

ISLAMIC STRUCTURED PRODUCTS AND DERIVATIVES

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- Section 1: Islamic Structured Products
- Section 2: Islamic Derivatives
- Conclusion

Introduction

- SPs are structured investment products where no resemblance to any particular asset class, or any standardized financial instruments are to be found
- It combines two or more financial instruments, one of which is generally a derivative, to create a single “structured and packaged product
- For better understanding, this presentation will cover both topic separately

Structured Products

SECTION 1: ISLAMIC STRUCTURED PRODUCTS

Structured Products

Islamic Structured Products

Examples of Islamic Structured Products

Some Shariah Issues Relating to Islamic Structured Products

Structured Products

- Name covering a broad range of new investment products, many with proprietary names or acronyms, that combine two or more financial instruments, at least one of which must be a derivatives

www.answer.com/topic/structured-product?cat+biz-frn

- Synthetic Investment instruments specially created to meet specific needs that cannot be met from the standardized financial instruments available in the markets.
- Wikipedia

SP under SC's Guidelines

- Para 1.03:
- “ For the purposes of these Guidelines:
- “(a) the term “structured product” means any investment product that falls within the definition of “securities” under the SCA which provides the holder with an economic, legal or other interest in another asset (“underlying asset”) and derives its value by reference to the price or value of the underlying asset;
- (b) the term “underlying asset” means any security, index, currency, commodity or other assets or combination of such assets.”

Common Features of SPs

- SP are structured investment products where no resemblance to any particular asset class, or any standardized financial instruments is to be found
- It combines two or more financial instruments, one of which is generally a derivative, to create a single “structured and packaged product
- The returns are linked to the performance of an underlying asset or benchmark such as interest rates, equity markets, commodities, corporate credits, foreign exchange markets, real estate or other financial instrument
- Some structured products offer the feature of capital protection of some or all of the capital if certain conditions are met.

Examples of Structured Products

- Interest rate-linked notes
- Equity-linked notes
- FX and Commodity-linked notes
- Hybrid-linked notes
- Bond Linked Notes
- Index Linked Notes
- Currency Linked Notes
- Commodity (Contracts) Linked Notes
- Credit Linked Notes

- 
- Islamic Structured Products

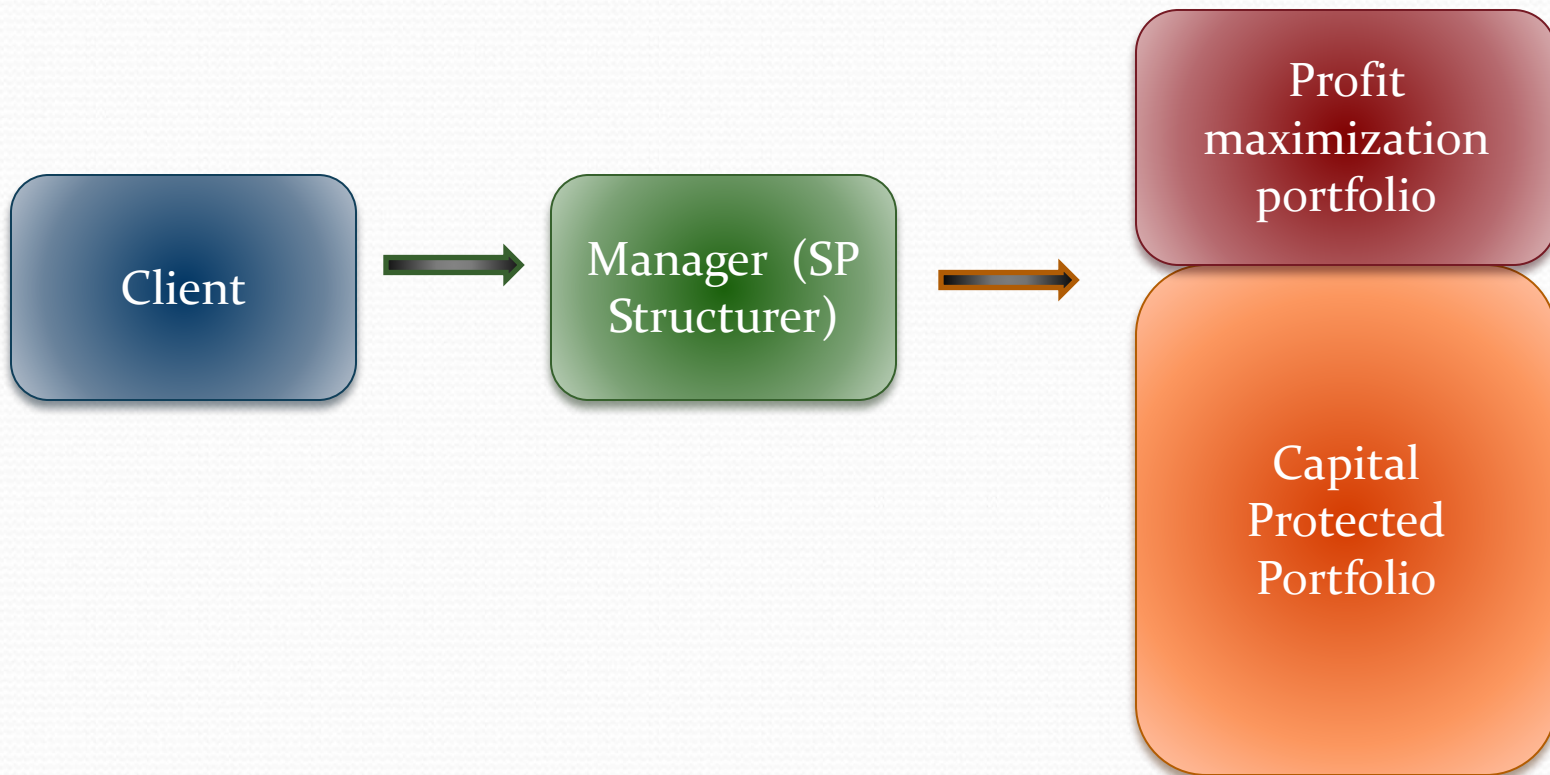
Building Block in Structuring Islamic SPs

- Avoiding the negative list
- Observing the necessary and unique requirement as per contract used
 - At fund raising level: wakalah or mudharabah
 - At Activities level: Tawarruq (Commodities Murabahah), purchasing basket of share, “Islamic option” using wa’ad or urbun, etc
- Capital protection, how it is achieved?
 - Through portfolio management and balancing
 - Third party guarantee
 - Subsidiary to subsidiary
 - Different branches of International financial institution



Examples of Islamic Structured Products

Model 1 – Islamic Principal Protected Structured Product

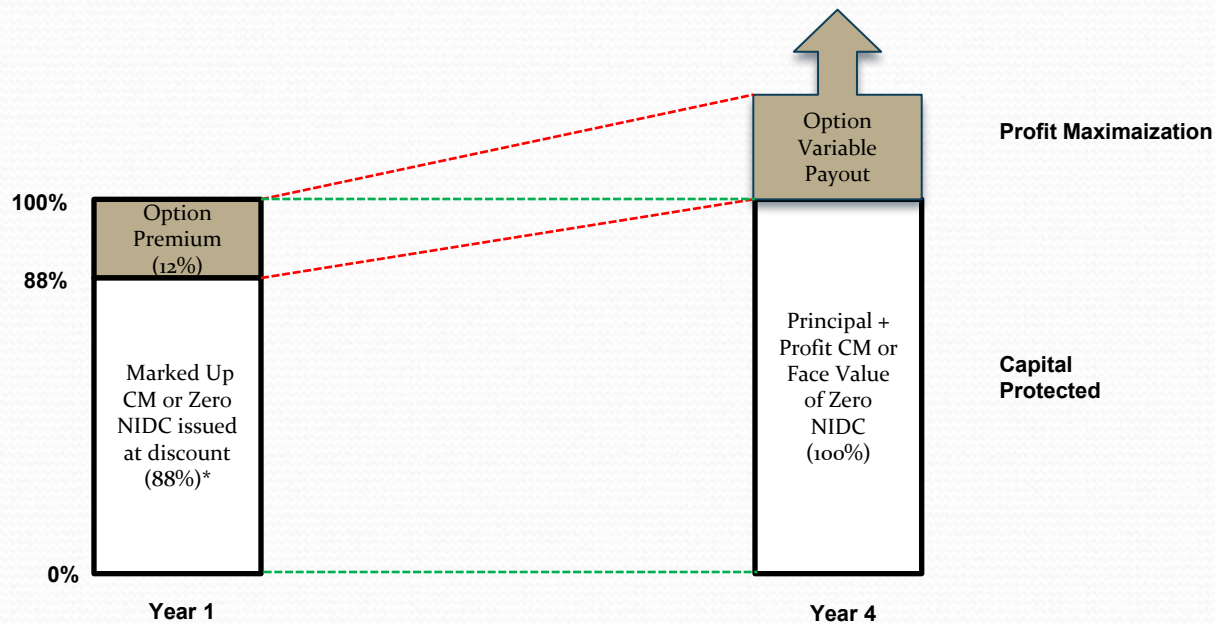


Model 1 – Islamic Principal Protected Structured Product

- Investor invests 100% of the principal amount for a 4-year structured product.
 - Prevailing profit rate = 3%,
 - Using simple profit rate calculation, ($4 \times 3\% = 12\%$) this would mean that a Zero NIDC issued at 88% of the principal amount,
 - Time value would enable the ZNIDC to accrete to 100% in 4 years' time. (*Note that this method of calculation is a crude approximation.*)
- The balance 12% would be used to purchase an option (i.e. pay the premium of the option) plus the fees earned by the bank.
- This option provides the potential return or upside based on the performance of the underlying assets.
- This return may vary and is not guaranteed by the issuer.

