Infrastructure Investment in Indonesia
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Chapter 6

Conclusion

The concluding chapter presents a short summary of the findings detailed in the previous chapters and then goes on to spell out the policy implications. It also reflects on the study’s contribution to existing research. Finally, topics for further research are suggested.

6.1 Summary of Main Findings

As noted earlier in the introduction, the main focus of this thesis is on infrastructure investment, more specifically on infrastructure investment in Indonesia. It is widely recognized that when formulating infrastructure policy several issues need to be considered. This study examines the decision-making process, the economic impact of infrastructure, and the role that infrastructure plays in determining FDI location.

One of the considerations in policy making is to understand the real situations and problems faced when it comes to infrastructure development. Based on the descriptive data in Chapter 2, one can conclude that the quality and quantity of infrastructure in Indonesia need to be improved.

The sector-based review of infrastructure reveals that the transport sector has been a priority. Among the infrastructure projects, construction of roads and bridges constitutes the biggest segment. Nationally, the length of roads has increased significantly although several problems persist. Many villages still do not have paved roads. In urban areas, road density is still low compared to that of cities in other countries. In terms of quality, most of the national roads are in good condition, provincial roads are less well maintained, while most district roads are in poor condition. When viewed from a regional perspective, the distribution of infrastructure across the provinces in Indonesia is not balanced.

The study identifies problems in infrastructure development from three perspectives: (i) financial resources, in regard to low and slowing investment in infrastructure, (ii) regulation and institutional
framework in regard to policy making, and (iii) rules of investment and decentralization in regard to the changing responsibility for infrastructure development. Several attempts have been made by the central government to tackle the problems, including formulation of policies such as promoting public-private partnership, reform of regulation and institutional framework as well as establishment of the National Committee for the Acceleration of Infrastructure Provision (KKPPI) as the organization to undertake the responsibility for coordination.

Despite the achievements, two issues remain: (1) complexity of the decision-making process in the new environment with multi-actor involvement; (2) and imbalanced distribution of infrastructure among the regions.

Both these issues have been addressed in this study. To gain a better understanding of the complexity of infrastructure investment and policy, the researcher investigated the decision-making processes and the interaction between the actors involved. Chapter 3 examined the decision-making process for infrastructure development through PPPs, recognizing that decision making has become more complex. Based on an analysis of four PPP project case studies in Indonesia, this study found that in line with social and environmental changes, decision making could be seen as a series of rounds in which decisions were taken in various arenas as a series of interactions among multiple actors who were part of the network.

In Chapter 4 the contribution of infrastructure capital to economic growth in Indonesia using a multivariate vector error correction model was examined, revealing positive and significant signs 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.

Chapter 5 focused on the determinants of the spatial location of FDI. The results report positive significance of agglomeration to FDI location. For the partial adjustment model and spatiotemporal adjustment model, the lag FDI as an indication of agglomeration is positive and significant, while for the spatial Durbin model there is a positive spatial lag, which can also be attributed to agglomeration. Road infrastructure is positive and significant as a contributing factor to FDI location; further this study found a neighboring effect of road infrastructure. The long-term effects of infrastructure, market factor, education and government policy (IEDZ) are positive for local effect, neighbor effect and total effect.
6.2 Implications for Policy

While it is not easy to outline a simple overarching policy to cure all problems related to infrastructure development, this study generated some specific pointers for policy formulation.

For instance, the identification of rounds in decision making will enable governments to manage the successful and speedy completion of the entire process. With growing multi-actor involvement in decision making, it is important for all the actors, including the government, to maintain a vibrant network by establishing good relationships among themselves. Even though the study revealed that the decision-making process is growing to be more complex, understanding the process with reference to the existence of rounds, and interaction of actors in the network, can help successful policy formulation.

Spatial distribution of infrastructure in Indonesia is unequal. Therefore, greater coordination between infrastructure sector policy making and regional development policy making is strongly advised.

The findings regarding the contribution of infrastructure to economic growth and the relatively high value of the coefficient of elasticity imply that the Indonesian government can use the infrastructure policy to spur economic growth at the national level. By assuming that the impact applies for the whole country or for regions (sub-national level), the policy implication from the findings seem to suggest that regional authorities can get optimal benefit while supporting a national policy on infrastructure investment.

Some policy implications can also be derived from the study on determinants of regional location of FDI in Indonesia. First, regional governments that intend to attract more FDI into their regions should have a grasp of the factors that determine regional location of FDI. The empirical evidence identifying road infrastructure as one of the factors that have an impact on the location of FDI, suggests that regional governments can place infrastructure investment higher on their program and budget list. Second, empirical evidence of the positive spatial neighbor effects of infrastructure and FDI implies that regional governments should work and coordinate with each other in infrastructure development, since infrastructure investment in one region has a positive effect on a neighboring region in the long term.
6.3 Methodological Reflections

This study uses both quantitative and qualitative methods to answer the questions addressed. It is quite a challenge to work with two different approaches. In Chapter 3, the study adopts a qualitative approach while Chapters 4 and 5 are written from a quantitative approach, more specifically an econometric estimation approach. Chapter 4 deals with a model that is estimated using a time series econometric. Meanwhile, Chapter 5 employs a spatial panel data econometric.

Initially, in the design of qualitative research, the researcher relied more on interviews to collate the data needed for an analysis of the decision-making process for infrastructure. Later on, additional data was collated from newspaper and magazine archives. During the interview process, the researcher realized that prior knowledge about the project helped to raise questions for respondents. Sometimes, they are reluctant to divulge information. In such cases, it is much easier to ask them to confirm the researcher’s findings from other sources than relying more on the provision of new information from their memories.

The quantitative work in Chapter 5 took the researcher on an interesting journey. Beginning with static panel data estimation to examine FDI location in Indonesia, the researcher continued the analysis by employing a dynamic panel in order to cover the agglomeration effect. Finally the researcher recognized an opportunity to detect spatial effects in the analysis of FDI location across provinces in Indonesia by taking into account neighbor effects.

6.4 Topic for Further Research

This research project, however, has its own limitations and so cannot cover all aspects of infrastructure in relation to the national or regional economy. For example, issues of poverty and rural infrastructure are not discussed. This is an area that has scope for further research.

While it is clear from this study that infrastructure contributes to economic growth, the direct contribution of infrastructure to poverty reduction still needs to be assessed in terms of scope or degree of impact. Indirect impact through economic growth and job creation that can finally reduce unemployment and poverty is conceptually accepted. However, for policy making, it is important to find out the
effectiveness and impact of different types of infrastructure investment on poverty reduction.