

Garden of
Knowledge
And
Virtue

Islamic Derivatives & Structured Products

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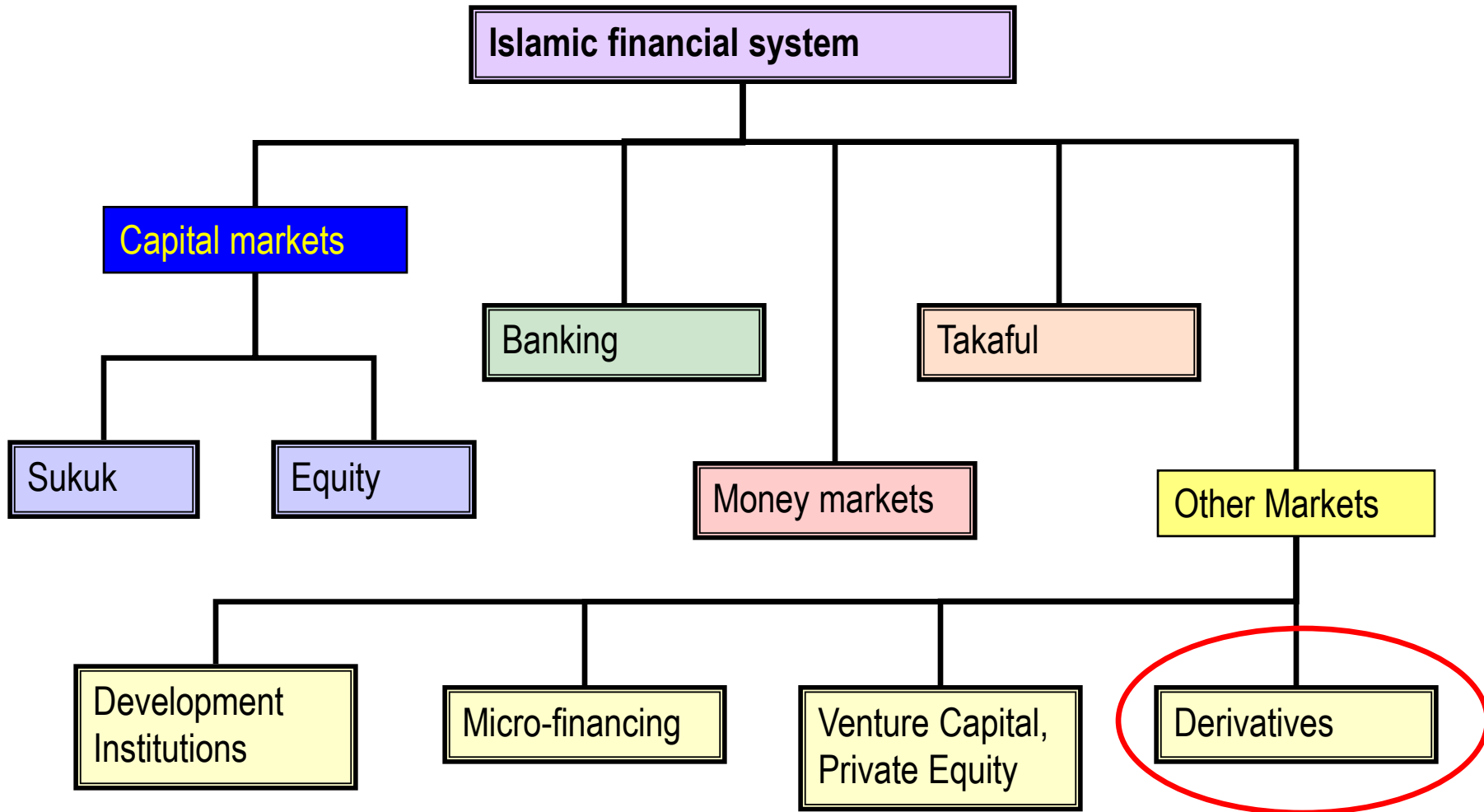
الجامعة الإسلامية العالمية ماليزيا
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA
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Outline

- Derivatives – forwards, futures & options
- *Shari'ah* permissibility of futures contracts
- *Shari'ah* permissibility of options
- Synthetic currency forward
- Islamic profit rate swap
- *Ijarah* rental swap
- *Al-istijrar*
- Structured Products
- Economic perspectives
- Brief discussion on the recent financial crisis
- Proposed *Shari'ah* Parameters



Islamic Financial System



Derivatives

- A financial instrument that **derives** its **value** from the value of some **underlying asset**
- Product of financial engineering and innovation
- The (conventional) derivatives market is enormous and is rapidly growing
 - Average daily trade volume of 4 million contracts
 - Reported total notational amount or bookkeeping value of US\$330 trillion
- In conventional markets, have been used for
 - **Hedging** purposes, to mitigate risks such as
 - Fluctuations in interest rates
 - Movement in share prices
 - Adverse foreign exchange rate changes
 - Variability in commodity prices
 - Trading or **speculation**
 - **Arbitrage** opportunities
- Evolution of derivatives
 - Forwards ⇔ Futures ⇔ Options



The Forward Contract

- Two parties undertake to execute a transaction at a future date but with the price determined today
- Example
 - Cocoa farmer expects to harvest 120 tons in 6 months' time
 - Confectioner has inventory to last only 6 months and needs to replenish stock
 - Risk exposures
 - Farmer vulnerable to fall in spot price of cocoa in 6 months' time
 - Confectioner exposed to increase in spot price of cocoa in 6 months' time
 - Forward contract
 - Cocoa farmer undertakes to sell (and confectioner undertakes to buy) 120 tons of cocoa in 6 months' time at price \$X per ton (determined today)
 - Benefits
 - Both parties have “locked-in” the price, hedged against adverse price movements
 - Both parties are better able to plan their business



The Futures Contract

- Futures contracts evolved as a result of **problems** with the **forward contract**
 - **Double coincidence of wants**
 - Counterparty must have opposite needs in respect of underlying asset, timing and quantity
 - **Differing bargaining positions** often lead to biased pricing
 - Perishable goods, dire need for supply of raw material
 - **Counterparty risk**
 - Probability of default due to price movements, financial and operational circumstances of counterparty
 - Costly **search** and **transaction costs**
- A new instrument was needed to provide risk management benefits of the forward contract but also addresses the above shortcomings



The Futures Contract (continued)

- **Futures contract**
 - Essentially a **standardized forward contract**
 - In respect of contract size, maturity, product quality, place of delivery, etc.
 - Standardization allows trading on an organized exchange
 - Overcomes problem of double coincidence of wants
 - Addresses pricing mechanism biases
 - Each party is a **price taker** (exchange quoted prices)
 - The **exchange absorbs counterparty risk**
 - By becoming the intermediary buyer and seller
 - Potential default risk mitigated by the margining process
 - Parties are required to make **margin calls** (marking to market)
 - Reduction in search and transaction costs
 - Increased liquidity



The Options Contract

- **Shortcoming of the futures contract**
 - Given that prices have been locked-in, **cannot benefit from favourable price movements**
 - Forwards and futures **unsuitable** for managing **contingent liabilities** or exposures
- **Call option**
 - The buyer (holder) has the right but not the obligation to **buy** the underlying asset at a predetermined exercise price before maturity of the options contract
 - In exchange, the seller (writer) is paid a non-refundable premium
- **Put option**
 - The buyer (holder) has the right but not the obligation to **sell** the underlying asset at a predetermined exercise price before maturity of the options contract
 - In exchange, the seller (writer) is paid a non-refundable premium



Islamic Derivatives

- Development of an Islamic **derivatives market** has been somewhat **limited** given many scholars' reservation towards the *Shari'ah* permissibility of derivative instruments
- **Financial engineering** in the Islamic finance space has mostly culminated in the form of
 - Off-the-market, counterparty-specific arrangements for risk management purposes
 - For example, **profit rate swaps** (fixed for floating)



Shari'ah Permissibility of Futures Contracts

- With the exception of some *Shari'ah* jurisdictions (for instance, SAC of Malaysia's SC who has approved CPO and stock index futures), the majority of scholars does not consider the futures contract as permissible
- In particular, some juristic and economic concerns were identified
 - “Sell Not What Is Not With You”
 - Sale Prior to Taking Possession (*Qabd*)
 - Debt Clearance Sale (*Bay' al-Dayn bi'l-Dayn*)
 - Negative effects of speculation



“Sell Not What Is Not With You”

- *Ja'far ibn Abi Wah shiyah reported from Yusuf ibn Mahil, from Hakim ibn Hizam [who said]: I asked the Prophet (s.a.w.): O Messenger of Allah! A man comes to me and asks me to sell him what is not with me, so I sell him [what he wants] and then buy the goods for him in the market [and deliver]. And the Prophet said: **sell not what is not with you.***
- Futures trading involves short selling that basically entails selling goods not yet owned
- Jurists who approve of futures contracts however argue
 - The *hadith* only applies to sale of **specified** and **unique objects**, but not to fungible goods (with a ready market)
 - The purpose of the *hadith* is to avoid *gharar* (uncertainty) in deliverability of goods
 - Analogy drawn from the **permissibility of *salam*** sale
 - Market place of Medina during the Prophet's time was small and did not offer assurance of regular supply of goods
 - Clearing house guarantee function of contemporary futures exchanges



Sale Prior to Taking Possession (Qabd)

- *‘Abd Allah ibn ‘Umar has reported that the Prophet (s.a.w.) said: He who buys foodstuffs should not sell it till he has received it.*
- Such a stipulation seeks to protect the buyer against loss in the event that the **object of sale** was **damaged or destroyed before delivery**
- Imam al-Shafi’i interpreted this *hadith* to include not only perishable food, but literally anything subject to sale
- Jurists who approve of futures contracts however argue
 - Only a very small percentage of futures contracts lead to **actual physical delivery of underlying asset/commodity** (some research claims this to be 2%)
 - The majority of contracting parties of futures contracts will close out their positions by entering into reverse transactions (cash settlement)
 - Hence, delivery is never an issue most of the time



Debt Clearance Sale (*Bay' al-Dayn bi'l-Dayn*)

- Jurists have differed in their opinion over the specific definition of “**sale of debt for debt**”, also termed *bay' al-kali bi'l-kali*, which is deemed impermissible in the *Shari'ah*
- Some examples of transactions (argued by some as debt clearance sale)
 - Mr A buys some commodity, on credit, from Mr B. When payment is due, Mr A is unable to pay. Mr A asks Mr B to re-sell that same commodity to him for an extended payment period in exchange for additional payment
 - Ms C borrowed some wheat from Ms D, to be returned in 3 months. Two months later Ms D sells the (yet to be received) wheat to Ms E, delivery in 1 month
 - F borrowed some money from G to be repaid a year's time. Prior to repayment becoming due, G suggested that he (G) rents a house belonging to F, in exchange for the sum owed to him



