Structured Islamic Finance Options for the Resources Sector

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Companies in capital-intensive industries have increasingly used project finance to fund large-scale capital expenditures as they become more comfortable with asset structuring. Over the 2001–2010 period, private companies have deployed on average more than $200 billion a year globally in project finance, and Islamic finance makes up around 30% of the project finance market in the Arab Gulf states.

The decision to use project finance involves an explicit choice regarding both organizational form and financial structure. With project finance, sponsoring firms create legally distinct entities to develop, manage, and finance a particular project. These entities borrow on a limited or nonrecourse basis, which places heavier reliance on loan repayments securitized by the project's cash flows rather than on the assets or general credit of the sponsoring organizations. Despite the non-recourse nature of borrowing for capital outlay, projects are generally highly leveraged entities, especially in the resources sector. Debt to total capitalization ratios average 60%–70% (Esty [2005]) but are often as high as 95%.

Traditional sources of debt are not a perfect match for project finance opportunities. Often significant differences arise in the investment horizon, cash flow profile, and appetite for risk given the complex nature of some projects (Davis [2005]). The key question is, if firms use project finance as an alternative to traditional on-balance-sheet corporate finance, is there a natural source of capital whose characteristics match the risk and return profiles of capital-intensive industries? Although recent research has made progress in answering the broader question relating to the use of project financing, little research has been conducted in identifying the ideal investment profile of backers in capital-intensive industries.

The major limitation of project finance options available to companies in resources and extractive industries is the allowable duration for debt financing. Western financial institutions hesitate to engage in limited-recourse borrowing arrangements beyond 7 years, and certainly 10 years is generally the longest horizon for non-government supported capital investments. Projects developed in the resources sector can often take at least 7–10 years just to return positive cash flows, especially ones that require substantial downstream infrastructure development for transporting commodities to buyers. As resource projects become more complex and are conducted in regions subject to higher political and economic risks, the investment horizons are becoming greater, with the subsequent retreat of project funding interest from Western banks. This widening gap appears well suited, however, to the more patient and long-term investment horizons

sought by Islamic funds, despite the stricter conditions under which funding may be provided.

Firms in the resources sector are seeking financing from investors and creditors whose investment horizon constraints are less limited than with traditional commercial bank financing. Some firms in the sector are actively seeking to convert their traditional loan agreements into *Shariáh*-based loans for two reasons. First, the curtailed eagerness of Western banks to fund risky, long-term development has accelerated the search for alternatives. Second, Shariáh investors are seen to be more forgiving to borrowers experiencing troubled times than Western banks. One key idea that is generating this interest is that Islamic funding resembles an investment partnership rather than a formal, legal debtor–creditor agreement (Rehman [2008]), implying that such funding contains greater flexibility and can remain in place over a much longer term. Proponents of Islamic funding claim that links with Shariáh financiers are a lot more secure than relationships with Western banks. For instance, despite Western banks permitting smaller costs on exit than their Shariáh investor counterparts, they still retain great flexibility to abandon the project when trouble looms.

We discuss the use of Islamic funds for project financing activities in capital-intensive industries with particular reference to the resources sector and examine the risk-return profile of Shariáh-compliant investors. Within the constraints of Shariáh law, Islamic funds are suited for project financing opportunities in the resources sector and possess many advantages over traditional sources of financing.

MODERN STRUCTURED FINANCE

Under the trade-off theory of capital structure, a firm should increase leverage to the point where the marginal gain from incremental tax shields equals the marginal loss from incremental distress costs (Harris and Raviv [1991]). The probability that a company will incur significant distress costs depends heavily on its leverage and asset risk. For a given level of asset risk, the probability of distress increases with leverage. Alternatively for a given leverage ratio, the probability of distress increases with asset risk. Shareholders sell the safest cash flows to creditors who agree to forgo the upside potential in return for taking a senior claim on the cash flows. With low-risk assets, shareholders can sell a majority of the expected cash flows to debt holders and in return obtain interest tax shields. The reduction in cash flow volatility allows firms to add leverage and increase value from interest tax shields. In the resources sector, many projects have relatively low asset risk and therefore can accommodate a correspondingly high level of debt (Esty [2005]). This phenomenon has led to a growth in the debt financing of specific assets securitized by expected cash flows and the asset itself and the most popular mechanism used is project financing.

Project finance is now an established vehicle for companies seeking new ways to finance large natural resource discoveries. Project finance is popular in the resources sector because projects can be easily structured as entities legally separated from their sponsors. A great number of resource projects have since been funded using project financing techniques. The major benefits of project financing relate to risks associated with information costs, credit risk, and sovereign risk, which are key considerations for the resources sector.

At its core, project financing is a form of asset-based financial engineering. It offers certain advantages over traditional forms of corporate financing, but its use in the natural resources sector is constrained by two key factors: 1) a general mismatch in the investment horizon between creditor expectations and actual asset returns and 2) a diminished tolerance for lower-than-expected cash flows.

