The Risk Sharing Philosophy of Islamic Finance

Obiyathulla Ismath Bacha *and* Daud Vicary Abdullah

1. The Risk Sharing Philosophy of Islamic Finance.

Economists typically divide the overall macro economy into two sectors, the real sector and financial sector. The real sector represents the productive capacity of the economy and produces the goods and services that accounts for a nation's GDP (Gross Domestic Product). The financial sector on the other hand serves to provide the financing needed by the real sector to produce the goods and services. Islamic economics requires that all financial returns be anchored in real sector returns. For an economy to function optimally, both the real and financial sectors need to function optimally. Uneven development or neglect of either sector could cause imbalances in a nation's growth trajectory. Yet, as any observer would notice, there appears to be a serious disconnect between the two. First, average returns in the real sector have always been in the double digits, even at troughs, but financial sector returns do not reflect that. Average returns in the financial sector have been in the low single digits and gotten lower over the last several years. Second, the real sector, with science and technology enhancing productivity and growth, is relatively stable and does not go through fits of upheaval seen in the financial sector. While the innovation in the real sector has made it more stable, innovations in the financial sector appear, if anything, to have enhanced its volatility. Over the last four decades, the world has witnessed a recurring series of global financial crises, all emanating from imbalances in the financial sector. The following is a list. i) The Japanese asset price bubble and its bursting (1986 onwards), (ii) Black Monday- DJIA crashes by a about 20% (1987), (iii) The Savings & Loan crisis (late 1980's – 1990's), (iv) The Mexican peso crisis (1994), (v) The East Asian Financial crisis (1997), (vi) The Russian ruble crisis and debt moratorium (1998) leading on to the collapse of Long Term Capital Management (1998), (vii) the Dot com bubble and burst (2002) causing a 75% fall in Nasdaq. (viii) The US Sub-prime mortgage crisis (2007/2008) resulting in the global recession (2008 to present). In all these cases, a financial sector fallout goes on to affect the real sector. It is seldom the other way round. What is it about the financial sector that makes it so vulnerable?

In a now famous study, Rogoff and Reinhart (2010) show that every single financial crisis in the last hundred years has been caused by excessive debt. Debt, according to their study, appears to be at the root of every financial/banking crises. That, governments of not just poor countries but the biggest and mightiest economic super powers have been brought to their knees, shows how risky an overreliance on debt can be. The huge social costs and negative externalities of debt induced crises is now abundantly clear. Notwithstanding the huge costs that societies have had to pay for their excesses with debt, the global addiction to debt appears unabated. In a recent paper, Adair Turner and Susan Lund argue that since the 2008 crisis, global debt has grown by $57 trillion, a growth rate exceeding GDP growth. Government

debt alone has increased by $25 trillion with most of it in developed countries. The debt to GDP ratio is higher today than it was on the eve of the crisis in 2007. Worryingly, even in the developing world the buildup in debt is at record levels. This is clearly untenable. In the absence of flexibility on the fiscal side, governments have had to rely on unprecedented monetary easing to avoid a downward tailspin. While we may have avoided the abyss, we have little to show in terms of growth. Slow growth and minimal returns, we are told, may be the new normal.

2. Why the preference for debt?

Funding is typically undertaken through debt or equity. Governments do not and cannot use the equity option as they cannot sell ownership as private firms can. Private entities on the other hand have a choice of using either debt or equity to fund their investments. Yet, the global debt problem is not just a public sector problem. The private sector too is heavily indebted, often even more so than governments. There are two reasons why debt is preferred over equity, cost and dilution.

