

Hedging Market Risk in Islamic Finance

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The purpose of this article is to give the reader an understanding behind a few of the Islamic structures designed for risk management and hedging, including structures that have been developed within a Shariah framework to create the economic effects of conventional hedging tools. Thus we will consider the underlying structures of a profit rate swap and an Islamic FX swap, equivalent to (in conventional finance) an interest rate swap and an FX swap respectively.

Islamic financing techniques

Islamic Finance is based on the fundamental tenets derived from the Holy Qur'an and the Prophet Muhammad's traditions, the Sunnah. These tenets are embedded in what is defined as the Shariah – a framework of Islamic law.

The Shariah is as clear with regards to personal law as it is with regards to economic and commercial transactions. There are four distinct prohibitions when it comes to the jurisprudence of Shariah law in regards to commercial transactions, namely the prohibitions on: (i) receipt and payment of interest (riba); (ii) uncertainty (gharar); (iii) specific forbidden activities (haram); (iv) gambling/speculation (maysir).

Given the specific injunctions listed above, the Shariah has been used to develop certain structures involving commercial contracts acceptable in Islam. The complexity of a specific Islamic transaction will be dependent on how many types of these contracts are structured so as to achieve a certain economic/commercial outcome. There are a few basic structures which have lent themselves to the foundations of modern Islamic financing techniques. These forms of Shariah contract can be divided into three main types:

- contracts of sale (eg, murabaha, istisna'a, salam);
- contracts of lease (ijara); and
- joint enterprise arrangements (eg, musharaka, mudaraba), each with its own parameters.

For the purpose of this chapter we will consider only the murabaha structure.

Murabaha (cost-plus financing)

A murabaha is a tri-lateral sale arrangement whereby a financier/intermediary purchases goods from a supplier and sells them to an end-user at a deferred price that is marked-up to include the intermediary's profit margin. This profit margin is permissible since the intermediary takes title to the goods, albeit possibly only briefly, and hence accepts the commercial risk of their ownership. Possession is a key factor – title must change from the intermediary to the end buyer. Possession can be only either physical or constructive, and not both simultaneously. Financiers generally use Libor as a reference only for profit margin – this is not interest per se and should not be seen as such.

Shariah scholars have allowed the referencing of Libor rates as permissible. This view is from the majority of scholars; for instance Justice Taqi Usmani has specifically referred to an example in his book, An Introduction to Islamic Finance. In the majority of transactions the intermediary appoints the end-user as its agent to purchase the goods from the supplier on its behalf. The intermediary bears the risk of ownership after the end-user, acting as its agent, purchases the goods and before the intermediary sells the goods to the end-user.

The basic murabaha contract has been used in various forms in Islamic finance. The application of this structure has given banks (both Islamic and conventional through the use of Islamic windows) a liquidity management tool for interbank transactions (with the exception of no overnight trades as settlement of trades takes longer) and now Islamic hedging tools, which we explore later in this paper. Murabahas have also been used as the basis of trade finance transactions, where generally banks have financed working capital requirements by the purchase, for example, of an inventory and then sold this on to the end user of the financing.

The 'commodity murabaha' structure used by banks for liquidity management and other purposes comprises the purchase and sale of commodities (standard Shariah practice has been the use of non-precious metals from the London Metal Exchange) by the intermediary to the end

user through the use of brokers. This is illustrated in Exhibit 1. Metals are bought from broker 1 by the financier and then sold to the end user (client) on deferred payment terms, the client will then sell the metals at spot price to broker 2 who will pay for the metals, and broker 2 will then sell these metals to broker 1 at spot price. Thus the end result being that the client is left with cash while the bank is left with a payment obligation comprising principal plus profit where the profit was derived by a sale of the underlying commodities by the bank to the client.

Islamic hedging instruments

The growth of the sector has given rise to the need for more solutions within Islamic finance. Thus as banks offering Islamic solutions take on more difficult financing structures and more aggressive client requirements, they have had to look at their risk management tools – both from their own perspective and the client's viewpoint.

