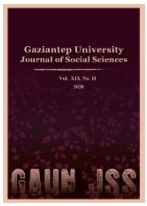


GAZİANTEP UNIVERSITY
JOURNAL OF SOCIAL SCIENCES

Journal homepage: http://dergipark.org.tr/tr/pub/jss

Araştırma Makalesi ● Research Article

Islamic Finance-Based Financing Mechanism Proposals to Support Local Economic Development

Yerel Ekonomik Kalkınmayı Destekleyici İslami Finansa Dayalı Finansman Mekanizması Önerileri

Ömer Faruk TEKDOĞAN[a]*

[a] Dr. Öğr. Üyesi, Ankara Sosyal Bilimler Üniversitesi, İslam Ekonomisi ve Finansı Bölümü, Ankara / TÜRKİYE
ORCID: 0000-0002-4397-1718

MAKALE BİLGİSİ

Makale Geçmişi:
Başvuru tarihi: 6 Ekim 2022
Kabul tarihi: 1 Şubat 2023

Anahtar Kelimeler:
İslam ekonomisi ve finansı,
İslami sermaye piyasaları,
Sukuk,
Kredi değerliliği.

ÖZ

Çoğu ülkede, yerel yönetimlerin altyapı projeleri için temel finansman kaynağı merkezi hükümetin bütçesinden aktarılan transferlerdir. Ancak artan kent nüfusu düşünüldüğünde, bu kaynak şimdi olduğu gibi gelecekte artması muhtemel altyapı harcamalarını karşılamada yetersiz kalacaktır. Yerel yönetimler, sermaye piyasalarına katılım da dahil olmak üzere alternatif finansman yöntemlerini araştırmalıdır. Bununla birlikte, çoğu yerel yönetim, özellikle küçük ve orta ölçekli olanlar, düşük kredibiliteleri ve yetersiz teknik ve idari kapasiteleri nedeniyle sermaye piyasalarına erişememektedir. Bu nedenle birçok ülkede geleneksel finansal sistem kapsamında yerel yönetimlerin kredibilitesini artırmaya yönelik destekleyici mekanizmalar geliştirilmiştir. Konvansiyonel finansal sistemin kanıtlanmış yöntemlerinden ilham alan bu çalışmada, yerel yönetimler için İslami finans ilkelerine dayalı bazı destekleyici finansman mekanizmaları önerilmektedir. Bu mekanizmalar, yerel yönetimlerin daha yüksek kredibiliteye sahip biçimde sermayeye erişmesine yardımcı olabilir ve İslami sermaye piyasalarının gelişmesine katkıda bulunabilir. Bu çalışma, temel olarak yerel yönetimlerin sermaye piyasalarına doğrudan veya dolaylı olarak erişmelerini sağlayarak borçlanma maliyetlerini düşürmeye odaklanan beş farklı İslami finansman modeli önermektedir. Önerilen tüm modeller ülkemizdeki ilgili mevzuat ile büyük ölçüde uyumludur, ancak yerel yönetimlerin borçlanma limitlerine ilişkin yasal düzenlemelere ihtiyaç duyulabilir. Önerilen modellerin uygulama prosedürleri, geçiş sürecinin izlenmesini gerektiren yasal çerçevenin uyarlanmasını gerektirebilir. Bu çalışma, konunun özgünlüğü sayesinde genel bir fikir vermekte ve bu konuda yeni açılımlar sağlayacak daha sonraki çalışmalara zemin hazırlamaya çalışmaktadır.

ARTICLE INFO

Article History:
Received: October 6, 2022
Accepted: February 1, 2023

Keywords:
Islamic economics and finance,
Islamic capital markets,
Sukuk,
Creditworthiness.

ABSTRACT

In most countries, the main financing source for local governments for infrastructure projects comes from the central government's budget. However, considering the growing urban population, this source will be insufficient to meet the likely increasing infrastructure expenditures in the future as it is now. Local governments must explore alternative financing methods, including accession to capital markets. Nevertheless, most local governments, especially the small and medium-sized ones, do not have access to capital markets, due to their low creditworthiness and insufficient technical and administrative capacity. For this reason, some supportive mechanisms to increase the creditworthiness of local governments within the scope of the conventional financial system have been developed in many countries. Aspired by the well-proven methods of the conventional financial system, this paper proposes some supportive financing mechanisms for local governments based on Islamic financial principles. These mechanisms could help local governments to access capital with higher creditworthiness and contribute to the development of Islamic capital markets. In order to lower the borrowing costs for local governments by giving them direct or indirect access to capital markets, this study suggests five possible Islamic financing methods. However, because to the novelty of the subject, it attempts to lay the groundwork for future research that will yield fresh perspectives on this issue.

* *Sorumlu yazar/Corresponding author*.
e-posta: omerfaruk.tekdogan@asbu.edu.tr

Introduction

Demographic data indicate that the urban population has been increasing globally, especially in emerging economies such as India, Turkiye, and China. United Nations (2018) estimates the number of people globally who live in urban areas will be 6.7 billion by 2050, which will be more than double the rural population at that time. Therefore, it is obvious that the urban economy will play a more crucial role in the development of countries since there is a strong relationship between urbanization and economic growth.

Accordingly, this projection of the structural change in the world population implies that the burden of local governments will increase because this increasing urban population will need infrastructure investments such as transportation, and water sewerage and supply.

Since the local governments cannot bear the burden of urbanization alone, they resort to the central government or look for external sources for project financing. In many countries, local governments have budget constraints and low creditworthiness while being dependent on external financial sources. Innovative financing methods need to be developed for local governments to decrease their financing costs. These methods could include the support of central governments, financial institutions or national or international organizations which are formed to improve the creditworthiness of local governments. These organizations' operations are mostly based on debt financing. The formation of new organizations and methods by making these conventional organizations and methods Shari'a compliant is needed for Muslim countries or Muslim communities. This effort can contribute to the further development of Islamic capital markets and the Islamic economic system.

