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Islamic electronic trading platform on organized exchange

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Abstract

Today Islamic finance industry is under severe criticism, particularly, concerning liquidity management practices of treasury departments. Since cash lending is not possible under Islamic *Shari'ah*, Islamic banks tend to use securitized asset related schemes which are by no means neither acceptable under Islamic finance jurisprudence nor compliant with *Maqasiq Al-Shari'ah*. *Maqasid Al-Shariah* oversees economic activities which produce wealth and prosperity for all members of society to empower any member with certain level of belongings to bestow freedom while condemning inequality. Under this wider aim of *Maqasid Al-Shari'ah*, this paper presents alternative state-of-art *Shari'ah* compliant products, which is used in international trade finance, to be migrated to electronic trading platform under organized exchange in pursuit of replacing controversial liquidity management products. Besides, this paper introduces Islamic Commodity Future Contract, derived from asset backed *Murabaha*, with physical delivery as an alternative liquidity management tool for Islamic FIs and hedging tool for companies.

JEL classification: G15; G29; G30

Keywords: Islamic finance; Islamic exchange; Islamic treasury practices; Islamic trade finance; Liquidity management; Islamic Commodity Future Contract

1. Introduction

Islamic finance industry has substantially grown since its early infant phase in 1970s. Demographic boost and increased oil prices supported growth of Islamic finance industry alongside the economic growth of OIC countries. With increased complexity and products of conventional finance, Islamic banks, may be unnecessarily, felt to provide Islamic alternative of any product offered by conventional peers. Coupled with difficulty in liquidity management for treasury function, this put Islamic finance under some criticism. Islamic scholars evaluated several cases for treasury function and some of them from *Maqasid Al'Ahariah* point of view issued temporary *Fatwa* until *Shari'ah* compliant alternative found.[1] The most prominent case is *Tawarruq*, as Islamic FIs would have negative carry and fail in the long-term, some Islamic Scholar allowed *Tawarruq* for temporary base. However, not much solid work done to provide *Shari'ah* compliant alternative solutions. Once accept for short-term solution stayed as fine financial product. Today Islamic banks can be deemed in the course of conventional banks as they have some practices, which would literally convert Islamic banks to conventional.

Regardless of the criticism, traditional Islamic finance contracts: *Murabaha*, *Mudaraba*, *Musharaka*, *Ijara*, *Istisna* presents strong potential to serve *Maqasid Al-Shari'ah* with stronger credit management features as embedded in lending process itself. However, in some instances criticism on Islamic banks can not be very much substantiated. For example, Islamic banks are criticized on extensive reliance on *Murabaha*

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[1] *Al-Maqasid Al-Shari'ah*; as per Chapra Human Development and Well-Being to be realized by ensuring the enrichment of: *Nafs* (Human self), *Mal* (Wealth), *Nasl* (Posterity), *Aql* (Intellect) and *Din* (Faith).

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sale (Yousef, 2004). This critic very often ignores the nature of Islamic Finance. Islamic finance is reflection of real economy. If in an economy 90 percent of transaction relates to trade finance, then naturally 90 percent of contract used for trade finance shall be based on *Murabaha* while remaining shall be subject of project finance or *Sukuk*, hence, *Istisna* and *Ijara*. Besides, while putting Islamic FIs under the spot light one should also take decision making process of loan seekers who prefer *Murabaha* sale if the deal is profitable and less risky while criticizing Islamic FIs not engage in profit-loss-sharing, in case of less profitable and high risk deals. Most of the controversial discussion in Islamic finance today has more intricate than it appears.

In order to address the problem with strong underpinning, in the next section, controversial novelty in Islamic finance is to be introduced. Any new Islamic finance product should avoid these to have strong *Shari'ah* foundations.