The investment horizon of institutions willing to facilitate project financing has steadily decreased over the 2007–2012 period and will improve only when credit markets loosen. Exhibit 1 illustrates the change

EXHIBIT 1
Project Financing in the Global Energy Sector, 2006–2012

	2006–2007	2008–2009	2011–2012
PF spreads (bps)	110	425	375
BBB bond spread (bps)	85	360	240
PF-BBB spread (bps)	25	65	135
Max tenor (yrs)	12	3	7
Max gearing	65%	55%	60%
MLA Banks	≤3	8	8
Syndication Banks	≤3	6	8
Active Banks	29	11	14

Notes: This exhibit shows the average spread over LIBOR, comparative BBB rated bond spreads, maximum tenor and gearing, and the number of financial institutions engaging in project financing in the energy sector.
Source: AGL Research, Simshauser and Nelson [2012].

in investment appetite over the 2006–2012 period for project financing in the global energy sector. On average, interest rate spreads increased from 110 bps to nearly 400 bps. The spread of BBB rated bonds in the 2011–2012 period is 130 bps lower than project financing facility costs of assets with a similar credit rating, which indicates that the appetite to finance longer-term projects is likely to diminish during periods of relative credit scarcity. In addition, the number of syndicated banks in a typical project has grown from an average of three to an average of eight, the average size of deals has decreased from $938 million to $772 million, and the number of institutions actively engaged in project financing has decreased markedly (see also Simshauser and Nelson [2012]).

Mandated Lead Arranger (MLA) banks referred to in Exhibit 1 are institutions that take the lead in structuring and underwriting the financing of the project, and then typically also arrange the syndication of the loan. Exhibit 2 illustrates the average tenor, average facility spread, and average size of all global project financing deals in the energy sector over the 1981–2007 and 2008–2011 periods. This result highlights the general decline in risk appetite for project financing as an investment class evidenced by a decline in the average facility size and an increase in credit spreads.

Short-term variations in cash flows also create concerns for project financiers. The potential for low or negative cash flows, even over short periods, is monitored carefully by project financiers who have historically not been shy to invoke default actions upon a project experiencing minor difficulties. Financing is not viewed as a form of partnership between lender(s) and borrower but is seen in the more traditional sense of debtor and creditor, and legally the differences are trivial. An avenue is therefore available for new sources of funding that employ an alternate investment model and permit other forms of profit and risk sharing, particularly for projects with long investment horizons.

ISLAMIC FINANCING OPPORTUNITIES

Shariáh offers unique challenges in banking and finance practices. Islamic economic systems seek to balance economic growth with economic justice, promote prosperity and job creation, and lead to the further adoption of Islamic economic and financial practices (Rehman [2008]). A distinctive feature of Islamic finance is that it is asset based while conventional financiers are monetary based. "Money" in an Islamic economy has no intrinsic value; rather its principle purpose is as a medium of exchange. This attracts greater emphasis in Islamic systems than it does in the West. Financing under Islamic principles is typically based on the exchange of nonliquid assets with the principle aim being to create real assets and inventories. The basic innovations in Islamic project financing in the past decade include the use of *istisna* (a commission to manufacture contract), *mur baha* (a cost-plus sale), *ijara* (a financial lease), and *sukuk* (an Islamic bond).

Understanding Islamic Contractual Prohibitions

Mushāraka (partnership finance) and *mudāraba* (venture capital finance) are the real and ideal types of Islamic financing, respectively. Financing on the basis of mushāraka creates real assets because the financier earns a profit through the manufacture (istisna) or receipt and sale (*salam*) of real goods. Mudāraba as well as financial leases are not original modes of financing, so they are reshaped in a manner that they can be used as modes of financing, subject to certain conditions. Hence, they are "ideal." Both mushāraka and mudāraba imply partnerships and the sharing of profits. In practice, however, most Islamic banks apply murābaha, a mark-up method of financing trade, which involves relatively little risk for a bank. A murābaha contract occurs when a financial institution purchases an asset, takes title to it, and

EXHIBIT 2
Global Project Financing Deals in the Energy Sector, 1981–2007 and 2008–2011

	Number of Deals	Average Facility Spread (bps)	Average Facility Size (USD)	Global Syndicated Debt (USD)
1981–2007	2,028	143	938.0	1,902,198
2008–2011	1,112	236	772.3	858,800
Total	3,140	176	879.3	2,760,997

Notes: This exhibit gives the number, average facility spread, and average size of global project financing deals in the energy sector.

Source: AGL Research, Simshauser and Nelson [2012].

then resells it to the customer at a certain profit added to the cost. Although there is confusion concerning the acceptability of murābaha, it has been suggested that it is a sale contract rather than a loan, and the transaction being financed must involve a real "commodity" (Usmani [2002]). The financier must therefore own the "commodity," and it is this legal responsibility that justifies the financier's mark-up.

