Indonesian Intergovernmental Performance Grants: An Empirical Assessment of Impact

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INTERGOVERNMENTAL PERFORMANCE GRANTS
The field of intergovernmental fiscal relations increasingly advocates the use of performance incentives in grant design.

**Why?**

**Two main reasons:**

- **First**, positive incentives can help encourage improvements in local performance across a wide range of dimensions, including as related to governance, fiscal, and/or service delivery outcomes.

- **Second**, such grants may be particularly attractive in cases where vertical and/or horizontal accountability is weak, that is, where such mechanisms do not play their expected role of assuring quality outcomes.
Several developing countries in Asia and elsewhere are currently designing and using performance grants of various kinds.

Indonesia now has experience with the design and execution of two performance grants: DAK Reimbursement (P2D2) and Water Hibah (WH).
INDONESIAN PERFORMANCE
GRANT DESIGN
DAK Reimbursement (P2D2)

• P2D2 performance (eligibility) criteria focus on encouraging more and better kabupaten/kota (k/k) capital spending, among others.

• Capital spending targets specific DAK infrastructure sub-sectors: roads, irrigation, water, and sanitation.

• K/k performance against program capital spending objectives is verified by BPKP after DAK allocations have been spent.

• Successful k/k are awarded funds that amount to about 10 percent of the initial infrastructure grant—i.e. their counterpart contributions to DAK funding.

• In 2011 and 2012 84 percent and 89 percent of participating local governments achieved program targets, respectively.
WATER HIBAH (WH)

- WH encourages k/k to make equity investments in their PDAMs and stimulates PDAMs to establish household water connections for the poor.

- MoF promises a grant (of some maximum size) to a k/k; the k/k invests in its PDAM (in the amount of the promised grant, at least), and the PDAM develops water connections (targeted in number) for poor households.

- Once the investments have been made and the connections have been verified as operational (by project implementation unit) MoF transfers funds to the k/k: Rp 2 million per connection for the first 1,000 connections and Rp 3 million per connection thereafter up to the maximum grant.

- In its first two years of operation all but one (97 percent of) k/k/PDAM satisfied equity investment and water connections targets.
INDONESIAN PERFORMANCE
GRANT IMPACT
Impact evaluations have now been carried out for pilot projects of both P2D2 (2011-2012) and WH (2010-2011).

In each case, the empirical analyses were applied to a set of treatment and control districts, where the latter were constructed using propensity score matching (PSM).

PSM procedures for P2D2 matched 68 treatment group k/k with another 68 control group k/k; for WH, PSM implementation matched 35 treatment group k/k with 35 control group k/k.

Use of a control group reduces bias associated with the non-random (endogenous) nature of the selection of k/k to participate in the programs and produces a “counterfactual” that suggests what would have happened in the absence of program participation.

Comparisons of average outcomes across treatment and control groups were made and “doubly robust” regression analyses of marginal impacts were also carried out.
DAK REIMBURSEMENT (P2D2)

The impact analysis of P2D2 focuses on two questions:

1. Does P2D2 stimulate local governments to increase capital spending?

2. Do P2D2 local governments use their DAK to generate greater capital spending spillovers compared to non-P2D2 local governments?
An initial idea of P2D2 impact can be gleaned by estimating the (regression adjusted) average treatment effects on the treated (ATT) for local government capital spending.

The results seem to indicate that P2D2 leads to increases in capital spending.

Specifically, the program appears to result in an increase in per capita capital spending of about Rp 49 thousand in 2000 terms or about Rp 155 thousand in 2011/2012 terms.

However the distribution of capital spending is quite skewed, especially for treatment local governments. When log of capital spending, which is more normally distributed, is used instead the ATT becomes insignificant.

<table>
<thead>
<tr>
<th></th>
<th>Treatment</th>
<th>Control</th>
<th>ATT</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Spending</td>
<td>178,229</td>
<td>122,200</td>
<td>48,913</td>
<td>0.004</td>
</tr>
<tr>
<td>Log of Capital Spending</td>
<td>11.368</td>
<td>11.374</td>
<td>-0.083</td>
<td>0.237</td>
</tr>
</tbody>
</table>

Table 2: Financial and Technical Reporting and Capital Spending, 2011-2012

Mean capital spending is in constant 2000 per capita terms. ATT is the (regression adjusted) average treatment effect on the treated. The p value shows the significance level for ATT.
The second question of interest here concerns possible capital spillover effects associated with the P2D2 program.

Regression results show that P2D2 k/k do use their DAK to “crowd in” additional capital spending to a greater extent than non-P2D2 k/k.

Otherwise put: DAK is more stimulative of capital spending in P2D2 k/k than it is of non-P2D2 k/k.

More specifically, regression analysis suggests that an additional rupiah of DAK leads to an extra 2.05 rupiah of capital spending for P2D2 k/k while only an added 1.34 rupiah of capital spending for non-P2D2 k/k.