2. Usual suspects

The evaluation of any Islamic finance product should start with:

1 Checking Compliance with *Maqasid Al-Shari'ah*.
2 Ensuring facilitation/financing real economic transaction.

Hence, one should start with benefit of the product for social welfare. In many instances, a product may comply with Islamic finance principle, yet, undermine *Maqasid Al-Shari'ah*: financing arms through *Murabaha* sale, piling household debt with seductive consumption loans and creating cash loan balloons not connected to real economy. Keeping this in mind, today most controversial contemporary Islamic finance products, such as *Sukuk*, treasury liquidity management products and hedging tools, developed based on three types of novelty:

2.1. Bai Al-Inah

Rosly and Sanusi (1999) identifies *Bai Al-Inah* as extensively used contract type employed for designing of, particularly, *Sukuk*. In its most basic form, it is a two party differed sale transaction. Loan seekers sells to the fund owner some object, gets cash and buys simultaneously back the same object, as-is without any change, for a greater amount to be paid in a future date. Majority of Islamic scholar finds *Bai Al-Inah* unacceptable since it is a circumvention for cash loan, hence, *Riba*.[2] The stance of Islamic scholar would not change even if buy back is not simultaneous end after an *Ijara*, from creditor to debtor, to finish automatically with transfer of ownership back to loan seeker/debtor. The gist is to focus on a real sale: two sales in chain among third party supplier of the product, loan seeker/debtor and financier/creditor. The third party supplier is missing in any cases, hence, causes a red flag. The evolved versions of basic *Bai Al-Inah* is akin to “Sale and Lease-back” structures, which is very often preferred by companies for taxation purposes, offered by conventional leasing companies.

2.2. Islamic discounting/factoring (Bai Al-Dayn)

> *“Those who consume interest cannot stand [on the Day of Resurrection] except as one stands who is being beaten by Satan into insanity. That is because they say, “Trade is [just] like interest.” But Allah has permitted trade and has forbidden interest. So whoever has received an admonition from his Lord and desists may have what is past, and his affair rests with Allah. But whoever returns to [dealing in interest or usury] – those are the companions of the Fire; they will abide eternally therein”* (2:275)

Very often bill discounting or factoring is proposed as similar to *Murabaha* and hence *Shari'ah* compliant alternatives in trade finance. There are certain features of *Murabaha* which makes it a good omen for trade finance and protect economy from systematic risk created by conventional finance methods:

1 In case of *Murabaha*, fund disbursement is done to the account of supplier. This feature gives better credit risk assessment opportunity for banks and impede debtor to use funds for unproductive and/or speculative causes instead of real business.
2 At the date of disbursement, repayment date and sale price is determined. In case of delay in repayments, financier cannot accrue late payment charges to her account. Accordingly, financier should better evaluate credit worthiness of debtor and direct loans to credit worthy ones.
3 Since *Murabaha* finances/facilitate bono-fide transaction, it would less likely to give rise to credit bubble.

Islamic finance gets most closes to factoring or discounting in Export financing, yet, even in this case there is a serious difference: recourse to loan seekers. In Islamic export finance based on *Murabaha*, financier can not recourse to loan seeker (exporter) and needs to wait to be repaid back from importer, takes the risk of final buyer. In case of discounting/factoring financier can recourse to loan seeker (exporter).[3] With all these feature, unlike debt trading, Islamic finance would by no means loss its connection with real economy, hence, should not led to credit bubble.

2.3. Commodity Murabaha based on organized Tawarruq

Today most of Islamic banks' *Murabaha* syndications, inter-bank lending and hedging tools such as Islamic SWAPS are based on organized *Tawarruq*. *Tawarruq* became panacea for treasury department of Islamic FIs. The issue is widely

[2] For more details on the issue, one may refer to work of Rosly and Sanusi (1999).

[3] Please refer to Gundogdu (2016) for more details.

discussed by Gundogdu (2014a) as Loan-seeker (Resource Mobilizing Bank) and potential lender (Liquidity Managing Bank), exchange precious metal contracts with cash through commodity trader. Liquidity Managing bank buys metal contract and make a differed sell to Resource Mobilizing bank, which then sell the metal contract to another commodity trader, receive cash. Resource Mobilizing Bank on maturity repay back differed sale price to Liquidity Managing Bank.

