ISLAMIC INFRASTRUCTURE FINANCING: IMPERATIVES, PROSPECTS, AND CHALLENGES

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ISLAMIC FINANCIAL SERVICES BOARD
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ABOUT THE ISLAMIC FINANCIAL SERVICES BOARD (IFSB)

The IFSB is an international standard-setting organisation that was officially inaugurated on 3 November 2002 and started operations on 10 March 2003. The organisation promotes and enhances the soundness and stability of the Islamic financial services industry by issuing global prudential standards and guiding principles for the industry, broadly defined to include banking, capital markets, and insurance sectors. The standards prepared by the IFSB follow a lengthy due process as outlined in its Guidelines and Procedures for the Preparation of Standards/Guidelines, which involves, among others, the issuance of exposure drafts, holding of workshops, and, where necessary, public hearings. The IFSB also conducts research and coordinates initiatives on industry-related issues and organises roundtables, seminars, and conferences for regulators and industry stakeholders. Towards this end, the IFSB works closely with relevant international, regional, and national organisations, research/educational institutions, and market players.

For more information about the IFSB, please visit www.ifsb.org.
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<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>ADB</td>
<td>Asia Development Bank</td>
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<td>APICORP</td>
<td>Arab Petroleum Investments Corporation</td>
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<td>AuM</td>
<td>Assets under Management</td>
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<td>BCBS</td>
<td>Basel Committee on Banking Supervision</td>
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<td>COMCEC</td>
<td>Committee for Economic and Commercial Cooperation of the Organisation of Islamic Cooperation</td>
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<td>EMDEs</td>
<td>Emerging and Developing Economies</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>GFC</td>
<td>Global Financial Crisis</td>
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<td>GIFIIP</td>
<td>Global Islamic Finance and Impact Investing Platform</td>
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<td>ICIEC</td>
<td>The Islamic Corporation for the Insurance of Investment and Export Credit</td>
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<td>IFC</td>
<td>International Finance Corporation</td>
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<td>IFSB</td>
<td>Islamic Financial Services Board</td>
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<td>IFSI</td>
<td>Islamic financial services industry</td>
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<td>IICPSD</td>
<td>Istanbul International Centre for Private Sector in Development</td>
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<td>IIIFM</td>
<td>International Islamic Financial Market</td>
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<td>IMF</td>
<td>International Monetary Fund</td>
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<td>IsDB</td>
<td>Islamic Development Bank</td>
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<td>LCR</td>
<td>Liquidity Coverage Ratio</td>
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<td>NSFR</td>
<td>Net Stable Funding Ratio</td>
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<td>OIC</td>
<td>Organisation of Islamic Cooperation</td>
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<td>PPIAF</td>
<td>Public-Private Infrastructure Advisory Facility</td>
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<td>RSAs</td>
<td>Regulatory and Supervisory Authorities</td>
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<td>RWAs</td>
<td>Risk-Weighted Assets</td>
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<td>SAGs</td>
<td>Standards And Guidelines</td>
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<td>SDGs</td>
<td>Sustainable Development Goals</td>
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<td>SPV</td>
<td>Special Purpose Vehicle</td>
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<td>UNDP</td>
<td>United Nations Development Programme</td>
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<td>USD</td>
<td>United States Dollar</td>
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<td>VBIAF</td>
<td>Value-based Intermediation Financing and Investment Impact Assessment Framework</td>
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<tr>
<td><strong>GLOSSARY</strong></td>
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<td><strong>Ijārah</strong></td>
<td>A contract made to lease the usufruct of a specified asset for an agreed period against a specified rental. It could be preceded by a unilateral binding promise from one of the contracting parties. The ijārah contract is binding on both contracting parties.</td>
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<td><strong>Islamic window</strong></td>
<td>That part of a conventional financial institution (which may be a branch or a dedicated unit of that institution) that provides both fund management (investment accounts) and financing and investment that are Sharī‘ah-compliant, with separate funds. It could also provide takāful or retakāful services.</td>
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<td><strong>Istisnā‘</strong></td>
<td>The sale of a specified asset, with an obligation on the part of the seller to manufacture/construct it using his own materials and to deliver it on a specific date in return for a specific price to be paid in one lump sum or installments.</td>
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<td><strong>Mudārabah</strong></td>
<td>A partnership contract between the capital provider (rabb al-māl) and an entrepreneur (muḍārib) whereby the capital provider would contribute capital to an enterprise or activity that is to be managed by the entrepreneur. Profits generated by that enterprise or activity are shared in accordance with the percentage specified in the contract, while losses are to be borne solely by the capital provider unless the losses are due to misconduct, negligence or breach of contracted terms.</td>
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<td><strong>Murābahah</strong></td>
<td>A sale contract whereby the institution offering Islamic financial services sells to a customer a specified kind of asset that is already in its possession, whereby the selling price is the sum of the original price and an agreed profit margin.</td>
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<td><strong>Mushārakah (Sharikat al-‘Aqd)</strong></td>
<td>A partnership contract in which the partners agree to contribute capital to an enterprise, whether existing or new. Profits generated by that enterprise are shared in accordance with the percentage specified in the mushārakah contract, while losses are shared in proportion to each partner’s share of capital.</td>
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<td><strong>Sharī‘ah</strong></td>
<td>The practical divine law deduced from its legitimate sources: the Qur’ān, Sunnah, consensus (ijmā‘), analogy (qiyās), and other approved sources of the Sharī‘ah.</td>
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<td><strong>Sharī‘ah-compliance</strong></td>
<td>The term &quot;Sharī‘ah-compliant&quot; is used in Islamic finance to denote that a financial product/service/activity complies with the principles of Sharī‘ah (Islamic law).</td>
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<td><strong>Ṣukūk</strong></td>
<td>Certificates that represent a proportional undivided ownership right in tangible assets, or a pool of tangible assets and other types of assets. These assets could be in a specific project or specific investment activity that is Sharī‘ah-compliant.</td>
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<tr>
<td><strong>Takāful</strong></td>
<td>A mutual guarantee in return for the commitment to donate an amount in the form of a specified contribution to the participants’ risk fund, whereby a group of participants agree among themselves to support one another jointly for the losses arising from specified risks.</td>
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ABSTRACT

