

**ABSTRACT**

Indonesia’s transportation development in the next 5 years is projected to be accelerated to cope with the deficit and gap that had been built up over the last two decades. A study conducted by Bappenas and JICA for the National Mid-Term Development Plan (RPJMN) 2015-2019 projected the magnitude of investment needed for the transport sector in sums up to IDR 2,500 trillion or around IDR 500 trillion per year. The state budget (APBN) had been and will always be insufficient to finance the total needs for transport investment. The innovative financing in transport development becomes very urgent given the tight fiscal allocation of Indonesia’s state budget, which is not adequate in financing infrastructure development. Indonesia needs to be innovative to find other sources of funds to finance transportation development. There are two streams: (1) to create a financing scheme based on the state budget, such as a Performance-Based Annuity Scheme (PBAS), infrastructure bonds, and shariah-based bonds (Sukuk) and (2) to create a non-state budget financing scheme to utilize domestic funds that are available domestically.

The aim of this paper is to explore the possibility of Shariah-Compliant financing as a financing option for Indonesia’s infrastructure development. The methodology consists of estimating the infrastructure funding requirement in Indonesia, an understanding of Shariah-Compliant instruments in the global context, and lessons learned from other countries who have applied Shariah-Compliant instruments for their infrastructure projects.

**Keywords:** Indonesia, Infrastructure, Islamic finance, Public Private Partnership, Transportation

**1. INTRODUCTION**

Islamic (Shariah) financing in infrastructure development has been widely used in many countries in the world, particularly in Islamic countries such as in the Middle East and in Malaysia. Although Indonesia is not an Islamic state, its total Muslim population is the largest in the world (approx. 203 million in 2009, 88.2 percent of Indonesian population, 12.9

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percent of world Muslim population). *Shariah*-Compliant financing has been recently introduced to Indonesia.

This innovative form of financing has its potential, but its application is still new in Indonesia. In general, the concept of *Shariah*-Compliant financing in infrastructure development is generally accepted in Indonesia. The Government has enacted Law No. 19 Year, 2008 in Islamic state securities (*Sukuk*), Law No. 21, Year 2008 in Islamic banking, and other supportive regulations.

This paper aims to explore the possibility of *Shariah*-Compliant financing as a financing option for Indonesia’s infrastructure development. It is hypothesized that given its full potential as a source of funds, the implementation of Shariah-based financing would help the government in fulfilling the investment needs for transportation infrastructure development. The methodology for the paper will be conducted by first undertaking a literature study on the best practices of Shariah financing worldwide and the development of such financing in Indonesia (Project-based Sukuk financing). In the Indonesian case studies, the investigation would include the financing gap of the next 5-year investment plan and the likelihood of Shariah financing in narrowing the gap.

The Government of Indonesia (GOI) is now in the final stage of drafting its National Five Year Development Plan (RPJMN) 2015-2019. A background study has also been undertaken to produce a Technocratic Paper in which new policy initiatives, strategic programs, and ‘quick-win’ projects are recommended to be incorporated in the RPJMN. In this paper it is projected that transport sector development for the next five years from 2015-2019 would reach approximately the amount of IDR 2,500 trillion (INDII, 2014). This amount of investment would be required to tackle the transport deficit and to drive the country’s economic growth and transform it into a developed country by 2025.

Unfortunately, the state budget (APBN) had been and will always be insufficient to finance the total needs of the transportation investment. Therefore, the need for innovative financing in transport development becomes very urgent, given the tight fiscal allocation of Indonesia’s state budget which is not adequate to finance infrastructure development. It is necessary to utilize other funds form the banking sector, pension funds, insurance, non-bank institutions, and capital markets to finance infrastructure and transport development. RPJMN should begin to see the possibilities of a combination of funds allocated from the state budget and the private sector contribution. Meanwhile, modern project financing that has been practiced in developed countries, it is not yet fully implemented in Indonesia, due to poor knowledge and skills of employees from government, industry and construction sectors in relation to Public Private Partnership (PPP) schemes.

**Figure 1. Basic Options for Transport Investment and Financing**

Figure 1 shows the basic spectrum of investment types for transportation infrastructure and services that can vary from full investment and financing by the government to full investment and financing by the private sector (Dikun et al., 2014). The
limited financing resources by the Indonesian government in the transportation infrastructure development has provided great opportunities for the private sector participation through the Public Private Partnership (PPP) scheme. However, the lack of knowledge, experience, and skills of Indonesia’s human resources are obstacles in preparing, managing, and overseeing the implementation of PPP processes and procedures in accordance with international principles. In addition, there are many operational constraints, such as the time consuming and cost-ineffective land acquisition process.