On the other hand, particularly after the global financial crisis in 2008, Islamic financial instruments turned out to be alternative financing instruments not only in Muslim countries but also in non-Muslim countries. Accordingly, considering the asset-backed nature of traditional Islamic financial instruments, they could be ideal for infrastructure financing. However, there seem to be several challenges that need to be dealt with in practice, especially in terms of the Sharia compliance issue.

In the first section, we are going to present the reasons for the need for the accession of local governments to capital markets for financing their infrastructure projects. Then, we will give brief information about some methods which are currently in use in the conventional financial system for improving the creditworthiness of local governments. In the last section, we will analyze these techniques in terms of the needs of the Islamic financial market, since Shari'a-compliant models sometimes could be less effective and more costly.

Need for Bond Issuance by Local Governments

The urban population is growing rapidly all over the world. In fact, according to the population data in 2007, the urban population outnumbered the rural population for the first time in the world. (Anderson, 2015) According to the projections on population by United Nations (2018), two-thirds of the world population will be living in cities by 2050. Therefore, countries spent about $2.7 trillion in 2020 on infrastructure and an additional $0.5 trillion was needed through 2020 in areas such as water, power supply, and transportation projects. This gap between the needed amount and actual amount of spending on infrastructure increases and will reach a cumulative amount of $11 trillion by 2040 (Global Infrastructure Hub, 2022)

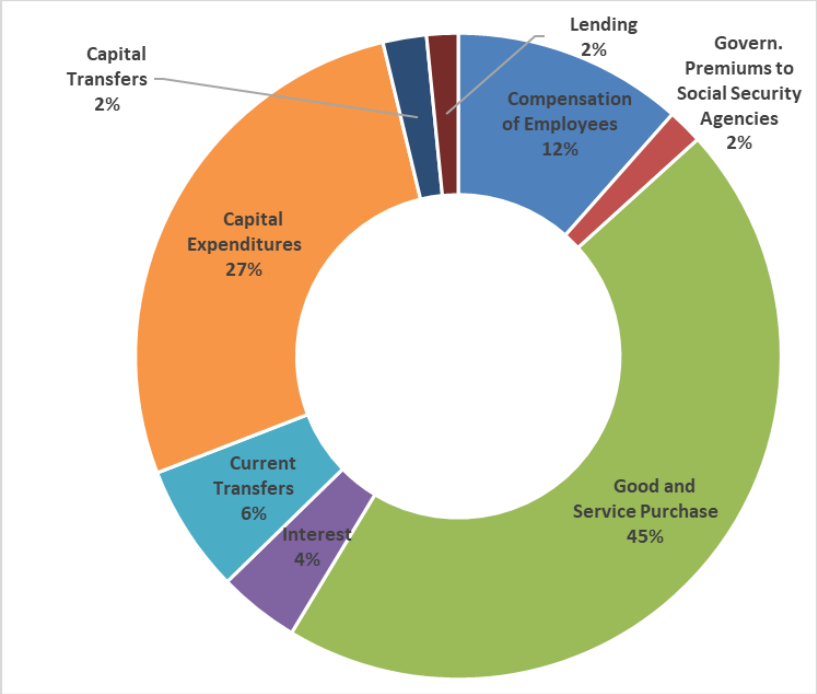
The investments by local governments in infrastructure projects are essential for global economic growth. Public goods such as infrastructure investments are non-rival and non-exclusive. Thus, this creates free-riding problems in an economy. For this very reason, these kinds of public goods are provided by governments (Shaikh, 2015). For instance, in developed

countries, 3 out of 4 of the infrastructure investments are from public sources and the share of this in the GDP is around 2%-%4 (Erol, 2006).

The demographic situation in Turkiye is not different from the rest of the world. As seen in the graph below, even if the growth rate of the urban population seems to decrease in recent years compared to between 1950 and 2008, after it outnumbered the rural population first time in 1980, the gap between urban and rural populations have been increasing year by year. While in 2012, 23% of the total population were living in rural and 77% were living in urban in Turkiye, these ratios have changed dramatically in the last decade and the urban population reached to %93 of the total population (TÜİK, 2022).

Apart from central governments, local governments are the main agents in terms of supplying infrastructure investments in Turkiye. When we consider the demand side for infrastructure investments, it is obvious that the increasing number of urban population due to the migration from rural to urban in Turkiye is the major cause of the increasing financing needs of the municipalities. The transfers and financial help from the central government for infrastructure investments are inadequate, therefore, local governments need to find new financing methods to fill this financial gap.

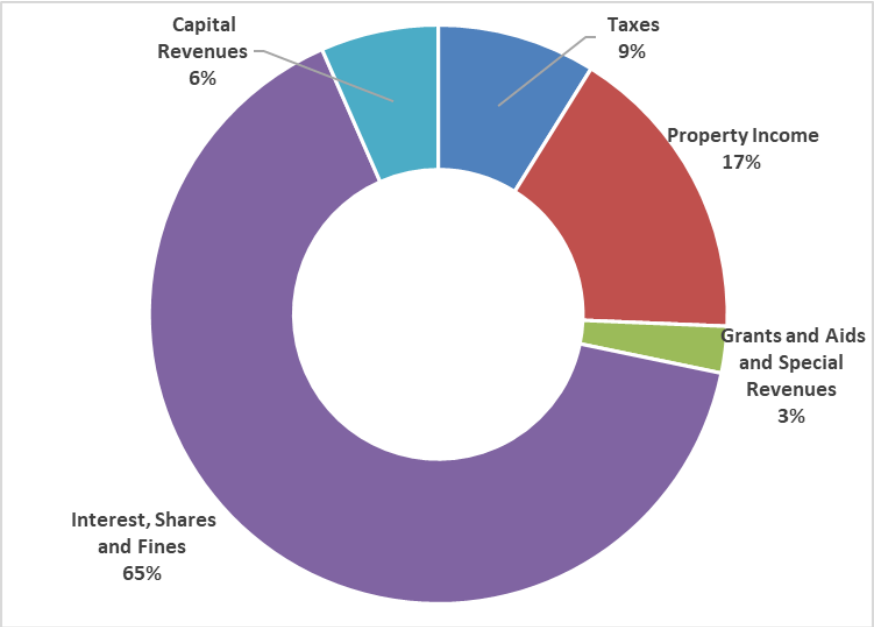
Accordingly, this rapid increase in urban population will require more public service like infrastructure for the urban population. However, here, the most important problem is that local governments have not enough income to provide the necessary infrastructure investments for the public.