Model 1 – Islamic Principal Protected Structured Product

Illustration of Principal Protection via Zero NIDC Structure



*Assuming Profit Rate of 3% per annum

Model 1 – Islamic Principal Protected Structured Product

Illustration of the Potential Upside for Islamic Structured Products

FX Option:

Pay premium of RM55,000 for the right to buy USD/MYR 3-month European Style Call Option at MYR4.7250 for USD15 million.

On the expiry of option, the spot USD/MYR dealing at:

1. MYR4.6875 - you will let the contract lapse as no opportunity to profit from the deal. The cost of the transaction is MYR55,000 option premium paid.
2. MYR4.7480 – you will exercise the contract at MYR4.7250 and sell the USD to the market at MYR4.7480. The profit from transaction is:
$$\{(4.7480 - 4.7250) \times \text{US}15,000,000\} - \text{RM}55,000$$
= RM290,000

CPO Futures :

Trade Details of FCPO:

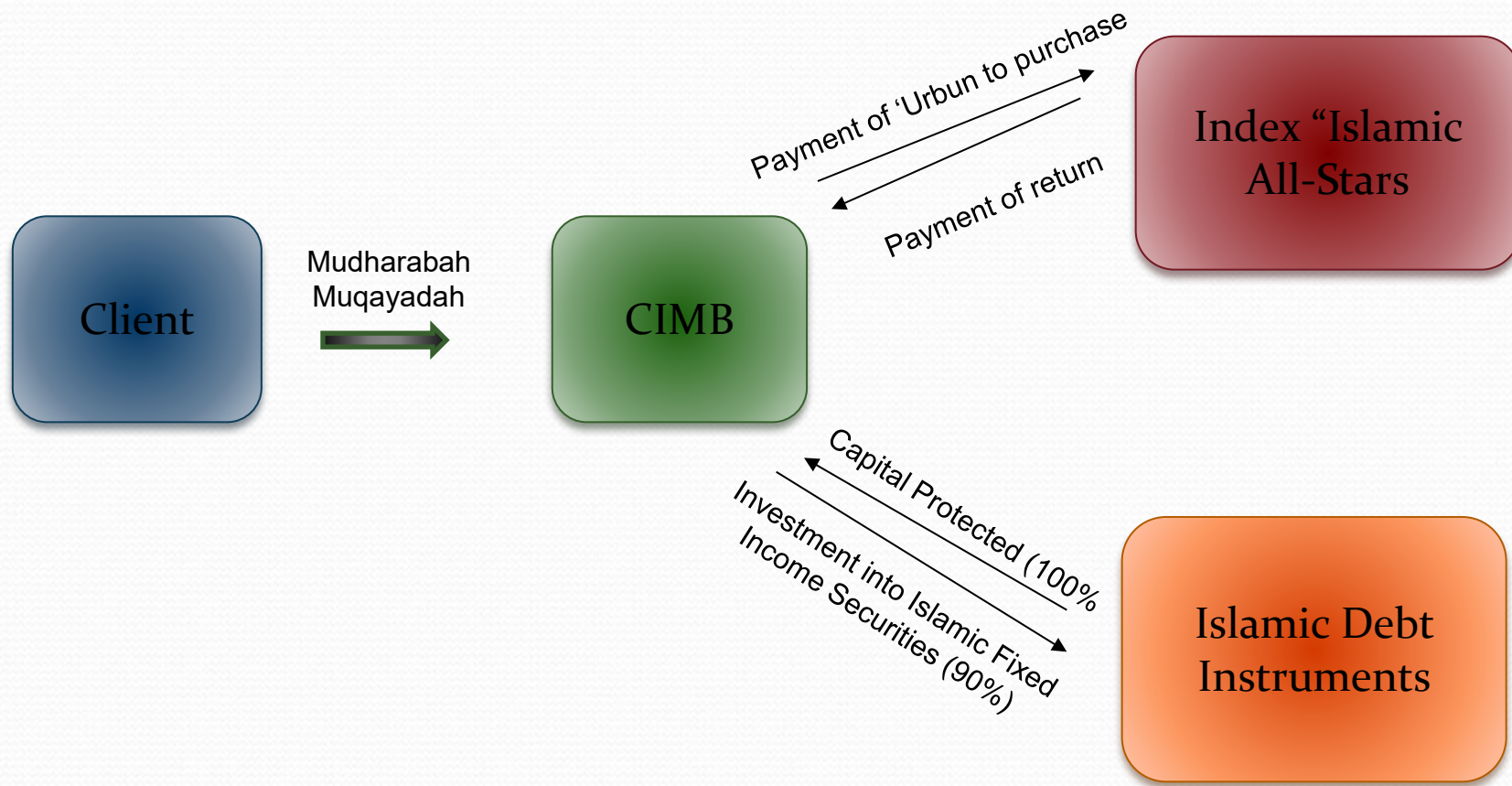
- Initial Margin: RM9,000 per contract
- Contract Size: 25 Metric Ton (MT)
- Bought: 4 Contracts (100 MT) – Margin of RM9,000 x 4 **Pay Margin of RM36,000**
- Entry price of trade: RM3,450
- Closed out 3 months later at the price:
 1. 3,215 - you will incur loss of $((235) \times 25 \times 4)$
= (23,500) to be absorbed by the Margin
 2. 4,810 – you will make profit of $(\text{RM}1,360 \times 25 \times 4)$
= RM136,000

Model 1 – Islamic Principal Protected Structured Product

Shariah Issues

- Capital protected portfolio
- Rebalancing of portfolio:
 - Increasing or decreasing the profit maximization portfolio
 - Reentering into various murabahah contracts
- Profit maximization portfolio
 - Wa'ad
 - 'Urbun
- Leverage
- Early Redemption

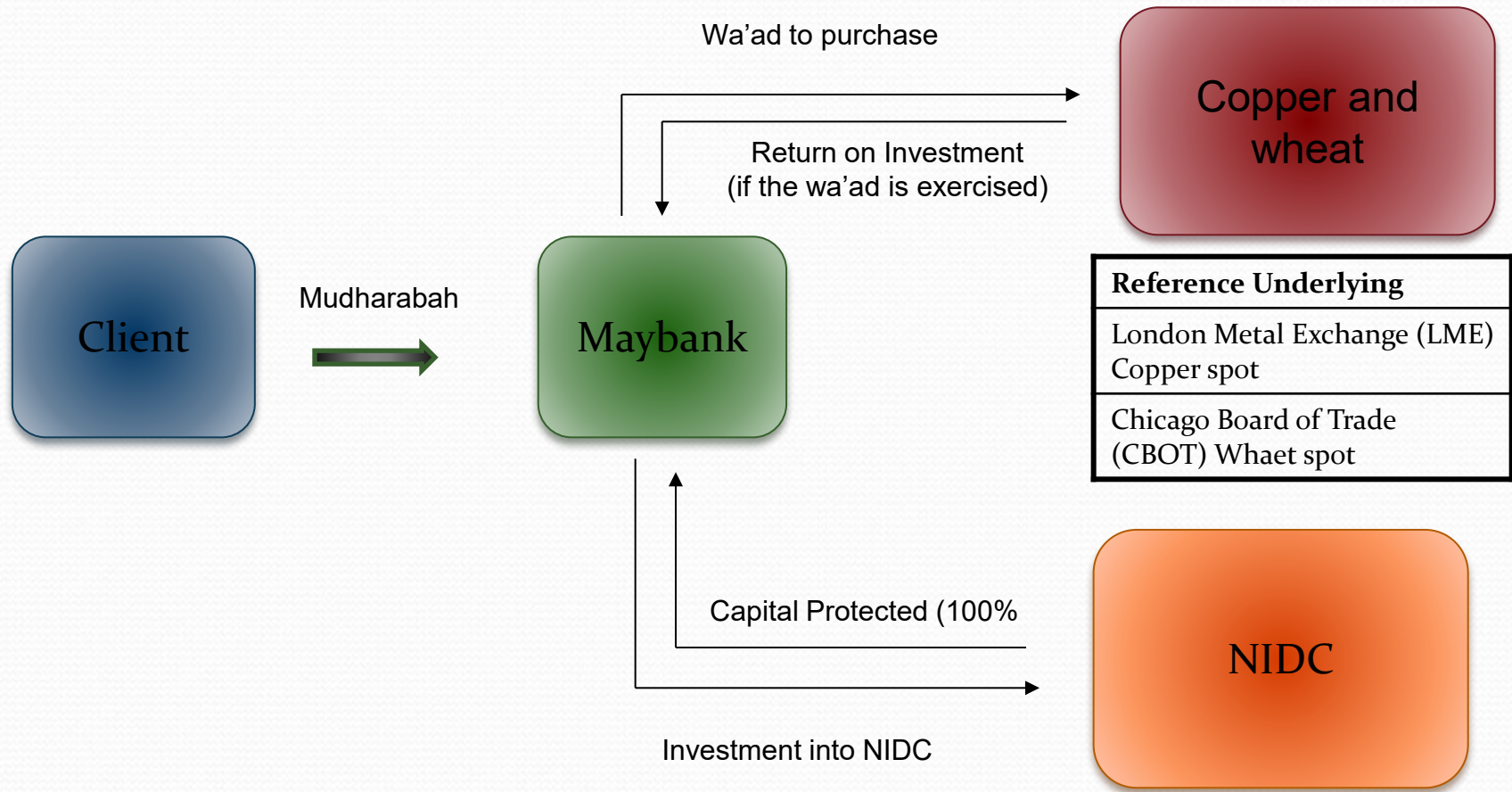
Model 2: Islamic All-Stars Restricted Mudharabah Structured Investment-I (Islamic All-Stars – CIMB Islamic)



