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SHARIYAH  
REVIEW BUREAU

MASTERING  
THE LOGIC  
OF SHARIA  
PRINCIPLES IN  
FUTURES AND  
FORWARDS

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SHARIA ADVISOR LICENSED BY  
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# INTRODUCTION TO DERIVATIVES

A derivative is a financial instrument whose value is derived from an underlying asset or group of assets. The instrument is a contract between two or more parties. The value of this contract depends on changes in the value of the asset that the derivative's value is derived from. Derivatives can also be thought of as bets on a change in price, or as insurance. Examples of underlying assets are stocks, bonds, and commodities<sup>1</sup>. These derivatives are linked to a specific financial instrument or commodity, and through which specific financial risks can be traded in financial markets in their own right. Transactions in derivatives should be treated as separate transactions rather than as integral parts of the value of underlying transactions to which they may be linked. Unlike debt instruments, no principal amount is advanced that needs to be repaid and no investment income accrues. Derivatives are used for a number of purposes such as risk management, hedging, arbitrage between markets, and speculation.

Derivatives enable parties to trade specific financial risks - such as interest rate risk, currency, equity, commodity price risk and credit risk - to other entities who are more willing, or better suited, to take or manage these risks, typically, but not always, without trading in a primary asset or commodity. The risk embodied in a derivatives contract can be traded either by trading the contract itself, such as with options, or by creating a new contract which embodies risk characteristics that match, in a countervailing manner, those of the existing contract owned.

Derivatives contracts are usually settled by net payments of cash, often before maturity for exchange traded contracts such as commodity futures. Cash settlement is a logical consequence of the use of derivatives to trade risk independently of ownership of an underlying item. However, some derivative contracts, particularly involving foreign currency, are associated with transactions in the underlying item.

The value of the derivative derives from the price of the underlying item: the reference price. Because the future reference price is not known with certainty, the value of the financial derivative at maturity can only be anticipated, or estimated. The reference price may relate to a commodity, a financial instrument, an interest rate, an exchange rate, another derivative instrument, a spread between two prices, an index or basket of prices. An observable market price or index for the underlying item is essential for calculating the value of any financial derivative. If there is no observable prevailing market price for the underlying item, it cannot be regarded as a financial asset<sup>2</sup>.

Derivative products initially emerged as hedging devices against fluctuations in commodity prices, and commodity-linked derivatives remained the sole form of such products for almost three hundred years. Derivatives came into spotlight in the post-1970 period due to growing instability in the financial markets. However, since their emergence, these products have become very popular and by 1990s accounted for about two-thirds of total transactions in derivative products. In recent years, the market for financial derivatives has grown tremendously in terms of variety of instruments available, their complexity and also turnover. In the class of equity derivatives, futures and options on stock indices have gained more popularity than on individual stocks, especially among institutional investors, who are major users of index-linked derivatives. Even small investors find these useful due to high correlation of the popular indexes with various portfolios and ease of use.

The lower costs associated with index derivatives vis-a-vis derivative products based on individual securities is another reason for their growing use<sup>3</sup>.

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<sup>1</sup> Stefanie Strack, 'AN INTRODUCTION TO DERIVATIVE MARKETS', n.d., Available online

<sup>2</sup> 'What Are Derivatives?', accessed 2 October 2018, <https://www.managementstudyguide.com/what-are-derivatives.htm>  
IMF (1998), Financial Derivatives, Eleventh Meeting of the IMF Committee on Balance of Payments Statistics, Available from: <https://www.imf.org/external/bopage/pdf/98-1-20.pdf>

<sup>3</sup> '7-46.Pdf', accessed 2 October 2018, <http://nikhil-barjatya.tripod.com/ncfm/derivative/7-46.pdf>

Recently, the dangers and risks embedded in derivatives have come to the forefront. A major reason for this is because of counter-party risk.