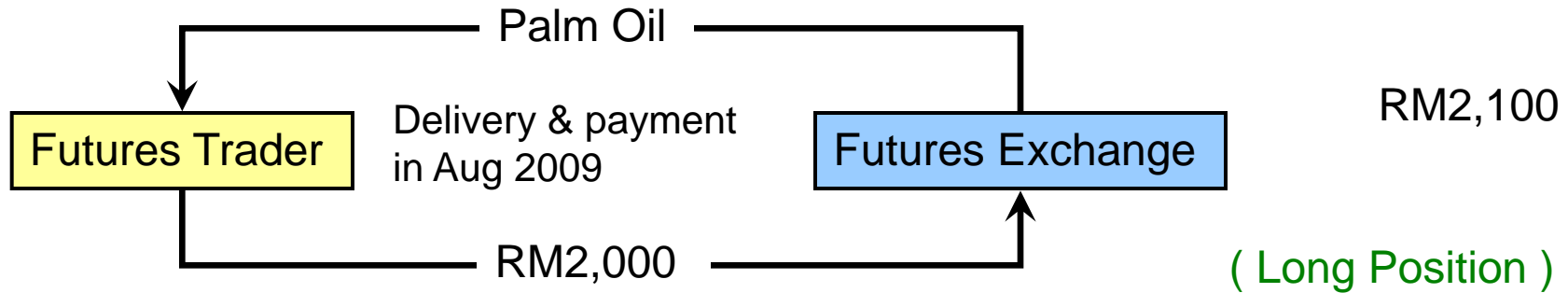
- Futures trading is said to have such elements (of debt for debt exchanges) arising from common practices of **offsetting** sales and purchases (**long and short positions**)
- Jurists who approve of futures contracts however argue
 - The rationale for the disapproval of *Bay' al-Dayn bi'l-Dayn* is the apprehension towards **uncertainty** (*gharar*)
 - In futures trading, offsetting transactions is a basic function of the clearing house
 - Parties acknowledge, and mutually agree upon, their obligations, hence there is **no uncertainty with regards to contractual responsibilities**



Offsetting Transactions in Futures Trading

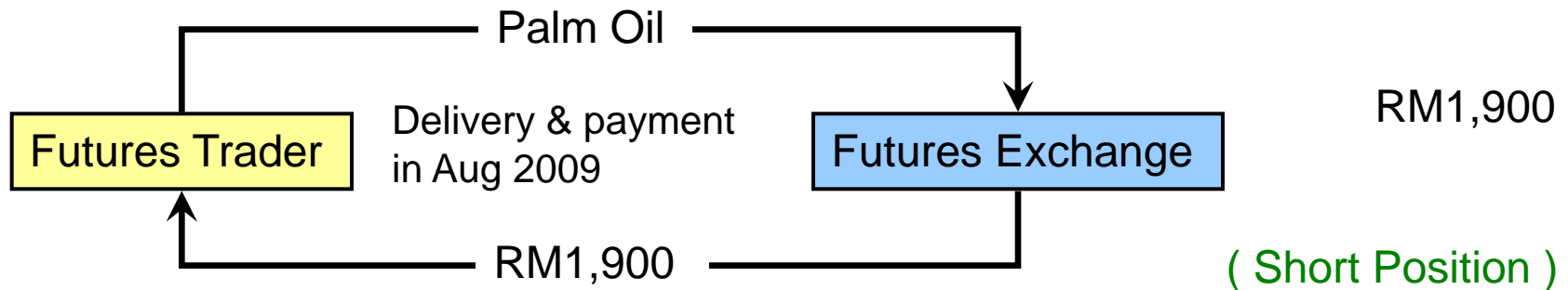
In Jan 2009

Spot Price



In Jul 2009

Spot Price



(Offset)



Speculation in Futures Trading

AGAINST the use of futures contracts	FOR the use of futures contracts
Speculation promotes volatility in prices of commodities	Without speculators, futures market would be illiquid and thus ineffective
Speculative trading represents a separation between financial transactions and real economic activity, which the <i>Shari'ah</i> disapproves; such detachment is akin to gambling	All trading activities contain elements of speculation
Concerned with the macro level implications	Stresses micro level advantages of such an instrument
Emphasizes on the ill-effects of speculation	Focuses on the benefits of hedging (<i>maslahah</i>)



Permissibility of Futures Contracts

- There have been attempts to advocate the permissibility of futures contracts by associating them with the Islamic nominate contracts of *salam* and *istisna'*
- However, these have failed to garner support given key differences
 - In *salam*, the price must always be on spot basis (?)
 - In *istisna'*, although both counter-values can be deferred, the object of sale is to be manufactured or constructed based on unique (tailor-made) specification, rather than being a homogenous (fungible) commodity



- Generally there is no consensus on the permissibility of futures contracts
- Early discussions on this issue centered on the issue of *gharar*
 - Given that both delivery of goods and payment of price will take place in the future, there is uncertainty on the ability of contracting parties to fulfill their contractual obligations
 - However, a plausible counter-argument is that today's organized, liquid and highly regulated futures exchanges and markets alleviates much of that risk
- Hence the primary objection to futures contracts is that they are susceptible to **speculative trading**



Permissibility of Futures Contracts (continued)

- In the final analysis, it comes down to the motive of contracting parties
 - While hedging and risk management are valid economic activities which the *Shari'ah* generally has no objections to, speculation can have many negative repercussions on the economy and society
- Unfortunately, with the present modus operandi of futures markets and exchanges, **ascertaining** the **motive** of contracting parties (hedging or speculation) is **not practicable** or even impossible
- The issue hence remains subject to debate, and further deliberation and/or research is needed



Analysis of conventional Forward & Future

- Both represent deferred payment and deferred delivery of the asset. A margin is paid by the buyer as a security of his financial ability to pay the payment in the future.
- •Shari'ah objection:
 - Deferment of two counter values is not permissible.
 - In addition to that, deferment involving currency in forward FOREX is not acceptable.
 - Forward interest-rate is also not permissible as the underlying asset is not compliant.



Shari'ah Permissibility of Options – *Arbun*

- Some scholars have attempted to justify the permissibility of options by drawing a parallel with *bay' al-arbun*
 - The buyer deposits **earnest money** with the seller
 - If the buyer proceeds to purchase the goods, the earnest money is considered as part payment of the price
 - If the buyer does not proceed to purchase the goods, the buyer forfeits the earnest money deposit
- **Hanbali** scholars find *al-arbun* **permissible**
 - Practice of Caliph Umar
 - Nafi bin al-Harith, Caliph Umar's officer, purchased a house (for conversion into a prison) from Safwan bin Umayya on condition that if the Caliph approved of it, the deal would go through, otherwise Safwan could keep the *arbun* of 400 *dirhams*
- All other *fiqh* schools find *al-arbun* unacceptable
 - They consider the retention of earnest money by the seller **akin to misappropriation** of the **property** of others



Shari'ah Permissibility of Options – *Khiyar*

- Another line of reasoning is to argue provisions in Islamic commercial law for **embedded options** (*khiyar*)
- Classical *fiqh* literatures discuss the following options that can be embedded in exchange contracts
 - ***Khiyar al-shart*** (option by stipulation)
 - Allows either or both parties or even a third party to **confirm** or to **cancel** the contract **within a stipulated time period**
 - Contracting parties accorded with some time to assess benefits and costs involved before giving final assent or ratification (“**cooling-off period**”)
 - *Khiyar al-ayb* (option of defect)
 - *Khiyar al-ru'yat* (option after inspection)
 - *Khiyar al-majlis* (option of session)



Shari'ah Permissibility of Options

- Notwithstanding the permissibility of *bay' al-arbun* and *khiyar al-shart*, the critical issue of contention is, can the option be separated from the exchange contract?
 - In essence, **tradability of the option**
- Islamic Fiqh Academy *fatwa*
 - An option is a **binding promise** to sell or purchase a thing, which **in itself** is **permissible**, but that promise **cannot be** the **subject matter of a sale** or purchase (not tradable)
 - It is neither a tangible commodity nor usufruct
- Dissenting opinion
 - The SAC of Malaysia's SC has approved, in principle, the tradability of options
 - It is argued that **any kind of benefit** or *manfaa* can be **interpreted as maal** (property) which in turn can be subjected to sale
 - Implication – *Shari'ah* permissibility of call warrants on *Shari'ah* compliant stock



Examples of *Shari'ah* Compliant Derivatives

- Conclusion from preceding discussions - by and large the majority of scholars does not view futures and option contracts favourably
 - This has led to the thus-far absence of an Islamic derivatives market
- However, there have been developments of risk management instruments that have received *Shari'ah*-compliant status
 - These are *Shari'ah* approved on a case-to-case basis rather than having received a blanket consensual approval
 - Some examples that will be discussed
 - Synthetic currency forward
 - Islamic profit rate swap
 - *Ijarah* rental swap
 - *Al-Istijrar*
- Malaysia of course is the exception, having approved Crude Palm Oil (CPO) futures, Single Stock Futures (SSF) of *Shari'ah*-compliant underlying stocks, and call warrants