Where direct purchase by the financier for resale may not be feasible, under Shariáh it is permissible for the bank to appoint the client as its agent to purchase the commodity. In this case, it is still the bank that assumes responsibility for any risks involving the commodity. A number of Islamic jurisdictions state that murābaha debt cannot be securitized, thus making sukuk backed by pools of murābaha debt impermissible. The sale of a document representing money is judged to be the same as trading money and thus violates the principle of *riba*. However, the prevailing view among less conservative jurisdictions is that so long as the underlying receivable is connected to a true trade transaction or to a commercial transfer of a non-monetary interest, such a receivable can be traded freely without violating compliance with Shariáh (Abdel-Khaleq and Richardson [2007]).

There has been some discussion in the literature of the rights and liabilities of those participating in mushā raka and mudāraba financing contracts (McMillen [2001], Usmani [2002], and Mahlknecht [2009]). All partners have the right to take part in the management of a mushāraka company, but their remuneration as agents working for the joint venture is distinct from their returns as investors. Unless stipulated in the initial agreement, any partner has the right to terminate a mushāraka agreement at any time, although a period of notice must be given to the other partners. To prevent a partner withdrawing from a mushāraka in its infancy, which may damage the longer-term financial interests of the other partners, it is permissible to establish an initial agreement that allows a partner to sell his shareholding to the other partners without the mushāraka lapsing (Rehman [2008]). This is an important consideration for syndicated offerings.

Sukuk offerings are perhaps the most malleable of the Islamic financing structures. A sukuk offering is an asset-backed instrument that represents a beneficial ownership interest in an underlying asset. A sukuk is a certificate that appears like a traditional bond or asset-backed security but is, in fact, technically neither debt nor equity. Sukuk are normally combined with other forms of Islamic finance (many are mushāraka based), and they are best viewed as a means to raise funds from a wider spectrum of investors rather than as an entirely separate category of Islamic banking (Richardson [2006]). Any project structure that generates or contributes to the generation of a revenue stream is subject to securitization for the purposes of a sukuk offering. A true asset-backed sukuk is functionally a portion of the title in the assets under it, and as such, it enables a form of partial retention of title for the Islamic financiers.

Islamic financiers however must be careful to avoid adopting a restricted view of understanding Shariáh by focusing only on the legal forms of structured finance contracts rather than on the underlying substance of the agreement. An emphasis of form over substance can lead to the abuse of Shariáh principles in justifying certain contracts, which in fact are contradictory to the Shariáh text and may undermine the higher objectives of Shariáh (Dusuki [2010]). This poses significant operational risks to both the investor and financier if Islamic regulators declare a violation of Shariáh law at any stage of a project's life and contracts therefore have to be unwound. It is important to note that Islamic finance is not simply an exercise in semantics to invoke euphemisms to disguise interest and circumvent the many Shariáh prohibitions.

Retention of Title

A key consideration for structuring Shariáh-compliant project financing is to ensure that the Islamic financier retains title in the operating assets of the project aligned with the practice of murābaha. This stems from the Shariáh requirement that the financier share in the profits and losses of the transaction (Holden [2007]). Structuring projects to accommodate this requirement paves the way for Western financial institutions to cooperate in project financing with Islamic institutions, and overcomes many Shariáh prohibitions. Title retention for the Islamic participants not only facilitates the participation of external interests in projects but also allows for the participation of Shariáh-compliant financing in almost all regions and investment sectors.

Western lending practices do not call for retention of title of the assets and generally evaluate projected cash flows from the project to determine the likelihood of repayment. Instead of retaining title, Western lenders

will take a security interest in the project assets to mitigate the risk of default. In project finance, a security interest is a right of a lender to possess and/or sell the project assets in order to satisfy debts to the lender in the event of default. Although security interest in the project assets will not completely cover the loan, the nature of the security does provide some protection in the event of default. If the project defaults, the Western lenders' security interest provides them with a claim to the assets that takes precedence over other unsecured claims.

If the project defaults, the Islamic lender will already possess title to the project assets that the Islamic funds helped purchase. The Islamic lenders can therefore dispose of the assets to satisfy the outstanding debt obligations. A *rahn-adl* arrangement can satisfy the dual purpose of allowing for the retention of title in the project assets with Islamic lenders while also enabling Western lenders to have a security interest in the financed assets. From the lender's perspective, a Western security interest and Islamic title retention can function similarly if the project defaults (Richardson [2006]). It is seldom the case, however, that only a single lender issues a single tranche of debt and, as projects grow in size and complexity, the distinction between title and securitization can be a complication, although recent experience has shown that this complication does not provide insurmountable obstacles (Rehman [2008]).

