Foreign Investment, Infrastructure, and Public-Private Partnership in ASIA

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Abstract

This study investigates private public partnerships (PPP) in Asia by panel analysis. We use data from the World Bank. We use the Panel Ordinary Least Squares (POLS) method. We found that foreign direct investment is more directed at developing real sector businesses rather than infrastructure development using the PPP system in ASIA countries. The lack of infrastructure in developing and low-income nations encourages the existence of public private partnerships to provide infrastructure in ASIA.

Keywords: Public-Private Partnership, Panel Data Analysis, Developing Countries,ASIA
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Introduction

Governments around the world are under constant pressure from the public to provide efficient and high-quality public services (Widarni, Drean, Bawono, 2022 ; Musaiyaroh & Bawono, 2018). Both state and local self-government agencies face a persistent dilemma about how to find a balance between meeting social obligations and ensuring quality with limited financial resources (Prestianawati, Syafitri, & Bawono, 2019). The provision of public services is directly proportional to the quantity and quality of public infrastructure which will inevitably age and wear out, so it is necessary to renew old infrastructure objects or create new infrastructure objects (De Groot & Lemanski, 2021). Organizing and carrying out the education and training process is the prerogative of the authorities (Ochoa-Mora & Bawono, 2021). Society demands higher quality educational services, but greater quality and efficiency cannot be expected without the number of more modern schools with adequate modern teaching tools (Dilova, 2021). Government institutions, with limited resources, are forced to look for other alternatives that will enable them to meet the needs of the community. The tool is a public and private sector partnership (Dewi & Wajdi, 2021).

Public-private sector partnerships are usually defined as collaborations between the public and private sectors, based on long-term contracts, in which the private sector provides services traditionally assigned to the competencies of the public sector and develops the necessary infrastructure for service delivery. Public-private partnerships are the “middle ground” between state management and privatization, which are used worldwide not only to attract additional external financing, but also to increase the efficiency of infrastructure use, reduce the cost of providing public services, attract private sector skills and knowledge, and ensure the opportunity for the public sector to pay more attention to the performance of their direct functions, regulate

service delivery, plan their development and objectives, and set quality standards (Tille, Panteli, Fahy, Waitzberg, Davidovitch, & Degelsegger-Márquez, 2021).

Traditionally, providing public services and developing public infrastructure is the prerogative of the public sector. An important feature of public services is the ability to use them for anyone who wants them, and the availability and price quality of services must also be ensured. Public infrastructure enables the provision of high quality and uninterrupted services. The mode of cooperation between the public and private sectors is motivated not only by the lack of investment in infrastructure development, but also by the need to improve the quality and efficiency of public services (Ndevu, 2021).

As noted in this work, public and private sector cooperation are widely applied in many countries of the world, but both international laws so far agree on a common definition of such cooperation. PPP can be defined as a form of contract between the public and private sector, which requires financial, technological, and expert knowledge from the private partner, where the management of the main risks of the project is transferred to the private sector, and the public sector pays the private partner for the provision of services to the public that has traditionally been provided by the public sector itself. A public-private partnership is a method of cooperation established by law between a state or municipal agency and a private entity, in which the state or municipal agency transfers the activities assigned to its functions to a private entity, and the private entity invests in these activities and the necessary property, for which he receives the reward prescribed by law (Fusacchia, Salvatici, & Winters, 2022).

Contractual PPP relationships share many of the characteristics of public procurement, but instead of buying fixed assets and paying full price up front, PPP mechanisms allow the public sector to create independent businesses that are financed and managed by the private sector (Liu, Clegg, & Pollack, 2022). Thus, public sector clients, depending on the form of PPP adopted, may be provided with high quality services for free or for a fee commensurate with the level and quality of service. In this way, public institutions do not lose property, as is the case in the case of privatization, but they create it and take it over after the expiration of the contractual relationship or renewal of the contract. Regardless of the form of PPP chosen, the project is executed on a contract basis (Churi, Pawar, & Moreno-Guerrero, 2021). PPP contracts are drawn up between public and private sector representatives. Most often, in PPP projects, a private company or consortium hires a construction company to carry out construction or reconstruction work and establishes a dedicated company to operate public infrastructure. In addition, banks or other investors are interested in financing PPP projects through private sector partners (Catalá-Pérez & de-Miguel-Molina, 2021).

Well-prepared projects based on PPP principles will pay off in the long run. Cost reductions and better quality are achieved in the implementation of infrastructure projects. Various studies show that PPP creates higher added value than traditional public procurement. However, if used incorrectly, it can produce negative results. In addition, public infrastructure created using PPPs may be more expensive, although this infrastructure is almost always of higher quality (Ndlovu & Newman, 2021).