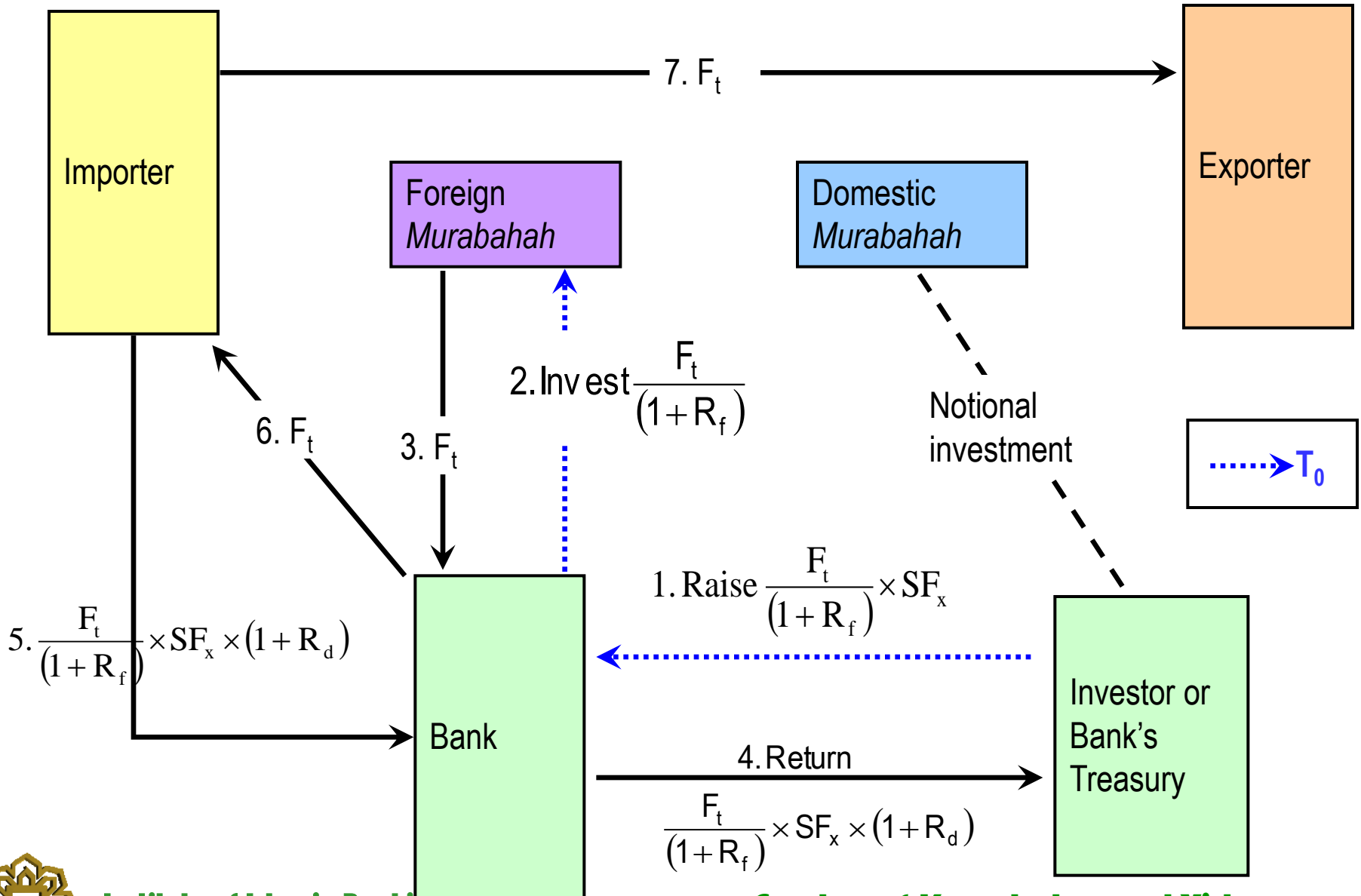


Synthetic Currency Forward

- The *Shari'ah* stipulates that the exchange of two *ribawi* items of the same category (e.g. two different currencies) must occur **at spot**
 - This would render conventional foreign exchange forward contracts not permissible
 - To avail such a restriction, product developers have resorted to synthetic construction that replicates the functionality of a currency forward or futures contract
- The purpose is to **hedge** future cash inflow or outflow against potential **unfavourable movements in foreign exchange rates**
- Employs Islamic contracts of *murabahah* or *musawamah* (*tawarruq* mechanism) and instrument of *wa'ad* (unilateral binding promise)
- Notations
 - F_t is amount in foreign currency that needs to be hedged
 - SF_x is the spot exchange rate
 - R_f is the commodity *murabahah* rate in the foreign market
 - R_d is the commodity *murabahah* rate in the domestic market



Synthetic Currency Forward – Structure

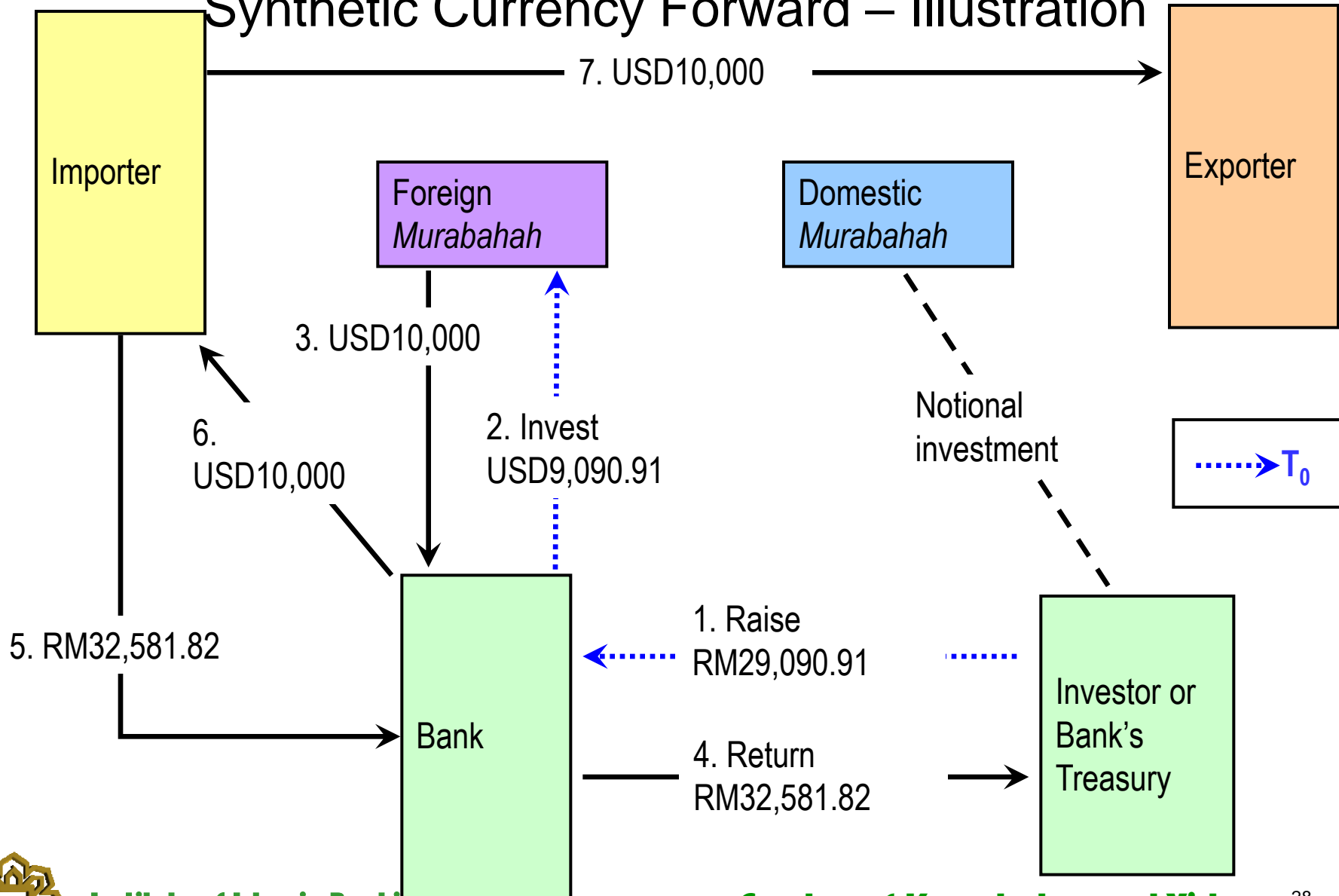


Synthetic Currency Forward – Example

- An Malaysian importer expects a future cash outflow of USD10,000
- The importer wants to hedge against possible appreciation of the USD (against the RM)
- Variables for this example
 - $F_t = 10,000$
 - $SF_x = 3.200$ (RM / USD spot exchange rate)
 - $R_f = 10\%$
 - $R_d = 12\%$



Synthetic Currency Forward – Illustration

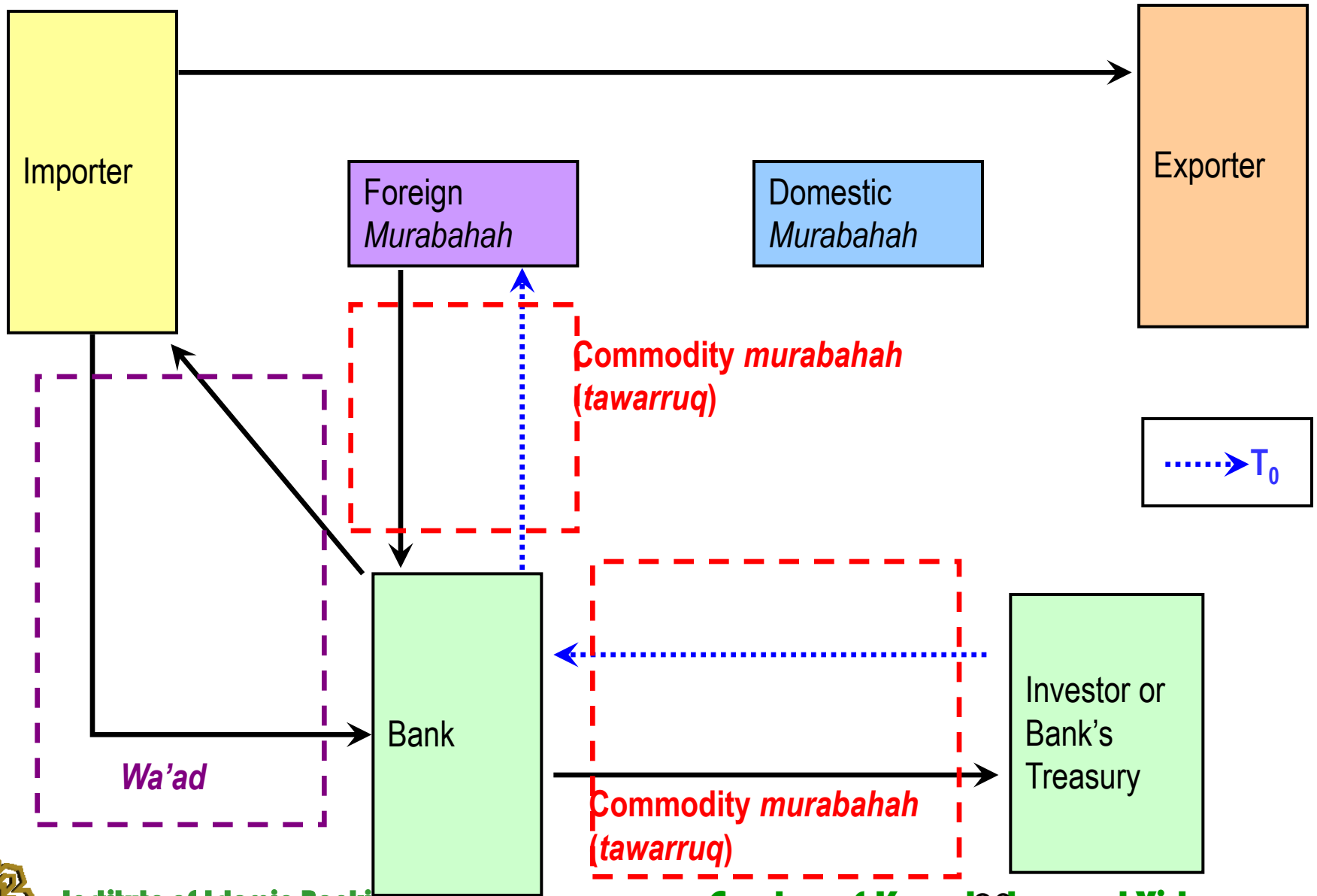


Synthetic Currency Forward – Economic Effects

Party	Economic Effect
Bank	Neutral risk position, earns transaction / administrative fees
Investor or Bank's Treasury	Earns a return at the rate of R_d
Importer	Hedges future cash outflow at forward exchange rate (FF_x) $FF_x = SF_x \times \frac{(1 + R_d)}{(1 + R_f)}$ Differential between commodity <i>murabahah</i> rates in foreign and domestic markets determine the forward exchange rate



