The Role of Local Officials in New Democracies: Evidence From Indonesia

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Introduction

New Democracies Have a Particular Political Structure

- New democracies are in transition from a non-democratic regime
- Evidence that new democracies implement different policies:
  - Brender and Drazen (2005)
  - Keefer (2007)
  - Extensive anecdotal evidence of fraudulent elections
- A possible reason: new democracies operate in the institutional context of the previous regime.
  - Most studies theoretical or based on cross-country evidence.
- We lack microeconomic evidence of how these legacies condition the political and economic equilibrium of new democracies.

Introduction

The Role of Local Officials

- In this paper I focus in one of this legacies:
  - **The body of local officials.**
  - Local officials play a crucial role in autocracies.
  - Many of them are still in their position.
  - Unclear what is the role they play in a nascent democracy given the new political scenario.

Introduction

Contributions of this paper

- **Theory:**
  - I develop a model to study incentives they face to manipulate voters in an upper-level 1st democratic election.
  - I compare appointed & elected local officials.
  - Appointed officials have stronger incentives to manipulate voters to signal their alignment to the upcoming upper government.
  - Signalling Game with two types of equilibria: pooling and separating
  - Empirical Predictions:
    1. The electoral results in villages with appointed village heads are more aligned with the electoral result in the upper level.
    2. Appointed village heads that do not align to the "right party" are more likely to be fired.
- **Empirics:**
  - I test these predictions using data from Indonesia transition to democracy

Plan of the Talk

Plan for the Rest of the Talk

① Related Literature

② Overview of the Indonesian Context

③ Theory

④ Empirical Evidence

⑤ Robustness Checks

⑥ Conclusion

Related Literature

Related Literature

- **New Democracies:**
  - Wantchekon (1999), Brender and Drazen (2005, 2008, 2009), Keefer (2007)
- **Democratic Capture and Voter Cooptation:**
  - Acemoglu, Ticchi, Vindigni (2008, 2009), Acemoglu, Robinson and Santos-Villagran (2009), Dixit (2002), Gershenson and Grossman (2001), Dal Bo and Di Tella (2003), Robinson and Verdier (2003), Robinson and Torvik (2005), Finan and Schechter (2012).
- **Appointed vs. Elected officials:**
  - Besley and Coate (2003), Maskin and Tirole (2004), Alesina and Tabellini (2007, 2008), Martinez-Bravo, Qian, Padro-i-Miquel, Yao (2012).

Overview Indonesian Context

Overview Indonesian Context

Overview Indonesian Context

Soeharto's Regime & Reformasi Period

- **Soeharto regime** (1965-1998)
  - Golkar (Soeharto's party) obtained 2/3 majorities in each Parliamentary election under his rule.
  - Extensive evidence of local patronage networks, voter intimidation and vote buying. Evers (2000), King (2003), Haris (2004), Antlöv (2004).
  - Rooted at the village level.
- **May 1998:** Soeharto stepped down.
- **June 1999**: 1st democratic election post Soeharto.
  - Electoral results: PDI-P 33.7%, Golkar 22.4%.
  - Several accounts of voter manipulation and vote buying.
  - The electorate voted for national and district parliaments.
  - District parliaments in turn elect the district mayor.

Theory

Theory

Theory

Setup

- Consider a district divided in villages:

District Mayor

$\Updownarrow$

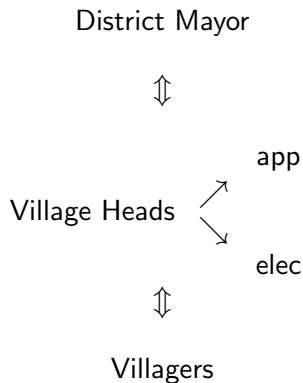Village Heads

$\Updownarrow$

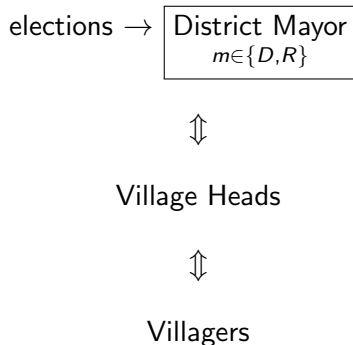Villagers

Theory

Setup (II)

- Villages:
- Some villages have **appointed** village heads
  - Designated by the district mayor
- Other villages heads have **elected** village heads
  - Elected by local constituents

District Mayor

$\Updownarrow$

app

Village Heads
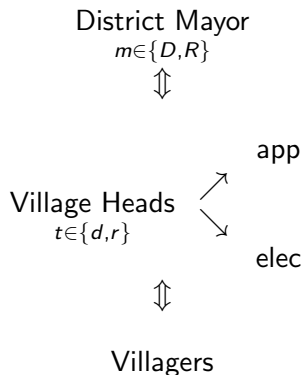
elec

$\Updownarrow$

Villagers

Theory

Setup (III)

- **Elections for district mayor** are going to take place.
- Two candidates:
- Party D (dictator's party)
- Party R (reformist party)

elections $\rightarrow$ | District Mayor |
| $m \in \{D,R\}$ |

$\Updownarrow$

Village Heads

$\Updownarrow$

Villagers

Theory

Setup (IV)

- **Village heads' (VH) political preferences:**
- $t=d$ party D sympathizer (δ)
- $t=r$ party R sympathizer $(1-\delta)$
- VH political preferences are private information.
- VH choose the level of effort $e \in [-\eta, \eta]$ to influence voters during elections for mayor.
- If $e > 0$ favors party D