Graph 1: Cumulative Expenditures of Local Governments in Turkiye, % of Total Expenditure, 2021

Source: Ministry of Treasury and Finance, General Directorate of Public Accounts.

As seen in Graph 1, %27 of the total expenditures of local governments in Turkiye had been spent on capital expenditures, which is to provide infrastructure facilities to the public, and with the addition of procurement, documentation, and other required processes, this share would increase. of their revenues to provide infrastructure facilities to the public.



Graph 2: Revenues of Local Governments in Turkiye, % of Total Revenues, 2022

Source: Ministry of Finance, General Directorate of Public Accounts

In today's world, it is accepted that providing better public services to the citizens is bound up with strong local governments. Possible income resources of local governments in Turkiye: Share from the central government budget, state aids, some taxes and fees, and borrowing. (Akdis, 1998) As seen in Graph 2, the biggest share of the total revenue of local governments in Turkiye comes from the central government's budget. The transfers from the central government in the form of the shares of tax revenues count for 95 percent of the interest, shares and fines, which means %63 of the local government revenues come from the central government. This shows that local governments are dependent on the local government and they cannot generate sufficient internal revenues.

Considering the information discussed above, it seems that, in the coming years, the urban sector will play a more critical role in the transformation of developing economies. On one hand, the local governments will need more infrastructure investments to meet the need of this growing urban population and on the other hand, we know that the public funding facilities of local governments are inadequate to meet this need. Within this scope, when we look at the trend in terms of finding new sources of local governments all over the world, we notice that they tend towards bond issuance to create financing. However, besides legal barriers and borrowing limits, most local governments face another challenge while issuing bonds: Creditworthiness.

Moreover, borrowing requires legal and institutional capacity, knowledge, skills, and developed markets for loans or bond issuance. Even if these all requirements are fulfilled, there is a big challenge for the local governments. Since they are relatively small and do not have sufficient funding needs to attract the attention of creditors, they cannot find loans easily, especially in the case of bond issuance. Their creditworthiness also matters to creditors. Hence, even if they can find a creditor to finance their infrastructure projects, the cost of funding is mostly higher due to the lower creditworthiness of local governments.

To address this issue, some countries seem to find a way to support the creditworthiness of local governments. For instance, the Government of India introduced a scheme for a Pooled Finance Development Fund (PFD) to support small and medium-sized local bodies to access capital markets (Chakrabarti, 2014). In addition, Pooled Financing Mechanism (PFM) is

employed in many countries. For example, in Europe, Local Government Funding Agencies owned by local authorities, which issue bonds in the capital markets domestically and internationally, were established to improve the creditworthiness of local governments as a pilot scheme. Another example of pooled finance development found is from the US where Municipal Bond Banks were established to address this problem of the local governments. The number of countries using PFM has been increasing day by day. Even in emerging and developing countries it has been developed. The most important aspect of PFM is to help with the creditworthiness of local bodies. No doubt, the creation of PFM schemes is always dependent on the specific circumstances in each country (Anderson, 2015). Apart from PFM, The US government has established State Infrastructure Bank (SIB) to fund infrastructure projects. SIBs exist in 33 states in the USA but only 10 units are active currently. They provide direct loans at lower interest rates (Puentes & Thompson, 2012).

Credit Enhancement Structures for Local Governments

In terms of obtaining funds from capital markets, every local government cannot find the same opportunity due to the differences in their creditworthiness. While some can directly reach the capital markets, some cannot. Especially small and medium-sized local governments need help to access these funding sources. For this reason, most developed countries have developed some methods to cope with the low creditworthiness of local governments. Some advantages of credit enhancement mechanisms are facilitating the sources and performing as leverage, providing cost efficiency, supporting the development of the capital market, and stimulating hard credit culture (Kehew et al., 2005). We will give brief information about some of these methods below.

Full or Partial Guarantees:

This method is the most used one to enhance the creditworthiness of local government directly. While in some cases it covers principal and interest payments irrespective of the cause of default, sometimes it is in the form of a partial guarantee. To give an example, the Philippines has a Local Government Unit Guarantee Corporation to deal with providing guarantees during the bond issuance of local governments.

Municipal Development Funds (MDF)

MDFs are established as public enterprises to provide funds from capital markets for small and medium-sized local governments, which do not have the potential to borrow from capital markets on their own due to the lack of creditworthiness and technical and human capacity. Therefore, they also provide technical assistance to local governments. Since these funds are under state control and financed via state resources, using these funds is less costly for local governments.

In the market-oriented system, MDFs borrow mostly from international financial institutions such as Asian Development Bank, World Bank, and InterAmerican Development Bank. Most of these donor institutions also request state guarantees or other kinds of pledges. While MDFs make these funds obtained from IFIs available for local governments, they add a premium to cover their administrative costs, such as credit risk and exchange rate risk.

They rarely issue bonds to obtain funds from capital markets, since the commercial banks, as an intermediary for the issuance of bonds, see MDFs as a rival for bond issuance and would like to credit them directly.

Bond Banks

Bond Banks was first established in Canada in 1956, with an aim to decrease credit costs of local governments. They function as an institution providing funds from capital markets to

local governments by borrowing via bond issuance, after pooling together the financial needs of local governments. The main logic behind the establishment of bond banks is that they have a relatively higher credit rating in reference to local governments. Therefore, they can borrow less costly. They can provide funds to local governments either by issuing a bond on its behalf and purchasing general obligation bonds issued by local governments or by representing gathering borrowing needs of local governments and issuing a bond in one pool (Rhee & Stone, 2003).

Most bond banks not only alleviate the borrowing cost of local governments but also can meet their operating costs. Moreover, as in the case of Alaska Bond Bank, they sometimes transfer proceeds to the state budget. Alaska Bond Bank transfers around 1,5 million US$ every year to the state budget. Established in 1970, the Bond Bank mechanism in the USA works effectively (Rhee & Stone, 2003).