RESOURCE SECTOR FUNDING USING ISLAMIC FINANCE

Limited-Recourse Lending and Shariáh

Shariáh-compliant project financing is available in Western nations via a mechanism that retains title in the project's assets by the Islamic lenders. Sukuk offerings are popular in the Middle East. Most offerings are asset based, meaning that investors structure the purchase from the originator to buy back the assets on either a scheduled or early redemption. In contrast, the less-common asset-backed securities issued by Islamic finance institutions rely on a securitization that involves asset transfers from an originator into a trust or similar special-purpose vehicle (SPV) with sukuk issuance by that SPV and payments on the sukuk derived from the payments received in respect of those transferred assets. Asset-backed sukuk holders hold fractional undivided ownership interest in an asset or pool of assets and are thus a form of partial title in the underlying asset. Asset-based sukuk necessarily depend on the credit of the issuer. Historically, asset securitization has been rare due to the inability to obtain credit ratings, although some sovereign issues have been proxy rated to match the rating of sovereign credit (McMillen [2001]).

Mineral Rights

Of great interest to Shariáh—compliant financing is the possibility of joint ownership of mineral rights, the ability to transfer a mineral estate without transferring property, and the ability to separate operating interest from a passive interest that receives only income from production. The ability to carve out well-defined interests with clearly established attendant rights under law fits appropriately with the Shariáh emphasis on ensuring clarity in the description of the subject matter in the investment agreements.

In many developed countries such as the U.S., Canada and Australia, mineral estates (ownership of minerals or oil/gas in the ground) and interests derived from them (royalties) are legally defined as a form of real property. As real property with well-defined rights in law, ownership in mineral projects can be easily transferred, in whole or in part, in a variety of ways. Both privately owned and government-administered mineral leases can be severed, subleased, assigned, or encumbered without necessarily altering their characterization as real property. Mineral rights laws further allow for the transfer of certain kinds of partial ownership rights so that one party may control the working interest and operate the leasehold while other parties may hold passive royalty interests (investors who neither participate in operations nor bear any costs of development). Thus, ownership can be tailored to the needs of project investors by allowing for the creation of indirect beneficial ownership interests that can be held by Islamic investors, which is critical for Shariáh compliance. Interests in mineral leaseholds may also enjoy certain protections in bankruptcy, which can improve the securitization process (Richardson [2006]). Importantly, mineral assets can be mortgaged and investors can hold security interests, which permits the maintenance of collateral in the event of a breach of contract by the borrower. Therefore in terms of legal structure, Islamic finance and the laws governing minerals and oil/gas in many developed countries can offer ideal partnership opportunities.

Exhibit 3 illustrates a Shariáh-compliant project financing structure for a hypothetical mineral extraction project. Each component of the project must be Shariáh-compliant including the sources of funding (sukuk, mudāraba, and murābaha), commodity off-take (Shariáh-compliant formal undertaking), construction contracts (*istisna'a*) and leases (ijara). Projects of this kind can not only include mines themselves but also can be limited to processing plants, rail and port facilities, storage yards, and enabling assets (mining camps, pipelines, and so on).

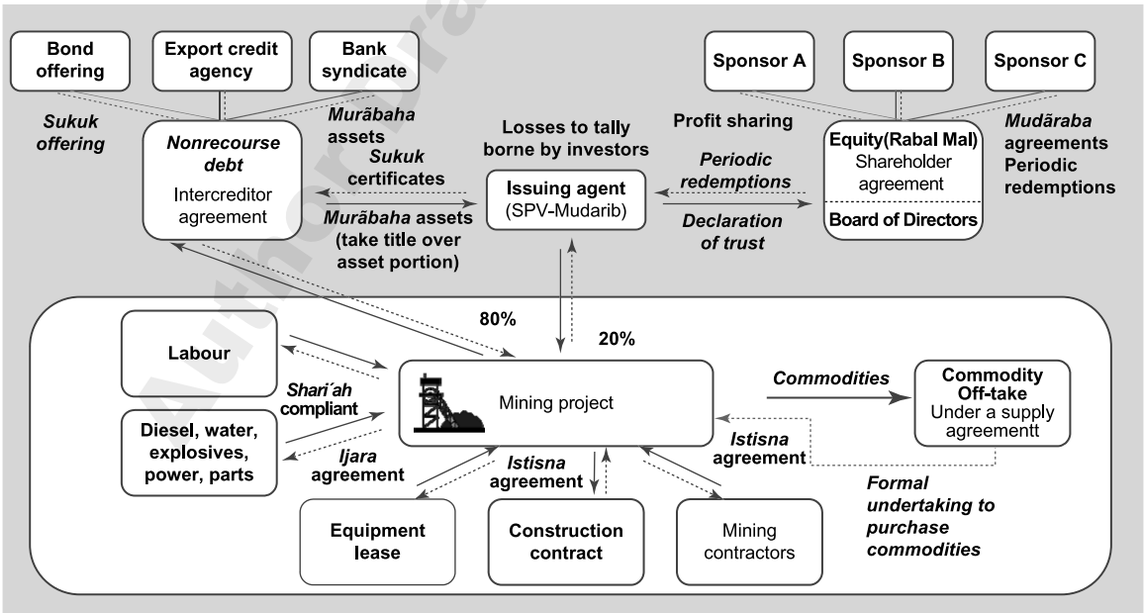
An ijara agreement is an Islamic finance lease (or sale-leaseback) used to purchase property, plant, or machinery (Tacy [2006]). The lessor leases the assets for a set term at an established rental price, and at lease termination, the assets can either revert back to the lessor or be acquired by the lessee. Unlike traditional leases, there can be no predetermined sales price for the asset at the end of the term, and the lessee cannot be required to purchase the asset at the end of the term. Also, the financier is generally responsible for maintaining insurance. Therefore, ijara are more akin to operating leases rather than capital leases. In the context of the resources sector, an ijara is an ideal mechanism for leveraged lease financing of capital equipment, including processing plants, trucks, deepwater platforms, and drill ships. Critically, however, in the context of a sukuk offering, the value of such equipment should not represent a material percentage of the total financing amount (Vishwanath and Azmi [2009]). Ijara agreements are not prevalent in the resources sector; however, they are a legally robust substitute for conventional leverage lease or sale-leaseback structures within Shariáh-compliant financing. In contrast istisna'a is a vehicle for the financing of large infrastructure projects and is currently the most widely used Shariáh-compliant funding of long-term project financings. With istisna'a agreements, assets are constructed for the project. Such assets can include processing plants, rail and port facilities, refineries, and petrochemical plants.

