

# Gerrymandering Decentralization: Political Selection of Grants-Financed Local Jurisdictions

Stuti Khemani

Development Research Group

The World Bank

# Decentralization in Political Agency Theory

- Decentralization as well-intentioned institutional reform—local participatory self-government
- Risk of local “elite capture” (Bardhan and Mookherjee)
- Empirical focus on benefit incidence of local government spending—do the poor participate? Do the poor receive benefits?
- This contribution: Risk of “Political Capture”—prolong clientelism at the expense of public interest politics

# Endogenizing Decentralization

## Political capture of decentralization

- Decentralization as an endogenous political choice of central politicians in the face of greater electoral competition
- Local jurisdictions could be created to serve central electoral objectives, as in electoral gerrymandering
- In political economy contexts where voters mobilize to access private transfers, and not broad public goods, decentralization can exacerbate clientelist politics

# Endogenizing Decentralization (cont.)

- Political selection of decentralization: grants for local beneficiary selection (as in many anti-poverty programs), to buy votes from poor swing voters, and win central office to target other benefits to core-supporters
- Local government spending may target the poor, but enable the central politician to get-away with overall lower levels of broad public goods

# Background for the theory

- Framework for central political economy from literature on fiscal politics (Persson and Tabellini, 2000; Persson et al, 2007)
- Organized interest groups,  $j$ , receive group-targeted transfers  $f^j$
- Interest groups bargain over the allocation of  $f^j$ , from generalized taxes  $\tau$
- Khemani and Wane (2009) introduce another type of voter—the unorganized swing voter who can only receive general public good  $g$ , and no targeted transfers ( $f^s = 0$ )
- Similar idea to that of difficult-to-reach swing voters in models of redistributive politics (Cox and McCubbins, 1986; Dixit and Londregan, 1998)

# A Simple Model

- 3 Groups:  $j = P_1, P_2, S$
- $P_1$  and  $P_2$  are elites organized into political interest groups—political parties that compete for office
- $S$  is the unorganized group of poor swing voters
- Welfare of group  $j$ 's member is given by:  
$$W^j(c, g) = c^j + H(g)$$
- For  $j \notin S$ ,  $c^j = y^j - \tau + f^j$ .
- Group sizes:  $\sum_{j=P_1, P_2, S} \mu^j = 1$
- For  $j \in S$ ,  $y^S \equiv 0$ , and  $f^S \equiv 0$ , and therefore  $W^S = H(g)$

## TAXATION:

- Costly Income Taxation: tax rate  $\tau$  only collects  $\theta(\tau) \cdot \tau$  where  $0 \leq \theta(\tau) \leq 1$
- $\theta'(\tau) < 0$ , and  $\theta''(\tau) < 0$  for  $0 \leq \tau \leq y^j, \forall j$ : Inverted-U Laffer Curve The tax
- $g$  and  $f^j$  are financed one-to-one with tax revenues, and satisfy non-negativity constraints  $g \geq 0$  and  $f^j \geq 0 \forall j$ .
- The government budget constraint is therefore given by:

$$\sum_{j \in S} \mu^j \cdot f^j + g \leq R(\tau)$$

where  $R(\tau) = \tau \cdot \theta(\tau) \cdot \sum_{j \in S} \mu^j$  is the total tax revenue

## POLITICS:

- $P_1$ , and  $P_2$  compete during elections to win office to choose the policy vector  $[\tau, g, f^j]$
- Any member of the political parties,  $\mu^j$  for  $j = P_1, P_2$  can be a candidate.
- Objective of party  $j \in G$  (in government) is given by:

$$\max_{\{\tau, g, f^j\}} \mu^G [y^G - \tau + f^G + H(g)] + B$$

- The political party that wins office chooses policies to maximize the welfare of its members (core constituents) subject to a re-election constraint (to be derived below), in addition to the budget constraint.
- $B$  represents the exogenous rents or benefits from holding office

## VOTERS:

- Core-supporters  $\mu^j$  of political party  $j$  always vote for the party to which they are attached, consistent with the party's objective of maximizing the welfare of its supporters subject to re-election and budget constraints
- Unorganized swing voters cast their ballot for the incumbent government if their welfare under government policy,  $H(g)$ , is higher than or equal to a reservation utility parameter  $\omega$ ; otherwise they vote for the opposition.
- The reservation utility parameter  $\omega$  is distributed on the support  $[\underline{\omega}, \bar{\omega}]$ , with cumulative distribution  $F$  which are common knowledge.