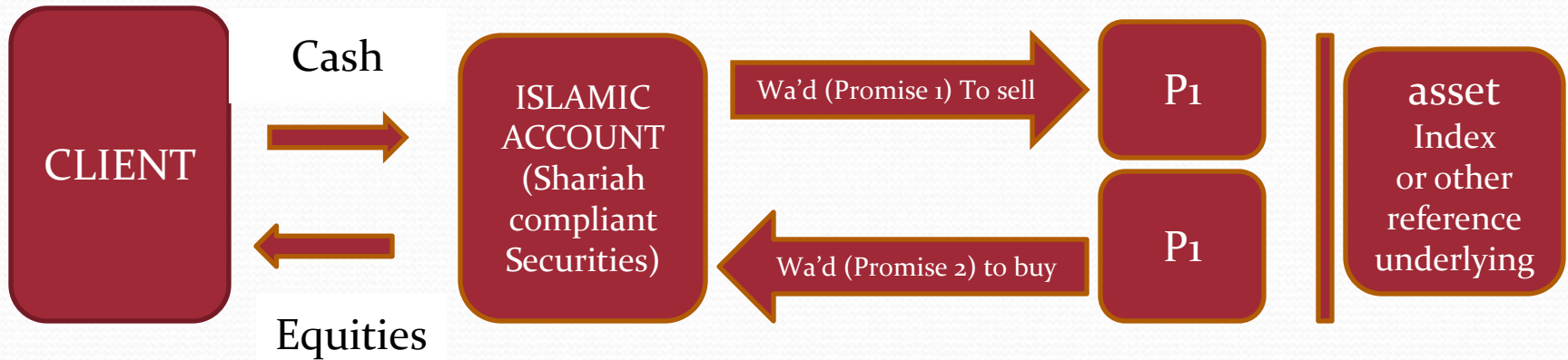
Shariah Issues

- The nature of 'urbun
- Who owns the underlying after 'urbun
- Rights and liabilities
 - Dividend
- Profit sharing ratio
 - Investors: 99.9%: Bank: 0.1%

Model 3: Maybank Structured Islamic Deposit Stride-i



Model 4



E.g:

- 1) Deutsche Bank Structured Product
- 2) LLB Top 20 Middle East Total Return Index (ABN Amro N.V)

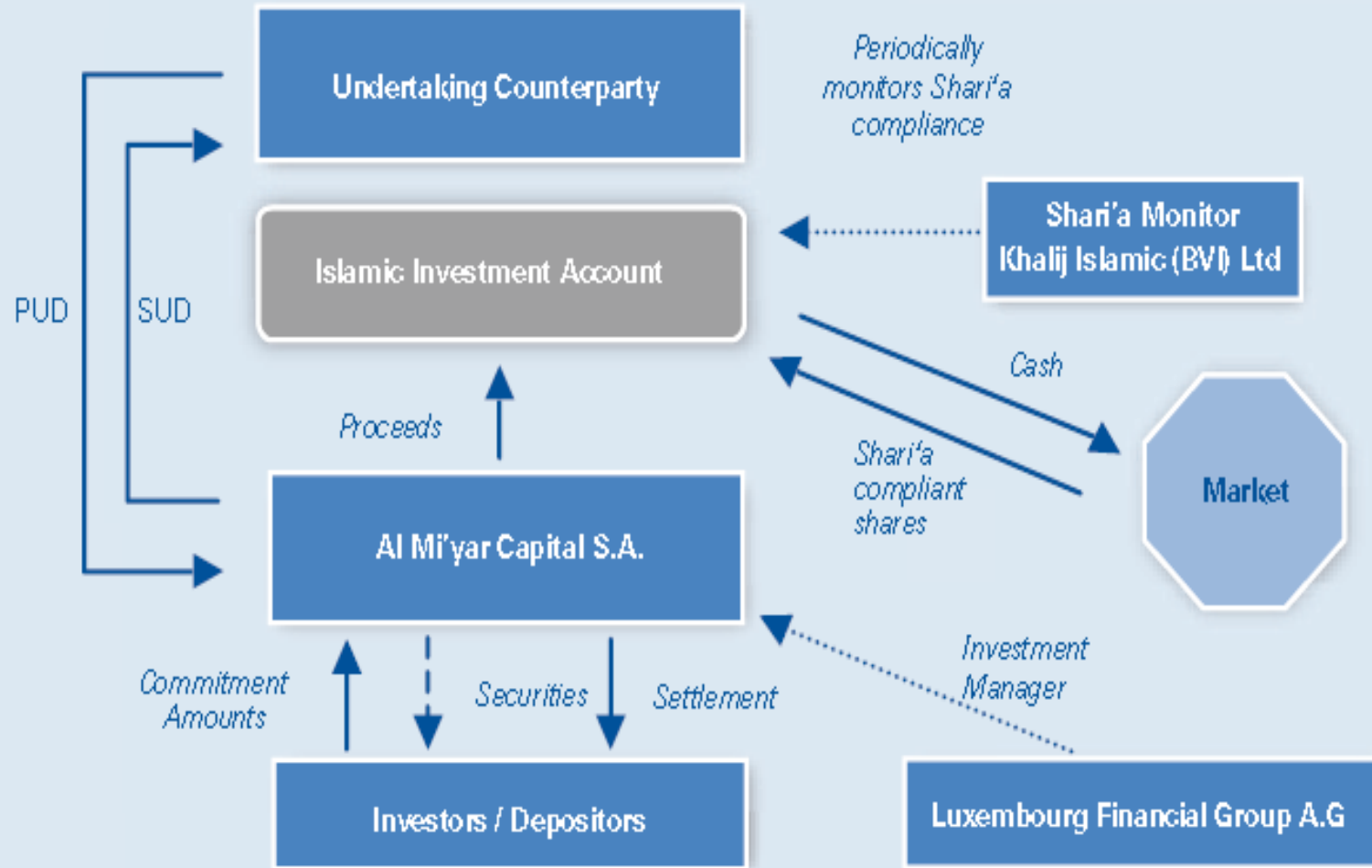
Shariah Issues

- Unilateral wa'ad, two unilateral wa'ad, bilateral wa'ad?
- The changing of status on securities → replacement
- Wa'ad to buy and sell share on benchmark: jahalah on the price?
- Early redemption. How?

Model 5 - Al-Mi'yar Capital SA

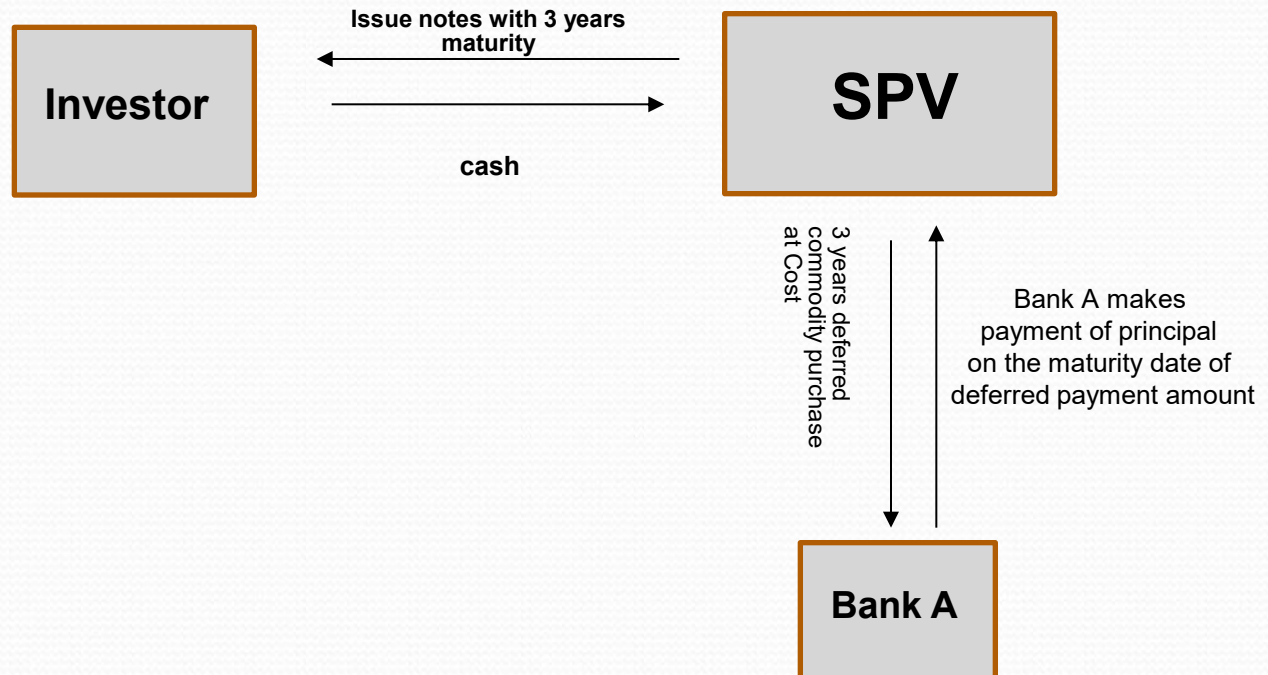
- Shariah Compliant Issuance Platform issued under the Luxembourg Securitisation Act 2004
- Developed by Deutsche Bank with Luxembourg Financial Group A.G. as the Shariah investment manager and Deutsche Banks Trust & Securities Services Providing the settlement framework
- It allows for the issuance of tradable Islamic money market products, settling with short settlement cycles (t+0) enabling the issuance of overnight products or other short dated money market instrument and hence enhancing the liquidity of the Islamic money market.

