Electoral Accountability, Fiscal Decentralization and Service Delivery in Indonesia

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Decentralization and service delivery

- **Decentralization**: makes governments more accountable and responsive and increasing citizen participation and political engagement, which → improvements in fiscal administration and the efficiency and quality of public service delivery
  - E.g. Ahmad et al. (2005); Bardhan and Mookherjee (2006)

- But empirical evidence on the impact of political and/or fiscal decentralization on investment in and quality of public goods remains limited
  - Reforms often occur at the national level – no comparison group to construct a counterfactual
  - The length of time that typically elapses before such reforms can have measurable impact on welfare

- Studies that have attempted to bridge the information gap include:
  - Faguet (2005): decentralized governance in Bolivia improved responsiveness of policy to citizen needs through increased investment in public goods
  - Huther and Shah (1998): analysis of 80 countries finds that governance quality and political participation are highly correlated with fiscal decentralization
  - Zhang et al (2002): electoral reform in rural China reduced the tax burden on rural poor as compared to the regions under centrally appointed officials
  - Lewis (2005): the immediate impact of decentralization in Indonesia was much more prominent on education sector investment as compared to health.
Key features of our study

- Analyze the impact of introducing a fundamental change (direct elections) in the way district governments are selected on investments in public services (in Indonesia)

- Utilize the evolving process of decentralization – a “natural experiment”
  - Fiscal decentralization started in 2001
  - Phased introduction of direct elections for district govt heads started in 2005
  - The timing of when a district switched to direct election determined by when the tenure of the previous district head ends
  - Rare for political/electoral reforms on a national scale

- Findings relate to the impact of political decentralization in a setting where legal framework of fiscal decentralization is already in place
History of decentralization in Indonesia

- The 1974 Law on Local Government created a ‘New order’ regime
  - Local government comprised of a regional head and the local assembly (DPRD)
  - Electoral chairs distributed from a closed list of candidates and political appointments dictated by Ministry of Home Affairs

- Decree on fiscal relations implemented in 2001
  - Greater spending autonomy on public service delivery to local governments

- First wave: shift to a system of indirect elections to appoint DPRD heads (1999)
  - DPRDs now empowered to even appoint or dismiss district heads
  - No direct accountability of DPRD heads to citizens, instead enormous power handed to DPRDs

- Second wave: Pilkada (law passed in 2004)
  - DPRD head to be directly elected by citizens; clearer definition of the head’s political functioning
  - DPRD head should: (i) administer the jurisdiction as per the guidelines laid down by DPRD, (ii) implement local laws, including budget, (iii) present accountability reports to DPRD and central government, (iv) provide information to citizens on government’s performance
Phasing of decentralization

- 1st phase of election in June 2005 in the districts where the DPRD heads were ending tenure
- Out of 264 districts that remained “undivided” during 2005-07, 112 held direct elections by 2005
- Probit regressions support the claim that timing of elections was “exogenous”
  - Whether a district had direct election by 2007 had strong correlation with whether the tenure of the existing district head was due to end, and none with socio-economic and geographic characteristics of the district
  - Whether a district had indirect election determined by whether the tenure was due to end during 1999-04

Figure 1: Timing of direct elections of district heads in all 304 districts by 2007

Figure 2: Timing of direct elections of district heads in 182 undivided districts by 2007

Note: 304 districts out of 434 had a directly elected district head by 2007

Note: 182 out of 264 undivided districts had a directly elected district head by 2007
The “path to reform”

- Districts switching to direct election in 2005 were of 2 types
  - (a) DEI: districts that had switched from New Order to indirectly elected bupati in late 1999, whose terms were due to end by 2005
  - (b) DEN: districts that had New Order bupatis appointed in early 1999, whose terms were due to end by 2005
- Districts that had indirect elections between 1999 and 2004 continued with the existing bupatis
- 119 DEI districts out of 204 that had direct elections in 2005; 94 DEI out of 112 undivided districts that held direct elections in 2005

- If electoral reforms raise accountability of district govt to citizens
  - DEI represents a more gradual change to from “no” to “high” accountability, via an interim phase of “low” accountability
Questions examined

- Did investment and revenue of the district govt change as a result of direct election for district government heads, in a fiscally decentralized environment?
  - Political decentralization can raise the incentives for local governments to better utilize the resources that are available to them and/or generate new resources

- Does political decentralization lead to better service delivery outcomes?