Investment Profiles

Anecdotal observations indicate that Western financial institutions tend to avoid commitment to investment tenors greater than around seven years (Gilson, John, and Lang [1990] and Esty and Megginson [2003]). This has resulted in the adoption of alternative project finance structures over the past decade. The generally high cost of resource projects as well as other inefficiencies in

EXHIBIT 3

Project Finance Structure for a Resource Project Using Shariáh-Compliant Financing



the business cycle over the 2000–2012 period has also resulted in a shortening of the maturity of liabilities manifest in the shortening of debt maturities. Frictions arising from asymmetric information are more severe with longer horizons than with shorter horizons, and thus, beyond a certain maturity, adverse selection is too severe for financing to be sustained. Specifically, there is asymmetric information about the riskiness and default probabilities of firms.

To analyze the differences between sources of funding for the resources sector, we examine a sample of data that compares loan statistics among categories. The non-Islamic data for the 1980–1999 period used in this analysis are from the Loanware database provided by Capital Data. This database contains detailed historical information on a great number of syndicated loans and related banking instruments booked on international capital markets. From 1999 to 2010, the data were sourced from the Thomson Reuters financial database. In each case, we only extracted data related to the global mining and natural resources sector. Using a sample of over 10,000 syndicated loans with a notional value of around $3 trillion, we compared the financial characteristics and geographic and industrial distributions of project financed loans with various non-project finance subsamples and syndicated loans. Islamic fund data were obtained from the Liquidity Management Centre (LMC) Bahrain database over the 1980–2010 period.

Exhibit 4 illustrates the main characteristics of each loan type used by firms in the global resources sector. It presents several loan structure variables as well as the use for which a loan is arranged. Although most are self-explanatory, we define a loan as having currency risk if the denomination of the loan (and its currency of repayment) differs from the currency of the borrower's home country. The data results over the 1980–2000 period are largely similar to the mining and natural resources data observed in Kleimeier and Megginson [2000], which we have used to cross-reference our results. The third column provides the main characteristics of all known sukuk offerings over the 1980–2010 period from the LMC database.

Based on *t*-tests comparing the values of each variable in the project financing sample with the corresponding values in the all syndicated loan sample and in the other loan purpose subsamples, we found that almost all differences between the project financing sample values and the corresponding values for other loan categories, in particular with sukuk offerings, are statistically significant.

Average spreads are lower for project finance loans (132 bps) than they are for the full sample of all syndi-