The Al Mi'yar Structure



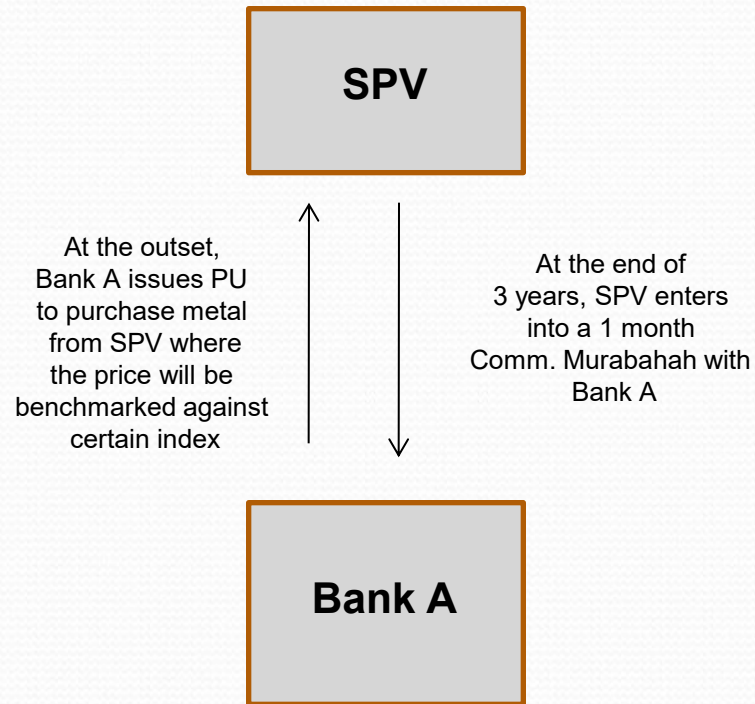
Model 6

Step 1



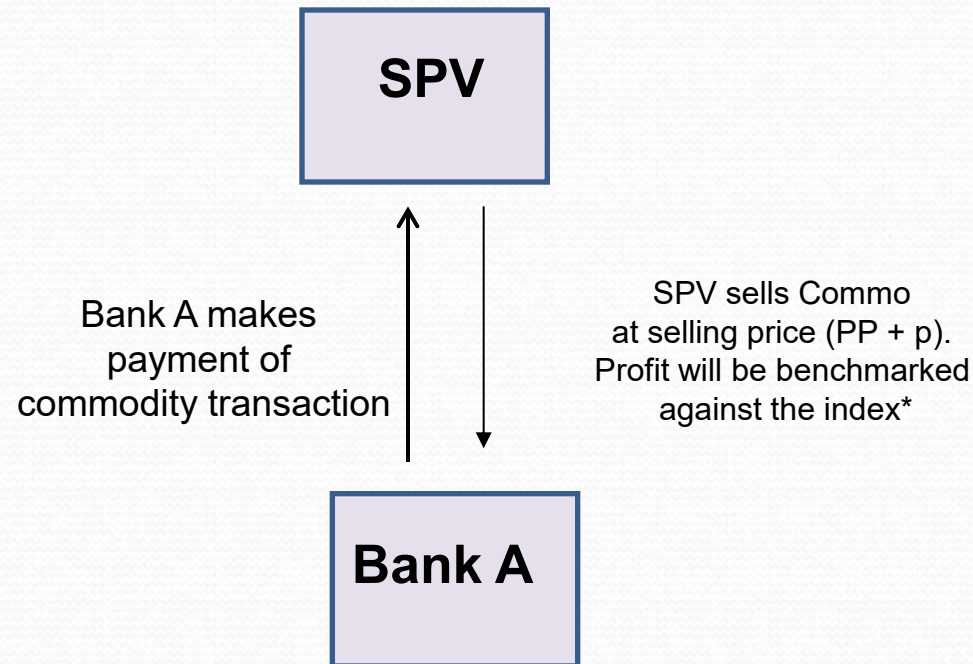
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Step 2



Cont'd

Step 3



* SPV will only exercise its option if the performance of the index is positive

Model 7 - Islamic Callable Range Accrual Investment (iCRA)

- It can use either wakalah or murabahah structures

Islamic Callable Range Accrual Investment (iCRA)

- Islamic Callable Range Accrual (iCRA) deposit is a principal protected investment product in which the profit is only accrued whenever the underlying reference index falls within specified range.
- The purpose is to provide a Shariah compliant investment for corporate client (non-retail).
- i-CRAI is designed to provide client with various avenue of Islamic investment product that offers higher returns by investing their surplus fund in Ringgit (MYR) or foreign currency (FCY) as compared to normal plain vanilla deposit and money market placements.
- iCRA is structured based on the following;
 - ❖ Issuance of Negotiable Islamic Debt Certificate (NIDC) – for capital protection and,
 - ❖ Wa'd (unilateral promise) – for performance payout (if any).
- The structure allows the Bank to buy back or call the NIDC issuance before maturity.

ILLUSTRATION

Amount :MYR50 mio

Tenor : 5 years Non Callable 6

Coupon : 5.20%

Underlying Reference : 6m KLIBOR (Rates)

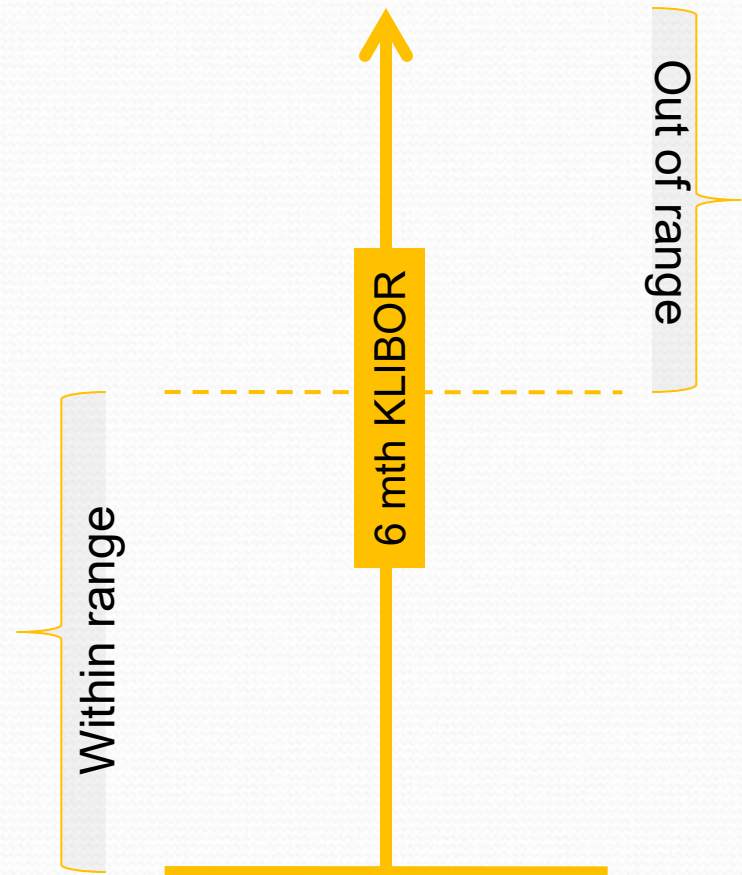
Range :1Y to 2Y – from 0 to 4.00%,
3Y to 5Y - from 0 to 4.50%

