

# THE 13<sup>TH</sup> INTERNATIONAL CONFERENCE ON QiR (QUALITY in RESEARCH)

<http://qir.eng.ui.ac.id>



IN CONJUNCTION WITH :

**ICCS 2013**  
(THE 2<sup>ND</sup> INTERNATIONAL CONFERENCE ON CIVIC SPACE)

ORGANIZED BY :



Faculty of Engineering  
Universitas Indonesia

CO HOSTED BY:



IST AKPRIND



Universitas  
Gadjah Mada

---

## PROCEEDING

---

ISSN 1411-1284



# Sharia-Compliant Financing in Indonesia Infrastructure Projects

Ayomi Dita Rarasati<sup>a</sup>, Bambang Trigunaryah<sup>b</sup>, Eric Too<sup>c</sup>

<sup>a</sup>Science and Engineering Faculty, Queensland University of Technology, Brisbane, Australia 4000  
E-mail : ayomi.rarasati@student.qut.edu.au

<sup>b</sup>Science and Engineering Faculty, Queensland University of Technology, Brisbane, Australia 4000  
E-mail : bambang.trigunaryah@qut.edu.au

<sup>c</sup>Business and Law Faculty, University of Southern Queensland, Australia 4300  
E-mail : eric.too@usq.edu.au

## ABSTRACT

*As the adoption of project financing is gaining momentum, there is a concurrent need of innovation in project financing scheme in order to accelerate infrastructure assets provision in Indonesia. As the largest Muslim population in the world, sharia-compliant financing offers tremendous potential as a source for infrastructure financing for Indonesia. To realize this potential, there is a need of a framework to guide its adoption. Hence this paper discusses the potential implementation of Islamic finance to fund infrastructure projects in Indonesia. Through comparative analysis, this paper illustrates how Islamic principles can be incorporated into Indonesian infrastructure project financing.*

### Keywords

*Sharia-compliant financing, infrastructure financing, project financing*

## 1. INTRODUCTION

Infrastructure plays an important role in supporting a nation's economic growth and competitiveness. Accelerating infrastructure provision is one of the main priorities in Indonesia's national development. In order to fulfill infrastructure needs, a huge amount of funding would be required and the government cannot rely solely on the national budget. Therefore, funding sources from private sectors should be created in a mode of infrastructure investment and project financing scheme.

Infrastructure investment has flowed steadily into Indonesia infrastructure development. Before the financial crisis in 1990s, in fact Indonesia was one of East Asia's private infrastructure success stories with majority of investments were concentrated respectively in energy, telecommunication, transport, water and sanitation sectors. However, the crisis has resulted in a huge plunged in the investment flow. Hence, investment in infrastructure should be expanded once more.

In 2005, the government of Indonesia (GOI) embarked on a comprehensive program of infrastructure reforms, and issued the first Infrastructure Policy Package. In the same year, the GOI also established the Policy Committee for Accelerating the Provision of Infrastructure (KKPPI). The GOI also started to organize annual events associated with infrastructure investment or infrastructure summit to attract more infrastructure investors. Several laws and regulations on the subject of private sectors participation in infrastructure provision had been enacted after a thorough reform.

In Indonesia, the concept of project financing for the provision of public infrastructure is still developing. As the adoption of project financing is gaining momentum, there is a concurrent need of innovation in project financing scheme in order to accelerate infrastructure assets provision. One area of recent innovation is Islamic financing. In particular, the scheme of *sharia*-compliant project financing (or Islamic project financing) is expected to be one of the best alternatives in Indonesia infrastructure financing.

This paper proposes a model that can be used as a framework for implementing Islamic project financing in the provision of infrastructures in Indonesia. The paper begins with the discussion on infrastructure financing need and project financing in infrastructure development. It then examines the principles of *sharia*-compliant financing and how they can be incorporated into project financing. Finally, the paper proposes a project financing model, which is in compliant with Islamic principles that can be used to finance infrastructure projects.

