Infrastruktur Investment in Indonesia
Mustajab, M.
Summary

This study on infrastructure focuses on three subtopics: (i) understanding the decision-making process of infrastructure investment, (ii) investigating the economic impact of infrastructure on the national output or gross domestic product (GDP), and (iii) examining the relative importance of infrastructure in the regional location of foreign direct investment (FDI) in Indonesia.

It is important to note that this study focuses on what is commonly regarded as hard infrastructure (transport, communications networks, power and water systems), rather than soft infrastructure (health and educational facilities). To gain greater insight, in Chapter 3, it focuses on toll road infrastructure projects as case studies for an analysis of the decision-making process of infrastructure investment.

Infrastructure investment has been analyzed from two points of view. First, from the micro perspective of the supplier and the economic actors, as seen in terms of their behavior in the process of infrastructure investment and their response to new infrastructure investment; and second, the impact of infrastructure investment on the economy. The two are related because the impact of infrastructure on a firm’s location and productivity and thus on economic growth is related to the behavior of economic actors in response to new infrastructure investment.

This research aims to answer three main questions:
1. How is the decision of infrastructure investment formulated? This question is further sub-divided into: Who defines the need for new infrastructure investment in Indonesia? What goals of new infrastructure investment have emerged? Whose goals have emerged?
2. Does infrastructure investment matter for economic output or GDP?
3. Does infrastructure matter for FDI regional location?

To conduct the analysis, the study focuses on Indonesia. Furthermore, in some chapters, the research concentrates on road
infrastructure, especially in Chapter 3, in which the research focuses on a case study of toll road projects in Jakarta and West Java.

For a more fruitful discussion and a better overview of the topics, the study describes the existing infrastructure conditions and problems in Indonesia and also outlines the government policies. Based on the descriptive data, it shows that infrastructure in Indonesia needs to improve both qualitatively and quantitatively. Though several attempts have been made by the central government to rectify the problems, two issues remain: (1) complexity of the decision-making process in the new environment with multi-actor involvement; and (2) the imbalanced infrastructural growth among regions.

The research employs both quantitative and qualitative methods. To answer the first question as to how a decision regarding infrastructural investment is formulated, a qualitative approach has been employed. Case studies in Public Private Partnership (PPP) arrangement of infrastructure have been included to get a complete picture of the complexity related to decision making, which involves many actors. To gain insight into the decision-making process, the research employs the so-called Rounds Model (Teisman, 2000) to identify the rounds of decision-making. In addition, it analyses actor involvement and the arena of decision making following Koppenjan & Klijn (2004).

Based on an analysis of four case studies on Indonesian PPP projects, this study finds evidence that, in line with social and environmental changes, decision making could be seen as a series of rounds, where decisions are taken in various arenas as an outcome of a series of interactions among multiple actors.

For the second question as to whether infrastructure matters for economic growth, the study adopts Aschauer's (1989a, 1989b) approach among others in modeling infrastructure in modified production function models. To overcome the problem of reverse causality, the study employs a cointegrated vector autoregressive or vector error cointegration model (VECM) to investigate the effect of public infrastructure (transport, telecommunications, electricity and water) on economic growth in Indonesia at the national level.

The analysis reveals that there are positive and significant signs of impact of infrastructure in the long-run output relation. The results from the long-run weak exogeneity test suggest that infrastructure capital "Granger" causes the output.

To answer the third question, the study employs a quantitative econometric method. To examine the factors affecting location of FDI
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at the provincial level in Indonesia, model specification begins with the partial adjustment model of FDI proposed by Cheng and Kwan (2000). To consider the spatial spillover effect, a spatiotemporal partial adjustment model has been estimated along with a spatial Durbin model.

The analysis from partial adjustment model and spatiotemporal adjustment model reveals that lag FDI as an indication of agglomeration is positive and significant. In the spatial Durbin model, there is a positive spatial lag, which can also be attributed to agglomeration. Road infrastructure is found to be positive and significant as a factor that contributes to FDI location, and also has a neighboring effect. The long-term effects of infrastructure, market factor, education and government policy (IEDZ) are found to be positive for local effect, neighbor effect and total effect.