The increasing role of PPP in the transportation sector indicates the need for the government to look back at the legal frameworks and regulations on land acquisition. In the somewhat longer term, it is necessary to consider the ownership of land by the government for transportation infrastructure projects in which the government can lease the land to private operators or use land assets as government equity in PPP based projects or the PPP Strategic Alliance. In the PPP Strategic Alliance, from the beginning the government, together with private investors or consortiums of private investors, prepares the project, shares the risks, and puts their respective assets together in the form of equity to seek jointly debt-financing from external sources. Currently, the PPP Strategic Alliance has not been implemented in Indonesia and is not commonly found in infrastructure project financing.

The GOI cannot rely only on state budget for infrastructure financing. In the era of public monopoly, transportation development in Indonesia was financed by the state budget, regional budget, foreign loans and several subsidy schemes and grants to the regional government. In the future, the financing of transportation infrastructure by the government will still be experiencing fiscal constraints of limited fiscal budget allocation, while financing by the regional government will also face a lot of difficulties in getting sources of funds from the regional budget. Capital markets are actually a potential financing source and these can provide attractive financing options. Therefore, it is recommended that the Government finds and implements other funding options. Innovative financing could include as the major source of financing, for example, the establishment of an Infrastructure Bank, or the issuance of Infrastructure Bonds and the use of Shariah or Islamic Financing funds, such as Sukuk.

2. LITERATURE REVIEW

2.1 Shariah Compliant Instruments for Financing Infrastructure Projects

Sukuk represents a new development in global capital markets. Sukuk is the Arabic name for a financial certificate, but it can be seen as an Islamic equivalent of a bond. It is one of the fastest growing sectors in Islamic finance and it is considered by many as the most innovative product of Islamic finance (Yean, 2007). Sukuk is one of the most significant Islamic Shariah-Compliant financial instruments which provide an alternative source of financing, especially for the giant corporate and sovereign entities when compared to the conventional bonds. Sukuk is an innovative debt security, which is similar to the conventional bond with respect to cash flow and risk (Nafis et al, 2013). In simple terms, Sukuk are documents or certificates that represent ownership in an asset that grants the investors a share of the asset, along with the profits and risks resulting from such ownership (Yean, 2007). Sukuk can be structured based on the principles of a contract of exchange (e.g. ijara, murabaha, istisna) and a contract of participation (e.g. musharaka and mudharaba). In the early days, Sukuk were basic contracts of sale premised on cost-plus sale or cost-plus production agreements, but nowadays, there has been a shift away from debt-based Sukuk towards lease and partnership-based Sukuk (RAM, 2008).

Sukuk are now being issued in many regions of the world which have very different legal systems. The Sukuk market is a fast growing one, reflecting increased investor interest in the instrument. Fenech & Watson (2009) found in their study on the construction of an efficient portfolio by means of Modern Portfolio Theory (MPT) that by using Sukuk bonds,
one may still achieve the same expected return and what is better is that same return can also be achieved by exposing oneself to less risk. The investors’ reaction to the announcements of the issue of Sukuk and conventional bonds revealed, in the other research, that an increasing use of Sukuk may be detrimental to the firm and eventually to economic development, at least in the short run (Godlewski, Ariss & Weill, 2010).

There is an increasing trend of Sukuk issues for infrastructure projects. A decade ago, the Sukuk market was valued at US$9.6 billion, when issues were generally small in nature, and the market was concentrated amongst a handful of issuers; however, in 2013, the market topped US$269.4 billion, with an exponential growth in the number of large deals and increasing diversification of issuers (Franklin, 2014). The Islamic finance industry is expected to continue growing at a rate of nearly 20% per year, and the pool of investors interested in Shariah-Compliant securities is expected to rise along with it. And while Islamic investors are the natural buyers of Sukuk, the appeal of Sukuk now extends far beyond the Islamic world. Some estimates suggest that conventional investors may account for as much as 40% to 60% of any individual Sukuk offering (Financial News, 2012; Finance Asia, 2014).

The global primary Sukuk market continues to be driven by robust infrastructure funding requirements. Between 2001 and 2013, a total of US$ 84.3 billion worth of infrastructure Sukuk have been issued by more than 10 different countries. Malaysia, Saudi Arabia, and UAE are the leaders in financing infrastructure development using Sukuk. In Malaysia, for example, over the period covering the government's Ninth Plan (2006-2010) and Tenth Plan (2011-2015), Sukuk for infrastructure-related activities helped to develop transportation infrastructure and improve the service quality of power, water, and gas utilities. During Malaysia's Ninth Plan, issuers raised about US$12.6 billion in infrastructure-based Sukuk, accounting for close to 40% of the total corporate Sukuk issuance over that period. Malaysia remained the largest (68.8 percent) primary market for issuances in 2013, followed by Saudi Arabia and UAE. Nonetheless, before arguing in favor of the large-scale adoption of Islamic finance, additional research is needed to assess the long run implications of using Sukuk financing to finance development (Araar, 2014).