## 2. INFRASTRUCTURE FINANCING DEMAND

Infrastructure investment is a complex and multifaceted aspect of the national economies. Benefits of infrastructure can be maximized by formulating the respond of private sector in infrastructure policies. Such policies should not result in wasteful

duplication of infrastructure facilities. They should enhance complementarities and synergisms between public and private infrastructure providers. Infrastructure project financing involves combination of project promoters (sponsors and investors), lenders, government, contractors, suppliers and customers [1]. The funding includes loans, bond issuances, and equipment leasing. Infrastructure funding can be divided as a shared services, public private partnership (PPP), and outsourcing in accordance with the main responsibility which are taken such as public sector, public and private sector, and private sector respectively [2].

The use of private participation in infrastructure (PPI) projects can potentially improve efficiency in infrastructure projects transactions [3]. Within PPI, management in infrastructure project is also more effective [1]. PPI project also associates with societal benefits achievements as it may improve infrastructure efficiency [4]. Project financing, as a scheme of PPI implementation, then becomes important in infrastructure investment not only because of the financial scheme, but also to address institutional problems [1].

Project financing is a structured financing that needs a Special Purpose Vehicle (SPV) in the form of a company to run the project and sponsors to contribute equity and debt. An SPV can consist of sponsors, equity investors, off-take purchasers, bondholders, lenders, government, constructors, suppliers and operator. All the stakeholders are managed through contracts and arrangements. Mostly, major portion of project financing is the long-term debt financing. The projected cash flow is the primary source to reimburse the loan when the asset acts as only the collateral [5]. Therefore the payback depends on detailed evaluation of cash flow. It also needs contractual and arrangement among sponsors. Project financing is usually implemented in a green field project which tends to be a non-recourse or limited recourse.

The success of project financing implementation in infrastructure provision can be influenced by several factors, which include investment policy clarity; credibility and financial viability of the infrastructure agency; transparency and competitive bidding; and restructuring and improvement in fiscal environment. Good credit enhancement mechanism, sustainable capital markets, efficient and effective bureaucratic process, and legally enforceable and fair contracts are also the factors that could affect infrastructure project financing [6].

In order to attract more investment in Indonesia infrastructure development, there are some challenges that need to be addressed. Good governance and regulatory framework are considered the major challenges [7, 8]. Poor governance and inadequate legal system and institutional framework undermine service provision, which could keep investors away. Lack of clear policy indicates that the program is not integrated with the infrastructure needs. Strengthening the regulatory framework could remove obstacles in private sector involvement in infrastructure sector.

### 3. SHARIAH-COMPLIANT PROJECT FINANCING

Infrastructure investment is suitable to be financed with Islamic financing scheme, because infrastructure is an asset and it does not contain any activities that are prohibited in Islamic law. The use of Islamic finance in infrastructure project has been noted in some Islamic countries especially in energy and housing projects [9, 10, 11, 12, 13, 14]. Some types of Islamic financial instrument that might be suitable in infrastructure investment are:

- *Mudarabah*: cooperation between two parties which the first party gave 100% equity to the second party as the executor and profit will be shared based on agreement. In *mudarabah*, the second party is not liable for loss unless the loss occur due to mismanagement or negligence of second party. Therefore *mudarabah* is also called as trusty financing.
- *Musyarakah*: also known as partnership or joint venture, is the cooperation among two or more parties that each party shares equity with covenant that profit and losses will be shared together.
- *Ijara*: also known as leasing, is a hiring or renting of an asset to gain benefit of its usufruct.
- *Istisna*: is an order to a manufacturer to produce a specific asset for the purchaser (manufacture-sale). The payment term can be arranged in advanced or in credit.
- *Sukuk*: the Islamic investment certificate/bond.
- *Murabaha*: also known as mark-up sale, this type of finance is based on transaction cost and there is fee to compensate the service. The fee itself has been determined and agreed by both parties and written in the contract (*aqd*). In *murabaha*, the asset should be real although it is not necessarily tangible. Therefore the seller must state the original price and the additional expenses in truth. In conventional infrastructure procurement, this scheme is identical to cost plus fee contract. *Murabaha* has been implemented in real estate investment.
- *Kafalah*: is a guarantee given by insurer to a third party in order to fulfill obligation of second party or borne.