Islamic banks' retail product offerings tend to be generally fixed-rate murabaha-based products to customers, while the corporate customers are offered facilities based on floating benchmarks. Thus from the banks' point of view there is a liquidity mismatch with Islamic deposits being much shorter tenor (3-6 months) compared with Islamic investments of longer maturity, and also fixed versus floating rate exposure. Corporate clients also require a more sophisticated product set to manage their own risk positions through the banks. Therefore, Islamic banks require Islamic tools to manage interest rate risk and FX risk. Hence the development of the profit rate swap and the Islamic forward FX contract.

There are a number of financial institutions that offer Shariah-compliant hedging solutions for the above mentioned risks, however the standardisation of the documentation is still not complete compared to conventional contracts. For this reason Shariah-compliant hedging remains unattractively priced when compared to conventional hedging products. However, as the market develops pricing should cease to be a problem.

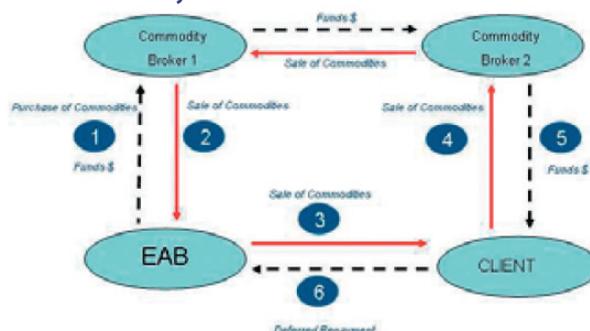
The objective behind an Islamic profit rate swap is effectively the same as that underlying a conventional interest rate swap, namely to manage exposure to interest rate movements. Thus it is designed to protect financial institutions from fluctuations in borrowing rates and to provide a risk control mechanism. The wide-spread availability of hedging instruments acceptable in Islamic finance will ensure that investors and customers with different banking requirements, as well as Islamic financial institutions who require balance-sheet management, can enjoy benefits which conventional banks have been experiencing for many years.

Profit rate swap

An Islamic profit rate swap is basically an agreement to exchange profit rates between a fixed rate party and a floating rate party, or vice versa, implemented through the execution of a series of underlying Shariah contracts. In the current market a further contract called the wa'ad contract is being utilised so as to ensure the swap reaches maturity.

A wa'ad is a binding unilateral promise and is binding one way only. Before each commodity murabaha stage and reverse murabaha stage in the following structure, a wa'ad is given by each counterparty respectively. The wa'ad ensures that the promisee undertakes to enter into that relevant commodity murabaha or reverse commodity murabaha trade. This will continue until the swap expires.

Exhibit 1: Commodity murabaha structure



Source: Europe Arab Bank plc

Commodity murabaha structured profit rate swap

The most common underlying structure for a profit rate swap is linked with a Shariah asset-backed structure using a plain vanilla commodity murabaha. Structured in this way using a commodity murabaha the prohibitions mentioned in the section above are adhered to, that is it must be free from any elements of riba (usury), gharar (uncertainty) and maysir (gambling). Each party's payment obligation is calculated using a different pricing formula. In an Islamic rate profit rate swap, the notional principal is never exchanged as it netted off using the Islamic principle of Muqasah (effectively defined as a set off).

The following is an example of a basic profit rate swap using a murabaha structure:

- Bank A has a fixed rate investment profile from its purchase of Islamic assets maturing in five years and paying semi annually.
- Bank A wishes to swap its fixed rate payment profile with a floating payment profile. Bank A may decide to enter into an Islamic profit rate swap with counterparty Bank B.
- Bank A receives a cashflow from its investment every six months on a fixed rate profit margin.
- Bank A gives a wa'ad thereby promising to enter into commodity purchase.
- Bank B (counterparty) sells an asset (base metals) to bank A on a murabaha basis at a selling price that comprises both principal and profit margin to be paid upon completion of subsequent transaction (floating rate portion). Thus the commodity murabaha transaction is executed.