- Does the “path to reform” taken by a district matter for impact of electoral reforms?
  - Since governance and accountability structures were quite different for DEI and DEN groups leading up to the 2005 elections

- Primary focus on impacts on fiscal variables
  - Measuring quality of services is difficult; outcome indicators can provide a misleading picture since they are slow to change and the reforms have been recent
  - Public investment by local governments are crucial policy instruments where the first level impacts of increased accountability are likely to be seen
  - However, higher investments need not necessarily translate to improvements in outcomes

- To what extent were any changes in investment patterns subsequent to electoral reforms correlated with the needs of the districts?
  - Higher correlation is more likely to improve outcomes on the average and horizontal equity
The data

- Large and unique dataset covering multiple years – compiled from multiple sources and linked at the district level
  - Pilkada electoral information from Ministry of Home Affairs
  - Regional budget data from SIKD derived from MoF’s Regional Financial Information System
  - Village Potential series (PODES) administered by Central Bureau of Statistics (BPS): detailed information every three years on a range of characteristics for all villages and neighborhoods (about 69,000)
  - National Socio-Economic Survey (SUSENAS) by BPS: annual household survey covering around 205,000 households from all over Indonesia representative at the district (Kabupaten) level
“Treatment” and “control” groups defined

- Direct election for local government in a district (Pilkada) is the “treatment”
- Period: 2001-06 (post-fiscal decentralization); end-2005 switching point between “pre” and “post” Pilkada
- Districts that had direct election in 2006-07 dropped from regressions
  - Since these districts can arguably belong to *either* of treatment and control groups
  - Results checked for robustness after including these in treatment or control groups
- Districts that “split” between 2001 and 2007 are dropped
  - No. of districts increased from 336 to 434; 264 districts did not split
  - “Parent” district not comparable to “child” districts; sometimes electoral reform in child district but not in parent
- The bottom line
  - Treatment: 112 undivided districts that had direct election in 2005
  - Control: 82 undivided districts that did not have direct election during 2005-07
Fiscal variables on which impact is measured

Revenues

- Total revenue; revenue from own sources (PAD), tax sharing with the center (BHP), non-tax revenue sharing with the center (BHBP); DAU (grant from center)

Expenditures

- Public expenditures in 8 sectors for which the district governments make investment decisions, including health and education
- Rationale: Recent fiscal decentralization is likely to have increased the amount of resources available to local governments. Higher spending on public services would then indicate more readiness on the part of a local government to utilize the available resources

Budget deficit: (expenditure – revenue)
Estimation models: difference-in-difference (DID)

1. Evaluate the changes in the treated group (I) from pre- to post-Pilkada years relative to changes in the control group (C) over the same period

   - Impact of treatment on outcome variable $Y$: $Y_T = (Y^I_1 - Y^I_0) - (Y^C_1 - Y^C_0)$; where $Y^I_k, Y^C_k$ are average values of $Y$ for I and C groups in period $k$

   - Model estimated: $G_{mt} = \alpha_0 + \beta T + \delta YD06 + \gamma T*YD06 + \xi_{mt}$  (1)

      - $G_{mt}$: outcome variable for district $m$ at time $t$ (2001 to 2006);
      - $T = 1$ if district $m$ is in the treatment group (T) and 0 otherwise; $YD06 = 1$ for 2006 and 0 otherwise
      - $\beta$: effect of any systemic difference between the treatment and control groups of districts on dependent variable; $\delta$: “time trend” effect on dependent variable
      - $\gamma$: DID impact of direct election on the dependent variable

2. Measuring the impact conditional on the path taken to the reform

   Treatment split into DEI and DEN

   - DEI = 1 if the district is in treatment group and had indirectly elected heads prior to that, 0 otherwise; DEN = 1 if the district is in treatment group and had New Order before that, 0 otherwise

   - $G_{mt} = \alpha_0 + \beta_1 DEI + \beta_2 DEN + \delta YD06 + \gamma_1 DEI*YD06 + \gamma_2 DEN*YD06 + \xi_{mt}$  (2)

      - $\gamma_1, \gamma_2$: DID impact of direct election for the specific path taken by the district to direct election on the dependent variable
Changes in selected district level fiscal variables over time

- Sharp rise for average per capita expenditure and revenue from 2005 to 2006— in contrast to nearly flat trends for 2001-2005
- Increases in exp and revenue are larger for the treatment group.
- Budget deficit widens only for the treatment group
- The difference between treatment and control groups is more significant for education than for health
- DAU allocations increased from 2005 to 2006, but very little difference between treatment and control groups

Note: 1) The blue and maroon lines represent treatment and control groups respectively
2) Vertical axes represents per capita real expenditure and revenue in ‘000 rupiah
### Results of DID analysis of impact on district government revenues and fiscal balance