At initial stages, there were only one commodity trader and after severe *Shari'ah* critic second commodity trader introduced. However, even then the structure is organized *Tawarruq* which was disallowed by Islamic *Fiqh* academia: this is not a regular *Tawarruq* but organized *Tawarruq* with the purpose of circumventing for cash lending. Some other banks introduced common stock instead of precious metal contracts and other forms which are more convincing yet looking from *Maqasid Al-Shariah* itself reveals the flaw. The parties involved in this transaction does not facilitate/finance bono-fide economic activity but create debt out of a thin air.

An example of commodity *Murabaha* based on *Tawarruq* illustrated in Fig. 1. There is no connection between precious metal contract and physical metal stock. Gundogdu (2014a) extensively dwell on the problem and proposed an alterative *Shari'ah* compliant 2-Step *Murabaha* structure, which is used in international trade finance, for interbank lending.

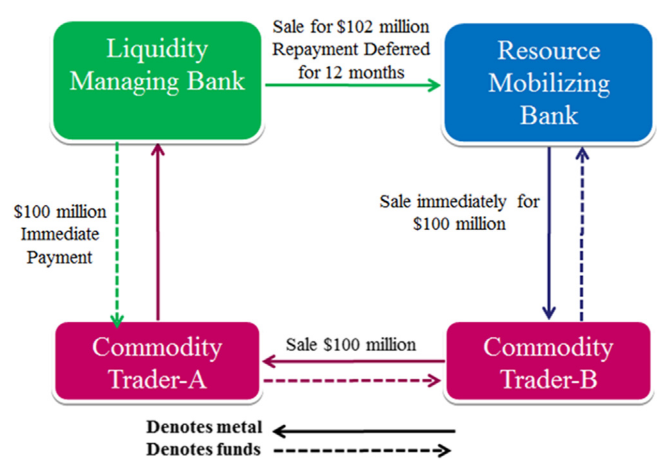

Fig. 1. Commodity *Murabaha* based on organized *Tawarruq*. Source: Gundogdu (2014a, 2014b).

3. From greenfield to capital markets

Concerning Islamic finance industry, the bulk of the interbank lending drives from trade finance while remaining from investment finance. The excess and shortage of funds comes from economic activity level difference among banks/countries. Keeping speculative business lines of conventional bank aside, Islamic banks day-to-day needs to borrow-lend money to carry out their facilitator role as financier. Very often, Islamic FIs resort to commodity *Murabaha* which is not *Shari'ah* compliant based on Islamic *Fiqh* academy and due to cash lending has distortion effect similar to conventional practice. Gundogdu (2014a) proposed 2-Step *Murabaha* structure to fulfill, trade finance borrowing-lending needs of Islamic Banks. As indicated in Fig. 2, resource mobilizing bank (RMB) can issue a 2-Step *Murabaha* agreement to be signed on electronic trading platform with Liquidity Management Bank (LMB). This agreement needs to be registered by a Central Securities Depository and an ISIN number needs to be generated by Takas Clearing House (Custody and Exchange Bank).

The issued 2-Step *Murabaha* would be similar to *Sukuk* and it carries rights and obligations for LMB to disburse requested amount against international trade shipping documents:

1 Bill of Lading, Invoice, Inspection Reports, etc. for import financing under L/C, Documentary Collection and Cash against Good payment methods.
2 Export declaration form for export financing.

LMB would arrange a *Murabaha* or *Mudaraba* syndication again on electronic trading platform connected to agreement signed between LMB and RMB. In case of *Murabaha* syndication, syndication participants would take the risk of LMB and in case of *Mudaraba* syndication, these banks would take the risk of RMB. The key in this transaction is LMB which is

