

# IB 1004: Islamic Financial Markets and Institutions

The Central Bank

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INCEIF

September 2009

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*The Global University in Islamic Finance*



# Topic 7 (of the Module) The Islamic Financial Markets

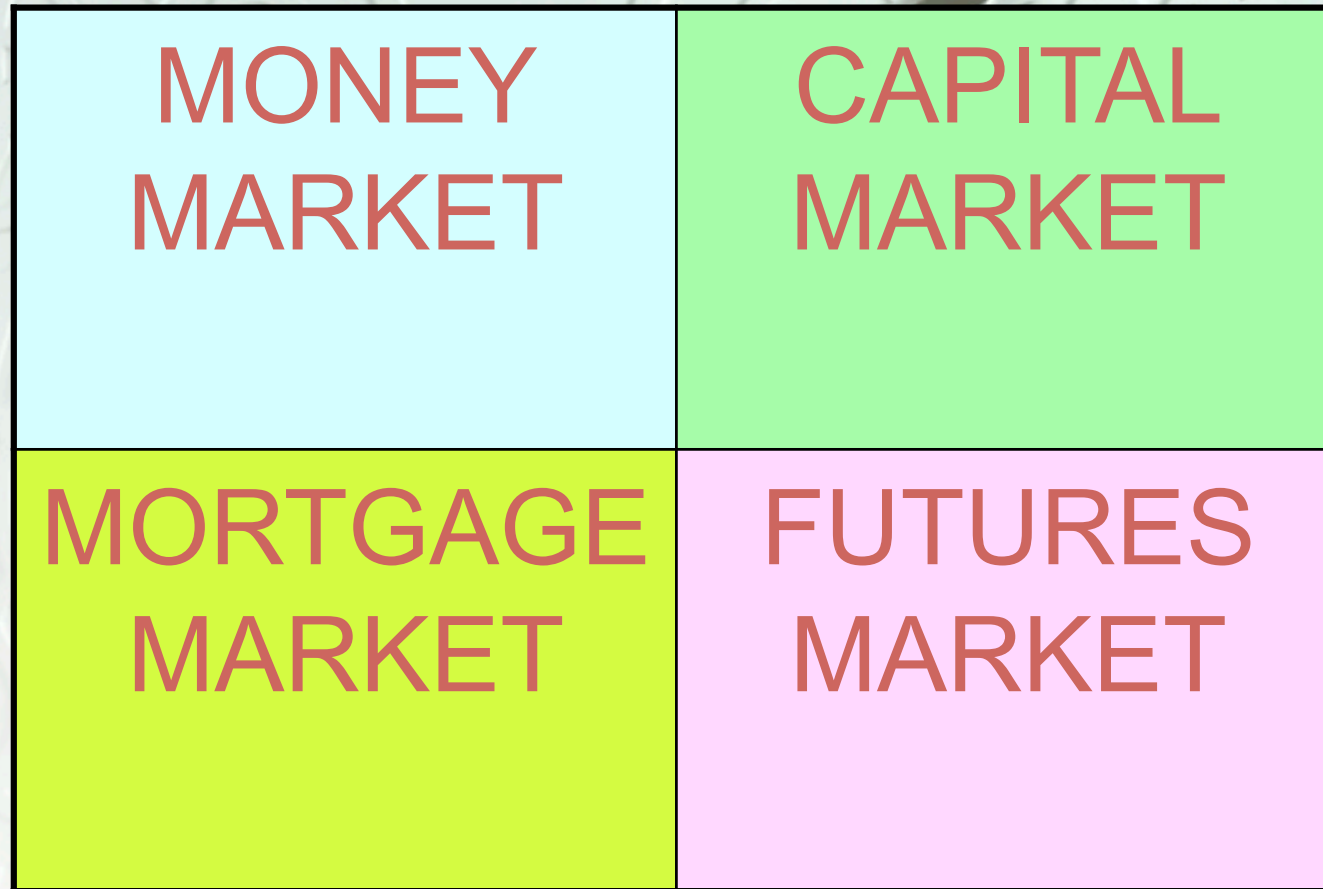


# Learning Outcomes:

The candidate should be able to:

- understand that there is bound to be variations in financial institutions
- understand that variations are more of spirit rather than of substance
- identify the reasons behind the similarities and differences
- reason out ways and means of regularizing the operations
- realize that serious steps are in progress to “iron” out the impeding variations