Current 6mK : 3.38%...within range

Assuming the 6mK were within range in the whole period

Total profit accrues at the end of 6M

$$\frac{5.20\% * 50\text{mio} * 180\text{d}}{365} = 1,282,191.78$$



ILLUSTRATION

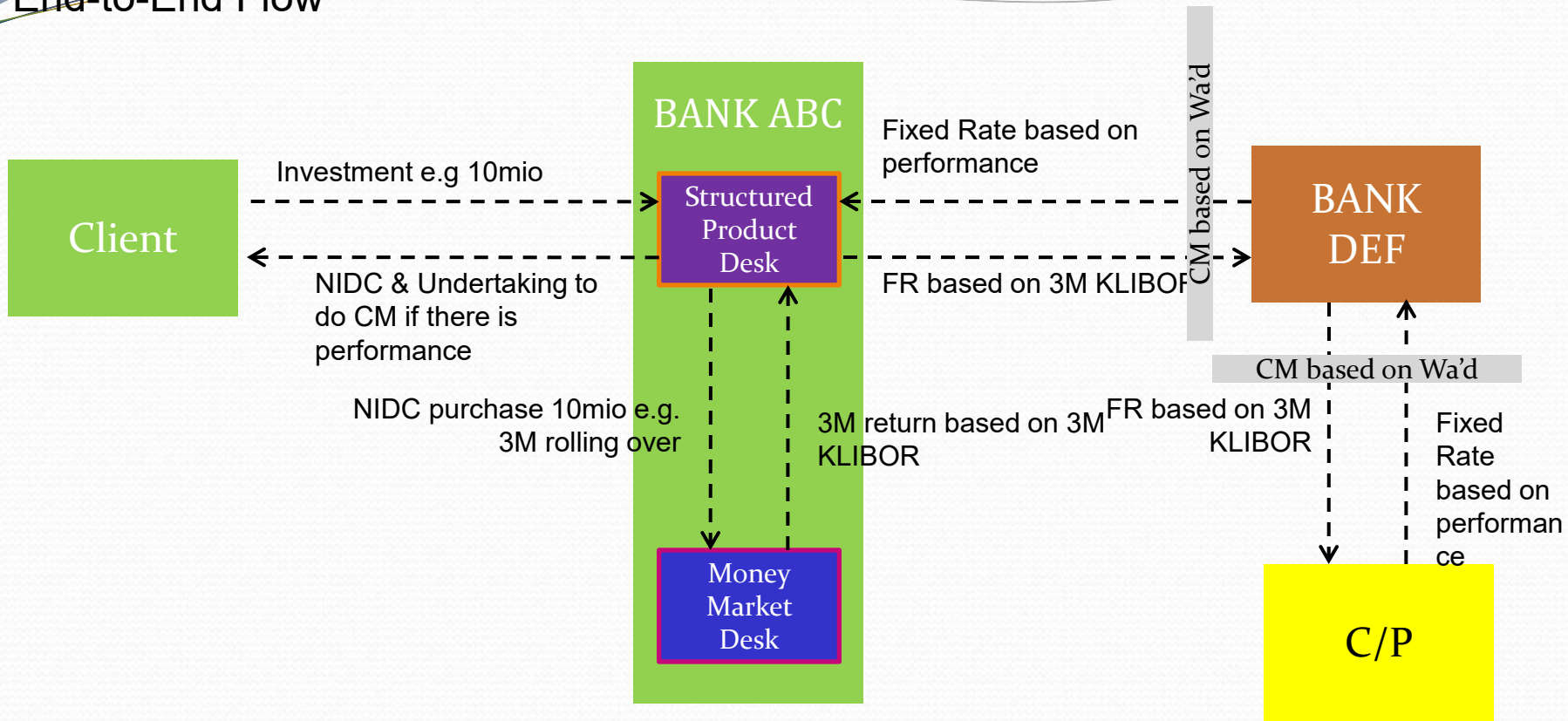
🔗 On effective date or trade date,

- ❖ BANK ABC will issue a NIDC to clients representing a debt certification to investors.
- ❖ BANK ABC also promise (Wa'd) to the investors that on each coupon payment date, BANK ABC will purchase assets from the investors at cost plus profit (murabahah price), where the murabahah price is linked to the profit of the yield enhancement investment.

🔗 On each coupon payment date,

- ❖ If the investment performs, BANK ABC will sell assets at cost to clients. Upon completion of the trade, clients will offer to sell to BANK ABC and (as promise), BANK ABC will buy back the same asset at cost plus profit.
- ❖ The cash settlement is netted.

End-to-End Flow



Applicable Syariah Principle (2)

Islamic Callable Range Accrual Investment (i-CRAI)

The Shariah Structure is based on:

- Wakalah bil Istithmar – refer to an “investment agency” contract where the investor (principal/muwakkil) appoints the agent (the wakil) to undertake investment activities on behalf of the investor for a fee.
- Wa’d
- Commodity Murabaha

Other Issuances of Islamic Structured Products

- Islamic Equity Link Islamic (ELIN)
 - Autocallable Equity Linked Structured Investment-i
- Islamic Dual Currency Investment
- Islamic Callable Inverse Floater-i
- Autocallable ETF Linked Structured Investment-I
- Islamic Credit Linked Notes

Islamic Derivatives

SEC 2: Islamic Derivatives

Preamble

Introduction to derivatives

Islamic derivatives

Examples of Islamic Derivatives Structures

Preamble

- Besides investment, SPs are also structured for hedging purposes.
- In that situation they are structured to replicate the conventional derivatives, at least in some of its effects.
 - Islamic Profit Rate Swaps
 - Islamic Currency Hedging
 - Islamic Option

Introduction To Conventional Derivatives (1)

- Financial instruments / contracts whose value depends upon the value of an underlying.
- Because derivatives are just contracts, just about anything can be used as an underlying asset. There are even derivatives based on weather data, such as the amount of rain or the number of sunny days in a particular region.

<http://www.investopedia.com>

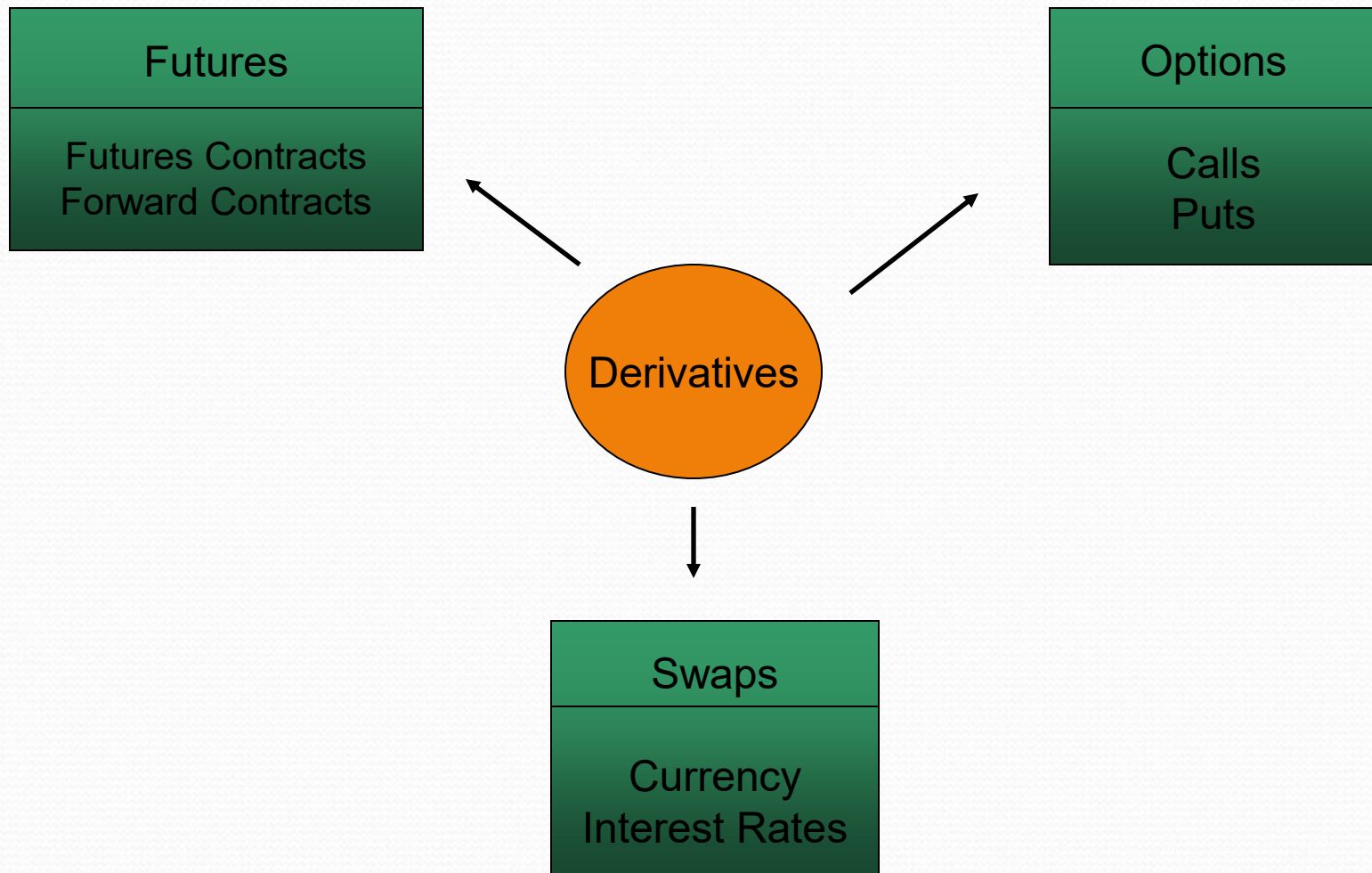
Introduction To Conventional Derivatives (2)

- Purposes in dealing with derivatives are varied. In most circumstances, the intention is also obscure (unknown)
- In fact, all those purposes work together towards the successful implementation of derivatives market.
- Though Islamic law views derivatives as something sometimes inevitable, the decision whether a particular derivatives product is Shariah compliant or otherwise depends largely on various issues, among others:
 - Nature: Dealing with Interest
 - Underlying: Commodities vis-à-vis financial assets
 - Contract used: nominate vis-à-vis non-nominate contracts
 - Settlement: Delivery vis-à-vis offsetting by taking contra position
 - Etc.