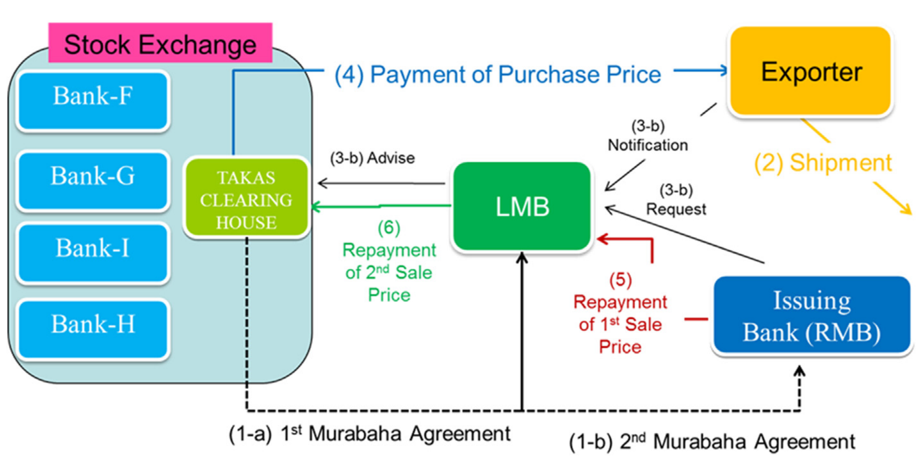

Fig. 2. 2-Step Murabaha under stock exchange. Source: Gundogdu (2014a, 2014b).

syndication arranger and needs strong credentials peculiar to Multi-Lateral Development Banks for the health of the market. In practice, LMB would first get request from RMB for 2-Step *Murabaha* and then sign agreement with RMB only after signing the initial *Murabaha/Mudaraba* agreement with syndication participants to commit for the transaction.

RMB, LMB and syndication banks would hold investment account with Takas Clearing House. LMB and syndication banks would also get right for repayment from the *Murabaha* sale. Transaction would flow as:

1 The importer or exporter submit their proof of transaction (shipping documents or custom declaration forms) to RMB and ask for financing.
2 RMB would request disbursement for this transaction from LMB.
3 LMB instructs Takas Clearing House to debit the account so syndication bank and credit the account of LMB for this transaction. LMB would make payment to supplier.
4 With this transaction, LMB as per *Murabaha* agreement purchased from supplier and makes a differed, such as 12 months, sale to RMB.
5 On the date of maturity after such as 12 months, RMB instruct Takas Clearing House to debit her account and credit the accounts of LMB and syndication banks.

In case of 2-Step *Murabaha*, there is no ownership related risk since ownership simultaneously transferred and debt created out of differed sale. LMB and syndication bank can set exposure limit on RMBs and manage their portfolios within these limits set by their Risk Management Departments.

In both *Murabaha* and *Mudaraba* syndication, syndication participants would have option to sale their portion of the *Murabaha* agreement issued by RMB similar to common stock or *Sukuk* sale. This implies that they would transfer obligation to fulfill for financing request from RMB and rights of receivable. Although this would create room for liquidity management and facilitate traditional import/export financing based on Asset Based *Murabaha*, there is a huge need for agricultural financing and good potential to develop Islamic Future Contract and more flexible liquidity management tool. Under 2-Step *Murabaha* investors would transfer all rights and obligation pertaining, while they can not sale specific import/export transaction due to *Shari'ah* restriction. Since in Asset Based *Murabaha* sale, ownership immediately transferred from intermediating banks to final importer. Specific transaction sale, based on import shipping documents or export declaration forms, would be factoring/discounting which is debt trading and not allowed in Islamic *Shari'ah*. Regardless of this, 2-Step *Murabaha* under stock exchange would be a good omen for liquidity management and complementary Asset Backed products, in which banks keep the ownership of goods financed until sale, could shoulder. In this regards, asset backed *Murabaha* transaction operations based on E-Warehouse Receipt (E-WR) for soft commodities in licensed warehouse has excellent embedded features. Traditionally, asset backed *Murabaha* operations used to finance commodities stored in warehouses. The financier takes commodity financed as collateral. Gundogdu (2014b) demonstrated cases for sugar import financing and coffee export financing.[4] Unlike asset based 2-Step *Murabaha* in which syndication banks and LMB takes the risk of RMB, in asset backed *Murabaha* since the ownership remains with LMB risk management features are very different. LMB exposed to price fluctuation and risk associated with ownership of commodities financed such as quality, quantity and insurance. Recent laws on Licensed Warehouses, which require 100 percent physical commodities against E-WR for soft commodities, give rise to extension of asset backed *Murabaha* from regular warehouses and bonded warehouses to licensed warehouses. Since there is already an electronic platform to trade E-Warehouse Receipts, adding signing of asset back *Murabaha* on the same platform as shown in Fig. 3, would make another liquidity management tool for banks.