# Components of the Islamic Financial Markets





## Money Market (1/4)

<b>Functions and organisation</b>	<ol style="list-style-type: none"><li>1. Platform to manage <b>asset-liability mismatch</b>;</li><li>2. IFIs can participate as investors (providers of funds) and borrowers (providers of assets);</li><li>3. IFIs can invest their surplus liquidity in s/t liquid, tradable, asset-backed, competitively priced instruments;</li><li>4. Enable IFIs to assume term risk, securitize and liquidate such assets to <b>improve the quality of their portfolio</b>;</li><li>5. Two main Islamic money markets: Islamic Interbank Money Market (IIMM) of Malaysia and the Liquidity Management Centre (LMC) of Bahrain.</li></ol>
<b>Products and services (Malaysian example)</b>	<p><b>Government Investment Issue (GII)</b></p> <ol style="list-style-type: none"><li>1. Concept used: <i>Qardul Hassan</i>.</li><li>2. Development:<ol style="list-style-type: none"><li>a. The first Malaysian Islamic bank was not allowed to trade in any <b>interest bearing instruments</b> (eg MGS, MTB);</li><li>b. Government Investment Act was passed to enable the Government of Malaysia to <b>issue non-interest bearing certificates</b>, ie Government Investment Certificates (GIC) now GII;</li><li>c. Problem: <i>Qardul Hassan</i> GIIs <b>did not permit trading in the secondary market</b>. Solution: Government of Malaysia issued 3-years GII of RM 2.0 billion under the <i>bai' inah</i> concept.</li></ol></li></ol> <p><b>Mudarabah Interbank Investment (MII)</b></p> <ol style="list-style-type: none"><li>1. Through MII, deficit IFIs (investee bank) <b>can obtain investment from surplus IFIs</b> (investor bank) based on <i>mudharabah</i> (profit sharing is negotiable between both parties);</li><li>2. Period of investment: overnight - 12 months; and</li><li>3. Rate of return: <b>Based on the rate of gross profit before distribution</b> for an investment of one-year of the investee bank.</li></ol>

## Money Market (2/4)

### Products and services (Malaysian example)

#### **Wadiah Interbank Acceptance**

1. Enables IFIs to **place their surplus funds with BNM**, based on the concept of *wadiah yad dhamanah*. No obligation on the part of the custodian (BNM) to pay any return on the account; and
2. Dividend declared by the custodian: *Hibah* (gift).

#### **Malaysian Islamic Treasury Bills (MITB)**

1. Instrument based on *bai' inah*, with different maturities such as 3, 6 and 12 months.

#### **Bank Negara Negotiable Notes (BNNN)**

1. Purpose of this *ijarah*-based tool: Used for **liquidity operations** in the Islamic money market;
2. Tradable in the secondary market; and
3. Pricing? Determined on a **discounted basis** and is issued for tenure of up to one year.

#### **Islamic Accepted Bills (IAB)**

1. Based on *murabahah*, it is similar to Bankers Acceptances and traded on *bai' dayn* concept.

#### **Islamic Debt Securities**

1. Concepts employed: *bai' bithaman ajil*, *murabahah* and *mudharabah*; and
2. Maturity tenure: 3 - 15 years.

#### **Cagamas Mudharabah Bonds**

1. Issued under *mudharabah* and subsequently via *bai' bithaman ajil* ;
2. Purpose: To **finance the purchase of Islamic housing finance/hire purchase debts**; and
3. The bondholder and Cagamas will **share the profits** according to an agreed profit sharing-ratio. This instrument is redeemable at par with profit paid on maturity date. It has tenure of up to 10 years.



# Money Market (3/4)

<b>Products and services (Malaysian example)</b>	<b>Islamic Negotiable Instruments of Deposit (INID)</b> <ol style="list-style-type: none"><li>1. Mechanism: A sum of money is deposited with an IFI and is repayable to the bearer on a specified future date at nominal value + declared dividends; and</li><li>2. Concept used: <i>mudharabah</i>.</li></ol> <b>Negotiable Islamic Debt Certificate (NIDC)</b> <ol style="list-style-type: none"><li>1. Concept: <i>Bai' bithamin ajil</i> ; and</li><li>2. Mechanism: Involves the sale of the IFI's assets to the customer at principal value + profit (to be settled at an agreed future date).</li></ol>
<b>Market mechanism</b>	<ol style="list-style-type: none"><li>1. Rapid rise in the volume of transactions due to lack of investment avenues for IFIs;</li><li>2. Islamic money market is currently catering to IFIs' needs; and</li><li>3. With more players in the market, there is greater equilibrium between the forces of demand and supply, within the realm of Islamic short-term funds.</li></ol>
<b>Regulators and regulations</b>	<ol style="list-style-type: none"><li>1. <i>Shariah</i> advisers: Oversee all operations to ensure that the components and activities of the money market are <i>Shariah</i>-compliant.</li></ol>
<b>Development (Malaysian example)</b>	NEXT PAGE