District Mayor
$m \in \{D, R\}$
$\Updownarrow$

app

Village Heads
$t \in \{d, r\}$
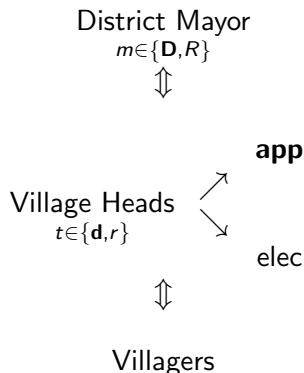
elec

$\Updownarrow$

Villagers

Theory

Setup (V)

- The candidate for mayor that wins the election decides

$$\phi_i \in \{keep, dismiss\}$$

each appointed village head.

- Mayors prefer village heads that are aligned to them:
  - Additional payoff G.

District Mayor
$m \in \{\mathbf{D}, R\}$
⇕

app

Village Heads   ↗
$t \in \{\mathbf{d}, r\}$ ↘

elec

⇕

Villagers

Theory

Preferences of Mayors

Mayor Party $m \in \{D, R\}$

$$V_m^{app}(\phi, t) = \begin{cases} G\mathbf{1}_{\{t=m\}} & \text{if } \phi = \text{keep} \\ G - \kappa & \text{if } \phi = \text{dismiss} \end{cases}$$

$$V_m^{elec}(t) = G\mathbf{1}_{\{t=m\}}$$

Theory

Preferences of Village Heads

Appointed Village Heads

Type $t \in \{d, r\}$ $\qquad U_t^{app}(e, \phi) = \begin{cases} Z & - & C_t(e) & \text{if } \phi = \text{kept} \\ \underline{U} & - & C_t(e) & \text{if } \phi = \text{dismissed} \end{cases}$

Elected Village Heads

Type $t \in \{d, r\}$ $\qquad U_t^{elec}(e) = Z - C_t(e)$

where

Type d $\quad C_d(e) = (\overline{\alpha}\mathbf{1}_{\{e<0\}} + \underline{\alpha}\mathbf{1}_{\{e>0\}})C(|e|)$

Type r $\quad C_r(e) = (\underline{\alpha}\mathbf{1}_{\{e<0\}} + \overline{\alpha}\mathbf{1}_{\{e>0\}})C(|e|)$

$$Z > \underline{U}, \overline{\alpha} > \underline{\alpha}, \ C(0) = 0, \ C'(.) > 0 \ , \ C''(.) > 0$$

Theory

Effort of Village Heads Affects the Electoral Outcome

- $\widetilde{\pi}$ is the realized vote share of party D

$$\widetilde{\pi} = \pi + \theta E + \varphi$$

  - π: proportion of citizens that prefer Party D (common knowledge)
  - $E = \sum\limits_{i=1}^{N} e_i$ total effort of village heads.
  - $\varphi \sim U[\frac{-1}{2\psi}, \frac{1}{2\psi}]$: valence shock, relative popularity of candidate D
- The probability that party D wins the mayor seat is:

$$p(E) = \operatorname*{Prob}_{\delta} \left[\widetilde{\pi} \geq \frac{1}{2} \right] = \psi(\pi + \theta E - \frac{1}{2}) + \frac{1}{2}$$

Theory

Timing of Events

1. Given π, each village head chooses $e_i \in [-\eta, \eta]$.

2. The electoral outcome is realized and the winner takes office.

3. Based on observed efforts, the new elected mayor decides whether to keep or dismiss each appointed village head $\phi_i \in \{\text{keep}, \text{dismiss}\}$.

4. Payoffs are distributed and the game ends.

Theory

Elected Village Heads

Theorem

In any equilibrium, elected village heads will exert zero effort regardless of their political leanings

$$e_d^{elec} = e_r^{elec} = 0$$

Elected village heads keep their position either if mayor D or mayor R wins the election and at the end of the game they receive payoff Z with certainty.

Theory

Appointed Village Heads

- The decision problem of appointed village heads constitutes a dynamic game of incomplete information.
- In particular a **Signaling Game**.
  - Mayors (receiver) observe effort (message) and try to infer the type of appointed village head.
  - Anticipating this, appointed village heads (senders) choose a level of effort.
- Solution Concept: Perfect Bayesian Equilibria (PBE).
- Equilibrium Refinement: Intuitive Criterion & Divinity Criterion.

Theory

Mayors' Optimization Problem

Mayor D will keep a village head after observing e if:

$$\mu(t = d|e)G > G - \kappa$$

Mayor R will keep a village head after observing e if:

$$[1 - \mu(t = r|e)]G > G - \kappa$$

Theory

Pooling Equilibria (I)

- In a pooling PBE, all appointed village heads take the same action.
  $\Rightarrow$ No updating $\quad \mu(t = d|e) = \delta \quad \mu(t = r|e) = 1 - \delta$

- Consider these strategies and beliefs as a candidate for a PBE:

$$\phi_D^*(e) = \begin{cases} \text{keep} & \text{if } e = e^* \\ \text{dismiss} & \text{if } e \neq e^* \end{cases} \qquad e_i^*(t) = e^* > 0 \text{ for } t \in \{d, r\}$$

$$\phi_R^*(e) = \begin{cases} \text{dismiss} & \text{if } e = e^* \\ \text{keep} & \text{if } e \neq e^* \end{cases} \qquad \begin{array}{l} \mu(t = d|e = e^*) = \delta \\ \mu(t = d|e \neq e^*) = 0 \end{array}$$