EXHIBIT 4

Characteristics of Project Finance vs. Other Syndicated Loan Samples

	Syndicated Loans	Project Finance Loans	Sukuk Issues	Corporate Treasury Loans	General Corporate Loans	Capital Structure Loans
Total loans[a]	1,356	311	291	227	466	288
Total volume (USD billions)[a]	197,211	29,230	17,996	40,258	47,995	68,529
Average loan size (USD millions)	128*	92	298*	177*	85*	181*
Median loan size (USD millions)[a]	70	81	200	85	50	100
Average tranches	1.7*	2.4	2.5*	2.5*	1.4	1.7
Average spread (over LIBOR, bps)	141*	132	137*	185*	115*	139*
Average maturity (years)	4.2*	9.6	7.4*	5.1*	4.0	4.2*
Average number of syndicate banks	7.3*	4.1	4.2*	2.7*	3.8*	6.6
Average initial fee (bps)	41*	44	84*	39.5*	36*	33.7*
Maximum participation fee (bps)	35.3*	57.3	30*	56.1*	32.7*	34.1*
Currency exposed loans (%)[a]	36.7	72.9	77.9	11.5	45.0	22.2
Loans with covenants (%)[a]	37.2	5.8	7.2	46.6	21.3	46.4
Loans with guarantees (%)[a]	16.7	45.6	5.5	8.8	14.3	14.1

[a] *indicates that the t-test has not been applied to these variables.*

** indicates that based on a two-sample t-test assuming unequal variances, the difference between the value for this facility and the value for project financing is significant at the 5% level. All other values are not statistically significant at 5%.*

cated loans (141 bps), treasury loans (185 bps), and capital structure facilities (139 bps). It is generally assumed that the spread for project finance facilities exceeds non-project finance loans due to the nature of limited-recourse lending as well as the higher perceived risk levels of most projects. The average maturity of project finance facilities (9.6 years) is well in excess of full sample of syndicated loans (4.2 years) and other facility types (between 4 and 5.1 years). The average spread for sukuk offerings observed over the period was 137 bps with an average maturity of 7.4 years, which is similar to project finance facility spreads and tenors. This implies that sukuk buyers are already relatively comfortable with these risk levels for assets with longer maturities.

The level of fees and the number of participating institutions indirectly indicates that the provision of project finance facilities demands greater compensation than other loan types. The total average level for commitment and participation fees for project finance facilities (101.3 bps) are significantly higher than the levels for the full sample of syndicated loans (76.3 bps) and for the other facility types, with an exception for general corporate loans, which have a slightly higher total average fee. The total fees are, however, largely similar to the total average level for commitment and participation fees for sukuk offerings (114 bps), indicating a relative alignment in complexity of both project finance and sukuk facilities. Additionally, the average number of banks participating in project finance facilities in the resources sector (4.1 banks) is different from the average for all loans in the resources sector (7.3 banks) and other loan types. These findings suggest that institutions are compensated by relatively high up-front fees to motivate participation in project finance lending as well as being generally less inclined to maintain large stakes in project finance facilities compared with other forms of credit.

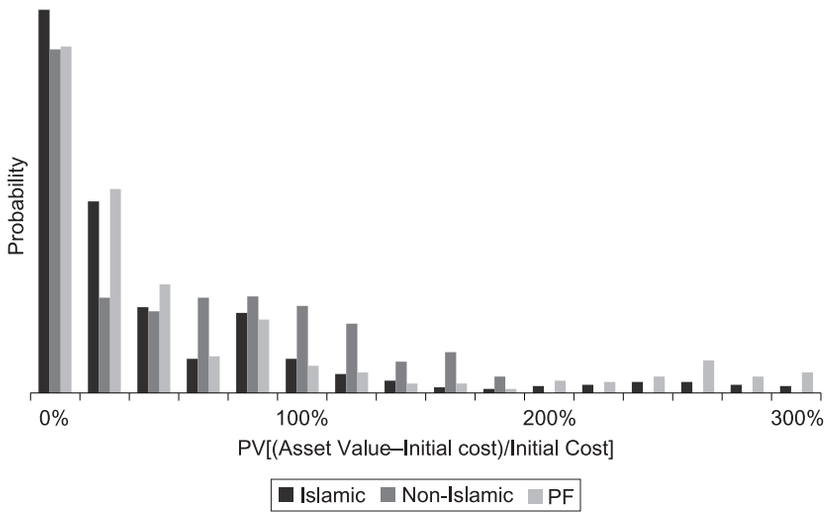
These results also suggest that in terms of facility tenor, spread over LIBOR, structuring cost, the number of tranches, and the number of syndication parties, the sukuk offerings are very similar to project financing deals observed, while other traditional loan facilities exhibit a significantly different facility size and tenor and number of average syndication parties. The key characteristics of spread and maturity, however, show that project finance facilities in the resources sector are largely aligned with the risk and loan maturity levels observed for Islamic fund investors.

Exhibit 5 outlines the distribution of asset returns from explicit Islamic and non-Islamic project financing deals measured against project-financed investments in the resources sector over the 2000–2012 period using the same datasets as earlier. Asset returns are given as the present value of the current estimated asset value relative to the initial investment cost. The distribution of Islamic project finance investments closely replicates the distribution of project finance facilities in the resources sector, particularly at the upper and lower extremes, which indicates a greater tolerance of Islamic investors to the risks and returns in natural resources project finance activities. Non-Islamic investments have a distribution of returns that is highly dense around the 50%–150% level, which suggests a broad level of risk aversion by non-Islamic project financiers who look to invest in projects that, on average, at least break even.