The Underlying Instruments

- Commodities:
 - Agricultural products, e.g. wheat, oats, barley, cocoa etc.
In Malaysia: Crude palm oil
 - Metals: Precious (e.g. gold, silver) or industrial (e.g. copper, zinc, aluminum etc)
 - Energy: e.g. crude oil, gasoline, bunker oil
- Financial:
 - Equity
 - Currency
 - Stock Index: KLSE Composite Index Futures
 - Interest Rate: Three-month KLIBOR

Broad Categories of Derivatives



Four Basic Derivative Instruments

- **Forward** – A contract in which two parties undertake to complete a transaction at a future date but at a price which is determined today
- **Futures** – A forward contract which is standardized with respect to contract size, maturity, product quality, place of delivery & etc. Futures contracts are traded on exchanges.

Four Basic Derivative Instruments

- **Option** – An option contract entitles the holder the right, but not obligation, to buy (call option) or to sell (put option) the underlying asset at a predetermined exercise price at, or any time before, maturity.
- **Swap** – a contractual agreement in which two parties agree to exchange payments over a period of time, based on a notional amount of the underlying asset

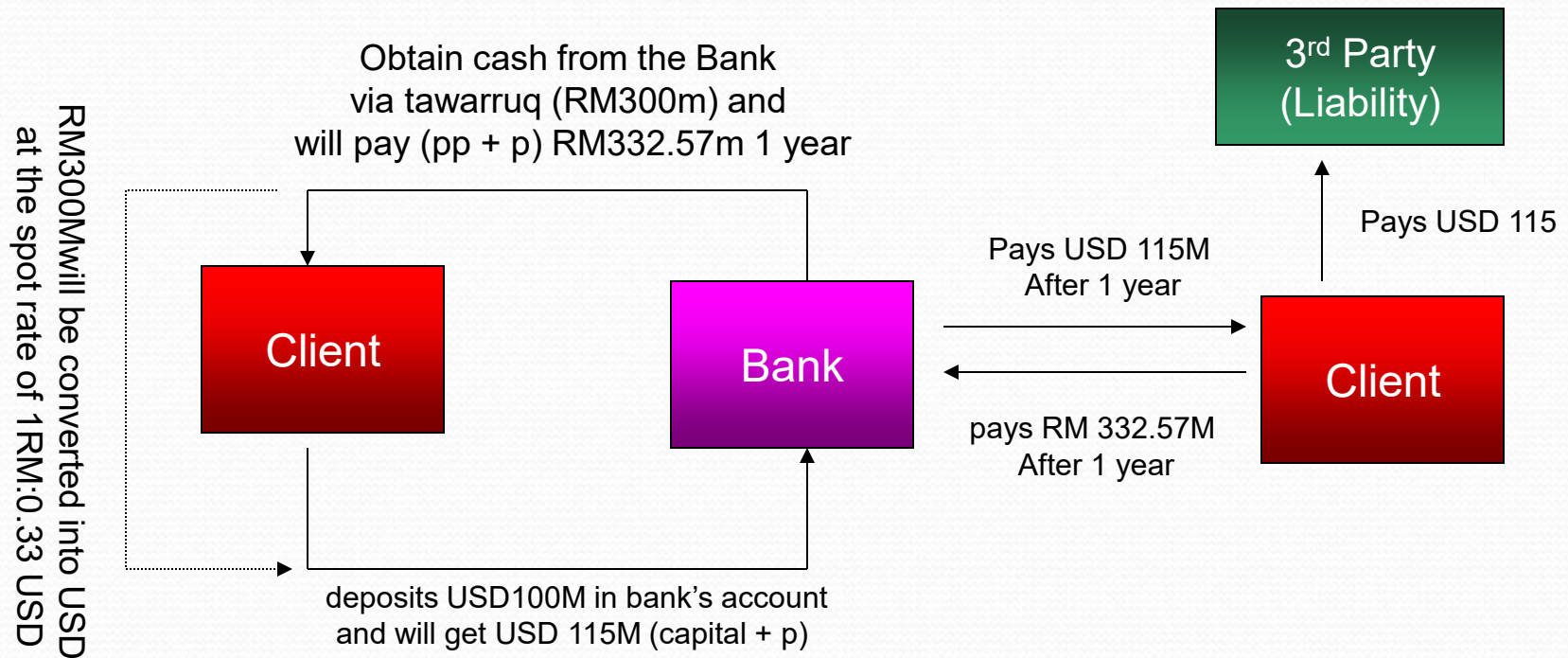
ISLAMIC DERIVATIVES

- Provided that various Shariah principles are well observed, the possibility of allowing or modifying, at least, some of derivatives instruments is highly possible.
- Some instruments of Islamic derivatives have been proposed (or applied) by various Islamic financial institutions.
- Islamic derivatives vis-à-vis Islamic hedging and risk management tools

ISLAMIC DERIVATIVES

- Examples of Islamic Derivatives
 - Islamic Forward Currency Exchange
 - Islamic Currency Options
 - Islamic Profit Rate Swaps
 - Islamic Cross Currency Swaps

Forward Currency Exchange



<u>ExchangeRate</u>	
Spot	: 1RM: 0.33USD
Forward (1 year)	: 1RM: 0.35USD

Forward Currency Exchange

Islamic FX Forward

- For FX Forward under Wa'd arrangement, only one party (promisor) promises to buy/sell as the case may be wherein he is bound by that promise. However the other party (promisee) is not bound to proceed with the promise undertaken by the promisor.
- Depending on the customer's needs, the wa'd could be either to buy or sell a currency in exchange for another at a pre-determined price and future date. By way of these wa'd arrangements, a customer effectively "locks-in" the exchange rate at which he will buy or sell a currency to the bank.
- Wa'd Mulzim may be viewed as unfavourable to the Promisor (party that makes the legally binding promise) since the other party does not have the contractual obligation to perform the transaction.
- Illustration: Corporate XYZ enters into a 1 month USD/MYR Islamic FX forward to buy USD5 million against MYR at an agreed rate of 4.6980. The spot USD/MYR IS 4.7150.