  - where e^* is defined by

$$\frac{\psi\theta\,[Z - \underline{U}]}{\underline{\alpha}} = C'(e^*)$$

Theory

Pooling Equilibria (II)

- These constitute a PBE as long as:

$$\delta > \frac{G - \kappa}{G} > 1 - \delta \tag{1}$$

$$\pi \geq \frac{1}{2} - \theta e^*(n - 1) + \frac{(\overline{\alpha} - \underline{\alpha})C(e^*)}{2\psi\,[Z - \underline{U}]} \tag{2}$$

- Remarks:
  - π needs to be large enough.
  - If mayor D wins the election, no turnover of appointed village heads along the equilibrium path.
  - This equilibrium satisfies the Intuitive Criterion and the Divinity Criterion.

Theory

Separating Equilibria (I)

- Consider these strategies & beliefs as a candidate for separating PBE

$$\phi_D^*(e) = \begin{cases} \text{keep} & \text{if } e \geq 0 \\ \text{dismiss} & \text{if } e < 0 \end{cases} \qquad e_i^*(t = d) = e^*$$
$$e_i^*(t = r) = -e^*$$
$$\phi_R^*(e) = \begin{cases} \text{dismiss} & \text{if } e \geq 0 \\ \text{keep} & \text{if } e < 0 \end{cases} \qquad \mu(t = d|e) = \begin{cases} 1 \text{ if } e \geq 0 \\ 0 \text{ if } e < 0 \end{cases}$$

- For these to be a PBE, two additional conditions need to hold:

$$\pi \geq \frac{1}{2} - \theta n\,(2\delta - 1)\,e^* + \theta \frac{e^* + \widetilde{e}}{2} - \frac{\overline{\alpha}C(\widetilde{e}) - \underline{\alpha}C(e^*)}{2\psi(Z - \underline{U})} \qquad (3)$$

$$\pi \leq \frac{1}{2} - \theta n\,(2\delta - 1)\,e^* - \theta \frac{e^* + \widetilde{e}}{2} + \frac{\overline{\alpha}C(\widetilde{e}) - \underline{\alpha}C(e^*)}{2\psi(Z - \underline{U})} \qquad (4)$$

  - where $\widetilde{e}$ is the optimal deviation level of effort

Theory

Separating Equilibria (II)

- Remarks:
  - π needs to take intermediate values
  - We expect to observe high turnover of appointed village heads along the equilibrium path:
    - Types are truthfully revealed
    - Upon taking office, the mayor identifies and dismisses her non-supporters

Theory

Appointed Village Heads (Summary)

Pooling Equilibrium

All appointed village heads exert effort

$$-e^* < 0$$

Mayor D fires all

Mayor R keeps all

Separating Equilibrium

Type r village head:

Type d village head:

$$-e^* \qquad e^* > 0$$

Mayor D keeps if e^*

dismisses if $-e^*$

Mayor R does the opposite

Pooling Equilibrium

All appointed village heads exert effort

$$e^* > 0$$

Mayor D keeps all

Mayor R fires all

Average Effort of Appointed Village Heads:

$$-e^* \qquad\qquad (2\delta - 1)e^* \qquad\qquad e^*$$

Theory

Summary of Empirical Predictions

1. In districts with lopsided elections, appointed village heads exert higher effort to support the likely winner than elected village heads

2. In districts with close elections, the average effort of appointed village heads depends on the proportion of types.
   - It is likely that D supporters outnumber R supporters

3. We expect low turnover of appointed village heads after lopsided elections and high turnover of appointed village heads after close elections.

Empirical Evidence

Empirical Evidence

Empirical Evidence

Organization of the State

- Indonesia is divided in 306 districts.
- Districts are divided in villages
  - *kelurahan* → appointed village head
  - *desa*　　　→ elected village head
- District mayors have designation rights over *kelurahan* heads.
- *Kelurahan* tend to be more urban and *desa* more rural.
- But some degree of overlap:
  - *Kelurahan* were formed in the surroundings of the capital of the subdistrict in rural districts.
  - The conversion of *desa* into *kelurahan* froze in 1992.

Empirical Evidence

Data Sources

- Village Census (Potensi Desa or PODES). 1996, 2000, 2003
  - Rich set of controls
  - Electoral results at the village level: ranking of the three most voted parties in the 1999 election.

- Electoral results at the district level: vote shares for each party. (Electoral Commission, KPU)

Empirical Evidence

Table 1. Descriptive Statistics

	Kelurahan		Desa	
	Mean	Std. Dev.	Mean	Std. Dev.
observations	3,036		40,358	
urban dummy	0.62	0.49	0.06	0.23
% HH in agriculture	31.11	30.67	73.02	22.18
% land in agriculture	48.25	34.72	77.58	22.00
population	6,315	10,922	2,699	7,355
num people / ha	4.95	9.34	0.76	2.12
distance subdistrict (km)	2.92	5.64	12.96	29.91
num mosques	0.74	0.66	1.29	1.47
num prayerhouse	1.23	1.43	2.61	3.62
num churches	0.26	0.58	0.50	1.43
num Buddhist temples	0.02	0.08	0.01	0.17
num hospitals	0.022	0.083	0.002	0.036
num puskesmas	0.064	0.154	0.038	0.185
num kindergarten	0.289	0.288	0.156	0.334
num primary school	0.918	0.747	1.344	1.577
num high school	0.403	0.524	0.157	0.449