Synthetic Currency Forward – Contract & Instrument Used

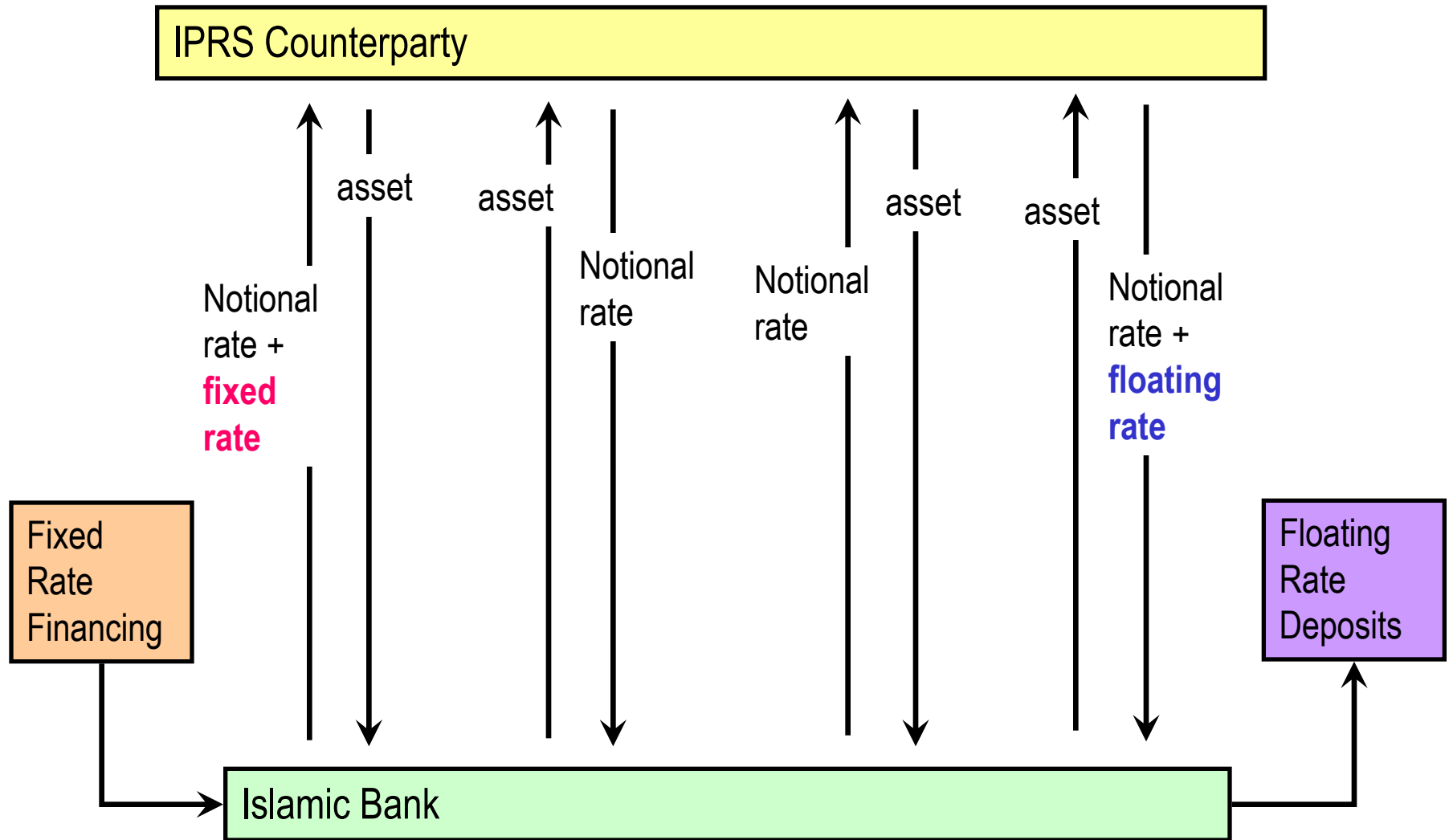


Fixed-Floating Mismatch

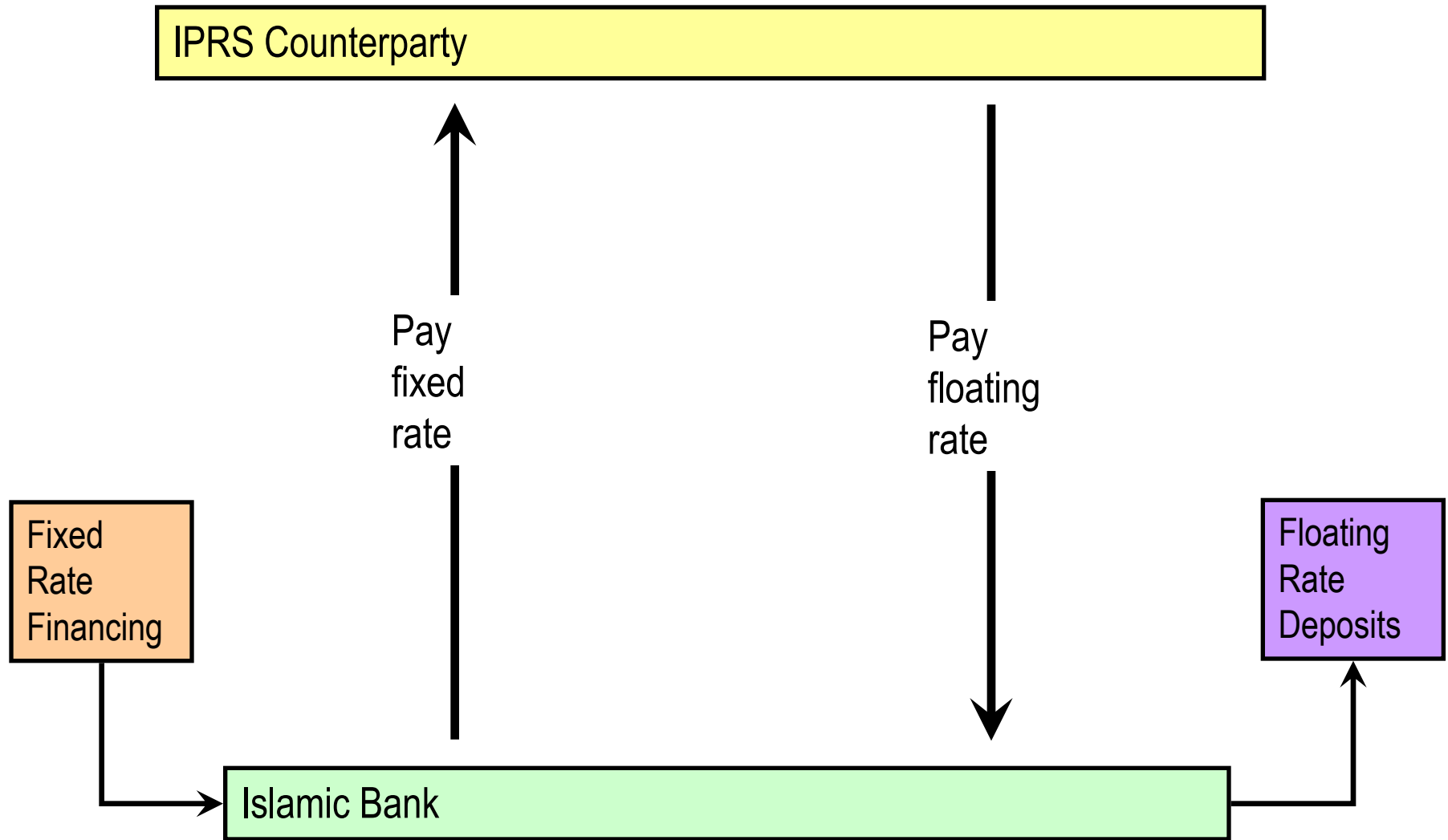
- Many Islamic banks encounter a scenario of fixed rate-floating rate mismatch due to
 - **Majority of assets** structured as **fixed rate** instruments (financing based on BBA, *murabahah*, *ijarah*, *istisna'*, etc.)
 - **Majority of liabilities** structured as **floating rate** instruments (deposits based on *mudarabah*, *wadi'ah*)
- Accordingly, during high market profit rate environments (for e.g., conventional interest rate benchmarks on upward trends), Islamic banks may struggle managing shrinking profit rate margins
- The Islamic profit rate swap was developed as a risk management tool to address this
 - Alternatively, Islamic banks can, and have, introduced and marketed more floating rate financing instruments and fixed rate deposit instruments