Importantly, however, non-Islamic investments also experience significantly lower returns than Islamic project-finance investments below the 50% level. Discounting those projects that fail and earn zero return, Islamic investors experience a much broader spread of returns, which is more naturally aligned with the dis-

EXHIBIT 5

Distribution of Asset Returns from Islamic and Non-Islamic Project Financing Measured against Project-Financed Investments in the Resources Sector, 2000-2012



tribution of returns in resource sector project-financed investments.

The similarities in investment risk and return profiles, funding costs, and facility tenor suggest that Islamic investors are very well suited to project financing in the global resources sector. Although Islamic funds currently invest heavily in this sector in the Middle East, there appears to be significant historical alignment between Islamic investors and resource companies seeking funding through project finance structures.

Project Profiles

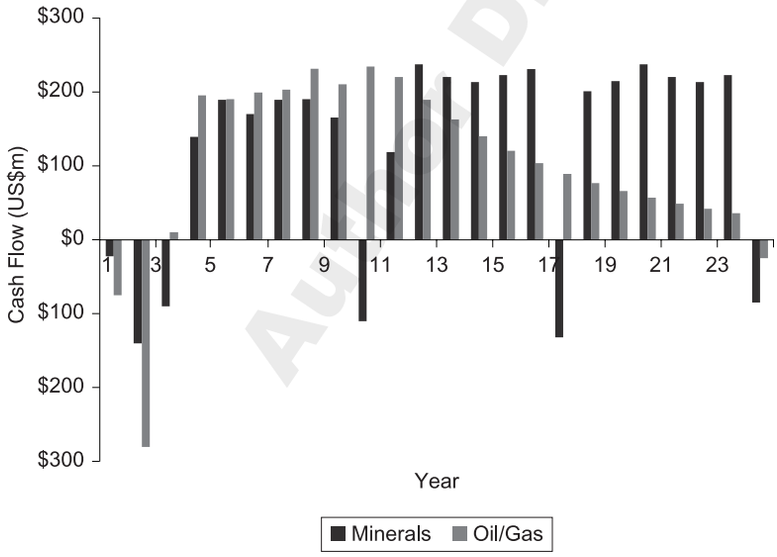
Historically, resource sector project financing using Islamic structures has been concentrated in oil and gas ventures. However the risk–return profiles in the oil and gas sector are marginally different from those in the traditional mining and minerals sector. Exhibit 6 illustrates the typical cash flow profiles of both oil and gas projects and mining projects, each with an expected life of 24 years. The net present value (NPV) for each of these profiles is equivalent at a cost of capital 12%, while the modified internal rate of return (MIRR) differs by around 5%. Much of the capital expenditure in the oil and gas sector is upfront with stable and then declining revenue from production over the life of the project. The mining and minerals sector, however, requires substantial upfront investment followed by generally stable revenue interspersed between periods of significant additional capital expenditure. Rehabilitation costs at the end of the project life can also be significant. This type of profile, which requires debt refinancing through project life, usually concerns some Western financiers who are unfamiliar with mining cost profiles. Based this analysis of the investment profile, financing cost, and maturity preference of Islamic investors, however, mining and resources companies with Shariáh-compliant funding may be better matched to Islamic investors than to Western financial institutions.

Not all project financing deals involve high-risk assets. Some firms have used project finance for activities that have a low cost of financial distress. Many resource projects contain economically independent but tangible assets that do not lose much value during default or after restructuring. Because the assets have few alternative uses, an efficient restructuring is generally more likely than an inefficient liquidation (Esty [2002]). The recognition that projects maintain a similar value to those of going concerns encourages both subordinate and senior claimants to prefer rapid restructurings to alternative uncertain outcomes. This phenomenon clearly benefits Islamic financiers.

One key drawback of Islamic financing is the lack of a forum for reaching consensus on issues relating to Shariáh compliance through a regulatory body. The Islamic Financial Services Board publishes various technical standards for financial institutions, while other institutions including the International Islamic Financial Market, the Liquidity Management Centre, and the International Islamic Rating Agency lend some support to standardizing Islamic financing principles. However, the regulatory frameworks do not explicitly create a universal set of rules. The lack of regulation could make Islamic finance more country specific or even Shariáh-board specific, which would limit potential sources of capital. A more uniform approach to regulation by a sanctioned Shariáh compliance body could potentially address this deficiency and permit Islamic and even conventional financial institutions to offer compliant Shariáh financing.