This paper posits that while the infrastructure gap remains a key global issue and particularly in jurisdictions where Islamic finance is practiced, there is a limited supply of Islamic infrastructure financing by the institutions offering Islamic financial services. This is even though the Islamic financial services industry continues to grow in significance in the global financial ecosystem. Based on a combination of content analysis, survey questionnaire, and Islamic banking data extracted from the IFSB Prudential and Structural Islamic Financial Indicators (PSIFIs) database, the paper explores the prospects and challenges in Islamic infrastructure finance. The paper concludes by highlighting what roles the RSAs and the IFSB can play in bridging the infrastructure financing gap.
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SECTION 1: INTRODUCTION

1.1 Background

Infrastructure spending is imperative for stimulating economic growth and development. It is needed to quicken post-COVID-19 recovery, attain the sustainable development goals (SDGs), and comply with the Paris Agreement Commitment (PAC). Moreover, infrastructure financing offers numerous other benefits including but not limited to fostering technological innovation and sustainable industrialization,1 promoting social and economic inclusion,2 and reducing inequality.3 Other benefits include promoting environmental protection; and transitioning to sustainable finance and a low-carbon global economy needed to boost resilience against future economic shocks.4

There is currently a huge infrastructure financing gap in both the advanced and emerging and developing economies (EMDEs). This gap was brought to the fore by recent global developments, especially the COVID-19 pandemic and climate change.5 Before the outbreak of the pandemic, it was estimated that USD 80 trillion would be required up to 2030 to bridge the global infrastructural gap and fight climate change6 and that governments were facing about USD 2.5 trillion in annual financing gap,7 and an additional USD 500 billion in private capital8 for achieving the SDGs. At the recently concluded United Nations Climate Change Conference COP 27, it was highlighted that the global transformation to a low-carbon economy would require between USD 4-6 trillion a year.9 The pandemic has also increased the need for investment in social infrastructures such as healthcare and infrastructures that help countries join the global value chain.10

On average, EMDEs are expected to spend up to 4.5% of their annual gross domestic product (GDP) on new infrastructural projects and an additional 2.7% of GDP on operations and maintenance of existing infrastructures.11

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5 While COVID-19 exposed the huge infrastructural deficit especially in terms of healthcare, climate changed reflected in extreme weather conditions, rising sea levels, and increasing temperatures have significant implications for the safety, reliability, longevity, and functionality of existing infrastructures.
9 https://unfccc.int/sites/default/files/resource/cop27_auv_2_cover%20decision.pdf
11 According to the World Bank, this is the minimum required investment in infrastructure to achieve the SDGs and a limit of 2 degrees Celsius in climate change. See: Rozenberg, J., Fay, M., et al. How Much is Needed? Infrastructure Investments for Sustainable Development, World Bank Group, 2018
Specifically, an estimated USD 920 billion is required annually for infrastructural investment opportunities. Ironically, in recent times, globally only USD 100 billion of this amount has been generated yearly in private investments and with a huge chunk going to the advanced economies. In contrast, in 2021 the low and middle-income countries registered private investment commitments, which though improved to USD 76.2 billion, was still 12 percent lower than the pre-pandemic average, and represented only 0.26% of the GDP of the countries covered. Moreover, amid increased indebtedness, the developing countries would need between USD 5.8 – 5.9 trillion pre-2030 period to mitigate their exposure to climate change.

In the Organisation of Islamic Conference (OIC) countries, infrastructural improvements recorded in recent years still fall below the world average. This is particularly in terms of core infrastructures such as water, sanitation, power, and transportation. Recent global economic realities support more active private sector involvement, especially as the stock of public capital spending has been declining. Currently, the government provides about 60% of infrastructural funding, and the national development banks provide 10%. The private sector provides 23%, and the remaining 6% is provided by funding from overseas, especially via development assistance from multilateral development banks.

The Islamic Development Bank’s (IsDB) support is noteworthy in this regard. For instance, the IsDB provided USD 726.7 million, and another USD 1.6 billion in 2021 for financing core infrastructural projects in member countries. Between 2013-17, the IsDB approved USD 4.72 billion for climate change related-financing. The IsDB together with the Arab Petroleum Investments Corporation (APICORP) has recently established a private sector-focused infrastructure financing initiative to the tune of USD 1 billion.

Notwithstanding, as many OIC countries enter the post-pandemic recovery phase, they are also faced with a rising debt level and constrained fiscal space, and inflationary pressure due to the tightened global financial conditions. More than ever, the OIC countries like their other EMDEs counterparts need to spend more to upgrade aging infrastructure and accelerate their sustainable urbanisation process for better integration with the developed countries as the world recovers from the effect of the pandemic and transitions to a low-carbon environment.