## Chapter 7 – Islamic Financial Markets

### Money Market – Development (4/4)

Date	Events
03 Jan 1994	Islamic Inter Bank Money Market (IIMM) was introduced.
19 Feb 1996	<i>Mudharabah</i> Interbank Investment (MII ) was implemented to ensure <b>mobility of fund</b> in the MII.
05 Aug 1999	<i>Bai' 'inah</i> Funding facility was introduced which serves as a <b>last resort funding facility</b> by BNM to cover an Islamic banking 's deficit position
21 Sept 1999	BNM introduced <i>mudharabah</i> money market tender. Islamic banking institutions which participate in the tender exercise are required to submit their bids via Fully Automated System for Issuing / Tendering System (Fast)
29 Nov 2000	Bank Negara Negotiable Notes, which was based on concept of <i>bai' 'inah</i> , was introduced.
15 Jun 2001	Government Investment Issue based on <i>bai' 'inah</i> was introduced and issued on behalf of the Government of Malaysia.
01 Oct 2001	Circular on When Issue (WI ) was issued by BNM to all Islamic banking institutions.
15 April 2002	<i>Wadiah</i> Inter bank Acceptance which is based on <i>wadiah</i> was introduced.
01 Aug 2002	BNM issued Guidance Notes on Sell and Buy Back Agreement (SBBA) to Islamic banking institutions.
21 Dec 2002	Sell and Buy Back Tender via fully automated system of Issuing / Tendering System (FAST) was introduced.
09 July 2003	Management Committee of Bank Negara approved <i>rahn</i> Agreement-i.
17 Sept 2004	Issuance of the first Islamic Treasury Bills
8 Oct 2004	Launching of Islamic Interbank Money Market Website by the Governor.
17 Jan 2005	Introduced Islamic Overnight Tender through FAST based on `Wadiah Acceptance concept.
16 March 2005	Issued first Profit Based GII coupon bearing.
24 June 2005	Islamic Derivatives Seminar to promote new Islamic Instruments; Islamic FX Forward and Islamic Profit Rate Swap.



# Capital Market (1/2)

<b>Functions and organisation</b>	1. Provide the financial sector with three functions: <b>risk management, liquidity management and specialization in resource mobilization and allocation.</b>
<b>Products and services</b>	<p><b>Shariah Compliant Stock:</b> <i>Shariah</i>-compliant corporate stocks: Business activities are <i>Shariah</i>-compliant.</p> <p><b>Islamic Funds (mutual/unit trust fund)</b></p> <ol style="list-style-type: none"><li>1. Funds that are managed <b>in compliance with <i>Shariah</i> principles</b>; and</li><li>2. Categories: mutual funds, unit trust funds, Islamic equity funds, realty and property funds, investment and <i>murabahah</i> funds, commodity funds and <i>ijarah</i> funds.</li></ol> <p><b>Islamic Bonds</b></p> <ol style="list-style-type: none"><li>1. Involves the <b>packaging or structuring</b> of pools of <i>Shariah</i>-compliant assets into securities;</li><li>2. Unlike conventional bonds, the issuance of Islamic bonds requires an <b>exchange of a <i>Shariah</i>-compliant underlying asset for a financial consideration through the application of various <i>Shariah</i> principles</b> such as <i>ijarah</i>, <i>mudharabah</i>, <i>musharakah</i>, <i>bai` bithaman ajil</i> and others; and</li><li>3. Structuring process may involve the provision of <b>additional protection</b> for investors against late payment, pre-payments, potential write-offs and others (provided in the form of credit and/or liquidity enhancement schemes).</li></ol> <p><b>Islamic Stock Broking Services:</b> Operate within the <b>same institutional and regulatory framework as that of conventional stock broking</b>, except that their activities comply with <i>Shariah</i> principles.</p>

