

# Regulation and implementation of public-private partnerships

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## Impact

### 1. Scientific and Societal Relevance

This thesis contributes to a better understanding of PPPs in China and the EU by exploring the similarities and differences of PPPs in these two jurisdictions and providing a valuable reference to design future regulations that promote effective PPP use. The results in this thesis have scientific and societal impact.

Its scientific impact is that it adds a piece to the PPP comparative research puzzle. Although PPPs are widely used in infrastructure projects, their regulation and implementation are fragmented across jurisdictions. In the absence of a uniform international definition and PPP-specific regulations, positioning PPPs within national legislative frameworks is a challenge, let alone conducting research comparisons. Many countries have a regulatory gap when it comes to PPPs. In countries that have no specific regulations, such as China, the government continues to update administrative documents based on practical experience using PPPs, which makes it even harder to provide an accurate comparison. While there are books and journal articles mentioning the EU's and China's practices regarding specific PPP issues, none actually comprehensively compare PPPs from a theoretical and practical perspective. Considering how PPP regulation has recently developed in China and the EU, the current literature fails to address the latest regulation and implementation in these jurisdictions, and not just in a comparative way. This research fills this gap by analyzing the theoretical framework, regulatory framework, and implementation in specific jurisdictions: China and the EU. To make it easier for readers to understand the theoretical and regulatory frameworks, the paper also explored their administrative and legislative frameworks. The comparative research carried out in this thesis can be used as an example for future comparison of PPPs in different jurisdictions. It is also the first elaborate and exhaustive introduction of the comprehensive Chinese PPP regulatory system in English.

Furthermore, this thesis contributes to a theoretical framework for effective PPP regulation. Theory is an important tool to guide legislation. New issues in legislation will also bring about theoretical developments. Therefore, continuously assessing existing theories in the new regulatory development is important to improving academic research. Based on the purpose of using PPP and combining the characteristics of PPP projects, this thesis constructs a theoretical framework to assess whether the PPP legal framework is effective. This theoretical framework can also be used to assess whether PPP regulations in all jurisdictions worldwide are effective.

Its societal impact is that it not only contributes to developing PPPs in specific jurisdictions, but it also optimally allocates resources in international markets. The origins of the research itself are deeply rooted in practice. The comparison result in this thesis could help target the deficiencies in PPP regulation and implementation in each jurisdiction, which can then be used as a reference for future legislation. Furthermore, comparing PPP regulation, characteristic features, and implementation processes will facilitate cooperation between China and the EU. PPP cooperation would make the private sector's entry into a foreign infrastructure market smoother. This increases competition, stimulates foreign investor financing and fosters innovation.

In a broader sense, this research would like to shed some light on how the PPP regulatory situation in emerging markets and developing economies be improved to make their infrastructure project investment opportunities more attractive to private sectors in more advanced economies.<sup>1270</sup> In those economies, a systematic PPP

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<sup>1270</sup> International Monetary Fund (IMF), *World Economic Outlook: The Great Lockdown: Statistical Appendix* (Reports, 2020) 5. IMF classes 22 of its Member States as advanced economies. The IMF classifies China as an emerging market economy. The IMF World Economic Outlook classifies 39 economies as “advanced,” based on such factors as high per capita income, exports of diversified goods and services, and greater integration into the global financial system. The remaining countries are classified as “emerging market and developing” economies. To identify an emerging market, the IMF looked at “Systemic presence: The size of the country’s economy (nominal GDP), its population, and its share of exports in global trade; Market access: The share of a country’s external debt in global external debt, as well as whether it is included in global indices used by large international institutional investors and the frequency and amount of international bonds issued; and Income level: A country’s GDP per capita in nominal US dollars”, deriving a score for each economy not considered advanced, using five weighted variables “ $0.40 \times \text{nominal GDP}+$ ;  $0.15 \times \text{population}+$ ;  $0.15 \times \text{GDP per capita}+$ ;  $0.15 \times \text{share of world trade}+$ ;  $0.15 \times \text{share of world external debt}+$ ”.

If a country is ranked in the top 20 for 2010–20, it receives a score of 1 for that variable. Otherwise, it is assigned zero. The final score is calculated as the weighted sum of the individual scores. Following this approach, China is identified as an emerging market. Similarly, using a purely economic method of classifying the development status of countries, the World Bank also declares China as a developing country from several aspects. For example, roughly sixty percent of China’s population lives in urban areas, but the average in developed countries hovers around eighty percent. 373 million people in China still live below the World Bank’s upper-middle-income poverty line of US\$5.50 per day. And the China’s per capita GNI (gross national income) was just \$10,410 in 2019, lower than the \$U.S. 12,535 per capita in developed country.