## VOTE SHARES:

- Under policy  $[\tau, g, f^j]$  incumbent government G expects to receive  $\mu^S F(H(g))$  of swing voters' ballots; remaining swing voters  $\mu^S (1 - F(H(g)))$  punish the incumbent and vote for the opposition.
- $j \in G$  therefore receives  $\mu^G + \mu^S F(H(g))$  of the votes.
- The reelection constraint is given by:

$$F(H(g)) > \frac{\mu^S - \Delta\mu^G}{2\mu^S} = \lambda \quad \text{or} \quad H(g) \geq F^{-1}(\lambda)$$

Where  $\Delta\mu^G = (\mu^G - \mu^{-G})$  is the difference in size of the core constituents of the two political parties.

- $\lambda$  is the *minimum swing votes* the incumbent government needs to win re-election.

## In the absence of politics

- Utilitarian social planner would solve:

$$\max_{\{\tau, g, f^j\}_{j \in G}} H(g) + \sum_{j \notin S} \mu^j \cdot [y^j - \tau + f^j]$$

subject to

$$\sum_{j \notin S} \mu^j f^j + g \leq R(\tau) = \tau \cdot \theta(\tau) \cdot \sum_{j \notin S} \mu^j, \quad g \geq 0, \quad f^j \geq 0 \quad \forall j, \quad \text{and} \quad 0 \leq \tau \leq y.$$

- The solution to this optimization problem is familiar, given by:

$$H'(g^*) = (\partial[\theta(\tau) \cdot \tau] / \partial \tau)^{-1} = 1, \quad R(\tau^*) = g^*, \quad \text{and} \quad f^{j^*} = 0, \quad \forall j.$$

- That is, the utilitarian optimum equates marginal social benefit of the public good to its marginal social cost of production. The utilitarian government raises just enough taxes to finance the production of the public good, spending nothing on targeted transfers to organized interest groups.

## Political Distortion

- *Politically Preferred* levels of  $\tau^{*G}$ ,  $g^{*G}$ ,  $f^{*G}$ , given by maximizing the welfare of  $G$ 's core constituents, when the re-election constraint is not binding

- First,  $G$  chooses the tax rate that maximizes the disposable income of its constituents when all tax proceeds are redistributed to them:

$$\max_{\{\tau\}_{j \in G}} y^j - \tau + \alpha \cdot \theta(\tau)\tau, \text{ where } \alpha^G = \sum_{j \notin S} \mu^j / \mu^G .$$

- $\tau^{*G}$  satisfies  $\alpha^G \cdot [\theta'(\tau^{*G}) \cdot \tau^{*G} + \theta(\tau^{*G})] = 1$  or  $R'(\tau^{*G}) = \mu^G$ .
- Second, the government chooses that the public good by equating the marginal benefit and costs of the public good accruing only to its constituents, or  $H'(g^{*G}) = 1/\mu^G$ .
- Finally, it redistributes the total tax revenue, net of public good spending, amongst its constituents, giving no specific transfers to the members of the opposition party:  $f^{j^{*G}} \equiv f^{*G} = [R(\tau^{*G}) - g^{*G}] / \mu^G$

## Re-election Constrained Policy.

- When  $F(H(g^{*G})) < \lambda$ , the incumbent has to give-up some targeted transfers to increase the level of the public good up to win the minimum swing vote

- The constrained optimal amount of public good is given by

$$\hat{g}^{*G} = \text{Max}\{g^{*G}; \hat{g}^G\} \text{ where } F(H(\hat{g}^G)) = \lambda.$$

- If  $\tau^{*G}$  falls short of financing the public good, the tax rate will be increased to  $\hat{\tau}^G$  such that  $R(\hat{\tau}^G) = \hat{g}^G$ .