Bridging the infrastructure gap in the OIC countries requires greater involvement of the entire financial architecture including Islamic finance

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14 https://unfccc.int/sites/default/files/resource/cop27_auv_2_cover%20decision.pdf
16 Notwithstanding that being a public good by nature infrastructure should ideally be primarily financed by public finance. In addition, transitioning to a low-carbon infrastructure would require a substantial upfront outlay. As such, globally, public finance remains the dominant source of overall investment in infrastructure, whereas less than 10 percent is provided by public-private partnership (PPP) arrangement
20 These countries bear the largest incidence of climate change even though they contribute the least.
21 For instance, blended finance has been successfully utilized as a tool to encourage private investments in areas that would have been considered too risky notwithstanding the commercial sustainability and enormous transformative
which offers a natural fit for financing infrastructural projects. This is based on its assets-backed approach, Sharī‘ah governance framework, risk-sharing principles, and various Islamic financing structures\(^{22}\) that in some cases have been used to complement conventional financing structures depending on the nature of the underlying project,\(^{23}\) and other considerations especially the flexibility to accommodate changes that may become inevitable given various phases and the typical long-life of an infrastructure project.

Islamic finance contracts and structures have, therefore, been deployed to various brownfield and greenfield infrastructural projects, especially based on public-private investment (PPP)\(^{24}\) arrangements in the last decade.\(^{25}\) This is either to bridge the infrastructural financing gap in general or to specifically complement conventional infrastructural financing. These PPP projects highlight the specificities of Islamic finance in terms of the role of the various stakeholders, peculiar contractual framework, documentation, financial structuring used, potential risks and their mitigants, as well as the lessons learned. Notable examples include the Doraleh container terminal project in Djibouti, Queen Alia international airport project in Jordan, and both the foundation wind project and Karachi Thatta dual carriageway project in Pakistan. Others are the East Klang valley expressway project in Malaysia, Prince Muhammad Bin Abdulaziz International Airport in Saudi Arabia, the Konya health campus project in Turkey,\(^{26}\) and numerous other projects funded by Sukuk across many jurisdictions.

There is, however, limited use of Islamic financing for infrastructure projects, especially among private institutional investors across many jurisdictions. This is despite the growth of the global Islamic financial services industry (IFSI). In 2021, the IFSI assets grew by 11.3% (y-o-y) with a total worth estimated at USD 3.06 trillion.\(^{27}\) It is estimated that the infrastructure investment needs per OIC member country between 2016 and 2040 is on average USD 22.1 billion per year. There is also a USD 200 billion energy projects funding gap in the OIC member countries. Meanwhile, the average infrastructure funding gap per country per year is USD 4.9

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\(^{21}\) Ibid

billion. This is in contrast to the yearly average contribution of USD 2.1 billion in Islamic infrastructural investment per OIC member countries.

This paper explores both the prospects and challenges of Islamic infrastructure financing. Specifically, the study explores some pertinent factors in Islamic infrastructure financing and how these explain the limited private participation of institutional investors. It is also pertinent, therefore, to find out if the limited Islamic infrastructure financing could be linked to the lack of Islamic financial players or offerings, features of instruments and structures of Islamic finance, or their non-availability in terms of investors' preference for Shari'ah-compliant infrastructural financing, etc.

1.2 Methodology and Structure

This paper is primarily based on an extensive desktop review of available related documents containing detailed case studies and the application of Islamic finance for infrastructure development. These documents contain contributions from a network of experts from diverse backgrounds and institutions including banking, legal, regulation and supervision, academia, etc. These documents also provide insights into the financial outlook for the OIC countries vis-à-vis Islamic infrastructure financing based on case studies and related activities by the IsDB and selected OIC member countries on their Islamic infrastructure financing experiences, initiatives, and activities. In addition, details are provided on the key challenges and policy options toward leveraging the potential of Islamic finance to bridge the infrastructure gap in jurisdictions where Islamic finance is practiced.

The remainder of this working paper is structured as follows. Section 2 provides a content analysis of the extant literature to understand both key supporting and impeding drivers of Islamic infrastructure financing. Section 3 presents the conclusion and recommendations.

SECTION 2: DRIVERS OF ISLAMIC INFRASTRUCTURE FINANCING

2.1 Bankable infrastructural projects

Based on the essential principles of Shari'ah to protect the public interest, remove hardship, and promote justice, a typical infrastructural project has a natural fit with Islamic financing. Despite the infrastructural gap and ample supply of infrastructural projects in the OIC countries, an impediment is a lack of bankable projects. The complex nature of infrastructure financing arrangements, long time horizons, huge capital investment, and inherent risks requires that the requisite expertise is deployed at all phases of an infrastructure project. Often than not, while infrastructure projects may be viable when viewed from their inherent socio-economic

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29 Results from an IFSB Survey was also used to assess to what extent IFSB member jurisdictions use Sukuk for infrastructure development among other uses.
benefits, they do not attract sufficient interest, especially from institutional investors in the IFSI.

An infrastructural project, notwithstanding its commercial viability or social desirability, should not promote activities that are considered Sharī‘ah non-compliant. This does not also preclude from ensuring that an infrastructural project is investment-worthy by satisfying a well-identified demand, based on a comprehensive feasibility study on the possibility of completion, predictable cash flows, favourable investment ratings, credit enhancement, and public guarantees, and handled by experienced contractors to enhance low susceptibility to default, comprehensive risk analysis and allocation, robust and realistic risk mitigation techniques, and a project’s potential to reach completion.

The various economic transformation and diversification programmes especially among the OIC countries have resulted in the rolling out of huge infrastructural projects requiring diverse financing structures including those based on Islamic finance. Amid dwindling public spending on infrastructure, fiscal constraints, rising public debts, and limited development assistance gap in the OIC countries, the huge amount needed for infrastructural development make Islamic private infrastructural financing indispensable. In some cases, substantial infrastructure spending on the military, healthcare, schooling, airport, seaport, etc. has been executed with public finance for strategic reasons.