Most derivatives are based on the person or institution on the other side of the trade being able to live up to the deal that was struck. If society allows people to use borrowed money to enter into all sorts of complex derivative arrangements, we could find ourselves in a scenario where everybody carries these derivative positions on their books at large values only to find that, when it's all unravelled, there's very little money there because a single failure or two along the way wipes everybody out with it. The problem becomes exacerbated because many privately written derivative contracts have built-in collateral calls that require a counterparty to put up more cash or collateral at the very time they are likely to need all the money they can get, accelerating the risk of bankruptcy<sup>4</sup>.

The following three broad categories of participants - hedgers, speculators, and arbitrageurs trade in the derivatives market. Hedgers face risk associated with the price of an asset. They use futures or options markets to reduce or eliminate this risk. Speculators wish to bet on future movements in the price of an asset. Futures and options contracts can give them an extra leverage; that is, they can increase both the potential gains and potential losses in a speculative venture. Arbitrageurs are in business to take advantage of a discrepancy between prices in two different markets. If, for example, they see the futures price of an asset getting out of line with the cash price, they will take offsetting positions in the two markets to lock in a profit.

It is argued by conventional investors that the derivatives market performs the following economic functions:

1. Prices in an organized derivatives market reflect the perception of market participants about the future and lead the prices of the underlying asset to the perceived future level. The prices of derivatives converge with the prices of the underlying at the expiration of the derivative contract. Thus, derivatives help in discovery of future as well as current prices.

2. The derivatives market helps to transfer risks from those who have them but may not like them to those who have an appetite for them.

3. Derivatives, due to their inherent nature, are linked to the underlying cash markets. With the introduction of derivatives, the underlying market witnesses higher trading volumes because of participation by more players who would not otherwise participate for lack of an arrangement to transfer risk.

4. Speculative trades shift to a more controlled environment of derivatives market. In the absence of an organized derivatives market, speculators trade in the underlying cash markets. Margining, monitoring and surveillance of the activities of various participants become extremely difficult in these kind of mixed markets.

5. An important incidental benefit that flows from derivatives trading is that it acts as a catalyst for new entrepreneurial activity. The derivatives have a history of attracting many bright, creative, well-educated people with an entrepreneurial attitude. They often energize others to create new businesses, new products and new employment opportunities, the benefit of which are immense.

6. Derivatives markets help increase savings and investment in the long run. Transfer of risk enables market participants to expand their volume of activity<sup>5</sup>.

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<sup>4</sup> Joshua Kennon, 'What Is a Derivative and How Do Derivatives Work?', The Balance, accessed 2 October 2018, <https://www.thebalance.com/what-is-a-derivative-and-how-do-derivatives-work-358098>

<sup>5</sup> NIFM Research (2013), Participation of Derivatives in Economic Functions, Available from: <http://www.nifmresearch.com/blog-detail.php?id=32>

## FEATURES OF A DERIVATIVES CONTRACT

### Contract

A derivative is essentially a contract. The contract specifies that some future commodity may be exchanged at a later date at a price fixed today. Notice the fact that the agreement would basically be worthless if not for the time difference between the setting of the price and the actual execution of the trade.

Since the price is set today, let's say at \$100 and the transaction takes place a month from now when the price could be any amount greater or lower than \$100, the derivative contract becomes valuable. The derivative contract becomes a license to purchase commodities at below market prices and book an immediate gain.

Therefore, the value of the contract is derived from the fluctuation in the price of an underlying asset and hence the term derivatives to define these securities.

### Time Restriction

Since derivatives are contracts, they have an expiration date. This means that after a certain date they become completely worthless. Hence, they must be utilized within a given time period or else they do not hold any value. This is opposed to the general notion of financial assets. Financial assets like stocks and bonds usually hold value for a much larger period of time. Derivatives on the other hand hold value for an extremely short period of time and this is their defining feature.

### Settlement

Theoretically speaking, derivative contracts can be settled in both cash as well as kind. This means that the person executing the contract has the right to ask for delivery of the underlying commodity or the amount of money which is equivalent to the underlying commodity. However, in reality derivative contracts are usually always settled in cash. Asking for delivery of the underlying commodity is an unheard-of occurrence in the modern world.

