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Social impact project finance: An innovative and sustainable infrastructure financing framework

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Abstract

The purpose of this article is to propose a framework of Social Impact Project Finance (SIPF) for financing infrastructure projects. In the framework, public sector commits to pay performance-based yield for improved services, which in turn motivate private investor to better construct and manage infrastructure assets. By embedding social impact performance criteria, SIPF has an endogenous incentive mechanism that can align perspectives of public and private sectors, while traditional project finance lacks. SIPF can also play a critical role in achieving sustainable infrastructure, because all three components of sustainability (social, environmental and economic) can be easily embedded as impact factors in the framework. In addition, it could be well customized for governments globally to address their own problems, such as carbon emission or congestion reduction. Private investor can also benefit from higher yield, liquidity, and tax break. With this innovative interdisciplinary initiation of impact finance and project finance, there will be significant opportunities to not only create a new format of impact-based project delivery methods, but also show us a prospective way to securitize and deliver public services under clear supervision in the future.

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1. Introduction

A new multilateral development bank, Asian Infrastructure Investment Bank, has been proposed by China recently to provide finances for infrastructure projects in the Asia Pacific region. According to Asian Development

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Bank, Asia will need an USD 8 trillion fund for national infrastructure from 2010 to 2020 [1]. Likewise, American Society of Civil Engineers (ASCE) reported a cumulative infrastructure funding deficit of USD 1.1 trillion by the end of 2020. It is predicted that underinvestment in the transportation, water, energy, and port infrastructure projects will bring a loss of USD 3.1 trillion in GDP to the U.S. economy [2]. Organisation for Economic Cooperation and Development (OECD) also estimated that global investment in infrastructure, which needs to be financed from extra-budget sources, is approximately USD 25 trillion in the period until 2030 [3]. Amid the backdrop of debates on global warming and emission reduction, the idea of sustainable infrastructure came out as a supernova and quickly put extra fiscal pressure on governments. What does not change is the insufficient budget, the International Energy Agency (IEA) estimated that it requires USD 45 trillion to adapt to the effects of climate change over the next 40 years by 2050[4].

Infrastructure is deteriorating globally, consequently imposing huge costs on our society due to lower efficiency and increasing accidents. Substantial rehabilitation and construction is urgently required, from transportation systems to sanitation facilities [5]. In the mean time, developing countries need even broader sectors of infrastructure initiation. As demand considerably surpasses investment, clearly, there is a massive infrastructure funding gap that challenges governments. However, public finances and traditional financing sources are increasingly under strain, especially after the 2008 financial crisis. New regulations, such as Basel III, will further constrain the liquidity. Public funding sources as well as methods obviously cannot meet the demand of investment [6]. Fortunately, abundant potential sources of financing can be found for infrastructure demand. Institutional investors such as mutual funds, pension funds, insurance companies, and endowments could play an important role in financing infrastructure projects in the future [7][8]. Total assets held by institutional investors in the OECD area alone were already over USD 70 trillion at the end of 2010 [9]. Moreover, there is a near perfect match between institutional investors seeking to invest in long-term assets and the corresponding need for long-term financing of infrastructure investment. Although there are regulatory and other barriers in the future, in order to maintain sustainable and efficient infrastructure service, new financing methods that can encourage additional funding sources such as institutional investors are needed.

The purpose of this article is to propose a framework of Social Impact Project Finance (SIPF) for financing infrastructure projects where public sector commits to pay performance-based yield for improved services, which in turn motivate private investor to better construct and manage infrastructure assets. And why SIPF may help addressing global infrastructure financing gap will also be explained. In this paper, a quick review will be given on the state-of-art infrastructure investment vehicles, securitization of project loans, as well as social impact bond. Then SIPF will be defined, and the framework of SIPF will be structured and proposed as a solution to the massive infrastructure deficit.

2. Existing infrastructure financing approaches and investors' perspective

2.1. Existing infrastructure financing approaches [10]

Infrastructure investments in nature are attractive to institutional investors, for example pension funds, as infrastructure projects are long-term investments that can match the long-term pension liabilities. Moreover, infrastructure investments can produce predictable and stable cash flows in a very long period of time. In addition, infrastructure assets could hedge pension funds' sensitivity to inflation. Finally, because of the low correlation of infrastructure with traditional asset classes, pension funds are increasingly looking at infrastructure to diversify their portfolios. Nowadays, there are various financing instruments and investment vehicles available for them to get exposure to infrastructure investment.

Primary vs. secondary market: primary market is for financing initiation of an infrastructure project, including procurement, construction, and delivery. It can also be described as a brownfield project in public private partnership. Secondary market refers to the operation phase of an infrastructure project, or a greenfield project in public private partnership. Typically, the primary market is more risky along with higher potential return. It also

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