State Revolving Funds

Bond banks and various financial institutions of local governments can run revolving funds. These revolving funds support the credits given to local governments. As repayment of given credit is made, it can be possible to give credit to the others who demand credit. Therefore, there exists a continuous capital base in these revolving funds to be used for other projects.

Generally, a state or federal government provides capital to a revolving fund. In practice, these kinds of funds are mostly used for water contamination projects. For instance, in the USA, U.S. Environmental Protection Agency has been granting funds to states to finance the local government's contamination control projects since the end of 1980. The States use three main approaches in the management of these revolving funds: Providing credit directly, leverage of cash flow, and leveraging reserve funds.

State Infrastructure Banks

State Infrastructure Banks were established in the US in 1995 aiming at financing urban transportation investments. State Infrastructure Banks (SIB) are employed to finance other infrastructure projects too. States contribute to these funds and every state must capitalize 10% of the fund transferred from the central government for road building as seed capital of these banks. In addition to this, every state is supposed to put 25% of the central government's contribution into its state infrastructure bank.

The fundamental purposes of state infrastructure banks are flexible project financing, recycling of funds, accelerating the completion of projects, stimulating private investors' interest in public projects, and credit enhancement of local governments.

The SIBs do not have the authority to grant since they are supposed to provide credit facilities for future projects via the funds obtained from the repayment of actual projects. The credits of SIBs are financed by sources provided to these banks or from capital markets through issuing revenue bonds (Attinasi & Brugnoli, 2001).

Islamic Financial Tools as a Source for Infrastructure Projects of Local Governments

The Islamic financial industry is rapidly expanding and is now considered to be worth over $3,6 trillion globally, growing at a rapid rate of %11.3 from 2020 to 2021 (Islamic Financial Services Board, 2022). Furthermore, not only in Muslim countries but also in non-Muslim Countries, such as UK, Luxemburg, Hong Kong, and South Africa, Islamic financial instruments turn out to be an instrument of choice, especially after the recent global financial crisis in the world (Shaikh, 2015).

On the other hand, many studies conclude that project financing is critically significant, especially for emerging economies, such as Turkiye. For instance, Shaikh (2015) discusses the role of sovereign Sukuk to fund infrastructure projects in Pakistan. They argue that this proposal may lead to an increase in economic growth since it means an increase in the investments in the economy thus increasing the tax base and tax collection and finally it may create employment. That is to say, there is a significant correlation between infrastructure investments and economic growth in an economy. At this point, one may consider that Islamic financial tools could be an alternative financing way to conventional financing methods to finance infrastructure projects via the issuance of Islamic bonds. For this aim, The G20 group of major nations has decided to discuss including Islamic bonds as an infrastructure financing tool in its annual agenda since it is believed that Islamic financial tools may be suitable instruments for financing infrastructure projects due to their asset-backed nature. Thus, it may be possible to attract additional interest from a larger group of countries, both traditional and non-traditional issuers of Sukuk (Vizcaino, 2015).

However, there may be some risks related to the issuance of Sukuk, such as Shari'a compliance risk, market risk, credit, counterparty risk, capital risk, etc. (Abdullah et al., 2014). Although there are many studies on risk management of infrastructure projects in conventional financing methods, unfortunately, since the financing of infrastructure projects via Sukuk is a new financing method, there are few studies about risk management issues in this financing method.

Among the risks aforementioned, the most important one seems to be the Shari'a compliance risk, which makes issuing Sukuk costlier than issuing conventional bonds due to higher legal and Shari'a compliance fees. According to a speech by the president of the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) Sharia Council, 85% of the current structures of Gulf Sukuk do not comply with Islamic norms. That is, they are not Shari'a compliant. Therefore, even if there exist some challenges in this issue, we need to overcome these challenges and it may be possible to find a legal structure that would be acceptable to governments, investors, and the Sukuk's Sharia boards (Fitch Wire, 2015).

Following Islamic modes of financing, either by way of obtaining direct financing from a financier or by way of issuing Islamic securities, can be considered for Infrastructure Projects: Murabahah (cost-plus or markup sale), istisna (commissioned construction/manufacturing), ijarah (leasing), tawarruq (cash financing), mudaraba (profit sharing), musharaka (joint venture).

Supporting Mechanisms for Sukuk Issuance of Local Governments

In this section, we develop alternative implementations of credit enhancement entities, namely Sukuk Bank as an alternative model to Bond Bank which is already a common model across the USA and Canada, for facilitating local government infrastructure projects by raising funds from capital markets. We use the most common Sukuk structures and find out the one which is most practical, implementable, and cost-efficient. We referred to Turkiye in the models. As mentioned before, most local governments do not have access to capital markets, however, our suggestions will enable them to have inexpensive and long-term financing.

By inserting Sukuk Bank as a bridge between local governments and capital markets, we establish a few new Islamic finance models using different Sukuk types. In these models, we thought that Sukuk Bank could be either fully or partially owned by the Ministry of Treasury and Finance (Treasury). The Treasury standing by Sukuk Bank means higher creditworthiness and more competitive issuances to markets. Although Sukuk Bank is a credit-enhancing structure, additional credit enhancements like intercept mechanism, guarantees and takaful

would be also useful for reducing financing costs. These structures are not exhibited in our models, but their involvement would increase the creditworthiness of local bodies.

An intercept mechanism means an intercept provision on central government transfers to local governments. In Turkiye, intercept provision on these transfers is called interception of general budget tax revenue shares of local governments. The central government exercises this procedure via the Treasury and the Bank of Provinces (İlBank).

Another point with our models is that upon completion of the projects we assumed a purchase undertaking (Wa'd) which allows the local government to buy project assets from project Special Purpose Vehicle (SPV) or Sukuk Bank at market value. We took into consideration the following assumptions while structuring credit enhancement methods for Islamic financial tools:

When establishing the proposed credit enhancement methods, it is assumed that the local governments in Turkiye would borrow less costly under the enhancement mechanism. It is worth to note that, local governments in Turkiye are bounded with borrowing limits that is proportionate to their revenues and need to have permission from the central government for borrowing.