Additional infrastructure funding required will have to be provided by the private sector. Initiatives in this regard have been championed by the IsDB. For instance, the recently established infrastructure initiative between the IsDB and APICORP aims to promote private sector participation by mobilising funding from commercial banks, capital markets, and multilateral development organisations and agencies. The IsDB together with its partners also launched a High-Level Working Group on Green and Sustainable Sukuk in 2021 to guide how to leverage the extensive opportunities offered by Green Sukuk as an instrument to mobilise financing needed to support member countries’ transition to green economies. Another notable initiative is the Global Islamic Finance and Impact Investing Platform (GIFIIP) established in 2016 by the United

31 In the Doraleh Terminal Port project, despite being based on real needs and crucial to the economic strategy of the Djibouti government to make the country a regional shipping hub, the project was able to attract investment from strong and competent sponsors and contractors on the back of detailed feasibility studies that discloses the risk-return tradeoff involved.
32 Most OIC countries have credit ratings below the investment grade threshold, which either discourages investors or attracts a high required rate of return on investment. Three notable rating agencies Moody’s, Standard and Poor, and Fitch Ratings provide assessments of Islamic assets. This is in addition to the crucial role played by the International Islamic Rating Agency (IIRA) and national rating agencies across jurisdictions.
33 This is similar to that in conventional financing to provide protection to project sponsors and financiers against force majeure, political risks, breach of contract, etc. thereby, upgrading the investment worthwhileness of an infrastructure project from a credit risk perspective. A notable Islamic infrastructure financing example is the role played by the Multilateral Investment Guarantee Agency (MIGA) of the World Bank in the Doraleh Por Project in Djibouti.
34 Credit enhancement is useful in long-term projects faced with issues such as liquidity constraints and rising financing costs. Just like guarantee, the use of credit enhancement should be moderated by the need to prevent an inadvertent deterrent to potential investors who seek additional yield by investing in an un-enhanced infrastructural project.
35 This is very essential for a project that is highly susceptible to demand risk to be financeable.
36 Islamic finance has also been used for such projects through sovereign Sukuk issuances in such a way that the distinct roles of the government and the special purpose vehicle established for the issuance are well-defined to ensure Shariah-compliance and protect the strategic interest of the government.
Nations Development Programme Istanbul International Center for Private Sector in Development (UNCDP IICPSD) and Islamic Development Bank (IsDB). GIFIIP provides a platform for impact investing and Islamic finance stakeholders in both the public and private sectors to cooperate and collaborate in providing market-based solutions for sustainable development issues.

2.2 IFSI Structural Transformation towards Infrastructure Financing

The bank-based nature and underdeveloped financial system in most OIC countries impede Islamic infrastructure financing. Even though the long-term nature of infrastructure financing would typically make it unattractive to banks, Islamic banking remains the dominant segment in the IFSI and an important provider of private finance,\(^39\) mainly through syndication,\(^40\) especially during the early stages of an infrastructure project.\(^41\) This is perhaps, due to the liquidity and maturity transformation nature of banking which seems to favour short-term investments.

Moreover, the ICM segment especially is underdeveloped and lacks the depth, liquidity, and regulation needed for the large-scale and long-term financing required for infrastructure projects. Despite gaining acceptance from sponsors and advisors, Islamic financing in Infrastructure via the ICM may still face some challenges, for instance, when flexibility to sell-down Sukuk in the secondary market is sought. As such, the institutional investors in both the ICM and Islamic insurance segments despite having a suitable risk and time horizon also have limited investment in Islamic infrastructural financing.

Nonetheless, the increasing importance of Islamic finance especially through the institutional investors in both the ICM and Takaful segments should also not be overlooked. Given a slowdown in international bank financing as the advanced economies tighten their financial conditions in response to rising inflation, both the ICM and Islamic insurance segments would help to bridge the Islamic infrastructural financing gap. This is by providing more variety of Islamic debt and equity infrastructure financing instruments and risk diversification suitable for the investment horizon and risk profile of institutional investors.\(^42\) Both segments have huge potential to unlock over USD 150 billion AuM from institutional investors. Over the past five years, the Islamic capital markets (ICM) segment has registered significant growth, currently worth over USD 930 billion and accounting for over 30 percent of the global Islamic financial services assets in 2021.

\(^39\) For instance, in 2018, Islamic banks accounted for USD 75.8 billion of the IFSI's total infrastructure financing while the ICM accounted for USD 3.9 billion through Sukuk issuances.

\(^40\) For instance, a consortium of Islamic banks including the National Bank of Pakistan, Faysal Bank Limited, United Bank Limited, and Askari Bank Limited provided Rupee-denominated financing for the Foundation wind projects in Pakistan. Similarly, Meezan Bank in Pakistan in the first half of 2022 closed two Islamic financing syndication as the lead syndicate for a USD 5.49 million facility for a 7-megawatt power project, and USD 37.35 million for the construction of a hotel in Islamabad. [https://www.islamicfinancenews.com/infrastructure-and-project-finance-challenging-times.html](https://www.islamicfinancenews.com/infrastructure-and-project-finance-challenging-times.html)

\(^41\) Islamic banks mostly have short-term liabilities and thus often lack the funding requirements needed for their participation in huge corporate deals and long-term large infrastructural projects. It should be stated, however, that infrastructure funding by banks has the advantage of being very flexible and adaptive in terms of fund disbursement, restructuring, and also benefiting from banks' project development monitoring expertise.

\(^42\) Infrastructure project default risk subsides over time and a stable positive cash flow similar to that obtained on fixed income security is generated during the operational phase.
In a recent IFSB survey, most jurisdictions indicated that infrastructural development is a key driver for Sukuk issuance. For instance, in the GCC region, a total of USD 22.8 billion has been awarded in infrastructural projects in the first half of 2022. This provides ample opportunities for the institutions offering Islamic financial services (IIFS) in the region to partake in the funding of core infrastructures in transportation, power, oil, and gas, etc., especially through various Shari’ah-compliant credit funds and Shari’ah-compliant equity funds. The prospect even looks bright based on the various projects that have either been planned for implementation in the nearest future or those for which coverage has been obtained from the Islamic Cooperation for the Insurance of Investment and Export Credit (ICIEC).