**Treatment:** T (=1 if district held direct election in 2005; 0 if district had no direct election)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Revenue from own sources</th>
<th>Revenue from non-tax revenue sharing</th>
<th>Revenue from tax revenue sharing</th>
<th>DAU allocation</th>
<th>Total revenue</th>
<th>Budget surplus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>α</td>
<td>16,036***</td>
<td>9,385</td>
<td>24,560***</td>
<td>344,161***</td>
<td>387,827***</td>
<td>-79,093***</td>
</tr>
<tr>
<td>T</td>
<td>β</td>
<td>6,889</td>
<td>29,752</td>
<td>2,723</td>
<td>32,995</td>
<td>69,747</td>
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</tr>
<tr>
<td>T*YD06</td>
<td>γ</td>
<td>-4,018</td>
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</tr>
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<td>δ</td>
<td>34,720***</td>
<td>2,764</td>
<td>29,166</td>
<td>284,982***</td>
<td>357,946***</td>
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<td># obs</td>
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<td>997</td>
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<tr>
<td>R-squared</td>
<td></td>
<td>0.063</td>
<td>0.024</td>
<td>0.026</td>
<td>0.094</td>
<td>0.062</td>
<td>0.011</td>
</tr>
</tbody>
</table>

**Note:** *: 10% level of significance; **: 5% level of significance; ***: 1% level of significance

1: Districts that held direct elections during 2006-07 are dropped from the regression, which implies that the sample consists of districts that held elections in 2005 and those that held no election at all.

### Results of DID analysis of impact on district government expenditures

**Treatment:** T (=1 if district held direct election in 2005; 0 if district had no direct election)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Total (all sectors)</th>
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<tbody>
<tr>
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<td>T*YD06</td>
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<tr>
<td>R-squared</td>
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#### Dependent variable: Per capita total expenditure (real terms)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Administration</th>
<th>Public sector</th>
<th>Transport</th>
<th>Health</th>
<th>Education</th>
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<th>Agriculture</th>
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<td>0.086</td>
<td>0.058</td>
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<td>0.012</td>
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### Results of DID analysis of impact on district government revenues and fiscal balance

**Treatment:** T (=1 if district held direct election in 2005; 0 if district had no direct election)

**Dependent variable: Per capita absolute value of revenue/surplus in real terms**

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1: Districts that held direct elections during 2006-07 are dropped from the regression, the sample then consists of districts that held elections in 2005 and those that held no election at all.
Impact on fiscal variables – some key results

- Average expenditures and revenues across all district govts increased between 2005 (pre-Pilkada) and 2006 (post-Pilkada)

- Increase was significantly larger for the treatment group than the control group – positive impact of direct elections on expenditure and revenue

- Average budget deficit of the district government did not increase between pre- and post-Pilkada years, but did so for the treatment group

- Thus impact of direct elections, while positive on both expenditures and revenues, appears to be larger for expenditures than for revenues
More disaggregated results

- Impact of Pilkada is positive and at least weakly significant for expenditures in 6 out of 8 sectors
  - Strongly significant for education, housing, agriculture; insignificant for health, transport
  - Positive impact due to increase in development and/or routine expenditure, depending on the sector
  - While average exp on health and education increased between pre- and post-Pilkada periods, direct elections had significant impact for education only and not health

- Positive impact on revenues due to increase in (share from) non-tax and tax revenues received from central govt
  - No impact on DAU allocations and own generated revenues
  - Thus no evidence of the inverse relationship suggested by the literature, but time elapsed may have been too little for such impact to occur
Does the impact depend on the “path” to reform?

- Treatment split into DEI and DEN
  - 87 districts in DEI, 25 in DEN and 82 in neither

- Impact on exp and revenues very different for the 2 treatment groups
  - Impacts of DEI are similar to (and a little more pronounced than) that of direct election defined as a single treatment
  - Being a DEN district has no impact on revenue, expenditure or their components

- Districts with a more gradual transition seem to have responded more readily to increased accountability

- Some hypotheses about why this could happen
  - Gradual transition allowed district governments to develop capacity and adapt so that they are better “prepared” to respond to incentives
  - Incentives can be influenced by the degree of political competition in a district, which can be correlated with the pace of democratic transition

- But DEI districts were not significantly different from non-DEI districts in terms of fiscal indicators prior to Pilkada
Sensitivity of results to choice of treatment group

- What happens when districts with direct election in 2006 or 2007 (called dist0607) are included in the analysis?
  - Including dist0607 in treatment group yields results similar to those obtained earlier; but including them in control group yields no impact
  - Splitting the treatment – significant impacts for DEI and none for DEN in both cases
  - Thus dist0607 appear to be similar to districts that had direct elections in 2005
    - Districts that had elections coming up within one year may have faced political/electoral incentives similar to where elections had been completed
Impact of direct elections on HD outcomes