Although Indonesia is not an Islamic state, the total Muslim population in this country is the largest in the world. It is, therefore, conceivable that Indonesia can also implement Islamic principles for financing its infrastructure provision. To facilitate this, there is a need for a framework to guide its adoption.

Islamic finance has become prevalent in financial matter. *Sukuk*, for example, is one of the most innovative amongst Islamic investment. It attracts Islamic banks, Islamic insurance companies and *shariah* managed funds that cannot invest in conventional securities [15]. *Sukuk* is a tradable asset-backed, therefore it must be supported by real asset such as land, building or equipment. It is also issued for a fixed period of time which varies from short-term (three months) to medium-term (five or ten years) [15, 16]. Although most of *sukuk* structures are based on *murabaha* or *ijarah*, there are several forms that have been implemented such as *salam sukuk* structure and *musyarakah sukuk* structure.

Islamic finance has several advantages compared to the conventional finance. Islamic finance is observed as financial intermediation competitiveness [17], therefore it is now considered as one of the fastest growing financial segments in the world. The business area of Islamic finance has been broadening in many aspects such as private equity, project finance, *sukuk*, or other wealth management movement. The regulatory and legal frameworks recently have been evolved. Islamic finance nowadays has been internationally recognized and will contribute to global financial integration. Since Islamic intermediation is an asset-based and risk-centered sharing, it is more closely related to real economic sector [18].

#### 4. THE IMPLEMENTATION OF SHARIA-COMPLIANT PROJECT FINANCING IN INFRASTRUCTURE

Several papers started discussing Islamic project financing in infrastructure in the late 1990s. The financial model and contract agreement of Western project financing was modified by integrating Islamic financing in power plant project. Therefore it allows Islamic and Western financiers to finance the project without compromising any religious principles or financial interest [19]. Then it continued with *istisna* scheme to finance light railway and power plant projects developed using the build own operate (BOO) and build own operate transfer (BOOT) arrangement [20]. In 1999, an integrated model of Islamic and Western project financing was proposed by synthesizing *mudarah* security. It combined *murabahah* facility and call option to derive profit sharing ratio endogenously [21].

An innovative way to gain capital in infrastructure projects is by combining Islamic and Western finance (co-financing), which lead to a creation of a new structure of financing, or finding other ways to mitigate risks [22]. The Equate Petrochemical project is an example of project successfully delivered using this financing model. The project used *ijara*, *istisna* and *murabaha* structures [23]. Since then, there had been several more co-financed deals in infrastructure projects, such as the Kuala Lumpur Light Rail Transit 2 project, Thuraya Space Telecommunications project, Shuaiba power plant project, the TAG and Mersin Motorways project, and the Kuala Lumpur International Airport. However, the number of projects which used co-financed structures is not plenteous. There are factors that need to be considered such as improving understanding in Islamic finance and Islamic project financing.

There are potential sources of problem when projects with Islamic scheme attempt to suit Western financing. The first source of problem is the lack of cohesive regulatory body, in this context is the *shariah* boards [13]. There is uncertainty regarding *shariah* boards' decision which somehow unpredictable and subjective. The *Shariah* board needs to ensure that every transaction acknowledges the cultural, moral, ethical and religious principles. The board will examine the investment structure and documentation to approve an Islamic investment. The *Shariah* board will make a decision whether the project can be implemented based on *fiqh*, *shariah* principles as well as the decision on the duration of financing [9]. Although the board will consider similar transactions, there is no guarantee the decision will be the same because a fatwa is only valid for one specific case. Those situations make *shariah* board holds a significant decision in project endorsement. Typically, Islamic financing is utilized in a short term or medium term finance. Therefore the *shariah* board should also understand and analyze infrastructure project condition in term of financial duration. The second source of problem is that Islamic finance scheme requires lender to share project risks in contrast with Western finance scheme which lender reluctant to share the risks [13]. This circumstance may cause risk enhancement from Western lenders perspective. The third source of problem is institutional problem which can increase financial cost [22]. However, it can be diminished by establishing an *adl* (trustee), a uniform Islamic finance body and accounting practices.