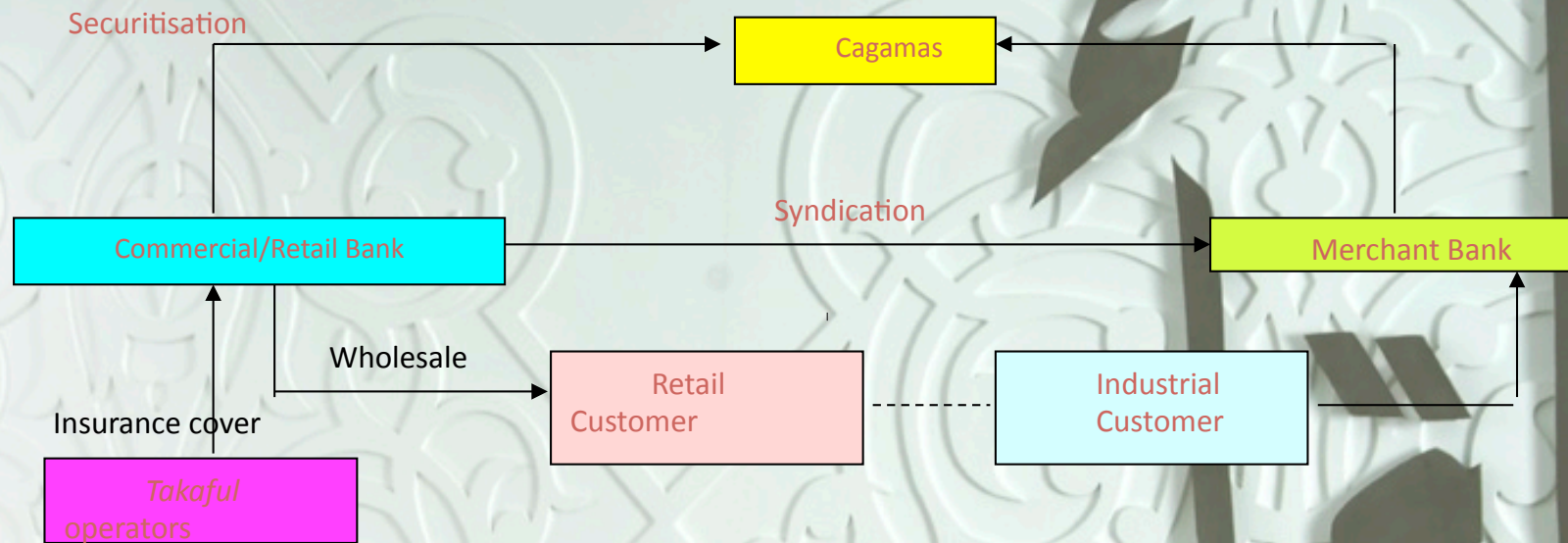
# Capital Market (2/2)

<p><b>Market mechanism</b></p>	<p>1. The backbone on which the Islamic capital market developed is the <b>market for long-term securities</b> that represent asset-based obligations. One version of this market is <i>Sukuk</i>, which represent asset-based sale-and-lease back obligations by the issuer. Another version of this market is asset-backed securitizations (Islamic ABS), which represent a pool of asset-backed obligations where the obligor is unrelated to the issuer.</p> <table border="1" data-bbox="539 448 2024 735"> <tr> <td data-bbox="539 448 1285 600"> <p><b>Sukuk Market:</b> Provides a functional equivalent to the conventional government and corporate bond market.</p> </td> <td data-bbox="1285 448 2024 600"> <p><b>Islamic ABS Market:</b> Provides a functional equivalent of the conventional ABS market.</p> </td> </tr> <tr> <td colspan="2" data-bbox="539 600 2024 735"> <p><b>Derivative Market:</b> Risk-management "derivative" contracts are used in <i>sukuk</i> and Islamic ABS. For example, the functional equivalent of interest rate swaps can be implemented through an exchange of fixed and floating rate instruments combined with an exchange of credit guarantees.</p> </td> </tr> </table>	<p><b>Sukuk Market:</b> Provides a functional equivalent to the conventional government and corporate bond market.</p>	<p><b>Islamic ABS Market:</b> Provides a functional equivalent of the conventional ABS market.</p>	<p><b>Derivative Market:</b> Risk-management "derivative" contracts are used in <i>sukuk</i> and Islamic ABS. For example, the functional equivalent of interest rate swaps can be implemented through an exchange of fixed and floating rate instruments combined with an exchange of credit guarantees.</p>	
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<p><b>Regulators and regulations (Malaysian example)</b></p>	<p><b>First Tier Regulations:</b> All issuers of Islamic products are obliged to comply with <b>disclosure requirements</b> relating to prospectuses or trust deeds. Similarly, Islamic financial intermediaries are subject to the full range of requirements related to their activities. Listed Islamic financial intermediaries are also subjected to the <b>conventional capital market requirements and disclosure standards derived from statutes and listing requirements.</b></p> <p><b>Second Tier Regulations:</b> Compliance to <i>Shariah</i> principles.</p>				
<p><b>Important Developments</b></p>	<ol style="list-style-type: none"> <li>1. There are &gt; 40 indexes under the Dow Jones Islamic Market Indexes (DJIMI) umbrella;</li> <li>2. Market capitalization of Global DJIMI (March 31, 2005) = USD10.65 trillion (est.);</li> <li>3. The total annual market capitalization of the stock meeting the DJIMI criteria in three OIC countries = US\$104 billion (42% of total market capitalization in these countries); and</li> <li>4. This size is expected to grow through a wider application of the screening technology, as well as through formalization of product identification marks.</li> </ol>				



