

## 論文要旨

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主論文題目

Infrastructure Development in Developing Countries: Choice between Public Finance

and Public Private Partnership (PPP) in the Philippines

主論文要旨 邦文は4,000字以内  
外国語は2,000語以内

Infrastructure such as roads, railways, and electric power is a major foundation for economic development, as well as improving people's lives and contributing to poverty reduction. In many developing countries, the necessity of infrastructure development is high due to mainly two factors. First, infrastructure is less developed faced with small fiscal space. Second, maintenance of infrastructure is another challenge because of lack of maintenance budget and personnel and capability. Further considering future population increase and economic growth in these developing countries, infrastructure development is one of the most important policy issues for developing countries.

In Asia and the Pacific, the ADB (2017) has reviewed the demand for infrastructure in the region, and adjusted for climate change adaptation and mitigation, it has estimated that there is a USD 1.7 trillion per year gap between 2016 and 2030. This infrastructure gap is estimated to be equivalent to 2.4% of GDP of the region, and if excluding China, the figure reaches to 5.0% of GDP. The bank also argues that 2.0% of 5.0% may be financed by the public through future fiscal reform, however the remaining 3.0%, which is 250 billion USD per year, is a financing gap for the infrastructure development in Asia and the Pacific.

Since the support from international financial institutions and bilateral donors, and the government's financial resources of the developing countries are limited, the expectation that the private sector to fill this gap is high. Furthermore, limitations are also seen on the planning and implementation capabilities of the government of developing countries for the development of infrastructure. Therefore, utilization of the private sector's finance, know-how, and technology for development of infrastructure in developing countries through public-private partnership (PPP) is receiving high attention in both academic research and actual projects including innovative attempts.

The introduction of PPP infrastructure, both in developing and developed countries, has been in progress since the 1990s. There are merits attainable by the use of PPP such as reducing the fiscal deficit and external public debt, at least for the short term, reduction of construction/operation/maintenance cost, improvement of infrastructure services, reduction of labor force involved in infrastructure operation, and improving efficiency in developing and operating the infrastructure by incorporating private know-how and capabilities. However, it is also pointed out that there are negative issues in the utilization of PPP. With the adaption of PPP, issues have been argued such as increase of public contingent debt, increase of user charges for the infrastructure, and increase in the work load on the government side in implementing PPP

thereby causing the delay in the implementation of the projects.

In the Philippines, although the infrastructure development status is lag behind the ASEAN peer countries (World Economic Forum 2019), the PPP investment have been made as one of the largest invested countries in developing countries (World Bank 2018). At the same time, the PPP environment status is one of the highest rated in ASEAN (Economist Intelligence Unit 2018). Due to the power crisis that occurred in the 1980s, the development of PPP-related laws was enacted relatively early in the country among developing countries. Philippine's BOT, Build-Operate-Transfer, law was enacted in 1990, which was the first of its kind in Asia. After that, PPP projects are being promoted in sectors including in electric power, water supply, and transportation.

The Aquino administration of the Philippines that took office in 2010 made important policy change to develop infrastructure through PPP, not through public finance, mainly for the reduction of fiscal burden, by establishment of a new government agency to promote PPP and various PPP support systems.

Against this backdrop, the Duterte administration, inaugurated in 2016, announced "Build, Build, Build" program in its "Dutertenomics", a large-scale infrastructure development plan of about 8 trillion pesos, about USD 160 billion, in April 2017. The administration made drastic policy shift in financing this massive infrastructure program from PPP to public finance including Official Development Assistance (ODA). In response to these policy shifts, there has been a debate called "PPP vs ODA" in the Philippines.

This dissertation attempts to analyze PPP infrastructure development in developing countries by focusing the extreme policy changes related to the roles of the public and private sectors in infrastructure development in the Philippines. The main objectives of this dissertation are:

- a) to discuss advantages and disadvantages of PPP infrastructure development in developing countries
- b) to assess policy changes in infrastructure development in the Philippines
- c) to make policy recommendations for the improvement of infrastructure governance, including PPP governance, of the Philippines
- d) to discuss the desirable roles of public finance and PPP in infrastructure development in developing countries.