Empirical Evidence

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distance subdistrict (km)	2.92	5.64	12.96	29.91
num mosques	0.74	0.66	1.29	1.47
num prayerhouse	1.23	1.43	2.61	3.62
num churches	0.26	0.58	0.50	1.43
num Buddhist temples	0.02	0.08	0.01	0.17
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Empirical Strategy

- Theoretical predictions: differential effort to influence voters in *desa* vs. *kelurahan*.
- No direct measures of effort.
- Instead I compare electoral outcomes *desa* - *kelurahan* within districts and controlling for a host of controls.
- Underlying assumption: conditional on controls, similar political leanings.

1. **Linear Probability Model (LPM)**

$$y_v = \gamma k_v + \delta_m + \mathbf{X}_v'\beta + \varepsilon_v$$

   - y_v 1 if Golkar most voted party in village v
   - k_v 1 if village is a kelurahan (appointed village head)
   - δ_m district fixed effects
   - $\mathbf{X}_v$ controls

2. **Probit**
3. **Propensity Score Matching**

Empirical Evidence

Table 3A. Heterogeneous Effects of Appointed Officials
Dependent variable is 1 if Golkar (Suharto's party) most voted in 1999

	Whole sample	PDI-P Won		Golkar Won		Neither Won
		Large	Tight	Tight	Large	
	(1)	(2)	(3)	(4)	(5)	(6)
Kelurahan	**0.0552*****	**0.0016**	**0.0764****	**0.1277*****	**0.0441****	**0.0677***
(appointed VH)	(0.012)	(0.016)	(0.029)	(0.037)	(0.018)	(0.038)
Geographic	Y	Y	Y	Y	Y	Y
Religion	Y	Y	Y	Y	Y	Y
Facilities	Y	Y	Y	Y	Y	Y
District FE	Y	Y	Y	Y	Y	Y
Obs	43,394	15,430	9,114	5,946	7,378	5,526
Adjusted R2	0.379	0.0812	0.167	0.0621	0.110	0.143
# Districts	199	70	35	26	48	20

Empirical Evidence

Table 3B. Heterogeneous Effects of Appointed Officials
Dependent variable is 1 if **PDI-P** (pro-Democracy party)
most voted in 1999

	Whole sample	PDI-P Won		Golkar Won		Neither Won
		Large	Tight	Tight	Large	
	(1)	(2)	(3)	(4)	(5)	(6)
Kelurahan	-0.0208	0.0370*	-0.0370	-0.0870*	-0.0241	-0.0036
	(0.014)	(0.021)	(0.045)	(0.043)	(0.015)	(0.045)
Geographic	Y	Y	Y	Y	Y	Y
Religion	Y	Y	Y	Y	Y	Y
Facilities	Y	Y	Y	Y	Y	Y
District FE	Y	Y	Y	Y	Y	Y
Obs	43,394	15,430	9,114	5,946	7,378	5,526
Adjusted R2	0.339	0.0812	0.167	0.0621	0.110	0.143
# Districts	199	70	35	26	48	20

Empirical Evidence

Table 3C. Heterogeneous Effects of Appointed Officials
(Different Econometric Methods)
Dependent variable is 1 if Golkar most voted in 1999

Coefficients kelurahan dummy	Whole sample (1)	PDI-P Won		Golkar Won		Neither Won (6)
		Large (2)	Tight (3)	Tight (4)	Large (5)	
LPM	0.0552***	0.0016	0.0764**	0.1277***	0.0441**	0.0677*
	(0.012)	(0.016)	(0.029)	(0.037)	(0.018)	(0.038)
Probit	0.2774***	0.0580	0.3978***	0.3493***	0.2240**	0.4433**
	(0.055)	(0.096)	(0.115)	(0.103)	(0.106)	(0.184)
Marginal Effect	0.0966***	0.0098	0.1191***	0.1353***	0.0466***	0.0946*
	(0.020)	(0.017)	(0.039)	(0.038)	(0.020)	(0.049)
Matching Estimator	0.0325***	0.0014	0.0343	0.1363***	0.0473***	0.0278
	(0.008)	(0.009)	(0.030)	(0.037)	(0.015)	(0.022)
Obs	19,206	7,814	4,303	1,822	3,378	1,889
# Districts	199	70	35	26	48	20

Empirical Evidence

Table 3D. Heterogeneous Effects of Appointed Officials
(Different Econometric Methods)
Dependent variable is 1 if **PDI-P** most voted in 1999

Coefficients kelurahan dummy	Whole sample	PDI-P Won		Golkar Won		Neither Won
		Large	Tight	Tight	Large	
	(1)	(2)	(3)	(4)	(5)	(6)
LPM	-0.0208	0.0370*	-0.0370	-0.0870	-0.0241	-0.0036
	(0.014)	(0.021)	(0.045)	(0.043)	(0.015)	(0.045)
Probit	-0.0539	0.1727**	-0.1023	-0.2749**	-0.1614	-0.0041
	(0.056)	(0.083)	(0.122)	(0.131)	(0.129)	(0.162)
Marginal Effect	-0.0213	0.0462**	-0.0408	-0.0755**	-0.0280	-0.0009
	(0.022)	(0.021)	(0.049)	(0.032)	(0.021)	(0.036)
Matching Estimator	-0.0030	0.0328***	-0.0080	-0.0991	-0.0207	-0.0225
	(0.013)	(0.004)	(0.046)	(0.052)	(0.011)	(0.045)
Obs	19,206	7,814	4,303	1,822	3,378	1,889
# Districts	199	70	35	26	48	20