Floating profit rate

- Prior to six months, bank B gives a wa'ad so that it promises to purchase commodities from bank A. Bank A will sell an asset to bank B at a selling price of notional principal, plus a mark-up based on the prevailing profit rate (agreed spread plus current benchmark). Thus the reverse commodity murabaha is executed by the two parties (reverse commodity murabaha as seen from bank B's point of view).
- Payment of selling price by both bank A and bank B is netted-off.
- The net difference is profit, and is paid to the swap counterparty as initially agreed between both counterparties in the Master Agreement.
- Floating profit rate is repeated every six months until maturity.
- During commodity trades bank B can also act as agent for bank A in the commodity trades between the brokers and facilitate the individual legs involved in the process.
- The costs of the actual commodity trades vary from broker to broker, generally over the last few years brokers will cost between US\$20 – US\$30 for every million traded.
- The pricing for the swap is undertaken in the usual conventional approach.

In the swap no actual payment is made as the principal amount upon which total payments are based are merely notional, this is in line with what happens in a conventional IRS. From Shariah the principle of Muqasah (set-off) has been utilised. Exhibit 2 summarises the salient features of a profit rate swap compared with a conventional interest-rate swap.

Exhibit 2: Islamic profit rate swap and conventional interest rate swap compared

Conventional interest rate swap	Islamic profit rate swap
ISDA master agreement	Islamic swap master agreement
Trade confirmation	Trade confirmation
Payment advice	Two sets of asset purchase and asset sale agreements (commodity murabaha followed by reverse commodity murabaha)
Transaction netting is practiced to net-off payment between fixed and floating leg	Transaction netting is allowed to net-off payments between the four asset purchase and asset sale agreements to arrive at net payment

Source: Europe Arab Bank plc

FX risk hedging

There are a number of ways a Shariah-compliant FX hedge can be executed. Each one has its pros and cons with the Wa'ad structure being the most preferred in terms of consensus view amongst the scholars.

Forward FX involves essentially two dissimilar ribawi (interest based) items, that is, two different currencies. The Shariah position with regards to the exchange of two dissimilar ribawi items is that the exchange of two

counter values must be spot or simultaneous (hand to hand).

Forward FX entails that the rate of exchange is locked in today (the day of contract) but delivery of two counter values is being deferred to a future date where the delivery of these two counter values will be made on spot basis.

Shariah, however, requires delivery to be made on the day of the contract, that is, 'hand to hand' which is not the practice in the current FX market. However, Islamic law does not prohibit promise to buy and sell currencies on one date and delivery to be made on another date because the proper contract only concludes on the day of delivery. Under the wa'ad structure, only one party (obligor/promisor) promises to buy/sell as the case may be wherein he is bound by that promise (binding promise). The other party/ promisee/obligee, however, is not bound to proceed with the promise undertaken by the promisor. Under Shariah binding, promise from only one party is not deemed as a contract. Therefore, this can facilitate Islamic FX contracts.

(i) Back to back interest free loan

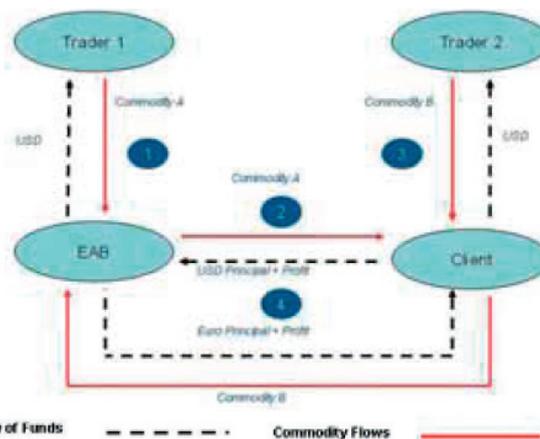
A very simplistic approach has been to execute a Shariah-compliant FX hedge by execution of two back-to-back, interest-free loans of different currencies. The loans do not carry any interest or any other benefit. The agreements are separate and neither one cross references the other. This is a very simplistic FX hedge, and does not conform to the conventional FX hedging, as the conventional hedging mechanism takes into account the forward FX rates, the tenor etc. This simplistic method has been used in day-to-day dealings between local traders and in small amounts.