Drastic policy changes concerning the roles of the public finance and PPP in infrastructure development within a decade observed in the Philippines are not seen in other developing countries. In other words, the case of the Philippines policy shift in infrastructure governance can be said to be like a social experiment on infrastructure development in developing countries. While there is no precedent substantial study on the policy change of infrastructure governance in the Philippines, this dissertation tries to assess policy changes in infrastructure development in the Philippines and to identify factors behind policy changes of infrastructure governance in the Philippines, especially drastic shift during the Aquino and Duterte administrations, as academic contributions. Furthermore, findings of the dissertation, including the desirable role of public finance and PPP in developing infrastructure in developing countries, could improve infrastructure governance, such as choice of financing mode, design and implementation of PPP project, in developing countries as contributions to policymaking.

This dissertation consists of eight chapters with the composition as follows:

- a) Introduction

Introduction aims to develop the general idea of dissertation by presenting the background of the study, research objectives, research questions, and significance of the dissertation.

- b) Chapter 1: Finance Option for Infrastructure Development

Chapter 1 discusses characteristics of two finance option for infrastructure development; namely public finance and PPP. The Chapter also discusses definition of PPP.

- c) Chapter 2: Theory of PPP

Chapter 2 aims to develop a theoretical understanding of PPP including history of PPP,

theoretical framework of PPP from perspectives of economics, literature review on PPP. Literature review will be discussed for the key areas of PPP study such as advantage of PPP, success factors of PPP, determinants of PPP and areas for further study.

d) Chapter 3: Overview of PPP Infrastructure Development in Developing Countries

Chapter 3 illustrates overviews of PPP infrastructure development in developing countries including recent trends and key issues. Key issues for PPP in developing countries include regulatory framework, government support, institutional framework, and institutional capacity.

e) Chapter 4: Current Status of Infrastructure Development and Achievements in PPP in the Philippines

Chapter 4 depicts current status of infrastructure development, which is lag behind the ASEAN peers, and achievements in PPP, which is relatively positive, in the Philippines. In order to further discuss the achievements in PPP in the Philippines and advantages and disadvantages of PPP modality in general, two PPP projects in water and railway sector in the Philippines will be illustrated as case studies.

f) Chapter 5: Policy Changes over the Last Five Infrastructure Regimes: Three Decades in the Philippines

Chapter 5 argues policy changes of infrastructure governance over the last five infrastructure regimes over the three decades in the Philippines will be discussed. The last five regimes are the administrations of Ramos, Estrada, Arroyo, Aquino, and current Duterte, although emphasis will be given to Aquino and Duterte administrations. Infrastructure governance of the Duterte administration for the second half of this administration since 2019 will also be argued. The Chapter finally analyzes the factors that shape infrastructure governance in the Philippines based on the policy changes over the last five infrastructure regimes.

g) Chapter 6: Issues in PPP Infrastructure Development in Indonesia

Chapter 6 discusses PPP infrastructure development in Indonesia as one of peer countries of the Philippines for comparison. Indonesia is now the largest PPP invested country in ASEAN and one of the top ten emerging economies with improved PPP frameworks. The Chapter also argues issues in promoting PPP in Indonesia.

h) Chapter 7: Assessment of the Finance Option in the Philippines

Chapter 7 assesses various aspects of finance options of infrastructure development in the Philippines. The Chapter assesses policy changes and directions over three decades, fiscal situation, PPP governance, PPP environment and ODA availability in the Philippines

i) Chapter 8: Policy Recommendations and Conclusion

Chapter 8 discusses policy recommendations for improvement of financing aspect of infrastructure governance with focus on improvement of PPP environment. The Chapter draws a conclusion.

Although infrastructure development has always been one of center pillars of the socio-economic development agenda over the time with government's expressed commitment for development of infrastructure, the infrastructure gap in the Philippines has not substantially narrowed over the last five infrastructure regimes. Policy reforms and developments related to infrastructure have been carried out mainly in four different areas: regulation, institution, finance and specific sectors. On infrastructure financing, there have been two main areas of reform: improving fiscal space and better utilization of private finance.