- The constrained optimal tax rate is thus given by:

$$\hat{\tau}^{*G} = \text{Max}\{\tau^{*G}, \hat{\tau}^G\}.$$

- Following the algebra through, the government will transfer

$$\hat{f}^{j*G} \equiv \hat{f}^{*G} = [R(\hat{\tau}^{*G}) - \hat{g}^{*G}] / \mu^G \text{ to its constituents.}$$

## Political Selection of Decentralization

- N localities where some swing votes can be purchased with targeted transfers
- No heterogeneity of preferences
- Consider the following form of decentralization—
  - 1) Announcement of local grants,  $D^n \in (0, R(\tau))$ , that can be spent on targeted transfers (central government continues to provide  $g$ );
  - 2) Only members of organized interest groups,  $\mu^j, j \in P_1, P_2$  stand for elections; core supporters always vote for their party in local and central elections; swing voters in each election vote for the incumbent party if their utility is above reservation
  - 3) Locally elected government receives  $D^n$ , and allocates it to  $f^{nj}$ ,  $j \in P_1, P_2$  and  $p^{nj}$ ,  $j \in S$  to maximize utility of core supporters subject to its budget and re-election constraint.

- Under decentralization, in equilibrium  $D^n_{n \notin G} = 0$  for those localities where the opposition party wins elections.
- No decentralization is selected if  $F(H(g^{*G})) = \lambda$
- If  $F(H(g^{*G})) < \lambda$ , the central politician has the option of providing grants  $D^* = \sum_{n \in G} D^n = [F^{-1}(\lambda) - H(g^{*G})]$  to its affiliated localities to buy votes through direct transfers to those swing voters,  $\mu^{*s}$ , whose reservation utility is given by  $F^{-1}(\lambda) \geq \omega^* > H(g^{*G})$ .
- These swing voters cast their vote in the next elections (both local and central) in favor of the party of the local incumbent

- Upon receiving grants  $D^* = \sum_{n \in G} D^n = [F^{-1}(\lambda) - H(g^{*G})]$  the local politicians would spend the entire grant on  $\sum_{n \in G} p^s = D^*$ , and set  $f^{nj} = 0$ .  
(Note: the local politicians continue to receive  $f^{nG} = f^{*G} - D^* / \mu^G$  from the central political party, which maximizes their group's utility subject to the party's re-election constraint).

- **Cost of decentralizing to win re-election:** Loss in core constituent utility from re-allocating some of own transfers to buy swing votes:  $D^* = [F^{-1}(\lambda) - H(g^{*G})]$

- **Cost of central provision of greater public goods for re-election (no decentralization):** Loss in core constituent utility from increasing to  $\hat{g}$  for re-election:  $(\hat{g} - g^{*G}) - [H(\hat{g}) - H(g^{*G})]$

- Assuming sufficient revenues, the central politician would continue to keep the tax rate at  $\tau^{*G}$ , provide  $g^{*G}$ , but would reduce the targeted transfers to its constituents to  $(f^{*G} - D^{*G})$
- Loss from decentralization is smaller than loss from increasing the public good when:  $\frac{\partial W^S(c^s = 0)}{\partial c} > \frac{\partial W^S(c^s = 0)}{\partial g}$ , and 
$$\frac{\partial W^G(c^{*G}, g^{*G})}{\partial c} \geq \frac{\partial W^G(c^{*G}, g^{*G})}{\partial g}$$

**The ruling party will decentralize grants when swing voters strongly prefer and its core constituents weakly *prefer private transfers* rather than the public good**

*(Contrast with results in Lizzeri-Persico, QJE 2004: elites decide to extend suffrage in England when the value of public goods increases)*

- If  $f^{*G} = R(\tau^{*G}) - g^{*G} < F^{-1}(\lambda) - H(g^{*G}) = D^{*G}$ , then the tax rate will be increased to  $\tau^{**G}$  which is just necessary to finance the preferred level of public good and the grant to local governments needed for re-election, i.e.  $R(\tau^{**G}) = g^{*G} + D^{*G}$ .
- It can be shown that  $\tau^{**G} \leq \hat{\tau}$ , that is, the re-election constrained tax rate under the centralized regime is higher than the constrained tax rate under decentralization.