The biggest advantage of debt is that it leads to no dilution in ownership and therefore of future earnings. Firms with concentrated ownership, such as family owned firms, tend to have higher financial leverage for precisely this reason. Equity being perpetual, leads to dilution in ownership that is also perpetual. By contrast, debt is terminal. The second advantage of debt over equity is its lower cost. It is cheaper mainly because debtholders do not take on the underlying business risk. All business risk is shifted on to the equity holders. Thus, the initial lower cost of debt may not really be an advantage. However, what gives debt its cost advantage is the tax system, which by providing a tax shelter makes the post-tax cost much cheaper. A carryover of history, the tax code of most countries provides a tax shelter to interest expense but not to other expenses or for dividends paid for equity. This gives rise to tax arbitrage, which is the taking on of debt merely to take advantage of the tax shelter. While such use of debt can reduce the overall cost of capital and make a project with a given future cash flow, more valuable, what is often ignored is the increase in risk. A debt financed project is riskier post financing as equity holders who are the owners now face both the project's risk and the financial risk arising from the leverage. From an overall firm viewpoint, the leveraged firm is always riskier than its unleveraged counterpart in the same line of business.

From a financier's viewpoint, there may also be a preference to provide funding under debt rather than equity. This has to do with the several potential benefits that could accrue. First, he does not have to worry about adverse selection or information asymmetries. Second, he does not have to share in the risk of the underlying business. He is 'assured' of a fixed return regardless of the asset's performance. Third, though he does not take any of the business risk, he still has a claim on the assets, should anything go wrong. Finally, unlike equity which is residual in claim and perpetual in time, debt is fixed in claim and time.

With economies full of implicit and explicit guarantees and the incentives for debt from both the demand and supply side, there is an obvious tendency for a build-up of debt. This can veer the economy towards excessive leverage and serious imbalances. Rational economic agents driven by their own profit maximization goals, behave in ways that may be rational individually but lead to irrational outcomes collectively. Rational behaviour leading to an irrational collective outcome is the key lesson that has come out of recent financial crises, in particular the US subprime led crisis of 2007-8. The other lesson being that excessive leveraging indeed has a huge social cost.

3. Can we have growth without debt?

The world now appears to have worked itself into a corner. Further funding with debt does not seem possible, yet the world needs growth to fund development and feed a growing population. Ironically, the compounding nature of interest based debt, requires growth merely to service the debt. As a result, indebted countries come under intense pressure to fully exploit their resources often with ruinous results on their environment.

What the world needs is growth without leverage (debt). For this, we may need new thinking, outside the realm of conventional economics. And this may be where, the risk sharing contracts of Islamic finance can help. Islamic finance which is based on the shariah, abhors interest based debt financing. Thus, the only "debt" in Islamic finance is *Qard ul ehsan,* a charitable loan with no compulsion on repayment. While Islamic finance does allow for trade financing, *Murabaha,* which allows for a profit markup for latter payments relative to immediate payments, there is no room for interest based financial loans. What the shariah requires is for funding to be based on risk sharing. That is for the financier to partner the businessman and provide funding that shares in the profits and losses of the business. Accordingly, Islamic finance provides for risk sharing contracts that can be the basis of such financing. Two such contracts are *mudarabah* and *musharakah*. Between the two, Mudarabah would be more suited for banking as musharakah requires both parties to jointly invest and work/operate the business. In a Mudarabah, the financier provides funding in return for a share of the profit determined according to an agreed profit-sharing ratio (PSR). A typical PSR is 70/30 or 80/20, with the larger portion going to the businessman and smaller portion to the financier. The PSR would of course vary according to the riskiness of the project/business being funded. Thus, 60/40 or 50/50 PSRs or even higher are possible. The shariah requires that these PSR and associated conditions be transparent, fully disclosed, understood by both parties and honored.

The risk sharing feature is that, like equity dividends there is sharing and payments to the financier occur only if there is a profit. This is unlike debt where interest and principal repayments are compulsory regardless of business performance. The absence of such fixed obligation avoids the leverage and the increased riskiness that comes with debt financing.