The experience of many countries shows that cooperation between the public and private sectors, when projects that are needed by the community are financed by private capital and well implemented, can bring significant benefits to the country (Kaletnik & Lutkovska, 2021). Public sector opportunities expand when implementing PPPs. The public sector can, at the expense and initiative of the private sector, not only create the assets needed to provide public services, but

also entrust them with the provision of services associated with those assets (Onyoin & Bovis, 2022).

PPP projects that include infrastructure operation services provide a good incentive for the private sector to optimize full-term costs (Marques, Bastian-Pinto, & Brandão, 2021). Private sector participation means more than just the availability of additional funds and alternative sources of capital (Filatova, I., Nikolaichuk, L., Zakaev, & Ilin, 2021). At the same time, it can bring professional knowledge, management skills, innovation, efficiency, and greater effectiveness to the provision of public services, because in some cases the public sector is managed (managed) worse. This is not because public servants are managers who are not interested in efficient activities, but because the services provided by the public sector are monopolized, a monopolistic environment is formed, which does not encourage efficiency, and the personnel of public institutions is mainly trying to strengthen their power, increase the budget and do not care for the public interest (Crucke, Kluijtmans, Meyfroodt & Desmidt, 2022).

Research Method

This study investigates private public partnerships (PPP) in Asia by panel analysis. We use data from the World Bank. Our descriptive variables are presented in table 1.

Table 1. Descriptive Variable

Variabes	Description	Source
Num PPP	Total of PPP Project	World Bank
GDP(to)PPP	Total investment in private public partnership (PPP) by GDP	World Bank
GenGovBal	General Goverment Balance	World Bank
TotalDebt	Goverment total debt	World Bank
AidPerCap	Aid Percapita in Country	World Bank
FuelExport	Country Fuel Export	World Bank
Population	Total Population in Country	World Bank
RGDPpercapita	Real GDP Percapita	World Bank
Inflation	Annual Inflation in Country	World Bank
MoneySupply	The Sum of Money Supply in Country	World Bank
FDI(to)GDP	Foreign Direct Investment Total percent of GDP	World Bank
TInv(to)GDP	Total Investment percent of GDP	World Bank

We use the Panel Ordinary Least Squares (POLS) method. with the following equation:

$Y_{it} = \alpha + \beta X_{it} + u_t + \varepsilon_{it}$

We use an equation where it is the panel notation over time and Y_{it} represents the outcome variable from the panel over time, the vector X is the control variable and ut represents the year fixed effect. Statistical descriptions are presented in table 2.

Table 2. Descriptive Statistic

Variabes	Mean	Standart Deviasion

Num PPP	7.21	7.38
GDP(to)PPP	0.07	0.12
GenGovBal	-2.31	-4.56
TotalDebt	60.35	81.59
AidPerCap	13.26	12.01
FuelExport	18.51	27.75
Population	15.06	0.58
RGDPpercapita	3198	2765
Inflation	33.59	40.98
MoneySupply	43.87	31.78
FDI(to)GDP	0.39	3.87
TInv(to)GDP	22.95	8.91

Result and Discussion

Table 3 displays the outcomes of the POLS estimate.

Table 3. The results of POLS analyses

Variabes	Num PPP	GDP(to)PPP
GenGovBal	0.174* (0.011)	0.027** (0.001)
TotalDebt	0.039 (0.089)	-0.002 (0.499)
AidPerCap	0.001 (0.778)	0.001 (0.552)
FuelExport	-0.041 (0.218)	-0.007* (0.039)
Population	6.669* (0.01)	3.129*** (0.001)
RGDPpercapita	0.003*** (0.001)	0.002 (0.916)
Inflation	0.001 (0.304)	0.001 (0.514)
MoneySupply	0.228*** (0.002)	0.009** (0.006)
FDI(to)GDP	-4.113** (0.009)	- 0.128 (0.449)
TInv(to)GDP	0.119*** (0.001)	0.027** (0.001)

Note : Significance levels: *p < 0.05; **p < 0.01; ***p < 0.001.

Not all variables that become indicators in this study are related to PPP or have an insignificant relationship, namely foreign exchange reserves, real GDP per capita, and FDI as a percentage of GDP. The results of the POLS model have no problem with the estimation results. FDI shows a significant negative relationship between the number of PPPs and the total amount of investment in PPPs. This shows that foreign direct investment is more directed towards real sector business development than infrastructure development with the PPP system in ASIA countries.

The discovery of a significant correlation between the proportion of total investment and the quantity of PPP projects suggests that low-income and developing nations lack enough infrastructure. PPPs are necessary because of this infrastructural shortage.

Conclusion

Foreign direct investment is more directed at developing real sector businesses rather than infrastructure development using the PPP system in ASIA countries. The lack of infrastructure in

developing and low-income nations encourages the existence of public private partnerships to provide infrastructure in ASIA.

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