One of the principles of Shariah law is that investors are not permitted to earn interest (known as riba), although an investor or financier may, for example, generate a yield from profit sharing, sale, or leasebacks. The nature of infrastructure projects makes them a logical fit for Islamic finance (Dikun et al, 2014) for the following reasons:

- Infrastructure assets are true to the premise of Islamic financing, i.e., to channel funds for the greater good of society;
- The asset-backing nature of Islamic financing may provide a better funding match for infrastructure projects than traditional lenders, such as banks, since Islamic finance product investors typically have an appetite for longer terms than bank loans, and prefer stable and predictable cash flow, traits that are typically associated with infrastructure projects; and,
- Referring to the risk-sharing philosophy of Islamic finance, one of the characteristics of infrastructure projects is the involvement of various of parties, which necessitates the element of risk-sharing, thus it is eminently in conformity with Islamic finance.

The first Islamically structured international airport financing in the world under Shariah principles is the Al Madinah International Airport expansion project. The procurement model in the traditional Islamic finance structure is unsuitable because it requires an Islamic financier to own the assets that are being constructed and then subsequently lease them to the project company. With key infrastructure assets, such as those found in an airport expansion project, it is not possible to own these strategic assets; therefore it was necessary to create a new structure whereby the rights (i.e. intangible assets) were
granted to the consortium under a concession contract rather than as tangible/fixed assets underpinning the financing structure. An innovative *Istisna-ijara* scheme has been designed through the collaboration of Shariah scholars and project finance experts to ensure its compliance with Shariah and to maintain the project’s bankability for the sponsors at the same time. The project reached financial close on 30 June 2012, securing a total of US$ 1.2 billion financing package from a club of Saudi Arabian banks.

### 2.2 Differences Between Conventional Project Financing and Islamic Financing

With the collapse of conventional financial markets, many traumatized investors are seeking a return to conservative and ethical financial practices. Due to its strict ethical principles, strong performance and resilience, Islamic finance is now considered a potential alternative to conventional finance (ADL, 2009). But there are differences between conventional project financing and Islamic financing, primarily from the *Shariah* compliance aspect. Krasicka & Nowak (2012) suggests that even though conventional and Islamic financial instruments are fundamentally different, they perform similarly in a competitive market with no statistically significant downside or upside effects on investors' wealth.

Institutions involved in project financing may differ in how *Shariah* should be interpreted, which also may increases transaction costs and raise uncertainty. A common set of standard practices in the institutions play a crucial role in the addressing the *Shariah* compliance issue. In addition, co-financing is a popular option found in financing infrastructure projects in Islamic countries, where the sponsors combine conventional “Western” finance with “Islamic” finance. The challenge is to develop project finance structures that are not only consistent with *Shariah* principles, but also are attractive to international capital providers. The key is to find the right balance between *Shariah* interpretation and market acceptance. Like in all structured finance dealings, the constraint should be overcome with creativity and innovation.

Good governance is necessary for investor protection and confidence. The governance of *Shariah* investment solutions focuses on two areas: investment and *Shariah* compliance. Since Islamic capital market regulations in many countries may still be undergoing a robust foundation-building process, there is a higher reliance on the company’s internal governance processes. The composition of a *Shariah* advisory board model could potentially evolve to a mix of these scholars, with Islamic finance professionals, such as bankers, lawyers, and accountants. This way, different views can be taken into account, resulting in practical and implementable decisions that bear in mind the Islamic *fatwas*.