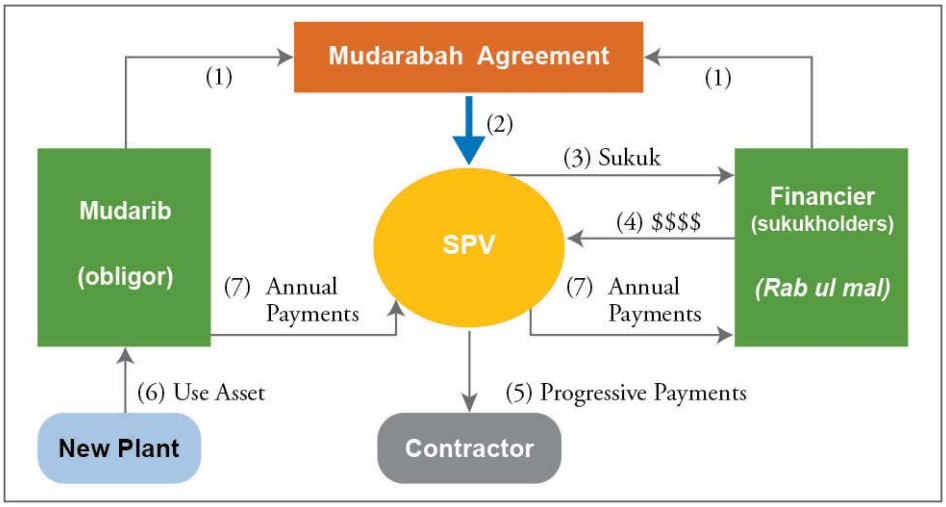
4. Mudarabah Financing for Corporations and Government.

To see how Mudarabah could be used by a corporation, we work through a simple example. Assume that a listed IPP (Independent Power Producer) wants to undertake the construction and operation of a new power generation plant in a rapidly industrializing part of country. The total investment needed for the project is RM850 mil. Of these, the company has internal funds to provide RM250 million. The remainder RM600 million will have to be externally financed. An issuance of new equity for RM600 million would substantially dilute existing shareholders ownership and would not be welcome. Note that the resulting new shareholders will have a claim on all existing assets of the firm. Given this constraint, raising RM600 million of debt is usually be the only choice. However, this could seriously increase the firms leverage and make it susceptible to even small downturns in demand and revenue. In the event of trouble, the new debtholders would have a claim on all existing assets of the firm, not just the funded plant.

The IPP could instead choose to fund the shortfall by way of Mudarabah sukuk. The sukuk which is a financial instrument securitizes the financing and can be traded on secondary markets, just like bonds. Just as debt could be borrowed directly from a bank or by bond issuance, mudarabah funding could be raised either privately with banks or through sukuk issuance. The latter has the advantage of being more liquid. The instrument will be terminal and have fixed tenor. The appropriate tenor will depend on a number of factors, (i) the economic life of the project or underlying asset (ii) the cash flows /earnings generated (iii) the profit-sharing ratio (PSR) and (iv) the required return given the riskiness of the project. The tenor should be set such that for a given PSR and required return, the financier can expect to get back his initial investment and required profit return.

Figure 1 below shows a generic Mudarabah sukuk structure. The numbers show the chronology of events. In a typical sukuk structure, the SPV or Special Purpose Vehicle is key. Administered by an independent trustee, the SPV being bankruptcy remote acts to safeguard the interests of the sukukholder. Once the SPV is established, the Mudarabah agreement is used as the basis for the sukuk issuance. The proceeds of the sukuk may be kept in a custodial account under the SPV to be released as progress payment to appointed contractor of the plant.

Figure 1: A Generic Mudarabah Sukuk structure.



On completion of construction, the IPP which is the obligor uses the plant and makes annual profit payments as per the agreed PSR. These payments made to the SPV are passed on to the sukukholder. This goes on until the maturity of the sukuk or end of the mudarabah agreement. On full settlement the SPV is dissolved, the mudarabah concluded and the IPP (mudarib) has full ownership of the asset. As in the case of equity and unlike a debt contract, the sukukholder or financier is not certain of his actual returns. While he would have an expectation for returns, actual returns may turn out to be higher or lower, depending on the project's actual performance. Notice that there is no leverage whatsoever to the IPP from mudarabah based funding. The financier shares in the fortunes of the business and receives a return from the specific asset he had funded. The shariah requires that the returns to investment be determined ex post based on actual outcomes and not fixed ex ante, independent of actual outcomes.