1 Commodities delivered to Licensed Warehouse by farmers and warehouse operator issues (e-WR) to farmer through Commodity Exchange;
2 Supplier places (e-WR) with broker → LMB receives a requesting payment against ownership transfer of (e-WR);
3 Market Maker pays a min security margin of 20% in cash of the (e-WR) value;
4 Banks pays 100% of the (e-WR) value to the local Supplier through LMB's account with Takas Custody and Exchange Bank against ownership transfer;
5 Market Maker pays for commodities into LMB's account in Takas Custody and Exchange Bank through broker;
6 Upon payment, broker transfers the ownership of the sold amount of commodities to Market Maker;
7 Market Maker takes physical delivery of commodities.

The role of market maker is key in this transaction since she would sing asset backed *Murabaha* agreement with LMB. The agreement stipulates that:

1 LMB would buy E-Warehouse Receipt (generated for/after deposit of commodities into licensed warehouses).
2 Market Maker would contribute with 20 percent cash margin
3 LMB pays 100 percent to farmers
4 In case of price drop, LMB can ask for Margin Call and Market Maker top up the cash margin. Hence, Market Maker takes the commodity price fluctuation risk.
5 Market Maker accepts the delivery of commodities in 3, 6 and 9 months maturities. For this, on electronic platform LMB and Market Maker signs 3, 6 and 9 month asset back *Murabaha* contract.

Market Makers are expected to be big users of soft commodities such as flour mills for wheat. They want to fix their

[4] In his paper in the name of “Margin Call in Islamic Finance”, Gundogdu explained different aspect of Risk Management for asset backed Murabaha transaction and proposed solution against possible risk associated with keeping ownership of goods financed by financiers. The most of the proposed techniques are also applicable to E-WR financing.

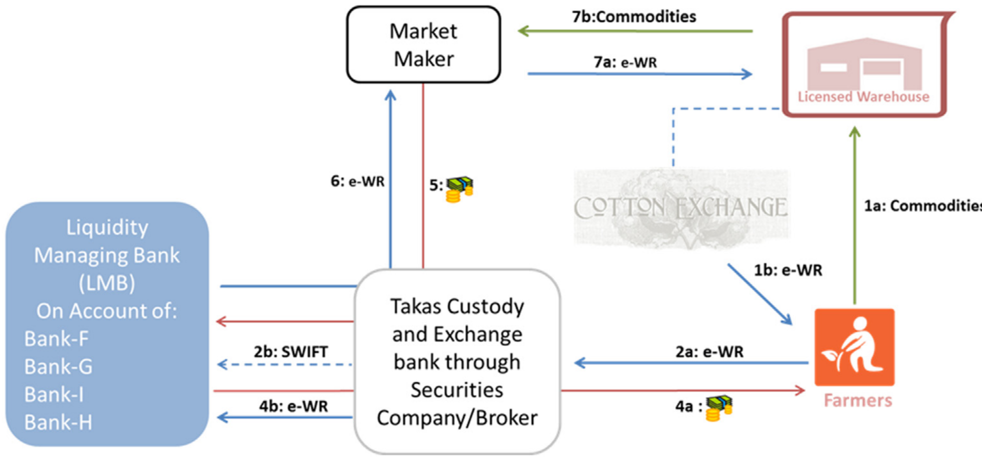

Fig. 3. Liquidity management based on asset backed *Murabaha* through physical commodities in licensed warehouses.
Source: The author.

price at the time of harvest when wheat prices are low and assure supply of wheat for their annual production plan. They are obliged to receive physical delivery of commodities at the maturity. In case of change in production plan, they can transfer this obligation to other traders on electronic platform. The ownership would remain with LMB, which can arrange a *Murabaha* or *Mudaraba* syndication in international market. Since, they hold the ownership, Syndication banks can sell any amount of E-WR at any time on electronic platform or buy. Hence, there will be liquid secondary market.