Empirical Evidence

Evidence on Turnover of Appointed Village Heads (I)

- Measure of turnover:
  - On 2000 kelurahan heads asked for the number of years of tenure.
  - If they report 0 years of tenure I know there was a turnover after the 1999 election.
- The district legislatures formed after the 1999 had to elect the district mayor.
  - There were delays in electing the district mayor

Empirical Evidence

Evidence on Turnover of Appointed Village Heads (II)

- Empirical Specification:

$$turnover_{vm} = \gamma_0 Golkar_{vm} + \gamma_1 Golkar_{vm} * NewMayor_m + \delta_m + u_{vm}$$

- We expect:
  - $\gamma_1 \approx 0$ if either party won by a large margin
  - $\gamma_1 > 0$ if PDI-P won by a tight margin
 - $\gamma_1 < 0$ if Golkar won by a tight margin

Empirical Evidence

Evidence on Turnover of Appointed Village Heads (II)
Dependent variable is 1 if VH turnover post-1st election

| | Whole sample | PDI-P Won | | Golkar Won | |
| | | Large | Tight | Tight | Large |
	(1)	(2)	(3)	(4)	(5)
Golkar won	-0.0152	0.0572	-0.1252**	0.0180	-0.0399
	(0.031)	(0.053)	(0.061)	(0.047)	(0.065)
New Mayor * Golkar won	0.0057	-0.0999	0.1988***	-0.2083**	0.1613*
	(0.042)	(0.065)	(0.067)	(0.088)	(0.083)
Obs	3,034	1,073	550	354	798
Adjusted R2	0.236	0.283	0.250	0.270	0.226
# Districts	199	70	35	26	48

Empirical Evidence

Differences Probability of Turnover by Political Alignment
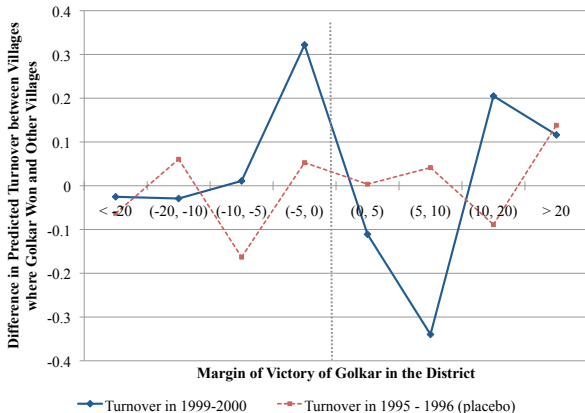
Robustness Checks

Robustness Checks

Summary
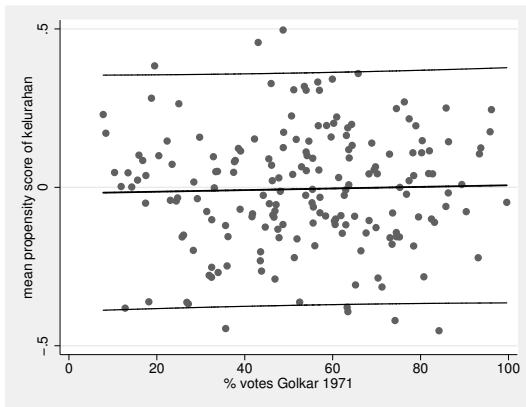
Robustness Checks

Threats to the Empirical Strategy

1. Endogenous classification of desa & kelurahan.
2. Omitted Variable Bias: differences in voting patterns of desa & kelurahan driven by some other characteristic.
3. Alternative explanations for the stronger alignment of kelurahan to the district electoral result.

Robustness Checks

1. Endogenous Classification of Kelurahan

- Since *desa* villages had elections, Soeharto might had been reluctant to classify as *desa* villages with strong opposition to the regime.

- **Robustness Check 1:** Was the 'urbanness requirement' for being classified as kelurahan different across districts?

    - The propensity score is a measure of urbanness requirement
    - For each district, I compute the average propensity score of kelurahan
    - Regress average propensity score against a measure of support for Golkar at the time of the classification.

Robustness Checks

Robustness Checks

1. Endogenous Classification of Kelurahan (III)

- Still, there could have been endogenous classification *within* districts
- **Robustness Check 2**: control for proxies of opposition to Golkar regime
  - Incidence of conflict
  - Presence of the army & police in the village
  - Natural resources
  - All of the above
- The results are robust to controlling for all these controls

Robustness Checks

Table 4A. Robustness Check 2: Underlying Opposition to Soeharto
Dependent variable: **Golkar** wins 1999