Government guarantees are less needed when the profit sharing is high and sponsor's own capital is big. However, government financial guarantees are still necessitated in order to increase the creditworthiness and to raise the debt capacity of the project [24]. Government can provide financial guarantee by first analyzing project risks and then determining the type of government support given.

Based on the above discussion, Figure 1 describes a concept model of Islamic project financing in Indonesian infrastructure. The model is developed based on two categories which are infrastructure project financing scheme and Islamic financing concept. The model is influenced by *shariah* board decision, the contracts, investment method, risks and financial guarantee. Co-financing and off-takers will both reciprocally influence the implementation of Islamic project financing in infrastructure.

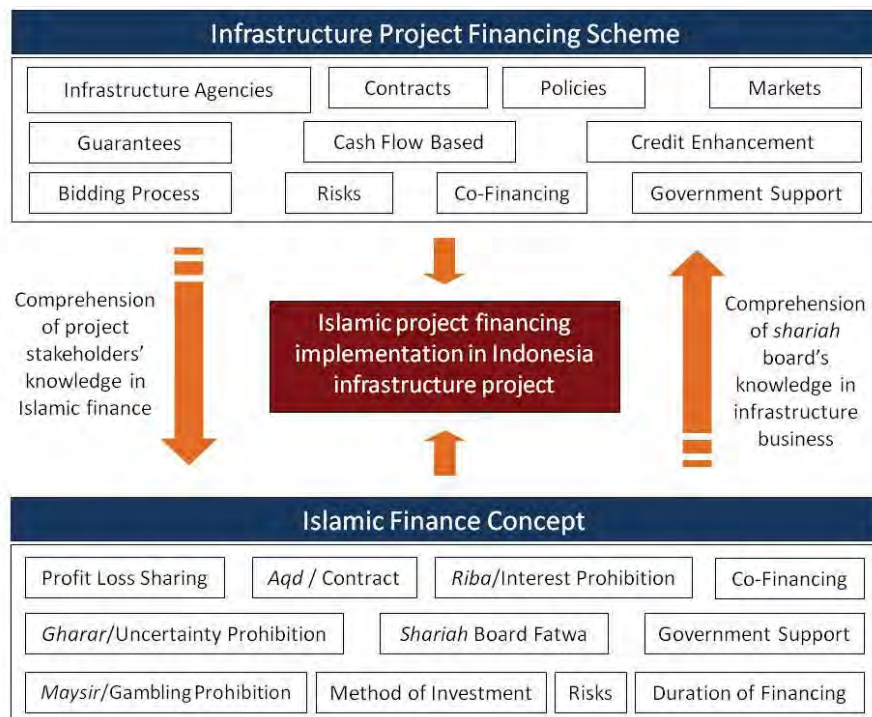


Figure 1: The concept model to implement Islamic project financing in infrastructure

## 5. SUMMARY

Within the scheme of Islamic finance and infrastructure characteristics, infrastructure investment is suitable to be financed with Islamic financing scheme because infrastructure is an asset and it does not contain any activities that are prohibited in the *shariah law*. However, as shown in Figure 1, there are factors that can influence Islamic project financing implementation. The factors are related to infrastructure project financing scheme and Islamic finance concept. Both knowledge on infrastructure business and Islamic finance should be well-known by all stakeholders. Without knowing both concepts comprehensively, the implementation of Islamic project financing in Indonesian infrastructure can be hindered, for example, by project stakeholders' acceptance of Islamic finance or the *shariah* board's decision on Islamic financing transaction. Additionally, every factor in each category should not stand alone, rather should somehow correlate and influence each other.