From *Maqasid Al-Shari'ah* perspective:

1 Islamic FIs would use their excess fund to facilitate/ finance agricultural production hence contribute rural development. They would have chance to buy and sell E-WR since there is 100 percent physical commodity and bono-fide intention of delivery.
2 Farmers would get much better price and available cash for their effort since number and amount of buyer during harvest season will increase with inclusion of Islamic FIs as buyers.
3 Market Maker should be processor of the soft commodity who is ready to take physical delivery. He can fix his raw material cost in advance and have predictability for future. Besides, since the commodities would be stored in licensed warehouse, she would be availed from storage hustle. If her production plan changes, she would transfer physical delivery obligation, in some case with some losses, to other traders on electronic platform.

LMB would calculate 3, 6, and 9 month asset back *Murabaha* (Islamic Future Contract) as follows:

Future Price = Spot Price + Carrying Cost (Mark-up, Licensed Warehouse Storage Cost, Storage Insurance Cost) + Transaction Cost (fees of Security Broker, Takas Custody and Exchange Bank and Commodity Exchange).

For sustainability of the system, there needs to be very stringent risk management monitoring. In Annex-I, Matrix for risk mitigation is provided. In order to increase interest of syndication market in the product, the risk rating of the scheme could be increased by a Takaful in the form of political risk insurance and contingency clauses for negligence of 3rd parties. The presence of Takaful would increase risk rating and risk averse funds can also be attracted. The participants would increase the liquidity in the market and ultimately would benefit farmers with more potential buyers during harvest and benefit processors with reduced mark-up in future price calculation due to high demand from FIs. As for Islamic FIs, they would place their funds into bon-fide *Shari'ah* compliant transaction against strong collateral.

4. Conclusion

Parade from greenfield to capital markets shall not be smooth, if necessary regulatory arrangements put are not in place. Both asset based and backed *Murabaha* sales necessitates purchase of goods financed by Islamic FIs, in many countries there still does not exist specific law to manage such features. In case of asset based *Murabaha* transfer of ownership is simultaneous, hence, regulatory wise more straight forward. However, asset backed *Murabaha* (or proposed Islamic Commodity Future Contract) necessitate keeping goods on balance sheet which is not allowed by banking laws.

Banking Regulatory and Supervisory Agency, Custody and Exchanges Bank, Central Security Depository, Stock Exchange and Regional Commodity Exchanges should streamline their modus operandi in order to incubate the proposed Islamic liquidity management tools. For example, Stock Exchange should provide platform for primary market. Regional Commodity Exchange needs to expand it capacity to cater collateral management services to assure matching of E-WR with physical stock. As indicated in Fig. 4, asset based and asset backed *Sharia'ah* compliant alternatives can make their way to Islamic capital markets to create liquidity platform for industry to grow healthy and contribute real economy, if necessary regulatory

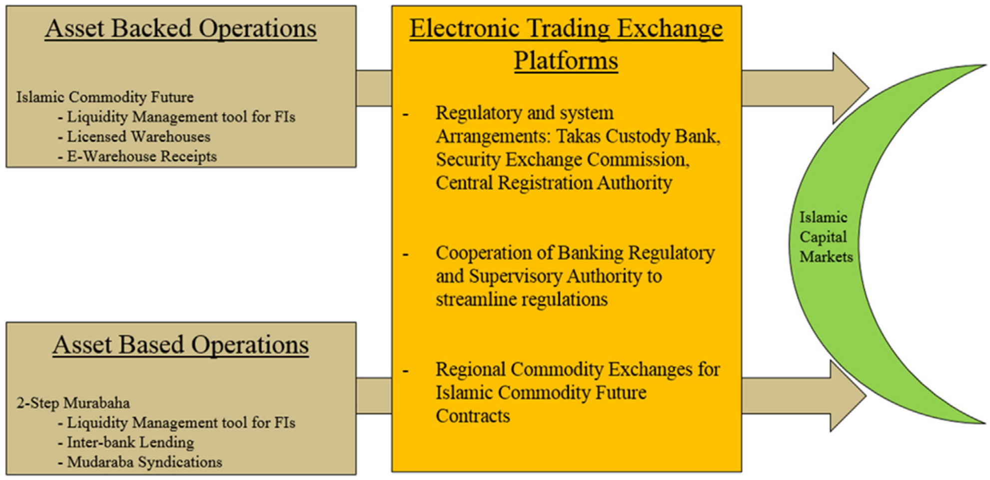

Fig. 4. From greenfield to capital markets. Source: The author.