Coefficients kelurahan dummy	Whole sample	PDI-P Won		Golkar Won		Neither Won
		Large	Tight	Tight	Large	
	(1)	(2)	(3)	(4)	(5)	(6)
Baseline results	0.0552***	0.0016	0.0764**	0.1277***	0.0441**	0.0677*
	(0.012)	(0.016)	(0.029)	(0.037)	(0.018)	(0.038)
			Robustness Checks: Underlying Opposition Proxies			
Incidence of Conflict	0.0550***	0.0008	0.0790***	0.1271***	0.0442**	0.0668*
	(0.012)	(0.016)	(0.029)	(0.038)	(0.018)	(0.037)
Presence of the Army and the Police	0.0539***	0.0018	0.0760**	0.1220***	0.0365*	0.0708*
	(0.012)	(0.016)	(0.029)	(0.037)	(0.019)	(0.039)
Natural Resources	0.0540***	0.0006	0.0752**	0.1251***	0.0426**	0.0669*
	(0.012)	(0.016)	(0.028)	(0.037)	(0.018)	(0.038)
All of the above	**0.05355***	**-0.0051**	**0.0845***	**0.1221***	**0.0344***	**0.0782***
	(0.012)	(0.015)	(0.028)	(0.036)	(0.019)	(0.041)

Robustness Checks

Table 4B. Robustness Check 2: Underlying Opposition to Soeharto
Dependent variable: PDI-P wins 1999

Coefficients kelurahan dummy	Whole sample	PDI-P Won		Golkar Won		Neither Won
		Large	Tight	Tight	Large	
	(7)	(8)	(9)	(10)	(11)	(12)
Baseline Results	-0.0208	0.0370*	-0.0370	-0.0870*	-0.0241	-0.0036
	(0.014)	(0.021)	(0.045)	(0.043)	(0.015)	(0.045)
			Robustness Checks: Underlying Opposition Proxies			
Incidence of Conflict	-0.0204	0.0376*	-0.0373	-0.0871*	-0.0242	-0.0045
	(0.014)	(0.021)	(0.044)	(0.044)	(0.015)	(0.044)
Presence of the Army and the Police	-0.0223	0.0356*	-0.0394	-0.0880**	-0.0206	-0.0066
	(0.014)	(0.021)	(0.044)	(0.042)	(0.016)	(0.045)
Natural Resources	-0.0167	0.0384*	-0.0366	-0.0828*	-0.0234	-0.0052
	(0.015)	(0.020)	(0.044)	(0.042)	(0.015)	(0.045)
All of the above	**-0.0179**	**0.0438****	**-0.0434**	**-0.0758***	**-0.0207**	**-0.0114**
	(0.014)	**(0.020)**	**(0.046)**	**(0.040)**	**(0.016)**	**(0.046)**

Robustness Checks

2. Voting patterns driven by other factors

- Different voting patterns of desa & kelurahan driven by some other characteristic.
  - Expansion of public goods targeted to kelurahan villages:

  - Different occupational composition desa & kelurahan:

  - Other unobserved characteristics:

Robustness Checks

2. Voting patterns driven by other factors

- Different voting patterns of desa & kelurahan driven by some other characteristic.
    - Expansion of public goods targeted to kelurahan villages:
        - Results robust to controlling for changes in transfers from upper governments

    - Different occupational composition desa & kelurahan:

    - Other unobserved characteristics:

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    - Results robust to controlling for kecamatan (sub-district) fixed effects

Robustness Checks

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  - Different occupational composition desa & kelurahan:
    - Results robust to controlling for % of households in public sector / private sector
  - Other unobserved characteristics:
    - Results robust to controlling for kecamatan (sub-district) fixed effects
    - (On average 15.6 villages/sub-district. Average distance to the capital of the subdistrict 12km).

Robustness Checks

Table 5A. Robustness Check 2: Fiscal Transfers
Dependent variable: **Golkar** wins 1999

Coefficients kelurahan dummy	Whole sample (1)	PDI-P Won		Golkar Won		Neither Won
		Large (2)	Tight (3)	Tight (4)	Large (5)	(6)
	Changes in Transfers from Upper Governments					
Kelurahan dummy	0.0493***	-0.0102	0.012	0.200***	0.1482***	0.1288**
	(0.019)	(0.020)	(0.042)	(0.074)	(0.045)	(0.061)
Observations	10,956	4,987	1,945	1,288	1,811	925
	Government and Private Sector Employment					
Kelurahan dummy	0.0383***	-0.0010	0.0326	0.0690	0.0654**	-0.0043
	(0.016)	(0.019)	(0.058)	(0.074)	(0.026)	(0.031)
Observations	6,856	2,570	1,311	803	1,385	787
	Kecamatan (subdistrict) Fixed Effects					
Kelurahan dummy	0.0513***	-0.0095	0.1140***	0.0591	0.0731***	0.0349
	(0.010)	(0.015)	(0.031)	(0.039)	(0.018)	(0.034)
Observations	43,394	15,430	9,114	5,946	7,378	5,526

Robustness Checks

Table 5B. Robustness Check 2: Fiscal Transfers
Dependent variable: **PDI-P** wins 1999

Coefficients kelurahan dummy	Whole sample	PDI-P Won		Golkar Won		Neither Won
		Large	Tight	Tight	Large	
	(1)	(2)	(3)	(4)	(5)	(6)
Changes in Transfers from Upper Governments						
Kelurahan dummy	0.0034	0.0348	0.0989	-0.1527**	-0.1001**	0.0166
	(0.025)	(0.028)	(0.106)	(0.059)	(0.025)	(0.058)
Observations	10,956	4,987	1,945	1,288	1,811	925
Government and Private Sector Employment						
Kelurahan dummy	-0.0090	0.0363	-0.0285	-0.0948	-0.0319*	0.1080
	(0.020)	(0.029)	(0.077)	(0.067)	(0.018)	(0.089)
Observations	6,856	2,570	1,311	803	1,385	787
Kecamatan (subdistrict) Fixed Effects						
Kelurahan dummy	-0.0181	0.0337*	-0.0568	-0.0316	-0.0378**	0.0221
	(0.011)	(0.019)	(0.035)	(0.035)	(0.016)	(0.049)
Observations	43,394	15,430	9,114	5,946	7,378	5,526

Robustness Checks

Robustness Checks (Summary)

1. Endogenous classification of desa & kelurahan.
   - The requirements for being classified as kelurahan do not differ across districts depending on political considerations.