All Islamic financial instruments are asset-backed on a real infrastructure project. Hence, in terms of Sharia compliance, there is no inconvenience.

Local governments need new financial instruments to finance infrastructure projects and they are willing to use the capital market.

All proposed models might still need to be developed to deal with some risks such as default risk.

Our first Sukuk Bank model includes an Ijarah Sukuk issuance and two Istisna contracts. The implementation procedure can be as followed:

Treasury transfers public property to Sukuk Bank.

Sukuk Bank leases back the property to Treasury.

Sukuk Bank issues Ijarah Sukuk.

Proceeds are transferred to project SPVs which are established to implement infrastructure projects of subscribed local governments.

Lease payments from the Treasury are distributed to Sukuk holders.

Sukuk Bank signs Istisna contracts with each of the local governments. Local governments agree to pay a sum of project costs, administrative fees, and profit margin on a deferred payment basis.

Sukuk Bank signs parallel Istisna contracts with each of the projects implementing SPV. Sukuk Bank pays the total project cost in allowances to each SPV.

Payments from local governments due to Istisna contracts are transferred to Sukuk Bank.

Sukuk Bank keeps these payments in a sinking fund to make debt service to Sukuk holders.

In early periods, projects would not be income generating, so firstly Sukuk Bank and secondly the Treasury should be responsible for making the full amount of lease payments to the sinking fund. After a period when generated income begins to flow into the sinking fund, Treasury will start to get paid back from the fund. Any shortages in the sinking fund can be

covered by a reserve fund created by Sukuk Bank. This reserve fund is for maturity mismatch between Sukuk repayments and Istisna contract payments.

The profit margin received from local governments will be transferred to Treasury. This profit margin should cover Treasury's financing costs, as Treasury could have borrowed from other financiers to make lease payments.

An intercept mechanism could be applied in the case of defaults on payments from local governments. The Treasury will manage this intercept mechanism, by transferring defaulted local government's tax share directly back to the Treasury, while informing the Bank of Provinces to do so.

Let's assume Sukuk Bank issues Ijarah Sukuk at a fixed or floating rate equal to annual lease payments from the Treasury (let's say %5) for 5 years. Sukuk Bank enters into an Istisna contract with a local government to complete a project that will cost $100M. The local government agrees to pay the project cost plus $7M ($5M for repayment to the Treasury and $2M as an administrative fee). Sukuk Bank enters into a parallel Istisna contract with a project SPV and makes progress payments amounting to the project cost. During the 5-year period, the local government should pay back Istisna funds and this amount will be transferred to Sukuk holders upon the expiration of the Sukuk contract. Sukuk Bank will keep any excess amount as a Trustee and in any event of a shortfall of the reserves, it will make the payment from its pocket and claim the local government. Sukuk Bank is a subsidiary of the Treasury; therefore, it will always have the guarantee to have sufficient reserves for debt service. Any profit or loss incurred by Sukuk Bank will be transferred to the Treasury. On the other hand, Sukuk issuance of Sukuk Bank will have the same rating as the one which Turkish Treasury has. In this model, Sukuk issues are separate from projects financed and local governments have access to capital markets indirectly.

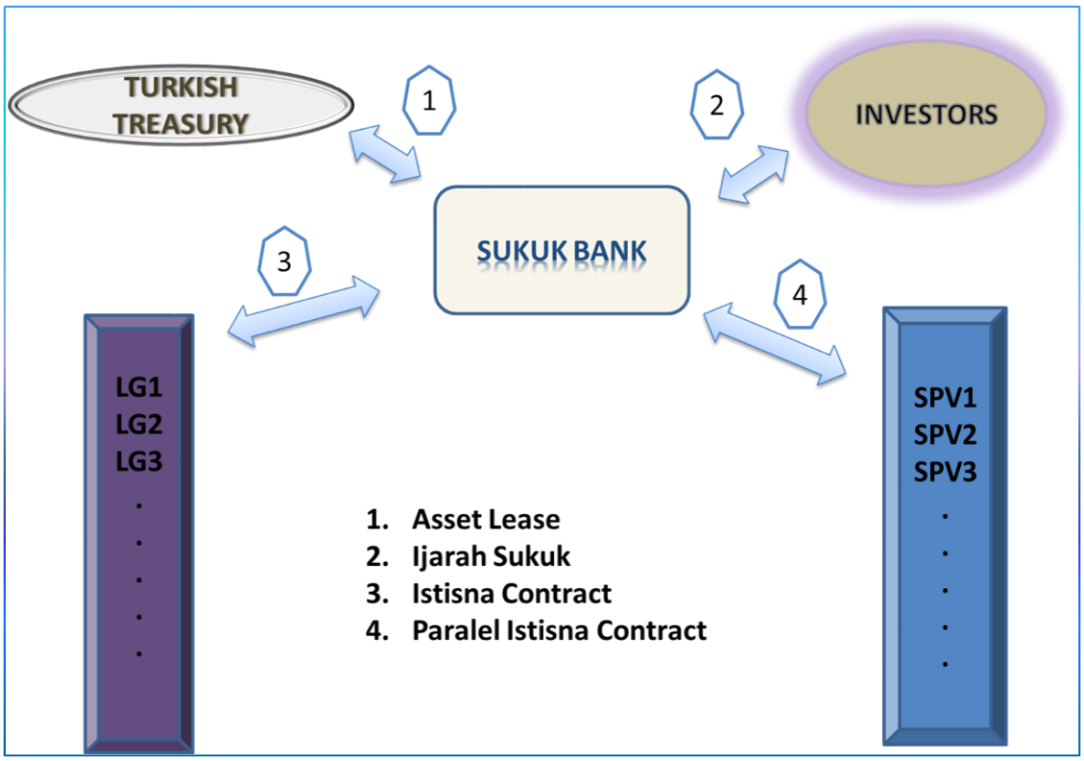


Figure 1: Proposed Sukuk Bank with Ijarah Sukuk and Istisna Contract

The second Sukuk Bank model is based on Musharaka Sukuk in project financing. The procedure will be as followed:

Sukuk Bank establishes joint SPVs with local governments by signing Musharaka contracts.