Results are illustrated on the following slide.
Figure 1: Capital Spending as a Function of DAK
(Constant 2000)
WATER HIBAH (WH)

The WH impact analysis focuses on three main questions:

1. To what extent does the WH program stimulate increased k/k equity investments in PDAMs?

2. To what extent do equity investments in PDAMs influence the creation of household water connections?

3. To what extent do WH program participation and WH transfers directly influence the creation of household connections?


**WATER HIBAH (WH)**

- A preliminary idea of WH program impact can be gleaned by estimating ATTs for program objectives/outcomes.

<table>
<thead>
<tr>
<th>Table 3: Equity Investments and Water Connections, 2010-2011</th>
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<tbody>
<tr>
<td><strong>Mean</strong></td>
</tr>
<tr>
<td>Treatment</td>
</tr>
<tr>
<td>Equity Investments (Rupiah)</td>
</tr>
<tr>
<td>Number of Water Connections</td>
</tr>
</tbody>
</table>

Rupiah figures are in constant 2000 per capita terms. Water connections are the number per 1,000 persons. ATT is the (regression adjusted) average treatment effect on the treated. The p value shows the significance level for ATT.

- The output implies that the WH program resulted in Rp 1,422 more investment per capita in constant 2000 terms or Rp 4,120 in 2010/2011 terms and 1.41 more connections per 1,000 persons than would otherwise have been the case.

- Caveat: the above analysis has not accounted for the endogeneity of WH transfers—and this renders the results suspect.
• Regression analysis that accounts for the endogeneity of WH transfers provides more acceptable results.
• Specifically, the output shows that the WH program leads to an increase in per capita investment of Rp 2,140 in 2010/2011 terms, holding everything else constant.
• The results also indicate that an additional rupiah of WH leads to Rp 0.81 increase in equity investment.
• The latter outcome is illustrated on the following slide.
Figure 1b: Equity Investments as a Function of Hibah

WATER HIBAH (WH)
The regression analysis also shows that equity investments positively influence the establishment of household water connections.

The estimated relationship can be used to calculate the investment required to create an additional connection—i.e. a “unit investment cost”.

The relevant calculation suggests that the overall unit investment cost is Rp 4.3 million.

The results are illustrated on the following slide.
Figure 2b: Connections as a Function of Equity Investment (Constant 2000)
• In this context the question naturally arises: are treatment group investments more efficient than other investments?

• As it turns out, regression results imply that there is no statistically significant difference between the cost efficiency of treatment group investments versus control group investments.
• The above analysis obscures the impact of investments financed by WH transfers on creating household water connections since they are subsumed within total investments.

• It may be instructive to examine the specific impact of WH financed investments on the establishment of water connections as well.

• This view requires a slightly different econometric specification.

• The regression results indicate that (endogenous) WH transfer financed investments have a significant and positive (direct) impact on the establishment of household connections.
• The relevant calculations suggest that the cost of an additional connection financed by WH transfers is Rp 2.5 million.
SUMMARY OF RESULTS
DAK Reimbursement (P2D2)

- P2D2 does not appear to lead to increases in local government capital spending, all else remaining equal.

- However, DAK is more stimulative of P2D2 k/k capital spending than it is of non-P2D2 k/k.

- An additional rupiah of DAK leads to an extra 2.05 rupiah of capital spending for P2D2 k/k while only an added 1.34 rupiah of capital spending for non-P2D2 k/k.

- So, at the least, when DAK becomes sufficiently large, P2D2 local government capital spending exceeds that of non-P2D2 k/k.
Water Hibah has a positive effect on k/k equity investments in their PDAMs.

The program leads to an increase of Rp 2,140 in k/k per capita investment.

An additional rupiah of WH leads to an extra 0.81 rupiah of investment.
• Equity investments are positively associated with the establishment of household water connections.

• Overall, the investment cost of an additional connection is Rp 4.3 million.

• In this context, WH local government investments are no more cost efficient than non-WH local government investments.
• Local government investments financed specifically by WH transfers are also important for the creation of household water connections.

• The estimated cost of an extra connection financed by WH transfers is Rp 2.5 million.
CONCLUSIONS
The evidence presented here shows that P2D2 and WH performance grants have achieved some quite desirable outcomes.

The reasonable success so far argues in favor of the further development and use of such mechanisms in Indonesia.

P2D2 and WH also provide a glimpse of the variety of approaches that can be employed: governance versus service delivery targets; use of existing versus development of new grants; local government ‘reimbursement’ versus ‘pre-financing’; external versus in-house verification of performance; among others.

The first step for government, however, would be to clearly define its objectives regarding any new initiatives—only then can elements of design, implementation, and monitoring and evaluation be taken up.
THANKS!