- Similar model as before to estimate impact on outcomes for 2006 and 2007
  - Health outcomes: proportions of outpatients in public facilities, deliveries helped by public health professionals
  - Education outcomes: net enrollment/attendance in primary, junior & senior secondary schools
- No significant impact of Pilkada on any outcome; but average outcomes across all districts improved since 2005
- Thus no evidence that higher spending in districts with direct elections has translated to better outcomes in service delivery
  - Is it because expenditures are ineffective; or these outcomes are not inappropriate to capture improvements; or enough time has not elapsed for the impacts to show on outcomes?
  - While these questions cannot be resolved, we can examine whether exps in districts that had direct elections are responsive to the “needs” of districts
  - Responsiveness of expenditures to needs would suggest enhanced equity and make it more likely that outcomes will eventually improve
Are expenditures post-Pilkada responsive to needs?

- Model estimated for all districts with direct election in 2005
  \[ \Delta E_{1,0} = \gamma + \psi_0 g_0 + \eta_0 Z_0 + \lambda_i D_i + \beta R + \xi_m \]

- Regress the difference between pre- and post- Pilkada district government exps on vectors of initial stock of public goods \((g_0)\); initial economic conditions in the district and political/institutional environment \((Z_0)\); unobserved spatial factors (dummies \(D_i\) for region \(i\) and \(R\) for urban/rural)

- Reduced form of a structural model modified from Faguet (2004)

- Information used for \(g_0\): (a) per capita stock of infrastructure before Pilkada and (b) “penetration rates” of public services or benefits in the local population
  - E.g., for education (a) includes no. of school facilities of different types prior to electoral reform; (b) includes enrollment and completion rates, distance to school and years of education among the population.

- Negative coefficient on \(g_0\) would suggest district govt has invested more heavily in a sector when public goods are scarce and therefore demand is higher

- Analysis done for change in both education and health exps
  - Even though direct elections have no impact on health exp, average health exp across all districts increased between pre- and post-Pilkada years
What factors influenced changes in expenditures of district governments from pre- to post-direct election periods?

- Limited responsiveness of expenditures to “needs”
  - Change in education exp negatively correlated with the initial stock of senior high schools in the district in 2001
  - Change in health exp negatively correlated with the proportion of childbirths attended by public health professionals in 2001
  - No evidence of perverse relationships, i.e. positive coefficients on $G_0$

- More important role played by institutional/governance and particularly, pre-existing economic factors
  - Exps increase more when size of bureaucracy and incidence of corruption are lower
  - Pre-existing economic conditions have strong influence: exps increase more for districts that had higher per capita GDP and DPRD expenditures in 2001
Conclusions and outstanding questions

Electoral reform raised both spending and revenues of district governments – net of the rise in averages across all district govts between 2005 and 2006.

But whether increased spending by local governments will lead to more equitable or efficient use of resources across the country, and improve access to and quality of service delivery, remains an open question.

To the extent that the changes in fiscal behavior are a result of increased accountability of governments to citizens, these findings are encouraging for Indonesia where electoral reforms are being implemented across all districts.

Political/electoral reforms, when they complement fiscal decentralization, can strengthen the incentives of local governments to better utilize the opportunities provided by the latter.

Does the sequencing of political and fiscal decentralization matter for impact?
Conclusions and outstanding questions - II

- Impact of electoral reforms seen for expenditures in a number of sectors including education, but **not health sector**
  - A reflection of citizens’ priorities in Indonesia, or are there other systemic factors that makes it hard to raise investments in health?

- Direct elections led to an increase in the amounts received by the district as a share of revenues collected by the central govt
  - Were directly elected governments able/willing to bargain more strongly with the central government for larger allocations?

- Impact of direct elections only when the district switched to direct elections after an interim phase of indirectly elected DPRD head
  - Did a gradual transition allow district governments to adapt and learn, so that they were better “prepared” to respond to changed incentives after Pilkada?
Conclusions and outstanding questions - III

- Districts with elections in 2006 and 2007 showed changes in fiscal performance in 2006 similar to those with elections in 2005
  - Is the expectation of a direct election in the near future enough to change incentives of district govts?

- A mixed picture on whether expenditures in districts that had direct elections were responsive to the “needs” of districts
  - Some degree of responsiveness to needs
  - But dominated by strong effect of pre-existing conditions – districts with higher initial public exps and GDP had higher increases in expenditures
  - Did the changes in exps of district governments as a result of electoral reforms reinforce pre-existing inequities in public resource allocation?