4. Funding Development Infrastructure with Mudarabah.

4.1 Revenue Generating Infrastructure.

From a funding viewpoint, development infrastructure can be divided into two broad categories, revenue generating and non-revenue generating. The former, the likes of highways, mass-transit systems, power generation plants, intra city train systems etc., have very long economic lives and stable cash flows. However, the initial costs are high and heavily front loaded. For developing countries undertaking such investments places huge strain on their budgets. Given low domestic capital accumulation, such projects are typically undertaken using foreign currency denominated debt. Aside from the foreign currency risk, such funding raises their debt-to-GDP ratio and quickly uses up their debt capacity/ceiling. Given the usual delays with projects in developing countries, the debt burden increases. These gets much worse if the foreign currency

of borrowing appreciates in value. Often the combined effect of delays and foreign currency appreciation results in such a massive debt burden that the project has to be nationalized, subsidized or bailed out in one way or other at huge expense to the government and nation.

While governments have no course to issuing equity, there is no reason why the above risk sharing mudarabah type funding cannot be used. Since the construction period is longer, the mudarabah sukuk could be issued at different times as outlay needed. The government, for all its inputs and indirect investments in projects also receives its portion of sukuk. Aside from enabling governments to avoid the leverage and currency exposure, there are a number of other benefits that could be reaped. Most revenue-generating infrastructure projects have very stable cash flows over extended periods. Being natural monopolies, there is little competition. As it stands, governments are not able to fully take advantage of the huge benefits surrounding such projects. For example, a stock exchange listing by way of an IPO (Initial Public offer) of the project would enable governments and sukukholders to gain the substantial upside from the revaluation that occurs at IPO. For example, the mudarabah sukuk could be designed to have a convertible feature that would enable it to be converted to listed stock at perhaps the end of year 10. So, during the period in between project completion and IPO, the sukukholders receive their returns as per the PSR. At end year 10, when the project and all its ancillary facilities have been fully developed, the sukukholders and the government receive shares in return for their sukuk. If the project had been executed well, the upside to the original investment would be substantial and the government being a party gets to participate. This upside is lost in the typical PPP (Public Private Partnerships) and BOT (Build, Operate, Transfer) arrangements. The private partner typically gains at the expense of the government.

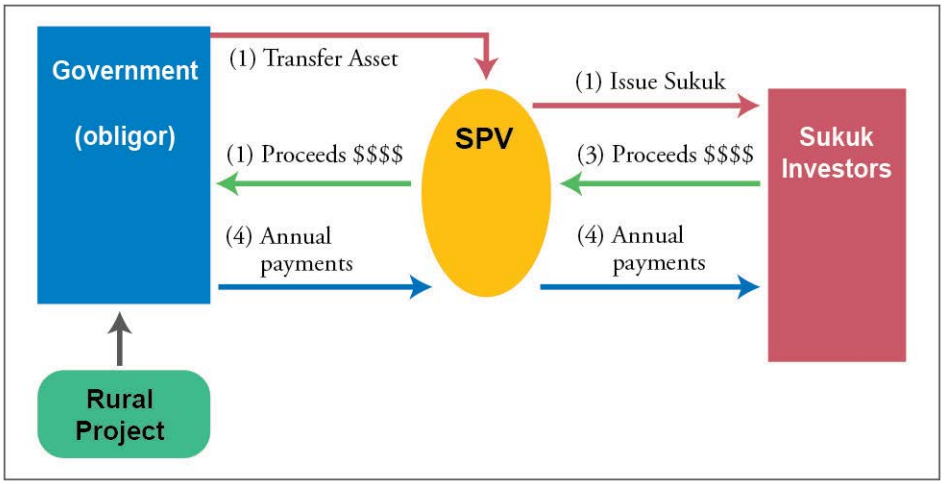
4.2 Funding Non-Revenue Generating Infrastructure.