Faced with high public debt and low revenues, each administration in the last three decades introduced major fiscal reforms to finance development priorities, including public infrastructure. Thus, fiscal space has expanded under the Aquino administration, and the Duterte administration has pushed for tax reforms to finance its ambitious Build-Build-Build program. It is noted that the Duterte administration has achieved the first stage of its comprehensive tax reform program.

The Philippines currently enjoys a relative stable fiscal situation, improved domestic resource mobilization and availability of substantial ODA, which include from international

development financial institutions and bilateral donors such as World Bank, ADB, Japan, China, Korea, AIIB, that can be utilized to address the huge infrastructure gap, although the effect and magnitude of COVID-19 on its fiscal situation, availability of ODA, and other financial resource mobilization are needed for further validation. However, the scale and urgency of the infrastructure challenge in the Philippines is such that without a significant increase in private sector participation in infrastructure development, the challenge will remain a challenge.

It is worth noting that the Philippines' PPP environment is relatively well received internationally. The debate on "PPP vs ODA" is a useless distraction. The government needs to strengthen its technical and managerial capacity using development finance, including PPP, to fund infrastructure development projects. It is an opportune time to move in the direction of complementary use of the different financing and procurement option.

One of the challenges of infrastructure development in the last three decades in the Philippines is the continuity of policy and priority. The tendency to shift policy without hard evidence favoring the shift further constrains infrastructure development. Policymakers must remember that it takes more than one presidential term of six years to complete a large infrastructure, considering every step of plan, design, finance, procurement and construction. Some larger infrastructure projects may even require a master plan before undertaking a feasibility study.

If prepared and managed right, PPP delivers Value for Money (VfM) as well as benefits to users of infrastructure and tax payers. However, it must be noted that PPP is not a panacea for infrastructure development in all circumstances. Not all infrastructure projects are appropriate to be implemented by PPP. Therefore, the selection process whether to implement a traditional procurement project or a PPP project for a given infrastructure project is of particularly important. For this purpose, finance option test is important to be introduced. In the test, the contractibility of quality is one of the most important factor. If the quality of the services by infrastructure is relatively easy to be defined and monitored, such as road, PPP could be a better option. On the other hand, if the services itself is complex and difficult to translate the goals of infrastructure into a quantifiable manner, such as education and health, PPP may not be the best option but public finance.

(才)履 歴 書

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大・ <span>昭</span> ・平 58年 4月 6日	信州大学経済学部経済学科	<span>入学</span> ・編入学	
大・ <span>昭</span> ・平 62年 3月 20日		<span>卒業</span> ・修了・退学	
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大・ <span>昭</span> ・ <span>平</span> 3年 7月 6日		<span>卒業</span> ・ <span>修了</span> ・退学	
大・ <span>昭</span> ・ <span>平</span> 31年 4月 5日	拓殖大学大学院 国際協力学研究科 博士後期課程 (現在に至る)	<span>入学</span> ・編入学	
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職 歴 (職歴異動の場合は入職・退職、及び身分・資格等明記して下さい)	
自 昭和62年 4月 1日 至 平成11年 9月 30日	海外経済協力基金 (OECF) に採用。 ナイロビ事務所駐在員、中東・東欧課課長代理、人事課課長代理等を歴任。
自 平成11年 10月 1日 至 平成20年 9月 30日	組織統合により、国際協力銀行 (JBIC) に採用。人事部副参事役、開発第1部 (ASEAN所掌) 総務課長、ワシントン事務所次長、開発第1部第3課 (フィリピン、大洋州所掌) 課長等を歴任。
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自 平成31年 4月 1日 至 年 月 日	兼ねて、中央大学 経済研究所 研究員に就任。(現在に至る)
自 令和元年 6月 20日 至 年 月 日	兼ねて、フィリピン大学 大学院 公共政策・開発学研究科 客員教授に就任。(現在に至る)
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