Sukuk Bank issues Musharaka Sukuk for its share in the pool of SPVs. Proceeds from the issuance will be transferred to SPVs.

With these proceeds and funds coming from local governments, SPVs will finance their projects.

Generated income from the project will be shared between Sukuk Bank and the local government according to their shares in the SPV. With its income share, Sukuk Bank will make payments to Sukuk holders.

Upon the expiration of the Musharaka agreement Sukuk Bank will ask the local government for a purchase undertaking to pay back Musharaka capital at par value or market value and the bank will transfer it to Sukuk holders accordingly.

An intercept mechanism should be activated in the case of default of any local government.

Assume Sukuk Bank makes a Musharaka agreement with a local government on 50:50 bases for 10 years. The project cost is $100M and Sukuk Bank issues $50M Musharaka Sukuk for its share in the Musharaka. After 2 years the project begins to generate income and make a profit of $10M every year starting from the end of year 3. In the end, Sukuk holders will have a $40M profit. Diminishing Musharaka can be also applied in this model. In this case, a local government will buy Sukuk Bank's shares in the SPV according to a pre-agreed timeline; therefore, Sukuk Bank should make Sukuk issuance by referring to these terms.

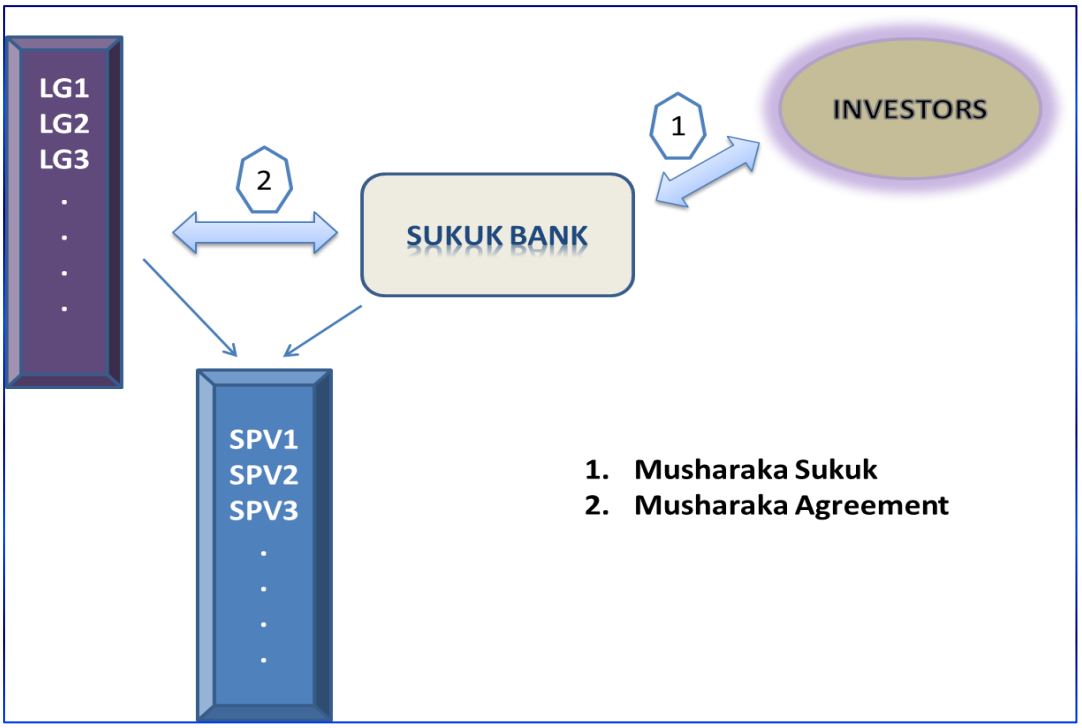


Figure 2: Proposed Sukuk Bank Model with Musharaka Sukuk

The third model includes Mudaraba Sukuk and Mudaraba contract. It can be implemented as follows:

Sukuk Bank signs a Mudaraba agreement with a local government for financing and construction of a project administered by the local government. In this agreement, Sukuk Bank

would be Rabb-ul mal and the local government would be Mudarib. Profits will be shared according to a pre-agreed ratio.

By issuing Mudaraba Sukuk, Sukuk Bank will sign another Mudaraba agreement with Sukuk investors. Proceeds from this issue will be used for financing the project. In this agreement, Sukuk Bank is the Mudarib and proceeds from the issuance are the Mudaraba capital. Sukuk holders are Rabb-ul mal who own the assets of the Mudaraba and they bear the loss if occurred.

Sukuk Bank keeps Mudaraba profits as a Trustee and makes periodic payments to Sukuk holders using these profits. Of course, payments will be shared between Sukuk Bank and investors according to a pre-agreed ratio.

Upon the expiration of the Mudaraba agreement Sukuk Bank will ask the local government for a purchase undertaking to pay back Mudaraba capital at par value or market value and the bank will transfer it to Sukuk holders accordingly.

An intercept mechanism is also suggested for this model.

Let's assume Sukuk Bank signs a Mudaraba agreement with a local government to complete a $100M project. The share ratio is %80 Sukuk Bank and %20 the local government. Sukuk Bank signs another Mudaraba agreement with investors by issuing Mudaraba Sukuk at an amount of $100M. This time, Sukuk Bank is the Mudarib and has a %20 share ratio. In the end, the project makes a total profit of $20M, which is divided between three parties $4M to the local government, $3.2M to Sukuk Bank, and $12.8M to Sukuk holders. Upon maturity, the local government will own the project assets by paying back the Mudaraba capital to Sukuk Bank which will transfer it to Sukuk holders. In another case, the project assets can be liquidated and the excess amount over the Mudaraba capital will be distributed as profit between the three parties.