In some countries such as Malaysia, Bahrain, the United Arab Emirates, the United Kingdom, and Singapore, these investment processes, policies, and procedures have been standardized to achieve a certain level of international acceptance and build investors’ confidence. For example, in Malaysia, *Shariah* advisory boards must exist both at the capital markets regulator level and at the individual company level. The Securities Commission Malaysia (Malaysia’s *Shariah* Advisory Board) must then approve all Islamic investment products before they are offered to the marketplace, whether in Malaysia or around the world. Having a *Shariah* advisory board with balanced expertise at the capital markets regulator level and at the individual company level will ensure that cases are admissible in court, which is important for building investors’ confidence. The successful development of a credible investment and *Shariah*-Compliant governance environment is best achieved as a collaborative effort, taking heed of international investors’ concerns. A solid governance framework will be immeasurable value to provide comfort to investors when financial crises occur.
3. **SHARIAH-COMPLIANT PROJECT FINANCING IN INDONESIA INFRASTRUCTURE**

Indonesia has the largest Muslim population in the world, with more than 88 per cent of the population (203 million people) being of the Islamic faith. It is also the largest economy in South East Asia. These attributes present a prime opportunity for a domestic Islamic financial services market, however until recently Indonesia has been the ‘sleeping giant’ of the growing world of Islamic finance (Pew Research Centre, 2009). In 2009, global Islamic financial assets were estimated at US$822 billion. Indonesia owned only US$3.4 billion of this pool. Indonesia’s slow progress has been in part a result of uncertainty in its regulatory and tax framework, which is in contrast to neighbouring Malaysia and Singapore, which have already started to modify their regulatory environments in order to draw in Islamic investors (The Banker, 2009).

However, Indonesia has speeded up progress recently. In 2008, the Indonesian parliament passed a Shariah banking law which allows foreigners to establish Islamic banks in partnership with local banks and also offers commercial banks the option of converting their business into Shariah-Compliant banks. In September 2009, Indonesia’s parliament passed a revised law on value added tax which scrapped double taxation on transactions in Islamic financial markets. Since August 2008, Indonesia has issued three sovereign Sukuk – the US$505 Million Rupiah-denominated Sukuk in August 2008, the US$461.2 Million Open-ended Rupiah-denominated Retail Sukuk in February 2009, and the US$650 Million Foreign Currency Sukuk in May 2009. Indonesia has set a target for Islamic finance to amount to 15 per cent of the country’s banking assets by 2015 (Halim, 2009). In 2008, the figure was just over 2 per cent. It is also targeting Islamic banking growth of 40 per cent annually between 2008 and 2010 (Islamic financial assets increased by 35 per cent a year from 2004 to 2008) (Halim, 2009). Currently there are five full-fledged Islamic commercial banks, and these are primarily focused on the Small-to-Medium-sized Enterprise (SME) market (Nicholas, 2009).

The Indonesian government has also issued a few sovereign Sukuk bonds, providing a benchmark for the pricing of Sukuk assets. But Indonesia still has some catching up to do in terms of supportive policies for the implementation of Shariah-Compliant financing. Figure 2 describes a concept model for Islamic project financing in Indonesian infrastructure projects (Rarasati, Trigunarsyah and Too, 2013). The model is developed based on two categories which are an infrastructure project financing scheme and an Islamic financing concept. The model is influenced by Shariah board decision, the contracts, investment method, risks and financial guarantee. Co-financing and off-take agreements will both reciprocally influence the implementation of Islamic project financing in infrastructure.
Figure 2. The concept model to implement Islamic project financing in infrastructure

4. CASE STUDIES IN INDONESIA: BELAWAN PORT PROJECT†

The existing Port of Belawan is a main port under the management of PT Pelabuhan Indonesia 1 (Pelindo 1). It is located on the northeast coast of Sumatra and 27 km from Medan, the capital city of North Sumatra. The port location is on the mainland peninsula of the Belawan River estuary and the Deli River estuary. It is an economic gateway to the regional area of North Sumatra, Aceh and Riau Provinces because it is located in the Malacca Strait. The new port container terminal will have a container berth that is 350 m in length and 30 m in width.

The project aims to increase the current container terminal capacity of Belawan International Container Terminal. The Directorate General of Sea Transportation (DGST) under the Ministry of Transportation (MOT) is responsible for executing the project development. The project scope covers: civil works; procurement of equipment, the information system and the development of the conceptual framework of the concession scheme for the container terminal operation; consultancy services; PMU support; and financial audit.

The Directorate General of Debt Management (DGDM) in the Ministry of Finance (MOF) represented the GOI to sign an istisna agreement with the Islamic Development Bank (IDB) in 2009. However, DGST, on behalf of GOI, acts as the executing project agency. DGST then established a Project Management Unit (PMU) to be the daily project coordinator. The PMU is responsible for selecting and contracting a consultant and a contractor. All the procurement processes in the consultant and contractor selections must follow the IDB procurement process. The chosen consultant and contractor will be disbursed directly by IDB based on the istisna agreement. Based on the istisna agreement, the PMU reports the project progress not only to the DGST, but also to the IDB. For the operations and

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maintenance phase, DGST assigns the Belawan Port Authority to regulate the Port of Belawan and to establish an operational concession agreement with Pelindo 1.