2. Omitted Variable Bias: differences in voting patterns of desa & kelurahan driven by some other characteristic.

3. Electoral result at the district level endogenous to the result in kelurahan

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   - The requirements for being classified as kelurahan do not differ across districts depending on political considerations.
   - The results are robust to controlling for proxies of opposition to Golkar (e.g. presence of the army and police in the village).
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   - Results robust to controlling for sub-district fixed effects: 15.5 villages/ subdistrict, average distance to the subdistrict 12 km).

3. Electoral result at the district level endogenous to the result in kelurahan
   - Robust to an alternative classification of districts assuming full alignment of the electoral results of kelurahan and the district level.

Conclusions

Conclusions

Conclusions

Conclusions (I)

- Microeconomic evidence of the 1st democratic election in Indonesia
- Villages with appointed village heads experience a stronger electoral alignment with the district level, relative to villages with an elected village head.
- The model provides an intuitive explanation:
  - Appointed officials stronger incentives to manipulate voters to signal their alignment to upper levels
- The pattern of turnover of appointed local officials after the first democratic election also corroborates the implications of the model.

Conclusions

Conclusions (II)

- To understand voter manipulation & clientelism we need to take into account the strategic interaction between different levels of government.

- Institutional arrangements at local levels can be an important determinant of clientelism and vote buying during national level elections.

Conclusions

Thanks!

Additional Slides

Additional Slides

Robustness Checks

3. Alternative Explanation for Heterogeneous Result

- Maybe the district mayor distributes patronage transfers to villages that voted for them
    - and to a greater extent to *kelurahan* villages.

$$
\begin{aligned}
\Delta \text{Transfers} \;=\; & \beta_0 + \beta_1 kelurahan + \beta_2 aligned + \\
& \beta_3 kelurahan \times aligned + \delta_m + \varepsilon
\end{aligned}
$$

Robustness Checks

Table 6. Targeting Supporters Hypothesis

	Δ District Funds	Δ Hospitals	Δ Pukesmas	Δ Kindergarten	Δ Primary Schools
	1996 - 2002	2000 - 2003			
	(1)	(2)	(3)	(4)	(5)
Aligned	0.0256	-0.0001	-0.0042	0.0032	-0.0060
	(0.039)	(0.001)	(0.006)	(0.005)	(0.005)
Kelurahan	-0.1250	0.0028	0.0874***	-0.0159	-0.0164
	(0.126)	(0.007)	(0.022)	(0.025)	(0.019)
Aligned × Kelurahan	**-0.0496**	**-0.023**	**0.0409***	**0.0028**	**0.0221**
	(0.113)	(0.008)	(0.023)	(0.023)	(0.019)
Obs	19,346	45,713	45,546	42,797	45,305

Additional Robustness Checks

Democratic Capital Hypothesis

- Maybe *desa* villages developed a stronger democratic culture, that made them less likely to vote for Soeharto.

Additional Robustness Checks

Table A1: Democratic Capital Hypothesis

Dependent variables:	Sample Mean (1)	Coefficients on kelur dummy	
		No controls (2)	All controls (3)
Can [...] be trusted?			
most people	0.261	0.0880***	0.1018**
		(0.0331)	(0.0435)
neighbors	0.642	-0.0117	0.0192
		(0.0337)	(0.0456)
village head	0.768	-0.0086	-0.0441
		(0.0294)	(0.0398)
district government	0.644	0.0692*	0.0143
		(0.0361)	(0.0409)
the president	0.713	0.0596**	0.0138
		(0.0296)	(0.0362)
Voted in the 2004 elections?	0.935	0.0034	-0.0034
		(0.0149)	(0.0205)
Is there low corruption in [...]			
central government	0.109	-0.0290	-0.0020
		(0.0192)	(0.0252)
district government	0.241	-0.0800**	-0.0567
		(0.0319)	(0.0370)
village government	0.634	-0.1326***	-0.1213***
		(0.0361)	(0.0443)

Econometric Specification

Overlap Propensity Score Matching
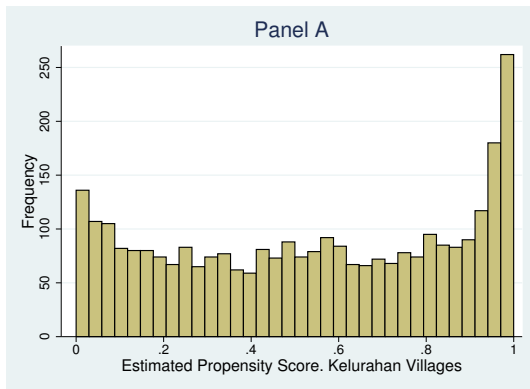
Overlap Propensity Score Matching
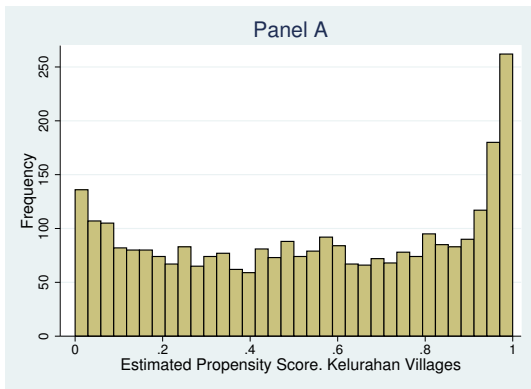
Theory