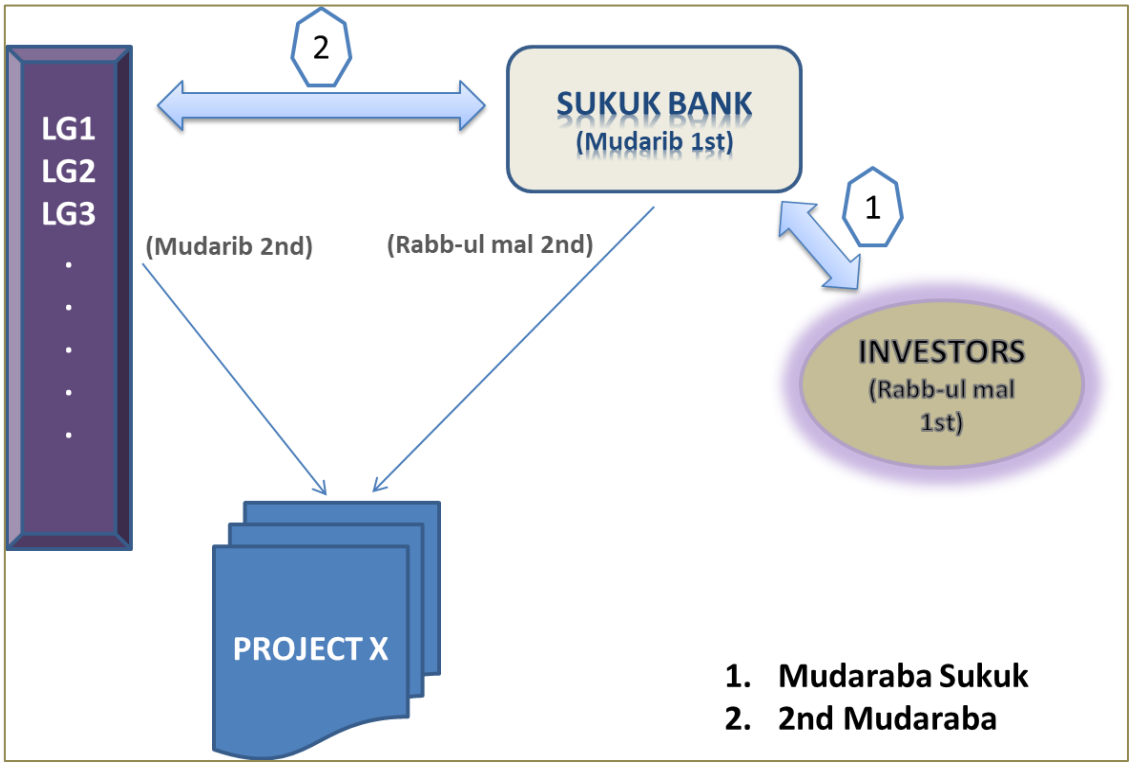


Figure 3: Proposed Sukuk Bank Model with Mudaraba Sukuk

Finally, a model without Sukuk Bank involvement can be developed via the co-participation of the Treasury and local governments. They can form a body to enhance local governments' creditworthiness by providing full or partial guarantees and Takaful policies. The following steps can be taken:

To establish a local government guarantee and Takaful fund, the Treasury will provide seed capital.

Each local government willing to participate should contribute to this and have its share from the equity (share of ownership can be 50:50 between the Treasury and local governments).

A local government that would like to benefit from the guarantee fund should pay a service fee for covering the administrative expenses of the fund.

The guarantee fund accepts to make the payment if the local government defaults on its liability. The relationship between the local government and the fund here becomes a Kafalah or a Hawalah agreement.

When the fund makes a payment on behalf of the local government, then it will have recourse against the local government. The fund can either grant a time delay for the repayment or resort to intercepting the local government's central government transfers. This repayment should only cover the principal amount.

Fees or remuneration on guarantees is generally not allowed. Therefore, the fund can charge a local government for its services (like Wakalah) and administrative expenses (Ayub, 2007). Full guarantee is the simplest form which covers principal and interest payment regardless of the cause of default. The guarantee fund should provide investors with a guarantee of uninterrupted payments (Kehew et al, 2005). The Treasury will have no income from the fund, as the fund will operate depending on the service fee only. Capital contribution of the Guarantee Fund can be increased by subscription of more local governments or by raising contribution amounts of already subscribed local governments.