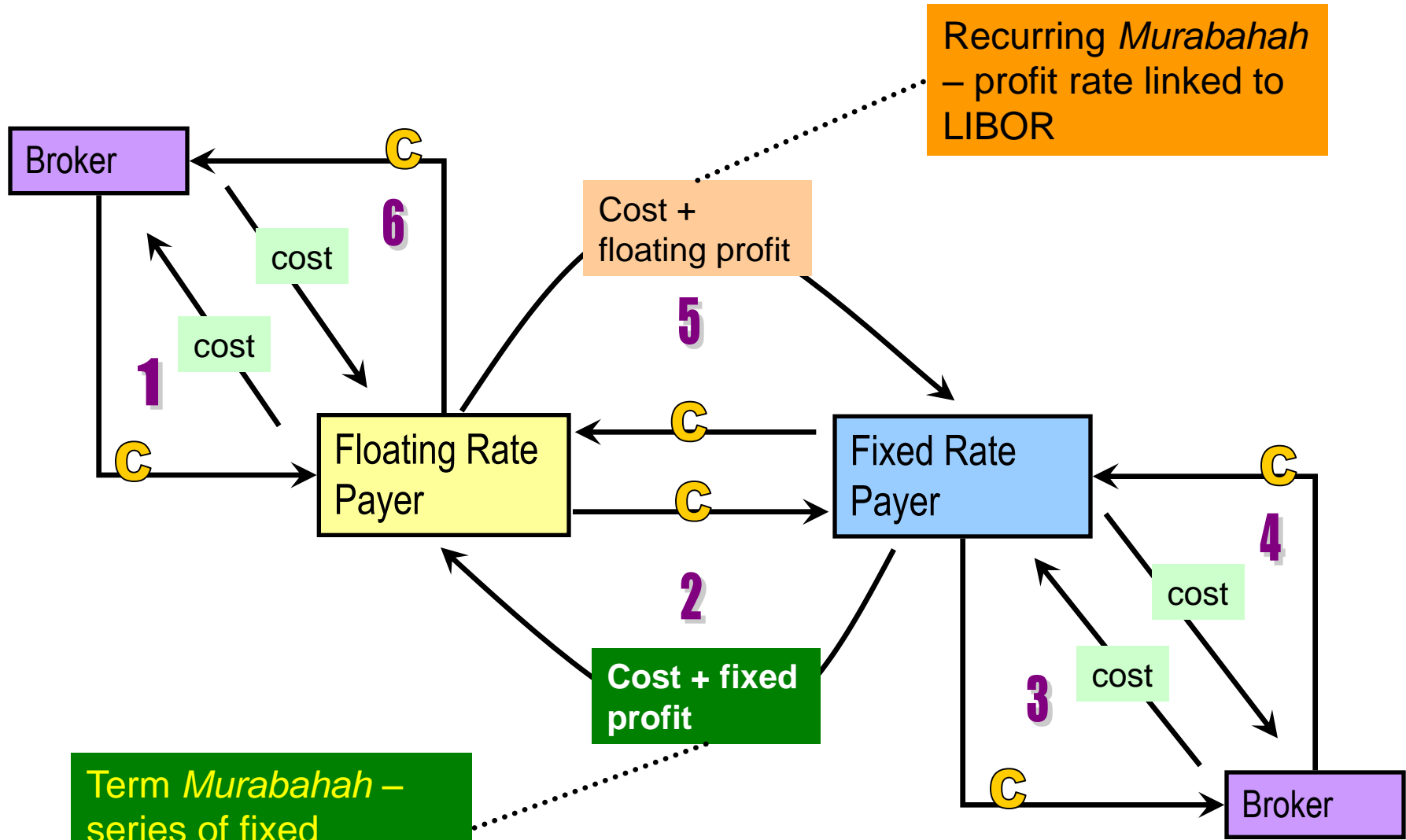
Islamic Profit Rate Swap (IPRS) – 'Inah Model



Islamic Profit Rate Swap (IPRS) – *Inah* Model



Islamic Profit Rate Swap (IPRS) – *Murabahah* Model



Term *Murabahah* – series of fixed periodic payments

Recurring *Murabahah* – profit rate linked to LIBOR

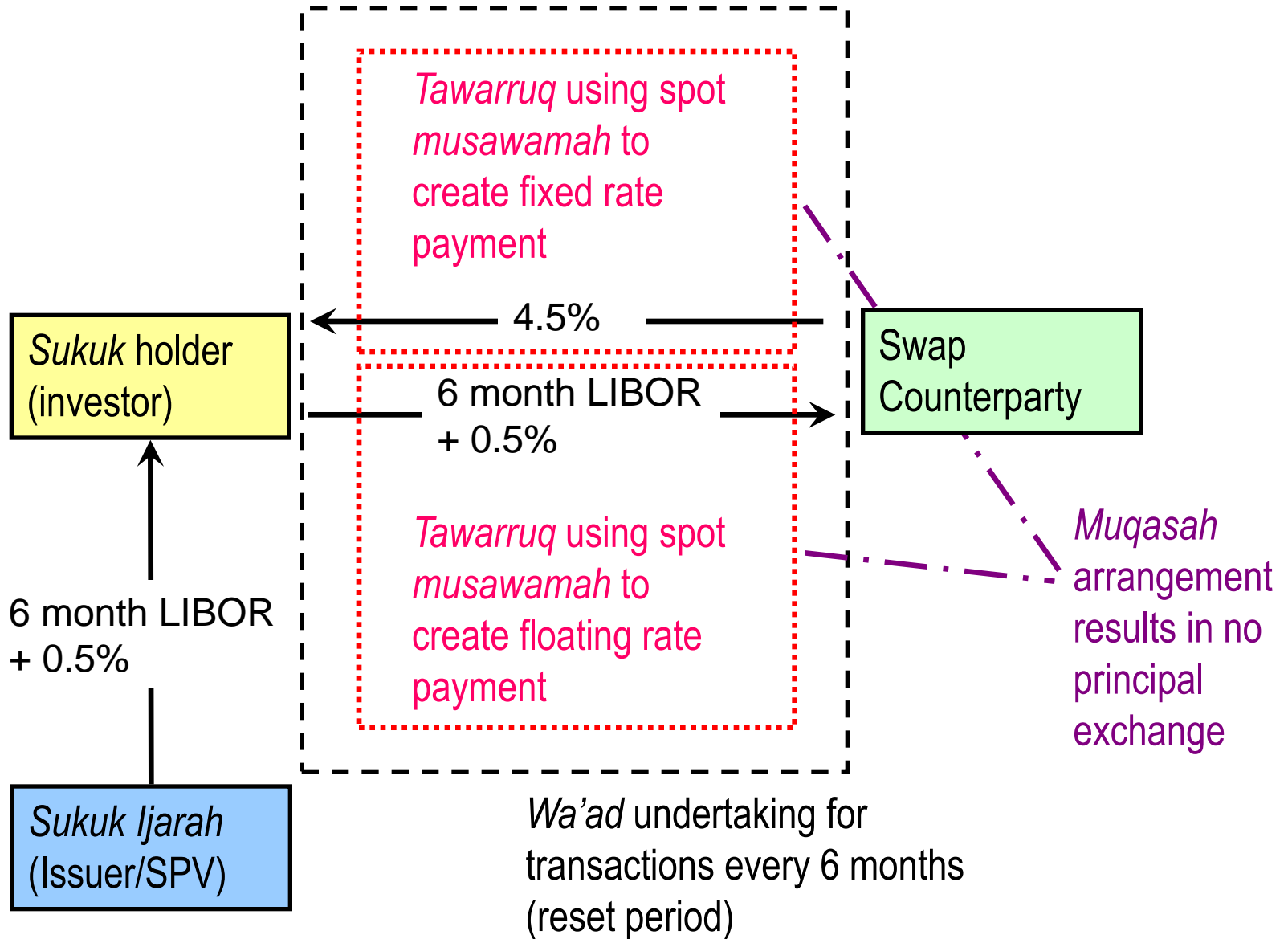


Ijarah Rental Swap

- Another risk management tool which allows a payer or receiver of *ijarah* rental payments to swap its floating rental into a fixed rental or vice versa
- The instrument is structured using the following contracts / instruments
 - *Wa'ad* – unilateral binding promise to enter into a series of *musawamah* transactions on a specified lease rental payment for the duration of the lease period
 - *Musawamah (tawarruq)* – transactions involving purchases and sales of commodity where the settlement of price and commodity are on spot basis
 - *Muqasah* – a “netting-off” arrangement for cash flows where the party with the higher purchase or rental price between the two periodical payment amounts is expected to pay the difference to the other party
- Example
 - A floating rate *sukuk ijarah* holder (investor) has the view that LIBOR would be trending lower and would thus like to lock-in a rate



Ijarah Rental Swap - Illustration



Al-Istijrar

- An innovation in Islamic financial products
- Introduced in Pakistan
- A combination of options, average prices and *murabahah* financing
- Mechanism
 - Bank customer requires short term financing to purchase inventory
 - Bank purchases commodity (inventory) from supplier at price P_0
 - Bank resells the commodity to the bank customer under a *murabahah* sale on deferred payment basis
 - The price of this *murabahah* sale is contingent
 - If the market price remains within the stipulated bounds, the price of the *murabahah* sale will be the average price during the period, P_{avg}
 - If the market price exceeds the bounds, and one party exercises its option, the price of the *murabahah* sale will be the stipulated *murabahah* price, P^*



Al-Istijrar (continued)



- If price $< P_{LB}$: Bank will exercise option, contract transacted at P^*
- If price $> P_{UB}$: Customer will exercise option, contract transacted at P^*
- If $P_{LB} < \text{price} < P_{UB}$: contract transacted at P_{avg}

Desirable elements of this product

- This arrangement allows the **impact of price changes** whilst **limiting** such an effect
- A **pre-determined, fixed return** is **avoided** (*riba*)
- **Uncertainty** is **reduced** because both parties know the pricing parameters (*gharar*)



Structured Products

- Another area where derivative instruments are typically utilized is in constructing structured products
- Structured product is defined as a security that combines features of a fixed income instrument with the characteristics of a derivative instrument
- Key features
 - Capital protection
 - Retaining of upside earning potential
- Usage common in
 - Personal wealth management services
 - Hedge fund offerings
 - Even as a deposit instrument



STRUCTURED PRODUCTS: DEFINITIONS

- •Structured Product –“a security that combines the features of a fixed income instrument with the characteristics of a derivative transaction”(Satyajit Das, Structured Product and Hybrid Securities)
- •Structured Product –“any investment product that falls within the definition of “securities” under the SCA and which derives its value by reference to the price or value of an underlying reference.”(Malaysian Securities Commission’s Guidelines, 1.03 (c))
- •“Underlying reference” –“any security, index, currency, commodity or other assets or reference, or combination of such assets or reference. (Malaysian Securities Commission’s Guidelines, 1.03 (d))



- The most important characteristic of structured products is that they involve securities that are embedded with derivative instruments.
- Due to the derivative elements in the structured products, they are also referred to as “derivative-embedded securities”.
- The main purpose of this structure is to transfer or mitigate the risk exposures of investors and/or issuer.
- The main features of structured products are:
 - Risk mitigation or risk transfer;
 - Capital / principal protection (provided that the investment is maintained up to maturity date);
 - The profit margin is dictated by the underlying / reference asset, which may consist of equity, bond, commodity, etc.;
 - Potential return that may exceed average investment returns



EXAMPLES OF STRUCTURED PRODUCTS:

- Equity Linked Notes
- Bond Linked Notes
- Index Linked Notes
- Currency Linked Notes
- Interest Rate Linked Notes.
- Commodity (Contracts) Linked Notes
- Credit Linked Notes