While several permutations of the above structure may be possible with revenue generating projects, the funding of non-revenue generating projects has far fewer alternatives. Non-revenue generating development infrastructure would include projects like rural roads, sewage systems, public schools, drainage/irrigation systems etc.. If risk sharing is to be used for such non-revenue generating projects, the sharing has to be based on some other benchmark or asset since the underlying project has no revenue and so no profits to be shared. Since the key in risk sharing is to link the need to pay with the ability to pay, a logical way would be to issue sukuk which will have returns linked to percentage GDP growth or linked to the price of the nation's main export commodity or a price index of its main commodity exports. Both GDP growth and price of a country's main export commodities are reflective of government tax income, particularly in countries with value added tax systems.

As the shariah requires all financial instruments/transactions to be linked to the real sector and have an underlying asset, a government intending to build a network of

rural roads to be funded with risk sharing instrument, could issue a sukuk Ijarah with returns linked to GDP growth. Ijarah is a lease based contract. The structure would essentially be a sale leaseback arrangement with annual lease payments dependent on GDP growth. Figure 2 below shows a typical structure. The government first transfers an asset, perhaps a one or two office blocks that it owns, as per their value relative to the amount to be raised. These assets are transferred to the SPV which then issues sukuk backed by the asset. The proceeds from the issuance is passed on to the government to undertake the project. Every year until the maturity of the sukuk, the government will make payments to the SPV for onward transmission to the sukuk holders. These payments will consist of two things.

Figure 2 : A GDP linked Sukuk Structure.



A principal portion that amortizes the principal and a return portion linked to GDP growth. The return portion could be determined as:

$$R_t = \alpha + \beta (g - \alpha)$$

α = average GDP growth % over 5 years
g = actual GDP growth % for period

In years when $g < \alpha$, the coefficient β could be set to zero. What is happening in this structure is that the repayment amount changes according to GDP performance. In bad years, the repayment would be lower whereas in good years, higher. Effectively tying the requirement to pay, to the ability. The β coefficient could also be adjusted to account for project risk. For risky projects the coefficient could have higher values, closer to 1 whereas for low risk projects, the β could be smaller and closer to zero. Finally, the principal portion too could be made variable if need be. It is obvious that several variants of the model is possible. Such a flexible model avoids the fixed obligation and leverage that comes with debt. It also avoids interest rate risk and minimizes contagion.

5. Conclusion.

The risk sharing mudarabah is a hybrid instrument that has the features of both debt and equity. What makes it particularly suited for today's conundrum is that, it has the risk-sharing features of equity but not the leverage inducing feature of debt. Unfortunately, the mudarabah story has not been well-told. At least, not in a way that will make corporate treasurers see how the debt-equity trade off they have been manacled to, becomes irrelevant with mudarabah. Similarly policy makers in governments are not aware that financing infrastructure without leverage could be possible with mudarabah based sukuk.

Mudarabah financing effectively changes the debt-equity tradeoff, makes debt much less attractive and would be best suited to get the world out its current rut. With returns anchored in real sector returns, they would not just be higher but a lot more stable. Avoiding leverage would also minimize macroeconomic vulnerability and contagion to external shocks. Indeed, in earlier times, in medieval Europe, Italian nation states had adapted mudarabah as commenda, and funded the renaissance. Commenda then evolved and resurfaced in a later form, as venture capital financing in Silicon Valley.[1] Given its risk sharing features, Mudarabah could yet again, offer the world a potential way out.

Obiyathulla Ismath Bacha *and* **Daud Vicary Abdullah**
INCEIF, The Global University of Islamic Finance
Lorong Universiti A, 59100 Kuala Lumpur, Malaysia
obiya@inceif.org, dvicary@inceif.org

Endnotes

1. See Brouwer (2005) and Udovitch, A.L., (1970a,b).

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