_{ji})(\theta_j y_{j0} + \tau_j)
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General Influence Process

- $y_{it} \in \mathbb{R}$ is opinion of person $i$ in time period $t$
- $\gamma_{ij} \in [0, 1]$ is influence of $j$ on $i$
- $\theta_i \in \mathbb{R}$ is relative stability of opinion over time
- $\tau_i \in \mathbb{R}$ is the direct effect on $i$
- $\phi_{ij}$ is relative importance of person $j$ to $i$
- $N(i)$ is the set of kinship connections for $i$

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

$$\rho_{ij} = \delta_i \phi_{ij} \gamma_{ij} \quad (1)$$

$$\rho_i = \frac{1}{\delta_i} \sum_{j \in N(i)} \rho_{ij} \quad (2)$$

$$\rho = \frac{1}{n} \sum_{i \in V} \rho_i \quad (3)$$

$\rho$ is the parameter of interest
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General Influence Process

Taking cluster expectations:

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

\[ + \mathbb{E}_i[\mathbb{E}_{N(i)}((1 - \gamma_{ij})\tau_i)] \]

\[ y_{i1} = \rho \times \frac{1}{\delta_i} \sum_{j \in N(i)} y_{j1} + \beta y_{i0} + \alpha \]
General Influence Process

\[ y_1 = \rho Wy_1 + \beta y_0 + \alpha \]  \hspace{1cm} (6)

where \( W \) is a matrix with elements \( w_{ij} \) such that:

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

\[ y_1 (I - \rho W) \sim N(\beta y_0 + \alpha, \sigma^2) \]  \hspace{1cm} (7)

\[ \Rightarrow y_1 \sim N((I - \rho W)^{-1}(\beta y_0 + \alpha), [(I - \rho W)'(I - \rho W)]^{-1}\sigma^2) \]
Vote Choice Results

- Chaandinagar: 0.09
- Ranjanpur: 0.17
Ideal Point Results

Ranjanpur

Chaandinagar

0.08

0.1
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?
Cooperation and Coordination in Ranjanpur

Proportion Answering 'Yes'

0.0 0.2 0.4 0.6 0.8 1.0

Discussion

Discussion

0.65

Coordination

Coordination

0.55

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Cooperation and Coordination in Chaandinagar

Proportion Answering 'Yes'

- Discussion: 0.82
- Coordination: 0.63

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Sources of Influence in Ranjanpur

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>Family</td>
<td>83</td>
</tr>
<tr>
<td>Friends</td>
<td>4</td>
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<tr>
<td>Newspaper</td>
<td>3</td>
</tr>
<tr>
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Other Forms of Influence in Ranjanpur

- Media: 0.37
- Club: 0.23
- Promise: 0.44

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Other Forms of Influence in Chaandinagar

![Graph showing the proportion answering 'Yes' for different forms of influence.

- Media: 0.62
- Club: 0.3
- Promise: 0.44]
Robustness of $\rho$ in Vote Choice

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Robustness of $\rho$ in Ideal Points

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Concluding Thoughts

- Empirical methods to isolate influence of network can be used widely.
- Institutional theories vs. Social theories in India.
- How do results vary in alternate social settings (e.g., urban areas where kinship networks are more fragmented)?