Islamic structured products

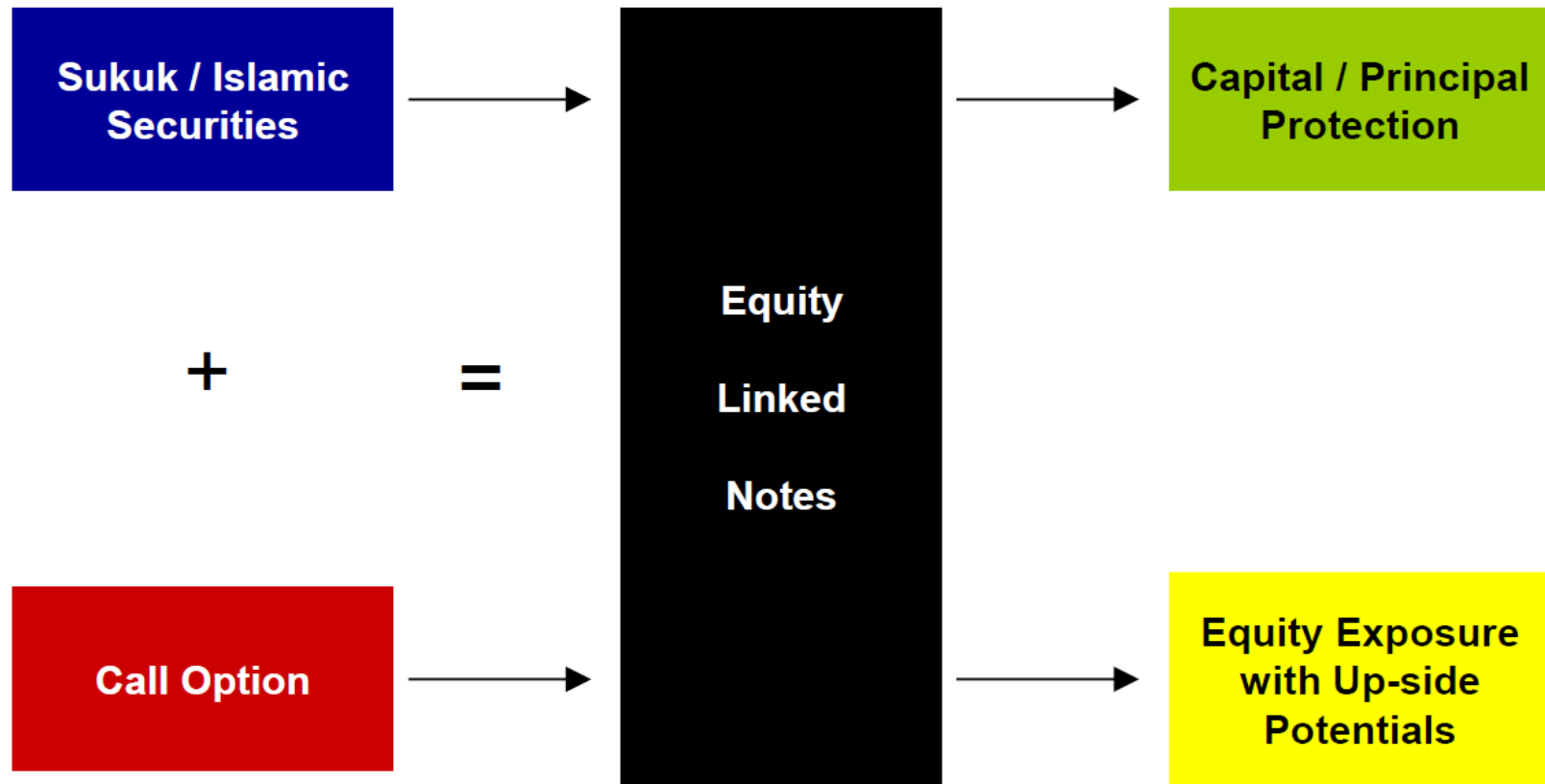
- Islamic structured product is the Shari`ah compliant version of the conventional structured product.
- Shares some similarities with its conventional counter-part, especially in terms of the purpose, economic benefits and basic structural features.
- Shari`ah compliant features –all contractual transactions constituting the product (e.g. securities & derivatives) must be free from any elements that are prohibited under Islamic legal rules, such as riba, gharar and gambling elements



- Interest rate linked notes –not acceptable due to the existence of riba –“interest” as the reference asset
- Bond linked, currency linked and credit linked notes – also generally not acceptable due to the existence of riba elements.
- Equity linked and index linked notes may be acceptable provided that the underlying equities and indexes are Shari`ah approved and the derivative contract complies with Islamic legal rules
- Commodity linked notes may also be acceptable provided that the commodity and the contracts used in the derivative instruments comply with Islamic legal rules



ISLAMIC EQUITY LINKED NOTES



DETAILS OF TRANSACTION

- An investor places capital in an Islamic equity linked product.
- The bank will invest most of the capital (e.g. 90%) in a Shari`ah compliant fixed income investment, i.e., sukuk / Islamic securities – gives fixed return that will protect the capital / principal investment.
- The remaining portion of the capital (e.g. 10%) is invested in “call options” in equity stocks or indexes, using `urbun contracts.
- A “call option” gives the investor the right, but not the obligation to purchase the reference equities when the price is favourable.
- The “call option” gives investor the benefit of up-side in equity prices.
- Alternatively, if equity prices are not favourable – investor will not exercise the option and suffer a controlled and limited loss (i.e. the “premium” / `urbun amount) that will not affect the capital that has been protected by the fixed return portion (investment in the sukuk)

8



SHARI`AH COMPLIANCE REQUIREMENTS

- The underlying Islamic securities must comply with Islamic legal rules. This is normally certified upon issuance by the respective Shari`ah advisor/s.
- The equity stocks or indexes must comply with Islamic legal rules. Normally, the Islamic stock screening criteria by various recognized bodies are used to ensure Shari`ah compliance.
- The derivative instrument, generally the “call option” is structured in accordance with Islamic legal rules. Normally `urbun contract is used to create a Shari`ah compliant call option. Alternatively, a wa`d arrangement can also be used to achieve a similar effect.



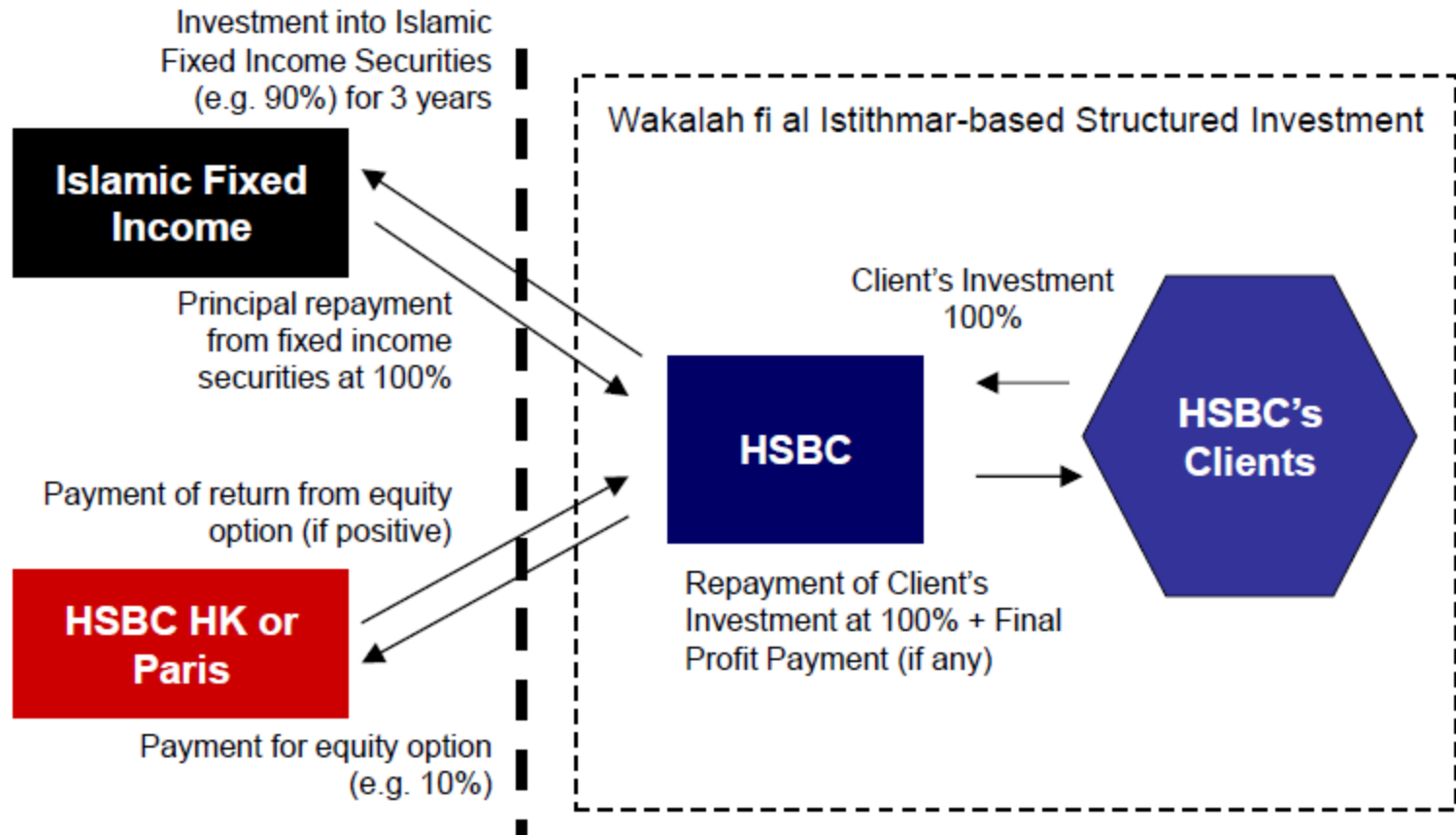
EXAMPLES OF ISLAMIC EQUITY LINKED PRODUCTS IN MALAYSIA

- HSCB Amanah (Malaysia) - “Islamic Equity-Linked Structured Investment-i”:
 - Wakalah fi al Istithmar
 - `Urbun
- CIMB “Islamic All-Stars”:
 - Mudarabah muqayyadah
 - `Urbun
- OCBC “Equity-linked Ringgit Structured Investment (ELSRI-i)”:
 - Wakalah fi al-istithmar
 - Buy & sell commodities linked to underlying equity asset prices (group of 6 chosen equities from oil and gas sector approved by the Shari`ah Board of (DJIM) Indexes)

10



CASE STUDY: HSBC AMANAH ISLAMIC EQUITY-LINKED STRUCTURED INVESTMENT-i



OBSERVATIONS ON PRODUCT

- Main benefits from the above Islamic structured investment:
 - Capital protection, provided the investment is maintained until maturity (in this example – 3 years)
 - Potential positive return based on pre-agreed formula (from the exercise of the call option when equity prices are favourable)
- However, if the performance of the underlying/reference equity prices are not favourable, the investors may get thinner profits or no return at all.
- The final profit amount will also depend on currency exchange rates if the investment is made in other currencies.
- Another set-back is, the capital protection is not effective if the investment is terminated before maturity.