EXHIBIT 6

Cash Flow Distributions for a Mining and an Oil/Gas Project for a Resource with a 24-Year Life



CONCLUDING REMARKS

Islamic finance is better suited to certain type of projects than others. Islamic finance lends itself well to projects that incorporate a discrete set of assets that can be owned by the Islamic financiers without too much potential intrusion on the enjoyment of such rights by conventional banks under inter-creditor arrangements; see, for instance, Jobst [2007]. Furthermore, the assets owned by the Islamic financiers must be separable and have economic value as standalone assets. Islamic funding principles offer a natural fit with the desirable features of project finance opportunities, particularly in the global resources sector. This is a source of untapped potential.

The key to Shariáh compliance is to facilitate the retention of title in the project's assets by Islamic lenders. Once the lender has title to these assets, they are subject to the risks of the project and any return on the investment will be in the form of rents on the assets, as opposed to riba. Shariáh-compliant financing is well suited for project finance due to the nature of the projects typically undertaken in project finance transactions. Such projects tend to be large industrial or infrastructure projects whose cash flows can be projected to some extent, which avoids the prohibition on *gharar.* So long as the project does not facilitate activity that is *haram* the project is generally Shariáh-compliant.

For Islamic investors, project finance in the resources sector offers an avenue not only for investment but also for infrastructure development and economic diversification. As competition for access to Islamic funds increases, those project finance investors with the greatest understanding and willingness to work with Shariáh-compliant finance practices can gain an advantage in accessing an important alternative source of capital.

REFERENCES

Abdel-Khaleq, A.H., and C.F. Richardson. "New Horizons for Islamic Securities: Emerging Trends in Sukuk Offerings." *Chicago Journal of International Law*, Vol. 7, No. 2 (2007), pp. 409-425.

Davis, H.A. "The Definition of Structured Finance: Results from a Survey." *The Journal of Structured Finance*, Vol. 11, No. 3 (2005), pp. 5-10.

Dusuki, A.W. "Do Equity-Based Sukuk Structures in Islamic Capital Markets Manifest the Objectives of Shariah?" *Journal of Financial Services Marketing*, Vol. 15, No. 3 (2010), pp. 203-214.

Esty, B.C. "Returns on Project-Financed Investments: Evolution and Managerial Implications." *Journal of Applied Corporate Finance*, Vol. 15, No. 1 (2002), pp. 71-86.

Esty, B.C., and W.L. Megginson. "Creditor Rights, Enforcement and Debt Ownership Structure: Evidence from the Global Syndicated Loan Market." *Journal of Financial and Quantitative Analysis*, Vol. 38, No. 1 (2003), pp. 37-59.

Gilson, S.C., K. John, and L.H.P. Lang. "Troubled Debt Restructurings: An Empirical Study of Private Reorganization of Firms in Default." *Journal of Financial Economics*, 27 (1990), pp. 315-353.

Harris, M., and A. Raviv. "The Theory of Optimal Capital Structure." *Journal of Finance*, 48 (1991), pp. 297-365.

Holden, K. "Note, Islamic Finance: Legal Hypocrisy Moot Point, Problematic Future Bigger Concern." *Boston University International Law Journal*, 25 (2007), pp. 341-367.

Jobst, A.A. "The Economics of Islamic Finance and Securitization." *The Journal of Structured Finance*, Vol. 13, No. 1 (2007), pp. 6-27.

Kleimeier, S., and W.L. Megginson. "Are Project Finance Loans Different from Other Syndicated Credits?" *Journal of Applied Corporate Finance*, Vol. 13, No. 1 (2000), pp. 75-87.

Mahlknecht, M. *Islamic Capital Markets and Risk Management*. London: Risk Books, 2009.

McMillen, M.J.T. "Islamic Shariáh-Compliant Project Finance: Collateral Security and Finance Structure Case Studies." *Fordham International Law Journal*, 24 (2001), pp. 1184-1186.

Merton, R.C. "A Simple Model of Capital Market Equilibrium with Incomplete Information." *Journal of Finance*, 42 (1987), pp. 483-510.

Rehman, S.S. "Globalization of Islamic Finance Law." *Wisconsin International Law Journal*, Vol. 25, No. 4 (2008), p. 625.

Richardson, C.F. "Islamic Finance Opportunities in the Oil and Gas Sector: An Introduction to an Emerging Field." *Texas International Law Journal*, Vol. 42, No. 1 (2006), pp. 119-153.

Simshauser, P., and T. Nelson. "The Second-Round Effects of Carbon Taxes on Power Project Finance." *Journal of Financial Economic Policy*, Vol. 4, No. 2 (2012), pp. 104-127.

Tacy, K.J. "Islamic Finance: A Growing Institution in the United States." *NC Banking Institute*, 10 (2006), pp. 355-378.

Usmani, M.T. *An Introduction to Islamic Finance*. The Hague, Netherlands: Kluwer Law International, 2002.

Vishwanath, S.R., and S. Azmi. "An Overview of Islamic Sukuk Bonds." *The Journal of Structured Finance*, Vol. 14, No. 4 (2009), pp. 58-67.