(ii) Murabaha based contracts

A second common mechanism is based on the commodity murabaha mechanism (see Exhibit 3), by which the customer and the bank enter into two separate murabaha transactions to facilitate the FX forward contract. The customer will buy a commodity for spot value and sell it to the bank for purchase price plus agreed profit (the basis point in a conventional FX forward deal), payable on a deferred basis.

To address the other side of the FX forward deal, the bank will buy another commodity and sell it to the customer, again for purchase price plus agreed profit, on a deferred basis. Both the customer and the bank typically will sell the commodity back into the market to recover their initial investment.

Exhibit 3: Murabaha based FX contract



Source: Europe Arab Bank plc

This has been quite widely used by Islamic financial institutions as it is very similar to a normal murabaha contract which nearly all Islamic money market operations incorporate, however the cost associated with incorporating a commodity in the transaction has given the impetus for Islamic institutions to seek other ways of hedging their FX exposures. Exhibit 3 illustrates the murabaha based FX contract.

(iii) Wa'ad based contracts

A third common Shariah compliant hedging mechanism that has been developed over the last few years has been based on the concept of wa'ad. Essentially, party A, who is looking for a hedge, will provide an undertaking (a wa'ad) to purchase a specific currency at a future date. The promise cannot be conditional on any event, and will have details of the amount of the currency to be purchased along with the future date of purchase.

The following describes a wa'ad based FX hedge.

Step 1:

Parties ("Islamic Bank" and "Customer A") enter into a "Master Agreement for the Sale and Purchase of Currencies" (the "Agreement").

Step 2:

Customer A identifies his requirement, for example he has surplus funds denominated in US\$ and wishes to invest in a £ denominated investment opportunity. However, Customer A is concerned that £/US\$ exchange rate fluctuation may expose him to cash flow uncertainty and therefore wishes to mitigate this risk.

Step 3:

Customer A and Islamic Bank agree the commercial terms of the spot transaction over the telephone, ie., Islamic Bank and Customer A conduct an ordinary spot foreign exchange transaction pursuant to which Customer A remits US\$1.86m to Islamic Bank's designated account. Upon evidence of receipt of the funds, Islamic Bank remits £1m to the Customer A's designated account.

Customer A and Islamic Bank agree the commercial terms of the hedge over the telephone, that is:

- Currency: £/US\$
- Purchase price: £1m
- Current £/US\$ spot exchange rate: 1.8600
- Promised exchange ratio: 1.8400

Step 4:

Customer A sends Islamic Bank a "Promise to Purchase" whereby Customer A undertakes and promises to purchase US\$1.84m for £1m on a specified future date for settlement two working days later (the "Purchase Date") on

the terms and conditions outlined in the Agreement.

Step 5:

Islamic Bank acknowledges the promise by duly signing and returning the Promise to Purchase to Customer A.

Step 6:

Two working days prior to the Purchase Date, Customer A sends Islamic Bank an "Offer to Purchase" whereby Customer A offers to purchase from Islamic Bank US\$1.84m for £1m for settlement on the Purchase Date.

Step 7:

Islamic Bank sends Customer A an "Acceptance Notice" accepting Customer A's Offer to Purchase. It is important to note that the Promise to Purchase has now been converted into a spot equivalent transaction for settlement on the Purchase Date.

Step 8:

On the Settlement Date, Customer A remits £1m to Islamic Bank's designated account. Upon evidence of receipt of the funds, Islamic Bank remits US\$1.84m to Customer A's designated account.

Conclusions

As the Islamic market develops and products are innovated, basic hedging and risk management tools need to evolve within the boundaries of Shariah so as to maintain not only Shariah compliance credibility, but also to expand trade between banks, intermediaries, and of course corporates.

It is vital that counterparties have access to such products, in order for Islamic finance to continue to grow and an increased level of financial intermediation to occur as a result, with a deepening of the Islamic market. This can only be beneficial for finance as a whole. ■

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