12



CASE STUDY: CIMB “ISLAMIC ALL-STARS”

- The investors place the principal investment with CIMB Islamic on the basis of mudarabah muqayyadah (restricted joint-venture partnership), on a profit sharing ratio of 99.9% (investors) and 0.1% (CIMB).
- CIMB Islamic then invest most of the principal investment into fixed income Shari`ah compliant debt instruments for a minimum maturity period of five years.
- The investment into the fixed income instrument should generate a return that will effectively protect 100% of the principal investment, provided that it is kept for the minimum five years maturity.
- The balance of the principal investment amount is invested in an equity index (Islamic All-Stars Index) that consists of twenty Shari`ah compliant blue chip multinational companies (local and global).
- The investment in the Islamic All-Stars Index is via `urbun contract that has the effect of a “call option”

13



CASE STUDY: OCBC “EQUITY-LINKED RINGGIT STRUCTURED INVESTMENT (ELSRI-i)”

- The investors place the investment with OCBC based on wakalah fi al istithmar (investment agency) arrangement, with some fee payable to the Bank as investment agent.
- Most of the investment is then invested in Islamic fixed income securities, such as, Negotiable Debt Certificate-i for a maturity period of three years to provide 100% protection to the principal investment amount.
- The balance will be invested in buy and sell transactions of commodities on the London Metal Exchange linked to an underlying equity asset prices (a group of 6 chosen equities from the oil and gas sector approved by the Shari`ah Board of DJIM Indexes

14



ISLAMIC COMMODITY LINKED NOTES

- Commodity linked notes are investment vehicles that are linked to the performance of a particular commodity or group of commodities during a specified period of time.
- At maturity of the investment, the investor will receive principal plus profits dictated by the fluctuation in the value of the underlying /reference commodity.
- The commodity can include crude palm oil, petroleum, plumbum, copper, etc



EXAMPLES OF ISLAMIC COMMODITY LINKED PRODUCTS

- “Capital protected Islamic commodity linked product” – Deutsche Bank & Abu Dhabi Commercial Bank:
 - murabahah, wakalah & salam
 - 3 commodities: platinum, aluminium & crude oil
- Commodity Linked Individually Capped Performance (CLIP) Notes – Dubai Islamic Bank:
 - Commodities: gold, crude oil, copper, aluminium & zinc
- STRIDE-i (Structured Islamic Deposit Products-i) – Maybank:
 - BBA-murabahah & wa’d
 - copper futures on the London Metal Exchange (LME) and wheat futures on the Chicago Board of Trade (CBOT)

16



CASE STUDY: CAPITAL PROTECTED ISLAMIC COMMODITY LINKED PRODUCT

- In May 2005, Deutsche Bank issued what is thought to be the first capital protected Islamic commodity linked product, sold to Abu Dhabi Commercial Bank, which then sold them on to its clients.
- The product gave investors principal-protected exposure to 3 commodities: platinum, aluminium and crude oil.
- The structure uses murabahah, wakalah and salam to create the capital protection element.
- The capital protection transaction allows investors to benefit from the up-sides in prices of the three key commodities.
- The exposure to a basket of commodities allows investors to diversify risk and decrease volatility when added to a portfolio of financial assets.

17



COMMODITY LINKED INDIVIDUALLY CAPPED PERFORMANCE (CLIP) NOTES

- In September 2006, Dubai Islamic Bank launched its Shari`ah compliant 3-year Commodity Linked Individually Capped Performance (CLIP) Notes.
- The CLIP Notes are marketed as capital-protected, and will be linked to a basket of commodities comprising gold, crude oil, copper, aluminium and zinc.
- Through a Shari`ah compliant mechanism, CLIP Notes will offer investors a profit guarantee of 10% in the first year and a maximum potential profit of 8% per annum in the second and third year, depending on the performance of the basket of commodities.
- Note: The available literature on the CLIP Notes did not detail out the actual contract/s used in the so-called Shari`ah compliant mechanism.

18



CASE STUDY: STRIDE-i (STRUCTURED ISLAMIC DEPOSIT PRODUCTS-i)

- In October 2007, Malayan Banking Berhad (Maybank) launched a structured Islamic deposit product (STRIDE-i) linked to two types of commodity futures, i.e., copper and wheat.
- STRIDE-i is marketed as a Shari`ah compliant capital-protected deposit with a four year maturity period, based on BBA-murabahah contract and wa`d arrangement.
- The proposed RM300 million closed-end fund would invest in Negotiable Islamic Debt Certificates (NIDC) for capital protection (when held until maturity); as well as copper futures on the London Metal Exchange (LME) and wheat futures on the Chicago Board of Trade (CBOT) respectively.
- The investment in the commodity futures uses wa`d arrangements.

19

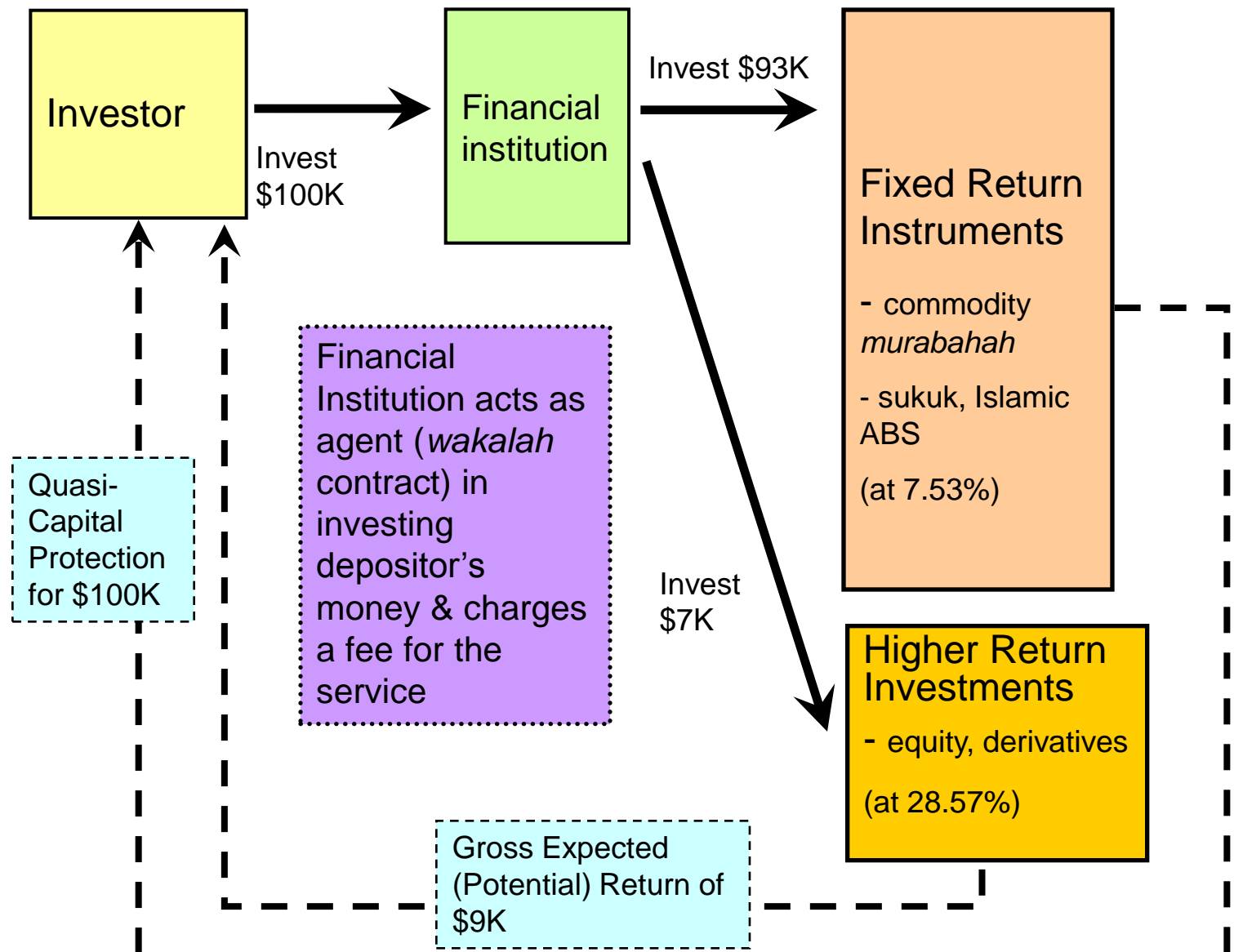


SHARI'AH ISSUES IN ISLAMIC STRUCTURED PRODUCTS

- Many of the shariah issues in Islamic structured products relate to the derivative instruments used in the structure.
- Common contracts/arrangements used to attain derivative features in Islamic structured products:
 - *Bay` al `urbun* (normally used for shariah compliant “option”)
 - *Bay` al salam*
 - *Wa`d* (normally used for shariah compliant forward)
 - *Murabahah / Tawarruq*
 - *Wakalah*



Illustration of Example of Islamic Structured Product



Examples of Islamic Structured Products

- Islamic Equity-Linked Notes
 - HSBC Amanah (Malaysia) Bhd
 - Investment in fixed income securities plus a portion invested in equity options of Shari'ah compliant shares owned by its sister companies (HSBC Hong Kong and/or Paris)
 - Deutsche Bank and ABN Amro
 - Investment in a basket of shares from a particular index
 - Two unilateral undertakings to buy and sell the basket at particular exercise prices
- Islamic Commodity-Linked Notes
 - Dubai Islamic Bank
 - Commodity-Linked Individually Capped Performance (CLIP) Notes
 - Linked to basket of commodities comprising gold, crude oil, copper, aluminium and zinc
- Structured Islamic deposit
 - Maybank
 - Linked to commodity futures – copper and wheat



Unwarranted Skepticism or Insightful Wisdom?