As investors search for yield, the possibility of cross-border capital flows also drives Islamic infrastructure financing. This is in addition to aiding foreign direct investment, technology transfer, job creation, economic growth, and development. For instance, the USD 160 million Islamic finance tranche of the Doraleh Terminal Port project in Djibouti was provided by the Bank of London and The Middle East, Dubai Islamic Bank, the Islamic Development Bank, Standard Chartered Bank, and WestLB AG.

2.3 Impact of Prudential Regulations

Prudential standards and guidelines are no doubt very crucial in creating an enabling environment that promotes the mobilising of infrastructure financing from institutional investors. However, there are theoretical postulations that there may be an unintended consequence of stifling infrastructure investments by banks and other institutional investors in the EMDEs due to regulatory requirements for, and treatment of infrastructure financing. This postulation, which is also applicable to the IFSI is without prejudice to the fact that many other factors may also account for the limited use of Islamic infrastructure financing. For instance, in some economies, while the fiscal policy objectives could be hinged on infrastructural development, the monetary policy in others may be very accommodative depending on the size of the economy, financial sector development, institutional and regulatory framework, level of urbanisation, social and environmental priorities, etc across jurisdictions.

The dearth of infrastructure projects that satisfy most, if not all the requisite ‘bankability’ conditions also make it difficult for related risks to be elevated to a portfolio as a prerequisite for infrastructure becoming a distinct asset class.

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43 IFSB Survey on Deepening the Islamic Capital Markets, 2022 reveal that for instance, in Nigeria, sovereign Sukuk issued for infrastructural development is always oversubscribed.
44 This is notwithstanding the fact that public funding for infrastructure projects has spiked recently due to a stable exchange rate and increasing oil revenue.
45 For more details see: Jobst, A. (2018).
Moreover, in some jurisdictions, the nascent stage and relatively small size of the Islamic banking industry, and the single obligor limits set by regulators constrain the participation of Islamic banks in infrastructure financing projects. For instance, in Nigeria, due to their relatively small size, all non-interest banks in the country are still categorised as tier-4 banks compared to the big conventional banks categorised as tier-1. As such, based on prudential consideration, the former has limits to the infrastructural finance it can provide.49

In terms of insurance regulation, except for the Solvency II regime, the treatment of infrastructure assets like any other long-term exposure attracts a high capital charge. As such, in a low-rate environment, such long-term exposure will feature less in the asset-liability management of insurance firms.50 This is notwithstanding that infrastructure projects are generally less risky especially in the medium to long term when the operational phase yields stable revenue.

For Islamic banks, without prejudice to other considerations like the liquidity and maturity transformation, the higher capital and liquidity requirements for specialised bank lending such as infrastructural finance may also be a reason for the limited long-term financing exposure. The use of simpler approaches like the standardised approach to credit risk and market risk may be more prominent among Islamic banks for the computation of regulatory requirements for infrastructure financing. This attracts a higher capital charge compared to the alternative advanced approaches51 even though the difference between the two approaches has been minimised by the introduction of an output floor under Basel III. Moreover, given the lack of sufficient credit history data to calculate the probability of default under either the simplified or advanced approach, the reliance of banks on external credit ratings for risk-weight calculation may, though not necessarily result in adverse ratings.

Furthermore, there are also arguments that in the standardized approach, the reforms penalise banks both solvency-wise and liquidity-wise. The former is by viewing infrastructure finance as a non-recourse financing technique based on projected cash flows,52 and the latter is in the calibration of cash flow about funding stability factors in both the LCR53 and NSFR.54 Banks may be disincentivised by discounting the fact that such infrastructure financing for instance in a Sukuk issuance may be ring-fenced and the financier may have access to the underlying projects cash flow or asset As such, there could be an indirect effect on infrastructure financing. This is especially for banks that are constrained by risk-based capital requirements, thus altering their mix of assets in favour of low-risk-weighted assets.

49 The limit to which a non-interest bank in Nigeria can be exposed to a single obligor is capped at 20% of its shareholders’ fund unimpaired by losses, while aggregate large exposure in any such non-interest bank should not exceed eight times the shareholders’ funds unimpaired by losses.
50 For life insurers, especially those offering products with long-term guaranteed rates, the duration mismatch for assets and liabilities would widen and erode inherent economic capital as the present value of liabilities is bigger than the present value of assets.
52 Compared to corporate finance, infrastructure finance, which is usually financed via project finance structures provides no or limited claims of the financier on the other assets of the sponsors, thereby credit risk is based on project performance.
53 Although it may account for a very small proportion of a bank’s outflow, the fact that undrawn credit and liquidity facilities for SPVs in project finance is assumed to be fully drawn down may be a disincentive.
54 The NSFR increases the cost required for funding for a long-term project. It restricts maturity mismatch for financing spanning more than a year, thus restricting banks with limited access to medium-term funding from participating in long-term financing.
Conversely, however, the limited infrastructure financing provided by the Islamic banking sector has no association with the level of their Basel III implementation status. This is based on the result obtained from a modest investigation by the IFSB on the relationship among the variables that were assessed via a log-linear analysis due to both data and methodological limitations. This finding is consistent with those of the Financial Stability Board (FSB), which though using a more robust methodology and richer dataset also concluded that there is no significant effect of the Basel III reform on the infrastructure financing provided. The results remained consistent even when based on different invariance analysis specifications, and different levels of aggregation. The FSB also reports that the finding is consistent with the response obtained from the survey it administered to the market participants.