### High Leverage

The derivatives contracts are characterized by extremely large leverage ratios. Leverage ratios of 25 to 1 and 33 to 1 are common while trading derivatives. This is not a defining feature of derivatives meaning that a contract cannot be called a derivative contract just because it is highly leveraged. However, this is the norm with most derivative transactions.

### Zero-Sum Game

Derivative contracts are a zero-sum game. This means that the parties in a derivative contract are directly betting against each other. If one party wins, the other party by definition has to lose. This is opposed to the stock market when a rising stock price can be beneficial for everyone who is holding that stock. The fact that derivatives carry a high leverage and are a zero-sum game meaning that one of the parties involved has to lose makes it an extremely dangerous financial instrument<sup>6</sup>.



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<sup>6</sup> 'What Are Derivatives?', accessed 2 October 2018, <https://www.managementstudyguide.com/what-are-derivatives.htm>

## WHAT IS A FORWARD CONTRACT?

A forward contract is known as a linear product. Linear products are instruments that see their value directly related to the market price of the underlying variable; In case of movement in the underlying asset, the value of the derivative will move with an identical quantity. These are often called “Delta-One” products because there is a 1:1 relationship between the values of the underlying and derivative contract in case of market movement. Such products are not particularly complex mathematically, but they may still provide high leverage and give exposure to high risks.

A forward contract is a private agreement between two parties giving the buyer an obligation to purchase an asset (and the seller an obligation to sell an asset) at a set price at a future point in time. The assets often traded in forward contracts include commodities like grain, precious metals, electricity, oil, beef, orange juice, and natural gas, but foreign currencies and financial instruments are also part of today’s forward markets<sup>7</sup>.

Futures and forwards both allow people to buy or sell an asset at a specific time at a given price, but forward contracts are not standardised or traded on an exchange. They are private agreements with terms that may vary from contract to contract. Also, settlement occurs at the end of a forward contract. Futures contracts settle every day, meaning that both parties must have the money to ride the fluctuations in price over the life of the contract.

The parties to a forward contract tend to bear more credit risk than the parties to futures contracts because there is no clearing house involved that guarantees performance. Thus, there is always a chance that a party to a forward contract will default, and the harmed party’s only recourse may be to sue. As a result, forward-contract prices often include premiums for the added credit risk. The buyer obtains a “long position” in the asset/commodity whilst the seller assumes a “short position”.



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<sup>7</sup> 'Forward Contract - Full Explanation & Example | InvestingAnswers', accessed 4 October 2018, <https://investinganswers.com/financial-dictionary/options-derivatives/forward-contract-4892>.

## Features of forward contracts:

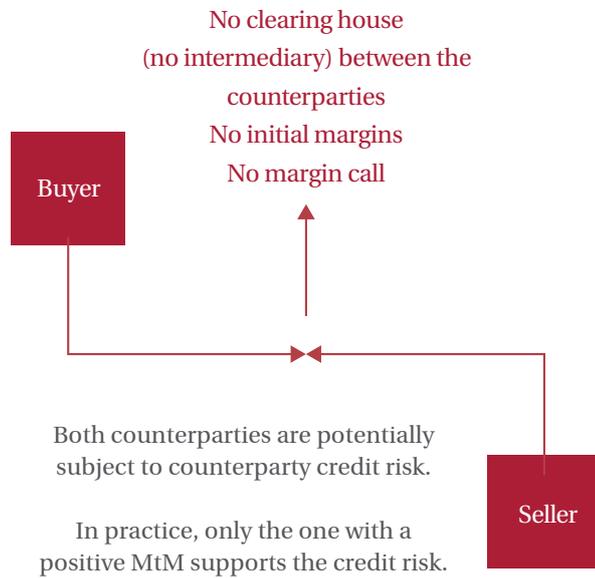
- traded over the counter (not on exchanges)
- custom tailored
- no money changes hands until maturity
- non-trivial counter-party risk.

