Using Administrative Data to Estimate the Impact of Program Modification: Idea from the Philippines Conditional Cash Transfer Program

East Asia Regional Impact Evaluation Workshop
Seoul, South Korea

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This presentation will

• Share a potential idea on how the program can take advantage of good administrative data to estimate the impact of the change in the program design

• Use example from the Philippines conditional cash transfer (CCT) program (Pantawid Pamilyang Pilipino Program)

Other studies have been conducted to estimate the impact of the change in policies and programs using existing data and matching method (e.g., Jakubowski et al (2010) on the impact of the 1999 Education Reform in Poland, Rosenbaum and Rubin (1983) on propensity score matching)
Outline of presentation

• Background
• Modification in the program design
• Key questions
• How to answer questions and comparison groups
• Methodology
• Data
• Implications etc
Background

• CCT started in 2008 in the Philippines
  – poor households with children 0-14 years old and/or pregnant women, selected based on household assessment (Proxy Means Test (PMT))
  – Provides education and health grants
  – **Education grants for children between 3-14 years old**

• Rigorous impact evaluations is designed
  – 1\(^{st}\) wave (RCT and RD) in 2011-2012
  – 2\(^{nd}\) wave (panel of RCT from 1\(^{st}\) wave and RD) in 2013

• CCT has expanded to cover 4 million poor households

• **Modification in program design in June 2014**
  – Education support is extended from untill 14 to 18 years old
  – Additional 2 million children will become eligible
What triggered the policy dialogue for the program modification?

- Program review with the maturity of the program
- Findings on school enrollment from RCT study
## What are the modifications?

<table>
<thead>
<tr>
<th>Objective</th>
<th>Original before modification</th>
<th>From June 2014 After modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education grants (age)</td>
<td>Support elementary education</td>
<td>Support high school completion</td>
</tr>
<tr>
<td>Education grant (amount)</td>
<td>3-14 year-old children</td>
<td>3-18 year-old children</td>
</tr>
<tr>
<td>Program duration</td>
<td>P300 (= USD7) for all school levels</td>
<td>P300 for PS and P500 for HS students</td>
</tr>
<tr>
<td></td>
<td>Up to 5 years</td>
<td>Until youngest child graduates HS or turns 19 years old</td>
</tr>
</tbody>
</table>
What are the key questions?

• What is the impact of **the change of the program design**?
  
  • More specifically, “Will extending education grant from 14 years old to 18 years old lead to the increase in school enrollment among older children?”

• Different from the question, “**What is the impact of the program?**”
How to answer key questions?

• **What is the impact of the CCT program?**
  
  – Assign the program to poor households, compare with control group, then observe the effect of the program
  
  – *Experimental and quasi-experimental* study (RCT, RD)

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### RCT (1st wave, as of 2011)

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<th>group</th>
<th>pov status</th>
<th>CCT HH?</th>
<th>eligible for edu grant? 3-14 yo</th>
<th>eligible for edu grant? 15-18 yo</th>
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<td>CCT</td>
<td>yes</td>
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<tr>
<td>B</td>
<td>poor</td>
<td>non CCT</td>
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### RDD (1st wave, as of 2012)

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How to answer key questions?

• What is the impact of the change of the CCT program design?
  – Another experimental/quasi-experimental study is difficult because:
    • Randomization is no longer feasible
    • Data collection of next IE (3rd round) is not until late 2015
  – Observational study using existing data

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Before Change

After Change
Methodology

• Concept: Construct comparison group with similar characteristics based on the characteristics which are available in the data (e.g., age, sex, school level, areas)

• Technique: Construct a statistical comparison group by computing the probability to participate in the program (Propensity Score Matching (PSM))
Data

• Need **data of enrollment status, before and after the change**

• Data collected **through implementation cycle**
  – March-April 2014: Validation of enrollment status of older children
  – Every two months: Enrollment status of monitored children updated for compliance monitoring
Implications and caveats

• **Data quality.** Quality of data collection, encoding, and cleanness = reliability of data

• **Number of observations.** Matching requires extensive data sets on large samples

• **Methodology.** Matching is usually less robust

• **Other constraints in schooling.** There are many other constraints for older children to attend school (e.g., access to high schools, working)
Bottomline messages

• Check and take the advantage of existing data.
  – Experimental and quasi-experimental study: best but costly.
  – Observational study: 2\textsuperscript{nd} best, but minimal cost.
• Good administrative data is valuable asset.
  – The base of monitoring the program performance
• Investment in good administrative data.
  – Development of Monitoring Information System (MIS)
  – Training of implementers who report, encode, and ensure quality at different levels
END