## REFERENCES

- [1] R. A. Brealey, I. A. Cooper, and M. A. Habib, "Using Project Finance to Fund Infrastructure Investments", *Journal of Applied Corporate Finance*, vol. 9, no. 3, pp. 25-39, 1996.
- [2] A. Joha, and M. Janssen, "Public-Private Partnerships, Outsourcing or Shared Service Centres?: Motives and Intents for Selecting Sourcing Configurations", *Transforming Government: People, Process and Policy*, vol. 4, no. 3, pp. 232-248, 2010.
- [3] P. C. Annez, "Urban Infrastructure Finance from Private Operators: What have we learned from recent experience?", World Bank Publications, vol. 4045, 2006.
- [4] M. F. Gorman, "Evaluating the Public Investment Mix in US Freight Transportation Infrastructure", *Transportation Research Part A: Policy and Practice*, vol. 42, no. 1, pp. 1-14, 2008.
- [5] S. Gatti, *Project Finance in Theory and Practice: Designing, Structuring, and Financing Private and Public Projects*, Burlington: Academic Press, 2012.
- [6] J. P. Gupta, and A. K. Sravat, "Development and Project Financing of Private Power Projects in Developing Countries: A Case Study of India", *International Journal of Project Management*, vol. 16, no. 2, pp. 99-105, 1998.
- [7] D. Moccerro, "Improving the Business and Investment Climate in Indonesia", Organisation for Economic Co-operation and Development, Economic Department Working Paper No. 638, ECO/WKP(2008)46, 2008.
- [8] M. E. Osius, and C. Carlson, "International Financing Sources in Support of "Pro-Poor/Pro-Growth" Infrastructure Development", in Povnet Conference, 2004.
- [9] M. J. T. McMillen, "Islamic Shari'ah-Compliant Project Finance: Collateral Security and Financing Structure Case Studies", *Fordham International Law Journal*, vol. 24, no. 4, pp. 1184-1264, 2001.
- [10] H. Amin, "Choice Criteria for Islamic Home Financing: Empirical Investigation among Malaysian Bank Customers", *International Journal of Housing Markets and Analysis*, vol. 1, no. 3, pp. 256-274, 2008.

- [11] M. S. Ebrahim, "Can an Islamic Model of Housing Finance Cooperative Elevate the Economic Status of the Underprivileged?", *Journal of Economic Behavior & Organization*, vol. 72, no. 3, pp. 864-883, 2009.
- [12] J. Gavin, "Islamic Finance Makes Headway in the Energy Sector", *Petroleum Economist*, 2010.
- [13] A. J. Alexander, "Shifting Title and Risk: Islamic Project Finance with Western Partners", *Michigan Journal of International Law*, vol. 32, no. 3, pp. 571-612, 2011.
- [14] M. K. Lewis, "Accentuating the Positive: Governance of Islamic Investment Funds", *Journal of Islamic Accounting and Business Research*, vol. 1, no. 1, pp. 42-59, 2010.
- [15] R. Wilson, "Innovation in the Structuring of Islamic *Sukuk* Securities", *Humanomics*, vol. 24, no. 3, pp. 170-181, 2008.
- [16] A. A. Jobst, "The Economics of Islamic Finance and Securitization", International Monetary Fund, WP/07/117, 2007.
- [17] A. Ahmed, "Global Financial Crisis: An Islamic Finance Perspective", *International Journal of Islamic and Middle Eastern Finance and Management*, vol. 3, no. 4, pp. 306-320, 2010.
- [18] M. Hasan, and J. Dridi, "The Effects of the Global Crisis on Islamic and Conventional Banks: A Comparative Study", International Monetary Fund, WP/10/201, 2010.
- [19] M. H. Khan, "Designing an Islamic Model Project Finance", *International Financial Law Review*, vol. 16, no. 6, pp. 13, 1997.
- [20] R. Wilson, "Islamic Project Finance and Private Funding Schemes", *IJUM Journal of Economics and Management*, vol. 5, no. 1, pp. 41-60, 1998.
- [21] M. S. Ebrahim, "Integrating Islamic and Conventional Project Finance", *Thunderbird International Business Review*, vol. 41, no. 4-5, pp. 583-609, 1999.
- [22] J. Camacho, "Islamic financing for Large Infrastructure Projects", <http://people.hbs.edu/mdesai/IFM05/Camacho.pdf>, accessed on 7 November 2010, 2005.
- [23] B. C. Esty, "The Equate Project: An Introduction to Islamic Project Finance", *Journal of Project Finance*, vol. 5, no. 4, pp. 7, 2000.
- [24] M. K. Hassan, and I. Soumaré, "Financial Guarantee as an Innovation Tool in Islamic Project Finance", in ERF 13th Annual Conference, 2006.