An example of a forward contract is a transaction on soybeans. Consider a 3-month forward contract for 10,000 bushels of soybean at a forward price of \$3.5/bushel. The long side is committed to buy 10,000 bushels of soybean from the short side three months from now at the price of \$3.50 bushel.

Forward contracts have two limitations:

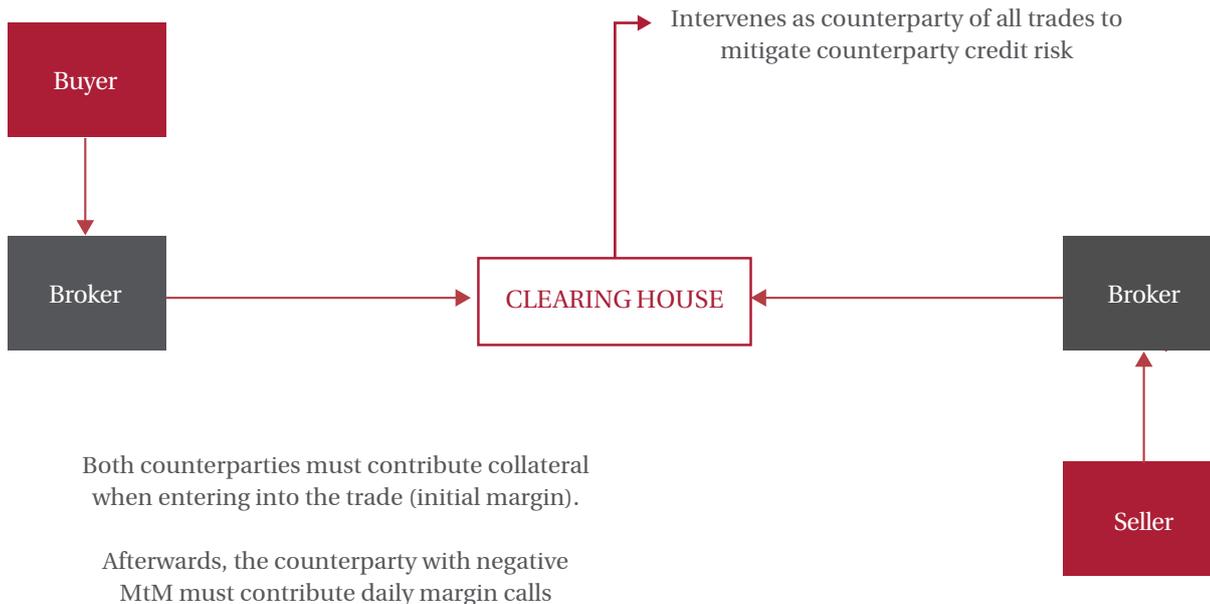
- (a) illiquidity
- (b) counter-party risk.

Futures contracts are designed to address these limitations.



## WHAT IS A FUTURES CONTRACT?

A futures contract is a bilateral contract in which two counterparties agree to buy/sell an underlying at a predetermined price at a specified date in the future. Futures are traded on organised markets (exchanges), so they are standardised contracts<sup>8</sup>.



The buyer in the futures contract is known as to hold a long position or simply long. The seller in the futures contracts is said to be having short position or simply short.

The underlying asset in a futures contract can be commodities, stocks, currencies, interest rates and bonds. The futures contract is held at a recognised stock exchange. The exchange acts as mediator and facilitator between the parties. In the beginning both the parties are required by the exchange to put beforehand a nominal account as part of contract known as the margin.

Since the futures price is bound to change every day, the differences in prices are settled on daily basis from the margin. If the margin is used up, the contracting party has to replenish the margin back in the account. This process is called marking to market. Thus, on the day of delivery it is only the spot price that is used to decide the difference as all other differences had been previously settled. Futures can be used to hedge against risk or speculate the prices.