Solution Concept

Definition (Perfect Bayesian Equilibrium)

A PBE of this game consists on a set of optimal strategies for mayors $\phi_m^*(e_i) \in \{\text{keep,dismiss}\}$, $m \in \{D, R\}$, optimal strategies for appointed village heads $e_i^*(t) \in \mathbb{R}$, $t \in \{d, r\}$ and posterior beliefs $\mu(t|e_i)$ such that

$$\phi_m^*(e_i) \in \arg\max_{\phi} \left\{ \sum_t \mu(t|e_i) V_m^{app}(\phi, t) \right\}$$

$$e_i^*(t) \in \arg\max_{e_i} \left\{ \begin{array}{c} p(E_{-i}+e_i) U_t^{app}(e_i, \phi_D^*(e_i)) + \\ (1 - p(E_{-i}+e_i)) U_t^{app}(e_i, \phi_R^*(e_i)) \end{array} \right\}$$

where $\mu(t|e_i)$ is derived using Bayes' rule (when applicable).

Theory

Mayors' Optimization Problem

Mayor D will keep a village head after observing e if:

$$\mu(t = d|e)G > G - \kappa$$

Mayor R will keep a village head after observing e if:

$$[1 - \mu(t = r|e)]G > G - \kappa$$

Theory

Pooling Equilibria (I)

- In a pooling PBE, all appointed village heads take the same action.
  $\Rightarrow$ No updating $\quad \mu(t = d|e) = \delta \quad \mu(t = r|e) = 1 - \delta$

- Consider these strategies and beliefs as a candidate for a PBE:

$$\phi_D^*(e) = \begin{cases} \text{keep} & \text{if } e = e^* \\ \text{dismiss} & \text{if } e \neq e^* \end{cases} \qquad e_i^*(t) = e^* > 0 \text{ for } t \in \{d, r\}$$

$$\phi_R^*(e) = \begin{cases} \text{dismiss} & \text{if } e = e^* \\ \text{keep} & \text{if } e \neq e^* \end{cases} \qquad \begin{array}{l} \mu(t = d|e = e^*) = \delta \\ \mu(t = d|e \neq e^*) = 0 \end{array}$$

  - where e^* is defined by

$$\frac{\psi\theta\left[Z - \underline{U}\right]}{\underline{\alpha}} = C'(e^*)$$

Theory

Pooling Equilibria (II)

- These constitute a PBE as long as:

$$\delta > \frac{G - \kappa}{G} > 1 - \delta \tag{5}$$

$$\pi \geq \frac{1}{2} - \theta e^*(n-1) + \frac{(\overline{\alpha} - \underline{\alpha})C(e^*)}{2\psi\,[Z - \underline{U}]} \tag{6}$$

- Remarks:
  - π needs to be large enough.
  - If mayor D wins the election, no turnover of appointed village heads along the equilibrium path.
  - This equilibrium satisfies the Intuitive Criterion and the Divinity Criterion.

Theory

Separating Equilibria (I)

- Consider these strategies & beliefs as a candidate for separating PBE

$$\phi_D^*(e) = \begin{cases} \text{keep} & \text{if } e \geq 0 \\ \text{dismiss} & \text{if } e < 0 \end{cases} \qquad e_i^*(t=d) = \quad e^*$$
$$e_i^*(t=r) = -e^*$$
$$\phi_R^*(e) = \begin{cases} \text{dismiss} & \text{if } e \geq 0 \\ \text{keep} & \text{if } e < 0 \end{cases} \qquad \mu(t=d|e) = \begin{cases} 1 \text{ if } e \geq 0 \\ 0 \text{ if } e < 0 \end{cases}$$

- For these to be a PBE, two additional conditions need to hold:

$$\pi \geq \frac{1}{2} - \theta n \left(2\delta - 1\right) e^* + \theta \frac{e^* + \widetilde{e}}{2} - \frac{\overline{\alpha} C(\widetilde{e}) - \underline{\alpha} C(e^*)}{2\psi(Z - \underline{U})} \qquad (7)$$

$$\pi \leq \frac{1}{2} - \theta n \left(2\delta - 1\right) e^* - \theta \frac{e^* + \widetilde{e}}{2} + \frac{\overline{\alpha} C(\widetilde{e}) - \underline{\alpha} C(e^*)}{2\psi(Z - \underline{U})} \qquad (8)$$

- where $\widetilde{e}$ is the optimal deviation level of effort

Theory

Separating Equilibria (II)

- Remarks:
  - π needs to take intermediate values
  - We expect to observe high turnover of appointed village heads along the equilibrium path:
    - Types are truthfully revealed
    - Upon taking office, the mayor identifies and dismisses her non-supporters