2.4 Legal Uncertainty, Standardisation of documentation, and Shari’ah rulings

There is the issue of legal uncertainty for dispute resolution, and a lack of the requisite enabling environments and supportive institutional framework. Legal regimes vary from one jurisdiction to another, and in some cases do not support Islamic laws needed to resolve disputes in Islamic financial contracts thus heightening legal uncertainty. Due to weak default resolution and insolvency regimes, infrastructure project-specific risks are amplified by other risks such as commercial risk, operating risk, financial risk, currency risk, country risk, legal and regulatory risk, force majeure, construction completion risk, etc. For instance, the lack of a legal and regulatory framework especially in developing economies may lower trust and confidence, increase contract risks, and discourage foreign and domestic institutional investors, especially where there are fewer legal channels through which a breach of contract can be challenged. The Doraleh terminal project offers an example of how the lack of enabling policy environment can impede the delivery of an infrastructure project. In this case, a new government enacted a new law that allowed for a renegotiation of an exclusive concession agreement the previous government had with the concessionaire.

The lack of standardisation of Shari’ah interpretation is also a challenge. Although not as severe as it used to be, the consequential relatively higher transaction costs due to obtaining the views of a Shari’ah board when compared to conventional infrastructure financing are noteworthy. Although in some jurisdictions, central

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58 For instance, some extant studies that have assessed the impact of prudential regulation on infrastructure financing used partial equilibrium approach based on difference-in-the-difference analysis (FSB paper).
59 It is quite challenging to disentangle other developments that affect infrastructure financing from how a broad range of reforms aimed at covering an entire financial system impact the Islamic finance segment which remains very small in many jurisdictions. This is more so as the reforms were not entirely driven by infrastructural financing considerations which represent, often than not a small segment on the asset side of the balance sheet.
57 The result remains consistent even when comparison was made between banks with weaker solvency and liquidity profiles vs stronger banks, global systemically important banks (G-SIBs) vs other banks).
56 This finding was also consistent at different levels of aggregation (e.g. overall project finance vs corporate finance, advanced economies versus EMDEs).
59 In the Doraleh Container Terminal project, the dispute was resolved based on court litigation in England. The Foundation Wind project in Pakistan based on Islamic finance contracts was also subjected to both English law and Shariah in demonstrating that both legal systems can be combined.
Sharī‘ah boards or advisory councils have been established, the issue of limited cross-border infrastructure financing through, for instance, Sukuk remains due to different Sharī‘ah interpretations by scholars and experts.

**On a positive note, there are now notable improvements in the standardisation of contractual structure and legal framework** that permits the combination of Islamic and conventional financing for infrastructure development. This is crucial to boosting investor confidence in matters relating to, but not limited to legislative limitations, hedging against risk, tax-related issues, and documentation. This is especially in situations where new regulations may affect existing contractual arrangements or new governments unilaterally review an existing contract entered into by a previous government, etc.

As much as possible, documentation issues have been addressed in various Islamic infrastructure financing structures. For instance, in the Konya hospital project in Turkey, local legislation does not allow the further transfer of the usufruct rights granted to the project company by the government on the land the latter makes available to the former for an infrastructure project. As such, the structuring of the project was done based on *Istisna* financing such that the IsDB as the financier of the project would not exercise any actual or notional ownership right on the assets, which in Turkey is a hospital and considered an asset of national interest.

Intercreditor issues have also been resolved and tested via inter-creditor agreements. A common terms agreement ensures that in a co-financing arrangement between an Islamic and convention financier, a common understanding of terms used in the agreement is ensured, and of course in a Sharī‘ah-compliant manner. The process involved and actions to be taken in terms of security enforcement and proceed enforcement rights between the Islamic and conventional financier are thus regulated.

The issue of the asset-backed nature of Islamic financing structures, which may trigger double or multiple taxations on the sale and transfer of the underlying asset has been addressed in many jurisdictions in line with provisions in their respective local laws. While some treat both Islamic and conventional financing the same way as presently being considered in Nigeria, some others have also granted incentives to Islamic infrastructure financing by offering tax waivers, for instance, in Indonesia.

Issues relating to the lack of Islamic hedging instruments and Islamic insurance have also been well-addressed and tested. Two key infrastructure institutions in this regard

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61 The International Islamic Financial Market (IIFM) has also made a significant contribution) to the standardisation of Sharī‘ah-compliant financial contracts and product templates for the IFSI.

62 The complexity of the legal and financial arrangements involved in an Islamic infrastructure financing and ensuring Sharī‘ah-compliance entail that the necessary expertise is deployed to attract investors.

63 An Ijarah financing structure would have been preferable since it would have prevented the financiers from directly exposing themselves to construction risk. However, this was not possible as the local legislation does not allow the financier to own the assets before leasing it to the project company.

64 Such issue may arise from the ownership and ranking advantage of an Islamic financier over a conventional counterpart, who is viewed as a beneficiary of security granted to a collateral agent.

65 Notable examples of the use of both the inter-creditor agreement and common terms agreement are the Wind foundation project in Pakistan and the Konya hospital project in Turkey. In the former, the Asian Development Bank (ADB) was a party to the intercreditor and common-terms agreement thus making it entitled to any amounts recovered by the trustee.
are the International Islamic Financial Market (IIFM)\(^6\) and the ICIEC.\(^6\) Foreign currency financing is also encouraged by the use of hedging products acceptable in Shari‘ah financing to cover the risks of local currency devaluation. For instance, both the International Islamic Financial Market (IIFM) and the International Swaps and Derivatives Association (ISDA) have jointly developed various Shari‘ah-compliant hedging instruments such as Islamic foreign exchange forward, Islamic options, and Islamic profit rate swaps, and Islamic currency swaps.