- The proliferation of derivatives has received some flak
 - “Derivatives are **financial weapons of mass destruction**, mainly due to opaque pricing and accounting policies in swaps, options and other complex products whose prices are not listed on exchanges...” – Warren Buffet
 - “...that there is nothing wrong with financial engineering, but that the poor uses (of derivatives) are to blame is akin to the argument against gun control that ‘guns don’t kill people, people kill people’... (there will be) misuse of financial instruments which they create for hedging, but which are in fact **instruments of gambling**.” – Prof. Mahmoud El-Gamal



Economic Perspectives

- Some blame profiteering in derivatives markets for **price instabilities** in commodity markets
 - Surge in oil and food prices in 2008
- **Complexity** of financial instruments culminates in inadequate or deficient risk management
 - Collateralized debt obligations (CDO) and the U.S. subprime crisis
- Derivative trading open to **abuses** & fraud
 - Rogue trader Nick Leeson who arguably single-handedly caused the fall of Barings Bank in 1995
 - Futures trading losses suffered by French bank Société Générale (Soc Gen) in January 2008



Economic Perspectives (continued)

- While **hedging** has economic merits, in reality **only a fraction** of derivative trading has that motivation
 - In addition, perfect hedges are rare so one can question the magnitude of economic benefit hedging actually brings about
- Some argue that derivatives actually **amplify** the **market volatility** that they were intended to manage (protect against)
- Some others argue that derivative trading is **not a productive economic activity**
 - “Change the system to relate it with real sector activities and all those clever dealers who earn huge profits out of thin air could become doctors, industrialists, business people and teachers instead...” – Prof. Mahmoud El-Gamal
 - Keynes’ analogy of “men digging holes in the ground”



Economic Perspectives – In Defense of Derivatives

- Speculators often **make a market**
 - Without them, markets could be illiquid and ineffective
 - Hedging only works if there are sufficient counterparties
 - Exchanges would not be commercially viable without adequate market players
 - It can also be argued that more players will reduce information asymmetry
- Benefits of high trading volumes
 - Leads to better (faster and more accurate) **price discovery**
 - Reduces **transaction costs**



The Recent Financial Crisis – The Setting

- Prior to the crisis, the U.S. economy was showing robust growth
 - Low interest rates, high liquidity, rapid growth in financial innovation
- There was **pressure** (and incentives) to sustain **high rates of return** on investment
- Supervision and **regulation** were **weakening**
- Competition led to markets for good debtors drying up or reaching a plateau
- Market players were in search for higher yields



The Recent Financial Crisis – The Subprime Mortgage Market

- Lenders turned to subprime borrowers
 - Generally, FICO credit score of less than 640
 - The term “ninja” loans was coined – No Income, No Jobs, no Assets
- Mutual cooperation (or conspiracy!) between real estate developers, appraisers, insurers and lenders to ensure reasonable loan-to-value (LTV) ratios
 - The fact that **property prices** were on an **uptrend** helped
- Special mortgages were structured and marketed
 - Long tenure (e.g. 30 years)
 - Low or zero down payment
 - **Low “teaser” rates** for first few years, reset at double-digit rates in subsequent years
 - Prohibitive cost of early repayment



The Recent Financial Crisis – Enter CDO's

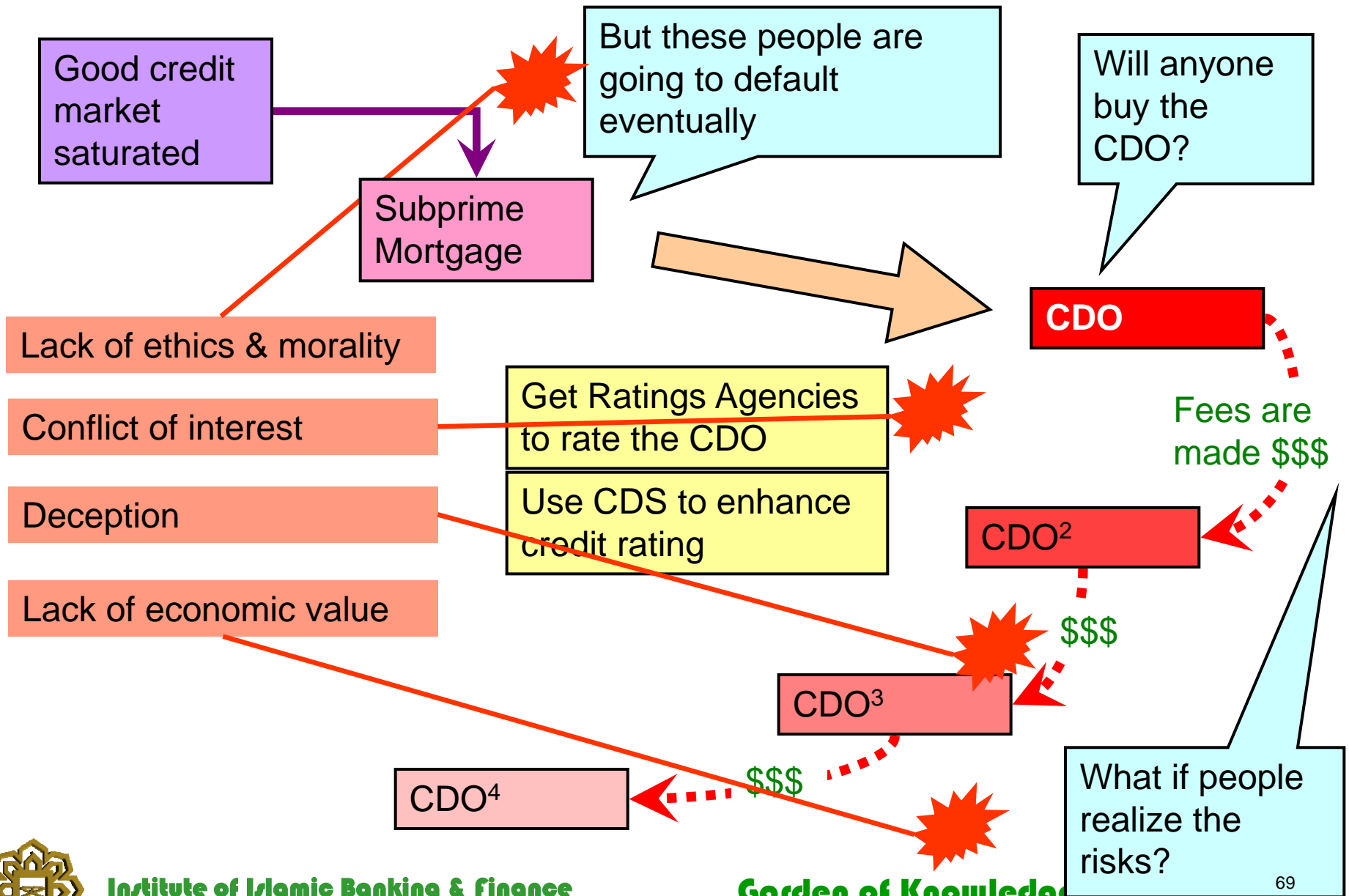
- Collateralized Debt Obligations (CDO)
 - A credit derivative, essentially a form of securitization
 - Mortgages are pooled to create a security with a **variety of risk profiles**
 - **Waterfall structure** for payment priority used
 - Senior tranche (highest rating)
 - Mezzanine tranche (typically investment-grade)
 - Equity tranche (unrated)
- Credit enhancements included **credit default swaps (CDS)**
 - A CDS enables the protection buyer to receive compensation in the event of credit default
- The CDO's can (and are) repackaged into new CDO's
 - The “**originate and distribute**” model
 - Fees are made by participants in each round of “packaging”



- Rates of default swelled (this was inevitable)
- Property prices began to plummet
- Foreclosures became widespread, affecting **market confidence**
- CDO's were highly complicated (no one really understood them, including ratings agencies that rated these instruments)
- As fear spread, the CDO's became **toxic**
 - **No willing buyers** leading to failure in price discovery function
- Many market players were **highly leveraged**
 - Borrowed short-term to invest in the CDO's
- The rest was history...



The Recent Financial Crisis – What Was Wrong?



The Recent Financial Crisis – Lessons for Islamic Finance

- While innovation and financial engineering can be beneficial, Islamic finance should proceed cautiously
 - **Ethics and morality** should never be compromised
 - Products should serve higher purposes, not merely to contribute to institutions' profitability
 - Islamic finance should champion **transparency, good governance and integrity**
 - Many Islamic financial products today are said to be complicated compared to mainstream counterparts; this is a worrying trend
 - Products should address a **genuine Shari'ah-based economic need**
 - Just because conventional finance has it, or that there is a market demand for it, is not sufficient reason to develop a particular product



- Problem : Scholars have thusfar not come to an agreement as to the permissibility of derivative instruments
- Possible solution : Consolidate various views and concerns and compile a list of “*Shari'ah* parameters” governing the use of derivatives
- Application : These parameters will be applied to a test case – Hollywood box office futures



Shari'ah Parameters – Fundamental Principles

Shari'ah dictates manmade concoctions, not vice versa

Why are we force-fitting Islamic contracts into conventional instruments?

Financial transactions cannot be detached from real economic activities

Salam is a contract of exchange, with added elements of financing and hedging

Risk in itself is NOT a commodity

Risk is legitimate only when necessary for value creation

Macro “maslahah” should override micro “maslahah”

“They ask you concerning wine and maysir. Say: In them is great sin as well as benefits to people, but the sin is greater than the benefit.” (The Holy Qur'an, 2:219)



Proposed *Shari'ah* Parameters

1. The purpose of any derivative instrument or derivative-like arrangement must be purely for hedging a real risk or exposure.

2. Each contract and transaction that embodies a derivative-like arrangement must be justified in terms of real value creation; onus is on contracting parties to adequately demonstrate this.

3. In managing risk exposures, preference must be accorded to non-artificial hedging methods (natural or economic hedging) and mutual/cooperative/non-profit hedging arrangements.

4. Contracting parties must prove derivative-like arrangements embarked upon are reasonably devoid of room for opportunistic and unfair manipulation that result in unjust wealth transfers.

5. The subject matter of concern in the hedging arrangement must not only be *Shari'ah* compliant in the established sense, but must also be justified from a value creation perspective.

6. The quantum of derivative markets or transactions must not exceed that of the corresponding real market or real economic exposure.



Proposed Film (Box Office) Futures

- Exchange traded futures contract
- Underlying commodity – box office takings (within a stipulated time period) of specific Hollywood film productions
- Rationale – allows financiers of film productions and/or film studios to hedge their investments
- “Short” position in this futures contract
 - Gains (receive cash flows) if particular film does NOT perform better than anticipated (in terms of stipulated box office numbers)
 - Typically film makers will take this position as a form of hedging
 - Losses in the form of reduced box office collections compensated by gains in futures transactions
- “Long” position in this futures contract
 - Gains if particular film does better than expected
 - Typically comprising pure speculators



Applying *Shari'ah* Parameters to Film Futures

Parameter	Pass/Fail	Reasoning
Hedging only	Fail	No economic rationality for risk exposure that is opposite of film makers
Value creation	Doubtful	Will it lead to better film-making? Moral hazard of “safety net”
Natural hedging	Fail	Diversification, earnest effort
Manipulation	Fail	Substantial room for insider trading, very large information asymmetry
Subject matter	Doubtful	Some films may not be Shari'ah compliant Film-making is a business venture No real underlying commodity
Leverage	Fail	Economics of exchange-traded futures wither without leverage