<sup>8</sup> 'Definition of Futures Contract | What Is Futures Contract ? Futures Contract Meaning', The Economic Times, accessed 4 October 2018, <https://economictimes.indiatimes.com/definition/futures-contract>

## SHARIAH ANALYSIS OF FUTURES & FORWARD CONTRACTS

The majority of Shariah scholars are of the view that conventional Futures and Forward contracts are not Shariah compliant. This was the resolution of the International Islamic Fiqh Academy as well as the Islamic Fiqh Academy of Muslim World League<sup>9</sup>. The AAOIFI Standard No.20 states:

### “5/1 Futures

5/1/1 A contract that is binding under law. It is concluded on the trading floor of the exchange for the sale and purchase of commodities or financial instruments for a period linked to the near future. The transaction is arranged with the mentioning of the quantity, type and category along with the statement of the date and place of delivery. As for the price, it is the sole element that varies, and it is ascertained in the trading hall.

5/1/2 The Shari’ah rule for futures contracts It is not permitted according to the Shari’ah to undertake futures contracts either through their formation or trading.”

The Shariah scholars object to Forwards and Futures contracts due to the following reasons:

### 1. Trading before possession

The majority of buyers and sellers in futures and options transactions reverse out of their position before delivery or maturity. This means that physical delivery hardly ever takes place in futures and options; for example, 99% of all futures contracts are settled before maturity. This feature of derivative trading, i.e. sale before delivery is made or selling something one does not possess, has been subject to intense criticism by Islamic scholars. A primary objection to this feature is that a number of intermediaries make money without adding any form of utility to the commodity; i.e., they earn money without giving anything in recompense.

Actual physical delivery of the commodity is good because it creates jobs from storage, transport and packaging<sup>10</sup>.

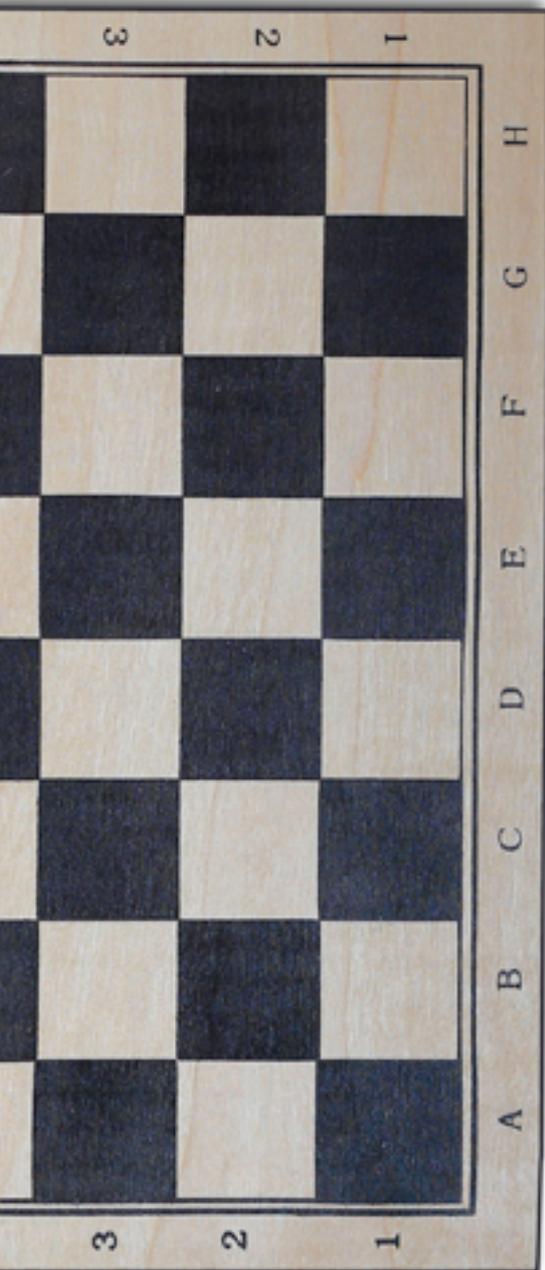
The Islamic Fiqh Academy, in Resolution No. 63 (7/1) of its seventh session in 1412 AH (9-14 May, 1992) describes this method of commodity sale:

“The contract provides for the delivery of described merchandise (as a pending obligation) at some future date, with payment of its price on delivery. The contract, however, does not stipulate that it shall end with the actual delivery and receipt of the merchandise, and thus it may be terminated by an opposite contract. This type of contract is the most prevalent in the commodity markets. It is not at all permissible.”