The view that China is an emerging market and a developing country is also widely accepted in academic researches. See Tao Liu & Wing Thye Woo, ‘Understanding the U.S.-China Trade War’ (2018) 11 *China Economic Journal* 319. Tao Ma, ‘Insights into China’s Developing Country Status’ (2019) 8 *Globalization* 102. Wentao Lu & Guixiang Zhang,

standardization process and a shared understanding of PPPs have been established, at least in some infrastructure sectors, such as water supply and sewage, energy, or waste disposal<sup>1271</sup>. The PPP market in the emerging market and developing economies, such as Asia, Latin America, and Africa, is relatively small regarding the number of projects and investment level. From 1990 to 2014, for example, 6,449 PPP projects were completed, with a total investment of around USD 2.4 trillion (EUR 1.9 trillion) in the whole of Latin America, Asia, and Africa.<sup>1272</sup> There are more than 100 countries in these regions, but the average number of PPP projects and investments in each country per year is very small. And the PPP regulatory development in these countries is lagging behind, which creates legal obstacles to foreign investors.<sup>1273</sup> In this regard, the emerging markets and developing economies can learn from the legislative experience of the advanced economies, improving their domestic regulatory environment to make it more attractive to the private sector globally. As for the infrastructure market, the markets of the advanced economies, the emerging market and developing economies are naturally complementary. In emerging markets and developing economies, such as China and India, governments are under pressure to provide newly constructed infrastructure to cater for the needs of citizens but lack investment and advanced project technologies.<sup>1274</sup> The advanced economies' technologies and project operation experiences are undoubtedly more advanced and can efficiently meet their demand for high-quality infrastructure projects. For companies in advanced economies, the infrastructure market in the emerging market and developing economies has enormous potential and could

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'Green development efficiency of urban agglomerations in a developing country: evidence from Beijing-Tianjin-Hebei in China' (2022) *Environment, Development and Sustainability*. Zhiyong Han, Changwen Ye, Yu Zhang, Dan Zeng, Zenyang Zou, Dan Liu & Guozhong Shi, 'Characteristics and management modes of domestic waste in rural areas of developing countries: a case study of China' (2019) 26 *Environmental Science and Pollution Research* 8485. Lu Gao, Miao Liao & Yandong Zhao, 'Exploring complexity, variety and the necessity of RRI in a developing country: the case of China' (2019) 6 *Journal of Responsible Innovation* 368.

<sup>1271</sup> Barbara Weber, Mirjam Staub-Bisang and Hans Wilhelm Alfen, *Infrastructure as an Asset Class: Investment Strategy, Sustainability, Project Finance and PPP* (2<sup>nd</sup> edn, Wiley 2016) 90.

<sup>1272</sup> United Nations Department of Economic and Social Affairs (DESA), *Public-Private Partnerships and the 2030 Agenda for Sustainable Development: Fit for purpose?* (Working Paper No. 148, 2016) 9.

<sup>1273</sup> James Leigland, 'Public-Private Partnerships in Developing Countries: The Emerging Evidence-based Critique' (2018) 33 *The World Bank Research Observer* 103, 107.

<sup>1274</sup> Rajeev J. Sawant, *Infrastructure Investing: Managing Risks & Rewards for Pensions, Insurances Companies & Endowments* (John Wiley & Sons 2010) 18.

become a good area in which to invest. The future trend of the international infrastructure market is for companies in advanced economies to invest and participate in the operation of infrastructure projects in emerging market and developing economies. In this regard, it is important that companies in advanced economies that wish to enter the infrastructure market of the emerging market and developing economies, understand the PPP regulatory framework in the country where the project is to be implemented. Based on the market's current needs, discussing how to regulate PPP projects between advanced economies and the emerging market and developing economies can contribute to applying PPPs in international projects, facilitating the flow of capital and technology on a global scale to effectively achieve global resource allocation.

## **2. Target Groups**

Three groups could benefit from this research: academics engaged in PPP research, policymakers (including lawmakers), and PPP practitioners. Firstly, academics can continue to conduct research on PPPs based on this research. Section 6.4 proposes recommendations for future research. Second, policymakers can adjust their legislation and policies on PPP, based on findings in this paper, including but not limited to issuing PPP-specific legislation, revising the current PPP legal framework, issuing policy guidelines on PPP, developing regional experience, and exchanging PPP legislation. Finally, PPP practitioners, especially the private sector, will undoubtedly benefit from the results of this thesis. The PPP regulatory framework and implementation practice described in this thesis will become an important reference and guide for PPP participants, especially the private sector, to participate in PPP projects in China and the EU, helping them quickly understand their PPP regulations and implementations to reduce the legal risk of participating in PPP projects.

## **3. Activities and Products**

The author intends to distribute the findings as widely as possible. Firstly, the author intends to commercialize the paper, which will be sold by an international publishing house. This will allow research findings to be appropriately distributed among various interest groups. By commercializing it, the author intends to maximize the (potential) legal, social, environmental, economic and academic implications and relevance of its findings. Secondly, the author will actively participate in PPP-related academic gatherings, such as seminars, conferences, and symposia, to disseminate research results, allowing research findings to be tested,

evaluated, and ultimately supplemented or even revised. Finally, the author has published an article<sup>1275</sup> in academic journals to complement and extend the research in this thesis and will continue this scholarly activity in the future.

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<sup>1275</sup> Tongle Si, 'Opportunities and Challenges for Foreign Undertakings in China's PPPs Market' (2022) 1 *European Procurement & Public Private Partnership Law Review* 33.