Annex-I. Risk matrix for Islamic Commodity Future Contract from the perspective of LMB and Syndication Banks.

Risk areas	Risks	Likely cause(s)	Mitigants/preventive action(s)
Country	Political	■ Instability due to geopolitical changes in the region	■ Political risk insurance/Takaful
	Economic	■ Economic downturn	■ Operating within country exposure limit set by Risk Management Department
	Legal	■ Title of goods under law	■ Locally sourced goods are stored in licensed warehouses under the supervision of a licensed warehouse operator evidenced by (e-WR) which is issued by the Commodity Exchange and maintained by the Central Security Depository
Market Maker	Credit	■ Client's default	■ Portfolio monitoring ■ Licensed status of warehouses, physical commodity
Commodity	Price	■ Price downturn ■ Local oversupply	■ Market Maker's trading experience ■ Sufficient security margin, with a top-up clause: Margin Call. ■ Price verification before accepting to finance any purchase ■ Close monitoring to commodity prices on a daily basis ■ Liquidation if required (possible local offtakers) ■ Any possible liquidation of locally sourced commodity stored in licensed warehouses would be done through the relevant Commodity Exchange.
	Quality	■ Poor quality	■ Quality is verified by licensed labs under control of local Commodity Exchange.
	Storage	■ Poor storage conditions ■ Storage facility safety & security ■ Degrading of goods quality if stored too long	■ Licensed Warehouses storage quality is inspected by government bodies on regular basis. ■ Monitoring of local Commodity Exchange as collateral manager. ■ All risk insurance covering marines and Storage including product deterioration clauses (*Takaful*)
Industry	Market	■ Not enough demand by local or international off takers	■ Only soft commodities such as wheat with stable demand even in dire situation will be financed. ■ Market Maker's experience in reading market trends
3rd Party	Securities Company as Broker/Facility Agent	■ Non-performing orders correctly and in timely manner	■ Only securities companies with good track records will used as broker/facility agent
	Local Commodity Exchange as Collateral Manager	■ Non-performance, negligence, misconduct or fraud by collateral manager staff	■ Collateral manager will be local Commodity Exchange which is a reputable local entity. ■ Collateral manger misappropriation is covered by a clause under the cargo insurance policy
	Licensed Warehouse Operator	■ Non-performance, negligence, misconduct or fraud by operator's staff	■ All licensed warehouse operators are licensed and inspected periodically by the Ministry of Agriculture (every two years). ■ Every licensed warehouse operator provides to the indemnity fund cashable security that worth 15% of their liabilities in order to cover claims by depositors.
	Insurance/Takaful Company	■ Rejecting claims ■ Failing to indemnify	■ Reputable local insurance company, with reinsurance from a global brokerage firm ■ Comprehensive All Risk Insurance Policy

and electronic platform infrastructure are provided. As an additional step, *Sukuk* trading can also be included in the platform similar to trading of 2-Step *Murabaha* and Islamic Commodity Future Contract (Asset Backed *Murabaha*).

References

Gundogdu, A. S. (2014a). Two−step Murabaha in stock exchange as an alternative to commodity Murabaha for liquidity management. *International Journal of Financial Services Management, 7*(3/4).

Gundogdu, A. S. (2014b). Margin call in Islamic finance. *International Journal of Economics and Finance, 6*(8).

Gundogdu, A. S. (2016). Exploring novel Islamic finance methods in support of OIC exports. *Journal of Islamic Accounting and Business Research, 7*(2).

Rosly, S. A., & Sanusi, M. M. (1999). The application of Bay' Al-'Inah and Bay' Al-Dayn in Malaysian Islamic bonds: An Islamic analysis. *International Journal of Islamic Financial Services, 1*(2).

Yousef, T. M. (2004). The Murabaha syndrome in Islamic finance: Laws, institutions and politics". In R. Wilson (Ed.), *The politics of Islamic finance* (pp. 63−80). Edinburgh: Edinburgh University Press.