Issues relating to political risks such as currency inconvertibility, transfer restrictions, expropriation, cancellation of concession, breach of contract, civil unrest, and war have also been well catered for in recent PPP projects. For instance, the Multilateral Investment Guarantee Agency (MIGA) which is the risk insurance of the World Bank Group together with ICIEC provided cover for the political risk involved in the Doraleh container terminal project in Djibouti.

2.5 Islamic Sustainability Finance and Impact Investing

The increasing traction in sustainability finance has also promoted the potential of sustainable quality infrastructure as key in boosting economic growth and promoting resilience against future shocks.\(^6\) However, there remains a lack of investments and regulations needed to transition to a low-carbon economy. The transition to sustainable finance and a low-carbon global economy will be moderated by rising gas prices, supply disruptions, and the huge investment required for renewable alternatives amid slower global economic growth. Moreover, the lack of universal guidelines on sustainable finance could also make the burgeoning market susceptible to greenwashing from both sovereigns and corporates.\(^6\) This also has implications for Islamic Infrastructure financing provision by Islamic banks, and investment decisions by institutional investors given that their assets are potentially exposed to liability risks, asset impairment, and rising claims from climate change-related risks.

Nonetheless, huge prospects exist for Islamic institutional investors who have shown an increasing appetite for ethical and sustainable investments. Globally, only 0.7% of total global debt and equity is invested in sustainable and quality infrastructure despite being key to the realization of both the SDGs and the Paris Agreement Commitments.\(^7\) There is a strong commitment among the leading IFSI stakeholders in this regard with the IsDB taking the lead with a commitment to allocate at least 35% of its operations by 2025 to climate finance.\(^7\) The IsDB is also promoting

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\(^6\) In collaboration with the International Swaps and Derivatives Association (ISDA), numerous sharia‘h-compliant hedging instruments have been developed by the IIFM. The profit-rate swap was used as a hedging instrument in the Doraleh port project in Djibouti.

\(^6\) In the Doraleh terminal project, the ICIEC provided insurance against political risk including currency risk, transfer restriction risk, expropriation, breach of contract, force majeure, etc. for up to 99 percent of the contract value.

\(^6\) Swiss Re (2020)

\(^6\) In November 2021, the International Sustainability Standards Board (ISSB) was created to cater to this need. https://www.ifrs.org/groups/international-sustainability-standards-board/ (See more on this and the related workstream of the Islamic Financial Services Board (IFSB) to cater for the Islamic capital markets in Chapter 4 of this report).

\(^7\) ibid

\(^7\) An example is the Foundation wind projects in Pakistan.
numerous initiatives to leverage the potential of Islamic social finance as an area of environmentally and socially responsible Islamic finance.\(^\text{72}\)

**Sustainability-linked bond markets also gained traction in 2021 as many countries heightened their environmental, social, and governance (ESG) activities.** The emerging markets especially, registered increased capital flows into both the green bond and blue bond markets for sustainability investment purposes such as transitioning to renewable energy sources, and marine-protection initiatives. Following the numerous climate-focused commitments agreed to by many countries and international financial institutions during the various UN Climate Change Convention (COP), it is expected that sustainability-linked financing would continue to gain prominence and help to attract funding into the EMDEs including those where Islamic finance is practiced. For instance, in addition to the issuance by the IsDB, sustainability-related *Sukuk* issuances were registered in Indonesia, Malaysia, Turkey, and across both new and existing and new markets in 2021.

**Across IFSB jurisdictions, efforts are being made to strengthen the regulatory framework for sustainable finance needed to support transitioning to a low-carbon global economy.** This is by building regulatory and supervisory capacity toward ESG risk management and developing policy documents for among other applications, infrastructure financing. Notable examples in this regard are the pioneering introduction of the Socially Responsible Investment (SRI) Sukuk Framework issued by the Securities Commission Malaysia in 2014.\(^\text{73}\) Both Saudi Arabia and Oman also introduced sustainability-related debt frameworks in 2021.\(^\text{74}\)

Other notable examples include the IsDB Sustainable Finance Framework in 2019,\(^\text{75}\) the State Bank of Pakistan (SBP) Prudential Regulations for Infrastructural Projects Financing in 2016, and the Bank Negara Malaysia (BNM) Value-based Intermediation Financing and Investment Impact Assessment Framework (VBIAF) in 2019.\(^\text{76}\) Similarly, the Otoritas Jasa Keuangan (OJK) has issued OJK Regulation (POJK) 51/POJK.03/2017 on Sustainable Finance Applications for Financial Services Institutions, Issuers, and Public Companies in which financial services institutions, including those complying with Islamic principles, are obliged to implement sustainable finance in business activities and to publish a sustainability report. Besides, OJK also has launched Regulation No. 60/POJK.04/2017 regarding the Requirements of Green Bond Issuance


\(^{73}\) According to the Securities Commission Malaysia, “the SRI-Sukuk framework facilitates the financing of eligible SRI projects encompassing natural resources, renewable energy, energy efficiency, community, and economic development and Waqf properties or assets.”

\(^{74}\) Based on the recommendations by the Task Force on Climate-Related Financial Disclosures, the IFSB has also included limited climate/sustainability-related disclosures in some of its issued standards and is currently working on a guidance note on sustainability in Islamic capital markets.

