

JICA International Webinar
"Addressing Social Infrastructure Needs in Asia"

Presentation 1

Overview of the Research Project and Future Perspectives

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Research Background

- Infrastructure: provided by a government or public-private cooperation
- Infrastructure demand: necessary information for socio-economic policy considerations and budget management
- Infrastructure demand forecasting: by international organization from early 2000s, leading to ADB and ADBI (2009) and ADB (2017)
- Previous estimation target: economic infrastructure (social infrastructure was not included)

What This Research Estimates

- Needs: raising the current state to a satisfactory standard or the policy target level
 - how much is required to achieve the SDGs
 - how much is required to respond to climate change, etc.
- Demand: additional requirement arising from economic and social development
- This research primarily focuses on the infrastructure demand, but partly includes needs analysis

Demand Estimate

- Two approaches of demand estimates: top-down and bottom-up
- Core variable for the estimate: infrastructure stock
 - New construction (stock increase)
 - Maintaining the existing stock
- Two possible ways to express infrastructure stock:
 - physical quantities
 - (monetary value)
- Maintenance of existing stocks: 2 to 8% of existing stock in the previous studies

Existing Studies- limitations

- Target: mostly economic infrastructure, not including social infrastructure, as noted
- Not decomposing the costs required to maintain existing infrastructure stock in different types of activities
- Not incorporating the differences of quality of infrastructure by country into the estimate

Research (1)-target and process

- Research started in 2016.
- Focus on education, healthcare, public housing, and government buildings as social infrastructure
- Study approach
 - Case studies in three countries: Japan (JICA), Indonesia (Institute for Economic Social Research, Faculty of Economics and Business, University of Indonesia-LPEM FEB) and Thailand (Prof. Kittilimskul)
 - Extending to 45 Asian countries (JICA and LPEM FEB)

Research (2)- contribution

- First estimate of demand for social infrastructure across the Asian region and additional needs estimate for the pandemic, which will serve as a practical reference for policy formulation
- Methodology for analyzing maintaining existing infrastructure stocks in detail
- Incorporating partially quality improvement and the future technological improvement in demand estimate

Research (3)-caveats

- Sector development needs human resource development and institutional frameworks
- Large differences of expenditures items across social sectors
- Large differences of public-private burden sharing by country
- Small reserve capacity of social infrastructure

Appendix: Review and Proposal on Demand Estimation Methodology

- Hirota (2024) reviews the demand estimation methodologies, and proposes a new approach.
 - ✓ Breakdown the maintenance demand of economic infrastructure into 4 categories
 - ✓ Incorporate quality differences and trend of technological improvement into the estimation
- The result indicates that decomposing stock maintenance increases the conventional estimate amount, but quality considerations reduce it.

Reference

- Asian Development Bank (ADB). 2017. *Meeting Asia's Infrastructure Needs*. Asian Development Bank.
- Asian Development Bank and Asian Development Bank Institute (ADBI). 2009. *Infrastructure for a Seamless Asia*. Asian Development Bank Institute.
- Hirota, Koki. 2024. "Gurōbaru na infura jyuyō suikei saikō" [Revisiting Global Infrastructure Demand Estimation Analysis]. *Shakaikagaku Ronshu* [The Social Science Review] 171: 5-20. The Economics Society of Saitama University.

Thank you very much
for your attention!