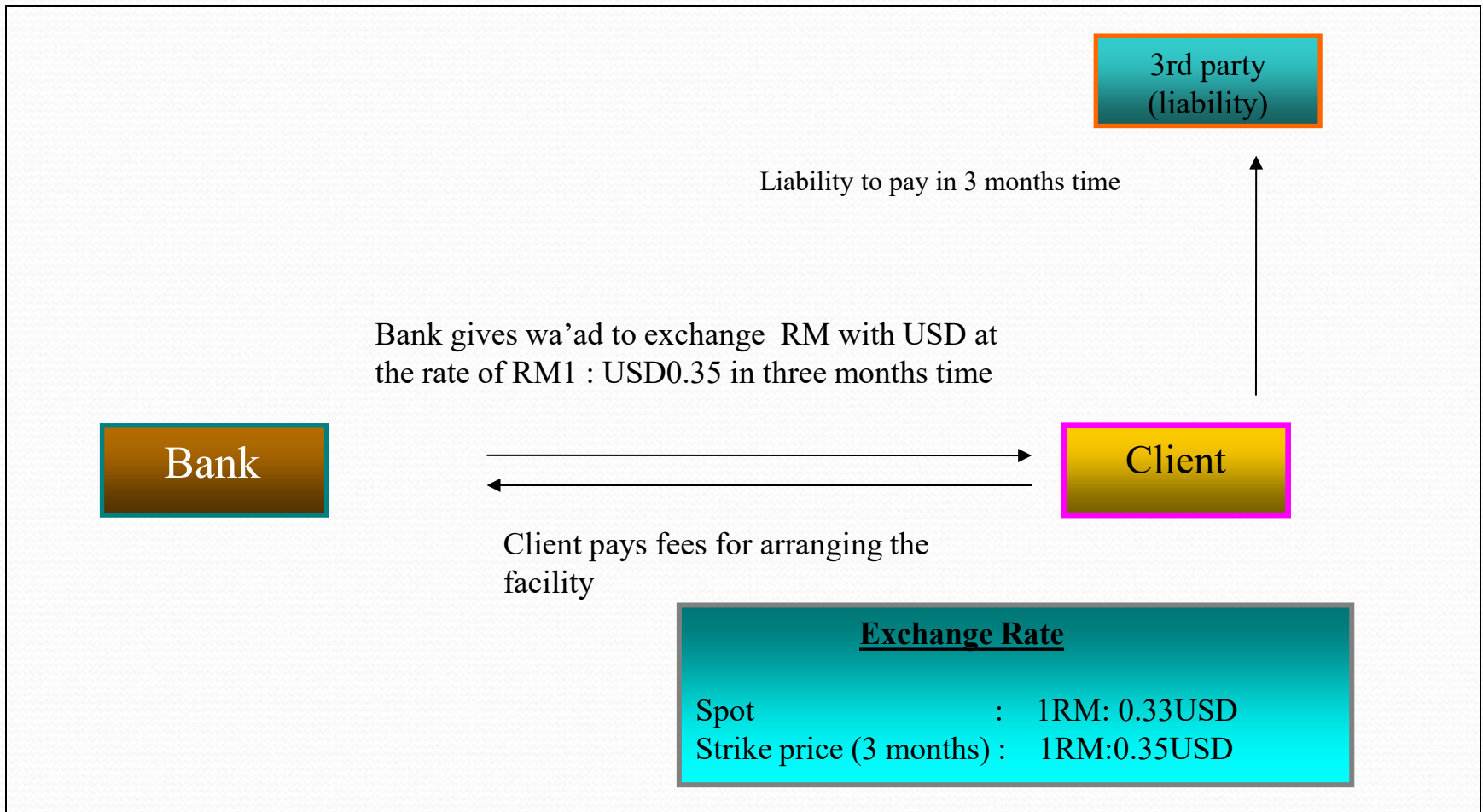
1. On Spot Date



2. On Expiry Date



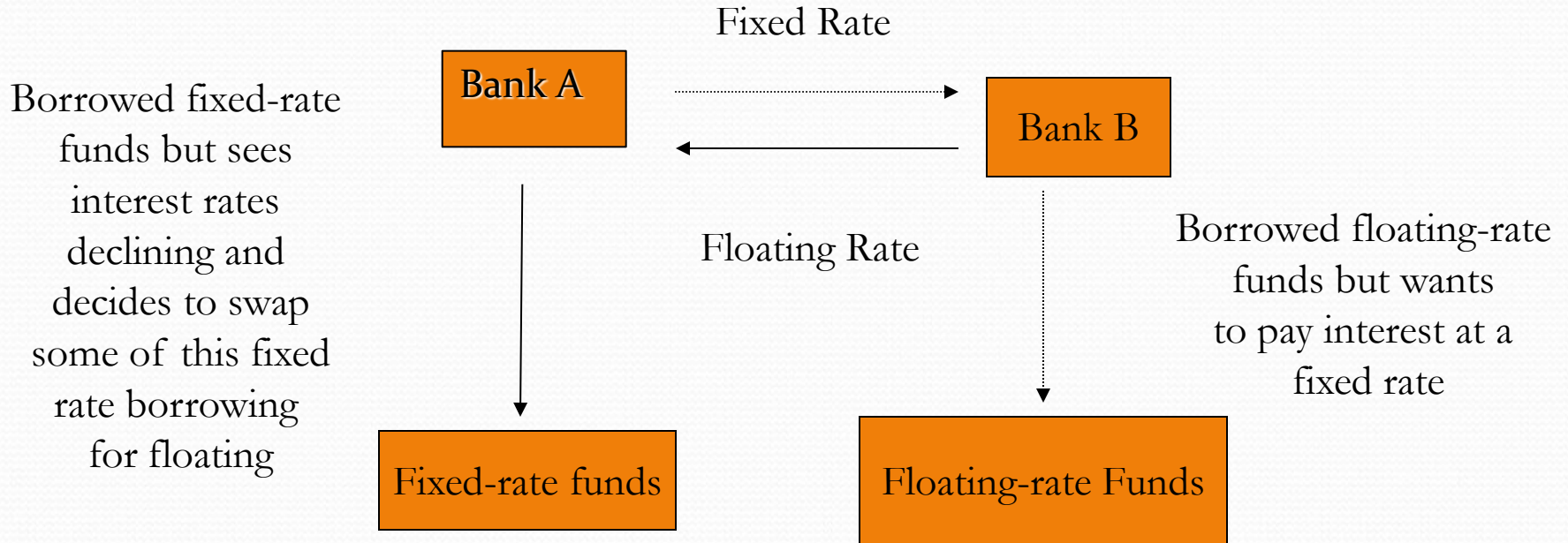
Currency Option



Interest Rate Swap

- A typical conventional IRS involves the exchange of interest rates between two parties.
- One party either pays fixed or floating (variable) rate over the term of the agreements, and receives either floating or fixed rate.
- The counter party, meanwhile, receives a stream of either fixed or floating rate payments at regular intervals and pay either floating or fixed rate

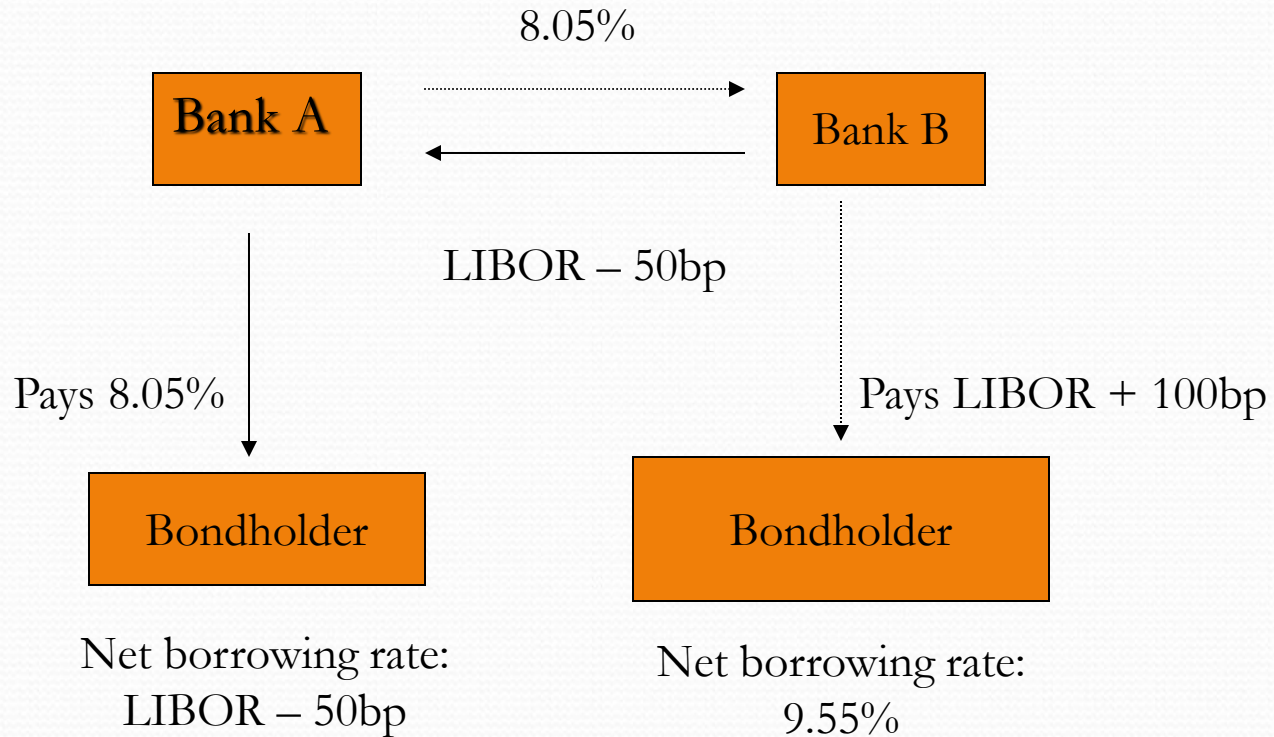
INTEREST RATE SWAP



Pays fixed rate = buyer

Pays floating rate = seller

Interest Rate Swap



Islamic Profit Rate Swap (IPRS)

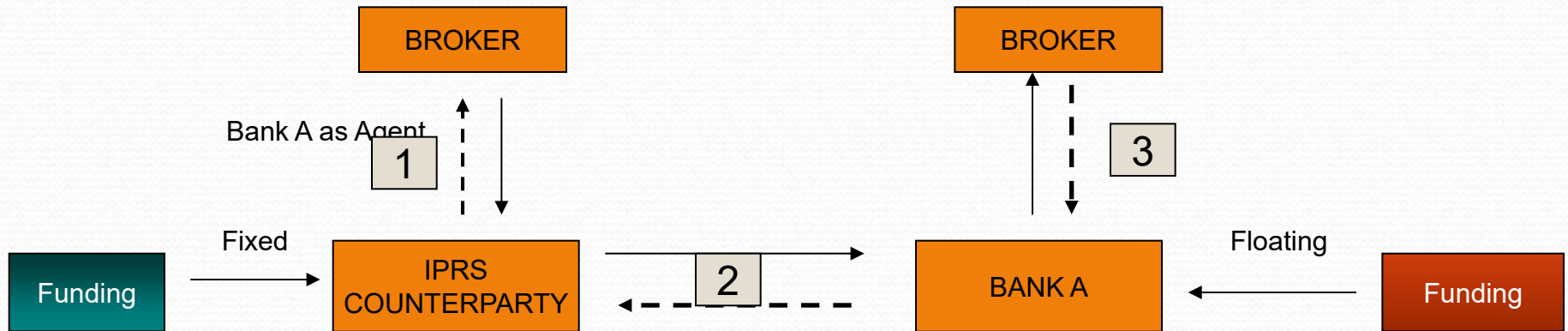
- Main Objective of IPRS is to assist banks and corporate in the management of profit rate risk
- An agreement to exchange a series of profit/ return between two counterparties (normally consist of a fixed rate party and a floating rate party)
- Implementation is by executing a series of commodities murabahah /inah contracts