\(^{75}\) According to the IsDB, “the framework provides a model for Islamic banks and financiers seeking to align their financing with the SDGs across their financing portfolios”

\(^{76}\) The VBIAF is a guidance document jointly produced by the Bank Negara Malaysia and a few other organisations within and outside Malaysia. In addition to serving as a reference guide for financial institutions that want to incorporate ESG risk considerations in their own risk management system, the VBIAF also “aims to facilitate the implementation of an impact-based risk management system for assessing the financing and investment activities of Islamic financial institutions in line with their respective VBI commitments.” [https://www.bnm.gov.my/]-value-based-intermediation-financing-and-investment-impact-assessment-framework-guidance-document
SECTION 3: CONCLUSION AND RECOMMENDATIONS

An exploratory analysis of the prospects and challenges of Islamic infrastructure financing was carried out in this paper. This was based mainly on extant literature. Based on statistics quoted in the paper that the infrastructure gap exists in EMDEs including the OIC countries. There has also been a very limited supply of infrastructure financing including from Islamic banks and institutional investors in both the ICM and Islamic insurance segments.

In most cases, such infrastructure financing has been provided through development assistance from the IsDB, or public financing, the stock of which is also shrinking due to the impact of the COVID-19 pandemic, rising global debt, inflation, and the tightening of the global financial condition. There is a crucial complementary crucial role to be played by the private sector including those in the IFSI.

The remarkable growth recorded in the IFSI over the years in terms of assets growth, systemic significance, resilience, and soundness is yet to reflect in bridging the infrastructural gap, especially in jurisdictions where Islamic finance is practiced. Stakeholders in the private sector have a crucial role to play, especially based on the prospects offered by regulatory framework development, sustainable finance, and the ample infrastructure opportunities and significant experiences garnered from the various key projects highlighted in the World Bank, IsDB, and PPIAF report. The report offers guidance on actions taken on both the project and prudential risks and challenges in Islamic infrastructure finance. and what roles for RSAs and the IFSB are in terms of ensuring standardization, harmonization of Sharīʿah rulings, risks management, disclosure and transparency, liquidity issues, ratings, human capital, and other related matters.

No relationship was found between the status of implementation of Basel III reforms prudential regulations and the Islamic banking sector supply of infrastructure financing. Notwithstanding, improvements in providing enabling environment and institutional and legal framework are required to boost institutional investors' confidence as well as attract foreign infrastructure funding.

ESG offers both opportunities and challenges. While it provides the needed spark for integrating the consideration of nature and climate change in the infrastructure financing arrangements, screening, reporting, and disclosure, it also adds to the extent challenge of mobilizing infrastructure funds. The role of the IsDB is well-noted in this regard especially its inclusion of climate change action as part of its core institutional mandate, and its various infrastructure initiatives through the PPP toward promoting more private sector participation in the infrastructure funding in the OIC member countries.

Although the complex and heterogenous nature of infrastructural projects is well-noted, there are other plausible reasons for the limited use of Islamic infrastructure financing. These include the lack of depth of the IFSI in many countries, the likely impact of prudential regulation on Islamic infrastructure financing.

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77 They usually involve huge initial outlay high sunk cost possibility, span a long period and are prone to huge risks, which makes their deferred cash flow generation prone to uncertainty, and the project illiquid due to either their natural monopoly or non-tradability nature (see BIS Working Papers No 454 Understanding the challenges of infrastructure finance Torsten Eithers (2014))
alignment between the existing conventional legal frameworks, and Islamic finance regulations across jurisdictions. Also, noteworthy as potential impediments are practices relating to taxation, ownership rights, investor protection, lack of risk mitigation instruments, harmonization of Sharīʻah rulings, and regulatory standardization due to the asset-based nature of Islamic finance, etc.

Most Islamic finance jurisdictions are bank-based rather than market-based thus Islamic banks account for a larger share of infrastructure financing. This is despite the nature of infrastructural projects aligning more with the long-term liabilities, risk appetite, and investment horizon of the institutional investors like the Islamic pension funds, endowments, and foundations in the ICM segment, and operators in the Islamic insurance segment that currently have limited allocation for Islamic infrastructure financing.

The ICM segment needs further deepening. This would help to provide the needed platform, product, and investment horizon that suits the institutional investors in the other segments to provide the requisite funding needed for infrastructural development. One way of achieving this is through the development of local currency Sukuk markets, and an enabling regulatory environment that encourages the participation of international development financial institutions in the development of the Sukuk market in OIC member countries.

The role of the various Islamic finance infrastructure organisations cannot also be overemphasized. For instance, the IFSB in addition to previously issuing numerous standards is also currently developing a Guidance Note on Deeping the Islamic Capital Market. The document briefly touches on aspects relating to Islamic infrastructure financing. As such, there is a need for a guidance note that would provide international best practices and practical guidance on a comprehensive basis as it relates to raising infrastructural finance in the IFSI while developing and promoting the growth of its various segments. Such efforts by the IFSB should also cover related and pertinent areas such as climate finance, ESGs, etc to promote alignment of approaches, and instruments.

Multilateral organisations or sovereigns can also provide equity financing which provides first loss-support to lower credit risk and incentivise debt investors from the private sector. A notable conventional example in this regard is the European Fund for Strategic Investments (EFSI), which provides requisite risk support for long-term investments in numerous areas including infrastructure in the European Union.\(^{78}\) Another related initiative with a focus on climate finance is the IMF Resilience and Sustainability Facilities.\(^{79}\) The IFSB as part of its workstream for 2023 is also engaged together with other partners in an IsDBI initiative on enhancing the creditworthiness of Sukuk without added issuance costs.

Specifically, such a guidance note would also touch on aspects relating to increasing the participation of institutional investors to address their concerns. For instance, issues relating to various risks and impediments, reducing costs of issuance, and integrating sustainability consideration into the extant legal and


regulatory frameworks guiding the ICM activities. The role of AAOIFI, IIFM, and IIRA similar international infrastructure organisations in developing standardised documentation and templates for Islamic infrastructural finance contracts can also not be discounted in this regard.