![Figure 3. Belawan Port project stakeholder relationships financing](image)

The total cost of the project is USD 139.31 Million. The GOI provides USD 51.76 Million and IDB provides USD 87.55 Million, as arranged in the **istisna** agreement. The main points that are mentioned in the **istisna** agreement cover: contractor selection; consultant appointment; disbursement approval; the taking over of the works; representations and warranties; indemnity; the effective date; and disputes. All disbursements from IDB must follow the IDB procurement and disbursement procedures.

Based on the agreement, the IDB financing components cover: the civil works; consultancy services; PMU support; and financial audit. The implementation period of the **istisna** financing is between 2009 and 2014. The completion of the construction work shall not exceed 48 months from the date of the first disbursement. The consultancy services and PMU support have been active since April 2013.

Within the **istisna** scheme, all the works and assets that are financed by IDB belong to IDB. Therefore, at the end of the contract, the GOI must directly take over all the works and assets. The process of the works and assets transfer will be arranged later on. One possible scheme is a selling and buying scheme in a single payment or in installments. Therefore, succeeding the **istisna** agreement, there must be an additional agreement to take over all the works and assets, as well as to legalize the asset ownership.

After the GOI owns the asset, a concession agreement is established between the Belawan Port Authority and Pelindo 1 to execute the port operations and to return the investment costs. Based on the concession agreement, Pelindo 1 will share a percentage of the revenue generated by the port activities. The percentage of the revenue sharing and the duration of the operational concession are to be arranged later on. The revenue that Belawan Port Authority receives will then be deposited in the GOI state treasury through the MOF. It is considered as non-taxable revenue. In addition, Pelindo 1 as a state-owned enterprise must pay a dividend to the GOI. Therefore, in the case of the Belawan Port project, the GOI has two schemes of indirect investment return. Figure 4 outlines the **istisna** financing process in the Port of Belawan development project (Rarasati, Trigunarsyah and Lamari, 2014).
Figure 4. Project financing process with *istikna* scheme in Belawan Port project

1. IDB and the GOI established the *istikna* agency agreement.
2. GOI assigned MOF (DGDM) to manage the finance and assigned MOT (DGST) to be the executing agency of the project.
3. MOT (DGST) established PMU as daily project coordinator.
4. PMU reports project progress to MOT (DGST) and IDB.
5. PMU selects and contracts the consultant.
6. IDB disburses the consultant remuneration based on the *istikna* agency agreement.
7. PMU selects and contracts the contractor.
8. IDB finances the contractor based on the *istikna* agency agreement.
9. After the infrastructure has been completed, GOI directly takes over (buys) the infrastructure from IDB.
10. Before the operation phase, Belawan Port Authority, as liaison agency of MOT (DGST), and Pelindo1 establish a concession agreement.
11. During the concession phase, Pelindo1 will pay a percentage of the revenue to the Belawan Port Authority.
12. Belawan Port Authority then deposits the revenue with the GOI as non-taxation revenue.
13. Pelindo 1, as a state-owned enterprise, also pays a dividend to GOI.

5. CONCLUSION

Developing financial infrastructure that complies with *Shariah* requirements remains as a significant challenge to the development of Islamic finance. Prospective Islamic finance participants need confirm that the local regulatory regime supports the sector. In order to attract market interest and prosper, countries need regulatory frameworks that create a level playing field between conventional financing and Islamic financing (e.g., the underlying
taxation principle should be for economically equivalent transactions or financial instruments, either conventional or Islamic products, to be taxed in the same way). Indonesia is probably in the best position to benefit from Islamic finance, given that it has already put in place regulations for such transactions. The Indonesian government has also issued a few sovereign Sukuk bonds, providing a benchmark for the pricing of Sukuk assets. But Indonesia still has some catching up to do in terms of supportive policies for the implementation of Shariah-Compliant financing.

REFERENCES
ADL_FinancialServices (2009), “Islamic finance comes of age”
AUSAID (2010), “Opportunities for Islamic finance in Australia”, Islamic-Finance-Publication
Nafis Alam, M. Kabir Hassan, Mohammad Aminul Haque (2013), “Are Islamic bonds different from conventional bonds?”, International evidence from capital market tests
Rarasati, Ayomi Dita, Trigunarsyah, Bambang, Too, Eric (2013) Sharia-compliant financing in Indonesia Infrastructure Projects. In Suwartha, Nyoman (Ed.) The 13th International Conference on Quality in Research (QIR), Faculty of Engineering, University of Indonesia, Yogyakarta, Indonesia, pp. 1394-1398.