# Propositions

- **Proposition 1:** If decentralization occurs, it would take the form of grants to affiliated local governments for local beneficiary selection, and the recipients would spend it on private transfers to poor swing voters residing within their jurisdictions.

- **Proposition 2:** With demanding swing voters ( $F(H(g^*)) < \lambda$ )

central provision of public goods (and central taxes) is lower (weakly lower) if the central government decentralizes than if it does not.

# Work in progress...

- Solving model fully...
- Allowing for heterogeneity in group distribution across localities; emergence of local interest groups
- Citing more and better empirical evidence

# Motivating Evidence

1. Local jurisdictions in several developing countries are overwhelmingly dependent on grants

**Table 1:  
Local Government Characteristics in Selected Countries**

	<b>Local Jurisdictions</b>	<b>Share of Local Own-Revenues in Total Revenues</b>
<b>India</b>	~500 districts, ~6000 blocks, >230,000 villages (Rural Local Bodies)	3.7% <sup>a</sup>
<b>Indonesia</b>	440 Districts and Cities	8.8% <sup>b</sup>
<b>Nigeria</b>	>770 Local Government Authorities	10% <sup>c</sup>
<b>Peru</b>	~1700 district municipalities	27% <sup>d</sup>
<b>The Philippines</b>	~1500 municipalities	14% <sup>e</sup>
<b>OECD “typical”, and smallest</b>		>55%, 24% <sup>f</sup>
<p><i>a. Source: Choudhuri (2006)</i>  <i>b. Source: World Bank (2008)</i>  <i>c. Source: Author’s own calculations from data provided by Central Bank of Nigeria, 1999</i>  <i>d. Source: World Bank (2003), excluding the municipal area of the capital city Lima</i>  <i>e. Source: Author’s own calculations for municipalities from data provided by the Bureau of Local Government Finances, 2001-2005</i>  <i>f. Ambrosanio and Bordignon (2006) report only 3 out of 20 OECD countries having local grants share greater than 55 percent</i></p>		

# Motivating Evidence (continued)

2. Anecdotal evidence from several countries (Brazil, Philippines, Nigeria, Venezuela) of increase in number of local jurisdictions (creation of new jurisdictions) to access grants from political affiliates at higher tiers
3. Grants are targeted to politically affiliated jurisdictions

# Motivating Evidence (cont.)

4. Vote buying/clientelism in local elections (Bardhan et al; and Cheema and Khan-Mohmand, this conference; anecdotal evidence from the Philippines, India)
5. Difficulty of mobilizing village residents to demand quality improvements from village public schools in India (Banerjee et al, 2009)

# Summarizing the driving conditions

- Demanding swing voters who can only be reached through broad public goods/universal transfers
- New “swing voters’ curse”: some swing votes can be bought cheaply
- Organized voters (weakly) prefer privately targeted benefits to broad public goods

# Policy Implications?

- Move away from decentralizing beneficiary selection, and towards emphasizing broad public goods
- Move away from decentralization to small villages, and towards cities/townships with own revenue raising capacity, population density, and demand for basic urban public goods

(example from Lizzeri-Persico's analysis of English experience with suffrage reforms in the 1800s, following which municipal corporations rapidly increased public health infrastructure)

# Governance interventions through international development assistance?

- Promote yardstick competition through jurisdiction-level measurement of outcomes, and information dissemination

(example from Keefer-Khemani's analysis of a Constituency Development Fund in India)

- Mass media campaigns, *a la* Brazil (Tendler, 1997; Ferraz and Finan, 2006); role for local/community radio?
- Part of CDD and CCT programs