Islamic Profit Rate Swap (IPRS)

Application of Islamic Profit Rate Swap:

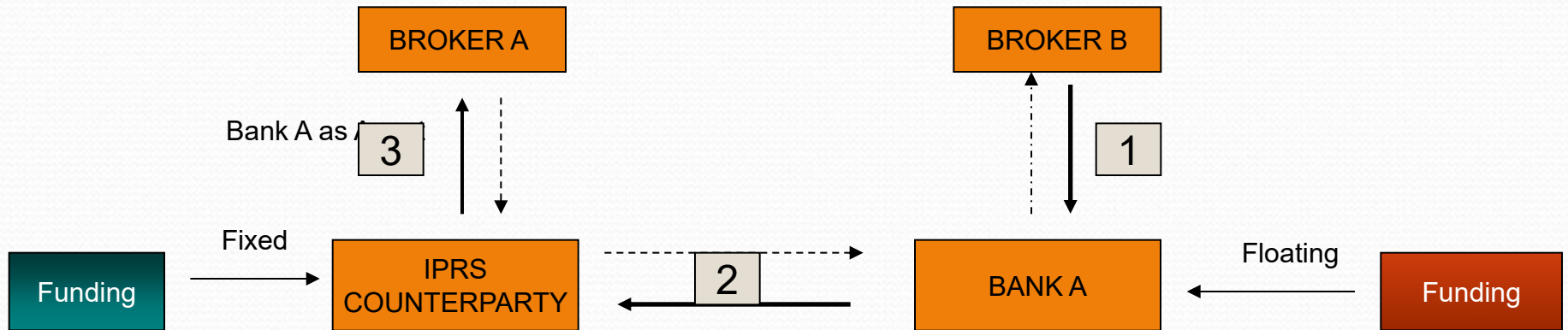
- Hedging – Banks and companies use IPRS to hedge against movement and volatility of profit rate risk (interest rate risk). A company with a floating rate financing can enter into an IPRS to swap the floating rate to a fixed rate to protect against rising market rates.
- Reduce Financing Cost – Companies can use IPRS to optimize their financing cost by swapping the profit rate to the lower of either fixed or floating. By entering an IPRS, a company with floating rate pricing can exchange the cash flow to a fixed rate payment if the fixed rate is lower.
- Managing Cash Flow – For entities holding a variable rate instrument such as floating rate sukuk, IPRS allows them to convert their cash flow into a fixed rate payment.
- Portfolio Diversification – IPRS can be a tool for diversifying investment portfolio hence reducing the overall risk exposure by rebalancing the different kind of asset classes.

Creating the Fixed Rate Leg



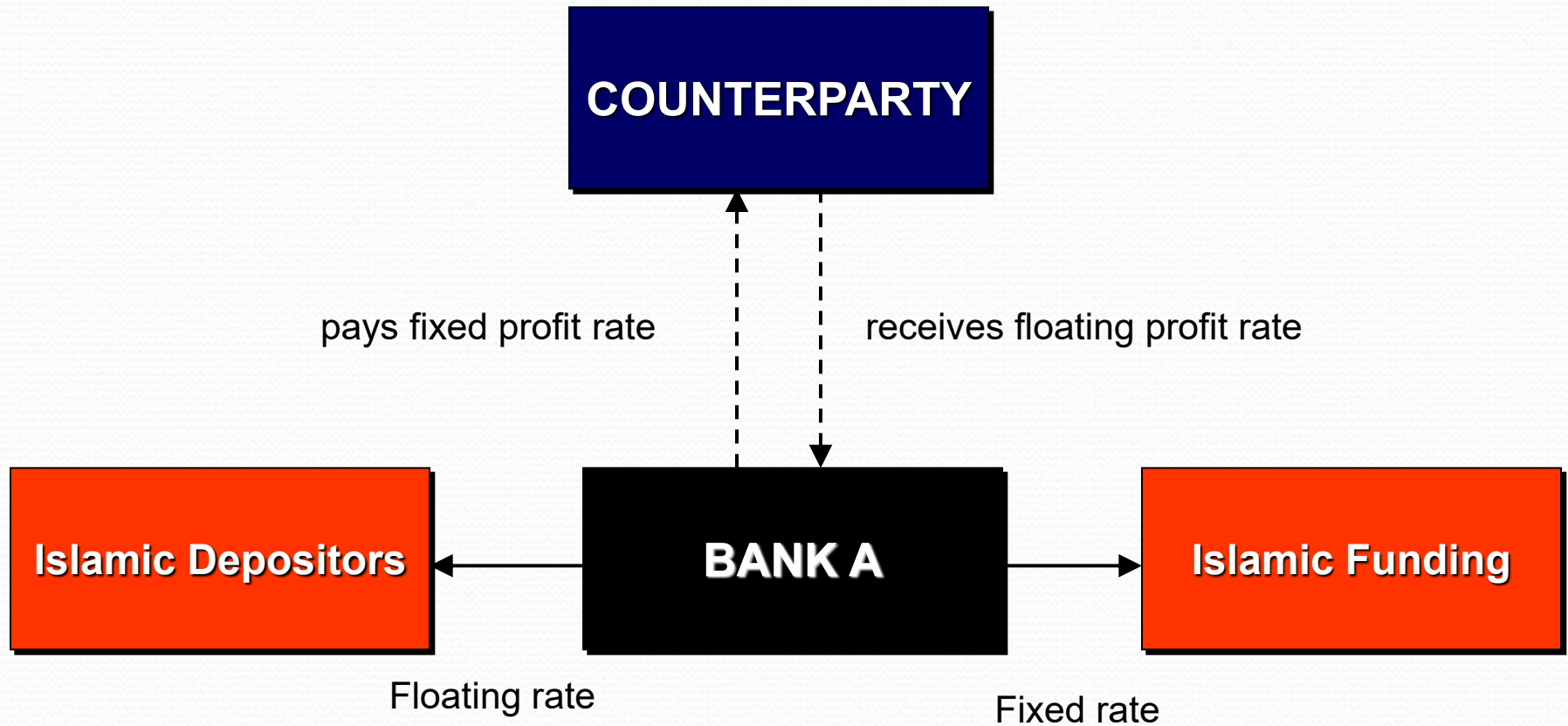
1. Cparty buys comm through Bank A as agent
2. Cparty sells comm. to Bank A at fixed rates
The fixed mark-up profit rate payable in, e.g. semi annually for 2 years
Bank A pays the profit rate to counter party
Bank A will pay to Counterparty
$$\text{RM}200,000 \times 5.00 \times 180/365 = 4,931.50$$
3. Bank A sells comm. to broker

Creating the Floating Rate Leg



1. Bank A buys comm from Broker B
2. Bank A sells comm to Cparty at floating rates
Say the BLR + spread = 4.5
 $200,000 \times 4.5 \times 180/365 = 4438.35$
This payment will be netted off against the previous payment
Net to be paid by Bank A to Cparty: $4931.50 - 4438.35 = 493.15$
This will be repeated in every 6 months until maturity
3. Cparty sells comm. to broker A through Bank A as Agent

NET EFFECT OF IPRS



Islamic Cross Currency Swap (ICCS)

- ICCS enables counter-party to switch their assets or liabilities from one currency to another and to hedge against :
 - Currency Risk
 - Profit Rate Risk
- The agreement to exchange currency between two counter-parties can be between fixed profit rate to fixed profit rate, fixed to floating or floating to floating.
- Implementation is by the execution of a series of underlying Murabahah contracts on commodities.

Islamic Cross Currency Swap (ICCS)

Applications of ICCS

- To capitalize on low interest rates in the international fixed income market and broaden its appeal to global investors, a Malaysian Telco issues sukuk in US Dollars. However as its revenue stream is predominantly in Ringgit, the Telco enters into a ICCS in order to match its cashflows.
- To diversify risk and to enhance returns a Malaysian fund manager invests in US Dollar denominated sovereign sukuk issued by the Government of Kuwait. As the fund manager does not want to be exposed to currency risk he opts to hedge his investment by entering into a ICCS.
- A top tier listed local company plan to venture abroad by expanding their business in US. As the company is very established in Malaysia, it will not be difficult to raise financing in ringgit. The proceed will be used for the US business and repayment of the financing will solely₅₆ from the US operation hence ICCS is required to manage to cross border risk.

Conclusion: The Way Forward For Islamic SPs & Derivatives

- Islamic SPs have a very bright future.
- Need a right engineering process to make it in compliance with the Shariah
- Totality in Shariah compliance and avoiding the black box syndrome
- Further research is needed to investigate the possibility of having other forms of SPs.
- The paramount concern is Shariah compliance.
- Islamic Repo??
- IPRS used not for hedging, but swapping the Islamic structure with conventional return

Cont'd

- Islamic Alternative Fund (including hedge fund) can also benefit from Islamic SPs.
- In fact some Islamic hedge funds also use SPs structures to maximise return.
- Lately, there are called for Islamic Finance to offer various conventional exotic structured products instruments like CDS, CDO, CMO, CLN etc.
- A proper study on how these products can benefit Islamic Finance as a whole is needed.
- We should take Islamic SPs as an avenue to maximise return without neglecting the proper framework of Islamic finance



THANK YOU
WASSALAM