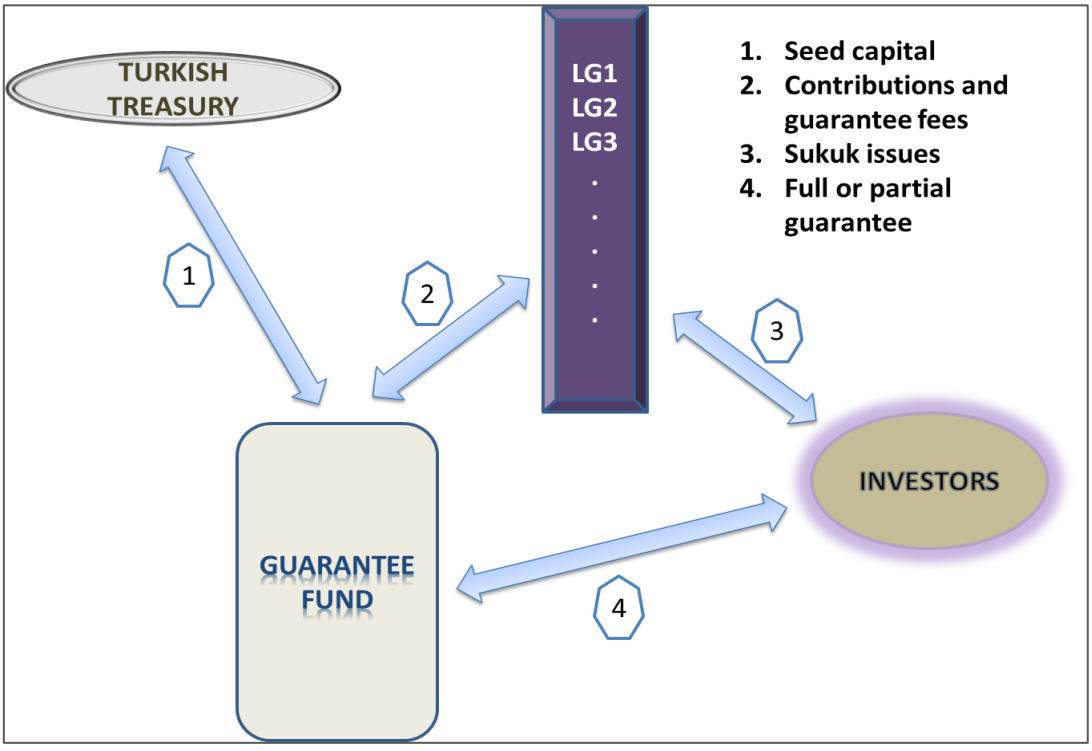


Figure 4: Proposed Guarantee Fund Model

Conclusion

Increasing urban population and expanding cities cause more infrastructure investments which mean more local government expenditures that need to be financed. In Turkiye, most local governments have budget constraints and low creditworthiness; therefore, they generally finance their infrastructures projects by borrowing either from the Bank of Provinces directly or from international financial institutions such as multilateral development banks like The International Bank for Reconstruction and Development (IBRD), The European Bank for Reconstruction and Development (EBRD), The Islamic Development Bank (ISDB) with the intermediary of Turkish Treasury. These traditional methods may have a long procedure that consumes time. Realizing this fact, in some countries, some alternative ways of financing developed with the support of central governments by providing credit enhancements for local governments. The most remarkable ways to enhance the creditworthiness of local governments are full or partial guarantees, bond banks, municipal development funds, state revolving funds, and state infrastructure banks.

Exploring Islamic alternatives of financing for local government projects brings about a new constraint, which is Shari'a compliance risk. The proposed models provide broad scanning and they can be adjusted in different ways by taking into consideration concerns of different schools of Islamic thought. This paper proposes five different Islamic financing models which focus mainly on decreasing local government borrowing costs by enabling them to access capital markets either directly or indirectly. Nevertheless, by dint of the originality of the topic, it gives a general idea and tries to pave the way for further studies which will provide new insights into this matter.

The idea of Sukuk-backed financial modeling for local government projects offers some opportunities, like gaining mattress savings from religious people who avoid conventional financial instruments as most of them are not Shari'a compliant from their point of view. As a result of expanding Sukuk markets, financial inclusion and capital deepening can be achieved. Local governments would be more comfortable and more confident whenever they need to start a new project with less concern about financial issues.

Finally, we principally suggest the first model for Turkiye because of the ongoing practice of lease certificates, namely Ijarah Sukuk. All proposed models are almost compliant with Turkish legislation, however, legal adjustments could be needed regarding the borrowing limits of local governments. Implementation procedures of the proposed models could require adaptation of the legal framework, which needs monitoring of the transition process.

References

Abdullah, A.A., Yazid A.S., Abdullah, A. & Kamarudin M.S. (2014). Risk in funding infrastructure projects through sukuk or Islamic bonds. *International Review of Management and Business Research, 3*(2), 915-928.

Akdis, M. (1998). Belediyelerin finansman konusundaki çagdaş yaklaşımlar ve Azerbaycan. *Cagdas Yerel Yonetimler*, *7*(2).

Anderson L.M. (2015). *What the world needs now… is local infrastructure investments-Challenges and solutions with a focus on finance*. Erişim tarihi: 1.10.2022, https://www.maproductions.se/wp-content/2015/03/What-the-World-Needs-Now%E2%80%A6-is-Local-Infrastructure-Investments-Challenges-and-Solutions-with-a-Focus-on-Finance.pdf

Attinasi, M.G. & Brugnoli, A. (2001). *Financial instruments for urban development support: the role of the world bank in Latin American countries.* Milan: EGEA.

Ayub M. (2007). *Understanding Islamic finance*. John Wiley & Sons Ltd.

Chakrabarti M. (2014). Municipal bond market in India. *Indian Journal of Applied Research*, *4*(3).

Erol, T. (2006). *Kamu altyapi yatirimlarinin sermaye piyasalari araciliğiyla finansmani*. Erişim Tarihi: 11.7.2022, https://www.spk.gov.tr/Duyuru/Dosya/20061226/0

Fitch Wire (2015). *Infrastructure sukuk challenge significant but achievable*. Erişim Tarihi: 30.6.2022, https://www.fitchratings.com/research/islamic-finance/infrastructure-sukuk-challenge-significant-but-achievable-02-04-2015

Global Infrastructure Hub. (2022). *Global infrastructure outlook: forecasting infrastructure investment needs and gaps*. Erişim Tarihi: 22.6.2022, https://outlook.gihub.org/

Islamic Financial Services Board. (2022). *Islamic Financial Services Industry Stability Report 2022*. Kuala Lumpur, Malaysia.

Kehew, R., Matsukawa, T. & Petersen, J. (2005). *Local financing for sub-sovereign infrastructure in developing countries: case studies of innovative domestic credit enhancement entities and techniques*. Infrastructure, Economics and Finance Department discussion paper no. 1, Washington, D.C.: World Bank Group.

Puentes R. & Thompson J. (2012). *Banking on infrastructure: enhancing state revolving funds for transportation*. Brookings-Rockefeller working paper. Erişim Tarihi: 10.7.2022, https://www.brookings.edu/wp-content/uploads/2016/06/12-state-infrastructure-investment-puentes.pdf

Rhee, G. & Stone, G. (2003). *The Asian bond bank: A good idea to explore for credit enhancements*. Paper presented at the 2nd Annual Conference of PECC Finance Forum, July 2003, Thailand.

Shaikh, S.A. (2015). Financing public infrastructure using sovereign sukuk. *Journal of Islamic Banking and Finance*, *32*(1), 11-22.

TÜİK. (2015). Türkiye İstatistik Kurumu nüfus ve demografi veri portali. Erişim Tarihi, 22.6.2022, data.tuik.gov.tr

United Nations. (2018). *World urbanization prospects: the 2018 revision*. Department of Economic and Social Affairs, Population Division. Erişim Tarihi: 3.8.2022, https://population.un.org/wup/

Vizcaino, B. (2015). *G20 sets sights on sukuk for infrastructure financing*. Erişim Tarihi: 25.8.2022, https://www.reuters.com/article/uk-islam-financing-sukuk-idUKKBN0MD0PX20150317