<sup>9</sup> International Islamic Fiqh Academy. (1992a). Qararat al-Majma', Seventh Session, Resolution 1 Financial Markets. Jeddah: International Islamic Fiqh Academy. International Islamic Fiqh Academy. (1992b). Qararat al-Majma', Seventh Session, Resolution 3 Istisna contract. Jeddah: International Islamic Fiqh Academy. Islamic Fiqh Academy of Muslim World league. 1984. Fatawa al-Majma, Seventh Session-Financial Securities and

<sup>10</sup> Sherin Kunhibava and Balachandran Shanmugam, 'Shariah and Conventional Law Objections to Derivatives: A Comparison', Arab Law Quarterly 24, no. 4 (1 January 2010): 319–60, <https://doi.org/10.1163/157302510X531764>.



## 2. Qimar activity

Shariah scholar Shaykh DeLorenzo argues that futures are part of zero-sum markets where gains result from corresponding losses. He opines that this sort of economic activity is clearly forbidden under Shariah. He adds that, while proponents of futures market may argue that such activities function to stabilise prices and regulate risk, as far as the Shariah is concerned such markets produce nothing of value. He concludes that futures amount to bets on the direction the market is moving in. Obviously, the ethics of this market are unacceptable<sup>11</sup>.

Al-Suwailem explains that, in a zero-sum game, one party gains at another's expense, i.e., it is a "transfer of wealth for no counter-value"; this he opines is "condemned in the Qur'an". He explains that the direct conflict of interest inherent in a zero-sum game may create hatred between the two parties, which is one reason the Qur'an prohibits *Maysir*: "Satan only wants to plant enmity and hatred among you through wine and *Maysir*" (6:91). Al-Suwailem argues that the use of derivatives is a clear example of a zero-sum game, obliging an exchange of underlying assets for money, or certain amounts of money, at a future date.

## 3. Sale of debt for debt

The exchange of a debt for a debt also known as *Bay' al Dayn bil Dayn* or *Bay' al-Kali bil Kali*. The AAOIFI Shariah Standard No.10 states: "Again, any delay in payment of the capital and dispersal of the parties renders the transaction a sale of debt for debt which is prohibited, and the scholars agreed on its prohibition. Ibn Rushd said: "As for sale of debt for debt, Muslim scholars are unanimous regarding its prohibition."

This general prohibition has been prescribed to futures, where it is concluded that the sale of futures contracts, where the parties can offset their transactions by selling the 'debts' owed them to other parties before the delivery of the underlying asset, will amount to a sale of a debt and is therefore prohibited.<sup>12</sup>

<sup>11</sup> Ibid

<sup>12</sup> Ibid

## SHARIAH COMPLIANT ALTERNATIVES

There are a few Shariah compliant contracts available that could be considered as a basis for futures and forward contracts.

Bay' Salam is one potential contract. Bay' Salam is a transaction where two parties agree to trade an underlying asset at a predetermined future date but at a price determined which is fully paid at the time of contracting. This is similar to a conventional forward contract however, the big difference is that in Bay' Salam, the buyer pays the entire amount in full at the time the contract is initiated. The idea behind such a 'prepayment' requirement has to do with the fact that the objective in a Bay' Salam contract is to facilitate working capital financing for the seller. Since there is full prepayment, a Salam sale is clearly beneficial to the seller. As such, the predetermined price is normally lower than the prevailing spot price. This price behavior is certainly different from that of conventional futures contracts where the futures price is typically higher than the spot price by the amount of the carrying cost<sup>13</sup>. A Forward contract resembles Bay' Salam more than a Futures contract due to the standardised nature of Bay' Salam. Thus, some of the problems of forwards; namely "double-coincidence", negotiated price and counterparty risk can exist in the Salam sale. Counterparty risk however would be one sided. Since the buyer has paid in full, it is the buyer who faces the seller's default risk and not both ways as in forwards/futures. In order to overcome the potential for default on the part of the seller, the Shariah allows for the buyer to require security which may be in the form of a guarantee or

mortgage<sup>14</sup>. Since Salam involves actual trading of the underlying asset, financial institutions who do not want to trade in the underlying asset, may engage in a parallel Bay' Salam where the asset is sold in a Salam contract to another buyer. Alternatively, the bank can enter into a *Wa'd* agreement to sell the commodity on a certain date without entering into a Salam agreement to move the commodity on.

Another potential Shariah compliant alternative to futures and forwards is a model using two independent unilateral promises (*Wa'dan*). One party can make a unilateral promise to buy 10,000 bushels of soybean on x date at a forward price of \$3.5/bushel if the price is less than \$3.5/bushel. The seller can make a unilateral promise to sell 10,000 bushels of soybean on a specific date at a forward price of \$3.5/bushel if the price is \$3.5 or more. The concept and use of *Wa'dan* is still debated among Shariah scholars in the Islamic finance industry.



<sup>13</sup> Bacha, O. (n.d), Derivatives in Islamic Finance – an overview, Management centre, International Islamic University, Malaysia

<sup>14</sup> Ibid

## Conclusion

Forwards and futures are common derivatives. A derivative is a financial instrument whose value is derived from an underlying asset or group of assets. Derivative products initially emerged as hedging devices to trade specific risks such as interest rate risk, currency, equity and commodity price risk, credit risk etc. A forward contract is a private agreement between two parties giving the buyer an obligation to purchase an asset. Forward contracts have two limitations: (a) illiquidity (b) counter-party risk. Futures contracts are designed to address these limitations. A futures contract is a bilateral contract in which two counterparties agree to buy/sell an underlying at a predetermined price at a specified date in the future. Futures are traded on organized markets (exchanges), so they are standardized contracts. The majority of Shariah scholars are of the view that conventional Futures and Forward contracts are not Shariah compliant. This was the resolution of the Islamic Fiqh Academy of Muslim World League. The AAOIFI Standards also explicitly state the non-compliance of such contracts. Forwards and futures are prone to the Shariah prohibition of trading before possession. As such, these contracts contain *Gharar* (gross uncertainty). Shariah scholars also argue that these contracts contain elements of *Qimar* (gambling) in that they are zero-sum games. Another non-compliance factor in futures and forwards is the existence of a debt for debt trade where parties offset and close their positions before delivery of the underlying assets. Shariah compliant alternatives do exist in the form of Bay' al-Salam. However, such a contract is not identical to the needs of the buyer and seller of a forward contract. The application and use of two *Wa'ds* (promises) can help structure a parallel Shariah compliant contract to that of futures and forwards.

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We've been preparing our clients for a new world in which Sharia Advisory rapidly becomes the currency of choice. From faster Certification programs, to direct Sharia Supervisory access, and perhaps most critically, navigating through the economic structures of clients offerings within a matter of days. We've have been working hard to help clients like you capitalize on opportunities in global Islamic financial markets.

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The future of Sharia Advisory and Audit is exciting and we are very lucky to be a part of this business!

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#### Disclaimer

This is a preliminary Shariah research and is by no means a definitive conclusion or fatwa on the aforementioned subject. This paper was written to develop knowledge and research on this complex subject from a Shariah perspective. We hope that this paper will prompt and engage global Islamic finance bodies, Shariah scholars and Muslim economists to analyze, comment and build upon the arguments expressed.