# Mortgage Market (1/4)

## Functions and organisation (Malaysian example)



Organisation	Functions
Commercial banks	Provide financing in the <b>residential and commercial Islamic mortgage market</b> . For larger commercial mortgages, the Islamic banks may team-up, and provide an Islamic <b>syndication</b> mortgage facility.
Cagamas	1. Introduce securitization to the mortgage market; and 2. In 1994, Cagamas introduced the purchase of Islamic house financing debts to <b>provide liquidity and promote creation of more Islamic house financing debts</b> .
Merchant banks	Act as <b>arrangers</b> of large Islamic mortgage syndicated financing.
Takaful operators	Provide <i>takaful</i> coverage on the property mortgaged and mortgage term insurance to cover the customer for the duration of the mortgage.

# Mortgage Market (2/4)

## PRODUCTS AND SERVICES – BAI' BITHAMAN AJIL

<b>Modus operandi</b>	The bank finances the purchase of a property by <b>buying the property on behalf of the customer and adds a profit margin before reselling it to the customer</b> . The customer purchases the property back from the bank by <b>deferred monthly instalments</b> .
<b>Drawbacks</b>	<ol style="list-style-type: none"> <li>1. Being a fixed-rate structure, it is <b>susceptible to an increasing rate scenario =&gt;</b> Emergence of “Floating” <i>bai' bithaman ajil</i>, with element of effective profit;</li> <li>2. Contracted profit margin: Maximum profit the bank can charge for the entire mortgage period. Effective profit margin: Varies during the tenure of the mortgage depending upon the mortgage market rates; and</li> <li>3. Rebate to the customer = Monthly contracted profit - monthly effective profit.</li> </ol>

## PRODUCTS AND SERVICES – IJARAH

<b>Modus operandi</b>	<ol style="list-style-type: none"> <li>1. Bank <b>purchases property and leases it to the customer</b>. Part of the “rental” payments goes towards settlement of the principal;</li> <li>2. End of tenure: Ownership of the property is transferred to the customer (nominal value); and</li> <li>3. Not popular in Malaysia. Why? Many unresolved issues.</li> </ol>
<b>Unresolved Issues</b>	<ol style="list-style-type: none"> <li>1. Since the bank owns the property, is it the bank's duty to pay for the structural maintenance of the property?</li> <li>2. Since the bank owns the property, is it the banks duty to pay for the assessment, quit rent and <i>takaful</i> incurred on the property?</li> <li>3. Upon transfer of the property, would property gains tax be an issue?</li> </ol>



# Mortgage Market (3/4)

## PRODUCTS AND SERVICES – DIMINISHING MUSHARAKAH + IJARAH

### Modus operandi

1. Create **joint ownership** on a property;
2. The bank **leases its share of the property to the customer**; and
3. The customer **purchases different units of the banks' share**, until such time that it totally belongs to the customer.

## PRODUCTS AND SERVICES – MURABAHAH

### Modus operandi

1. The bank finances the purchase of goods or property by buying it on behalf of the customer and marks up the price before reselling the item to the customer on a “cost-plus basis”.; and
2. Application in syndication? A designated residence is purchased at a **specified price** by a group of banks. Subsequently, they resell the property to customers, with the purchase price (including profit portion) to be paid in instalments over a period of five years.

## REGULATORS AND REGULATIONS

### Regulators

**Central Banks:** Ensure all regulations are strictly adhered to, develop the Islamic mortgage Infrastructure, ensure fair play in the market and encourage greater participation.

**Islamic Financial Services Board (IFSB):** Set standards and strive for uniformity. IFSB helps with the growth of the market, as ease of understanding and similarity of operations encourage greater patronage.

**Shariah Supervisory Board:** Ensures that the rules and regulations governing the mortgage market are in compliance with strict Islamic principles.

### Regulations

Currently, there are no standard international regulations formulated specifically for Islamic mortgages.

# Mortgage Market (4/4)

## IMPORTANT DEVELOPMENTS

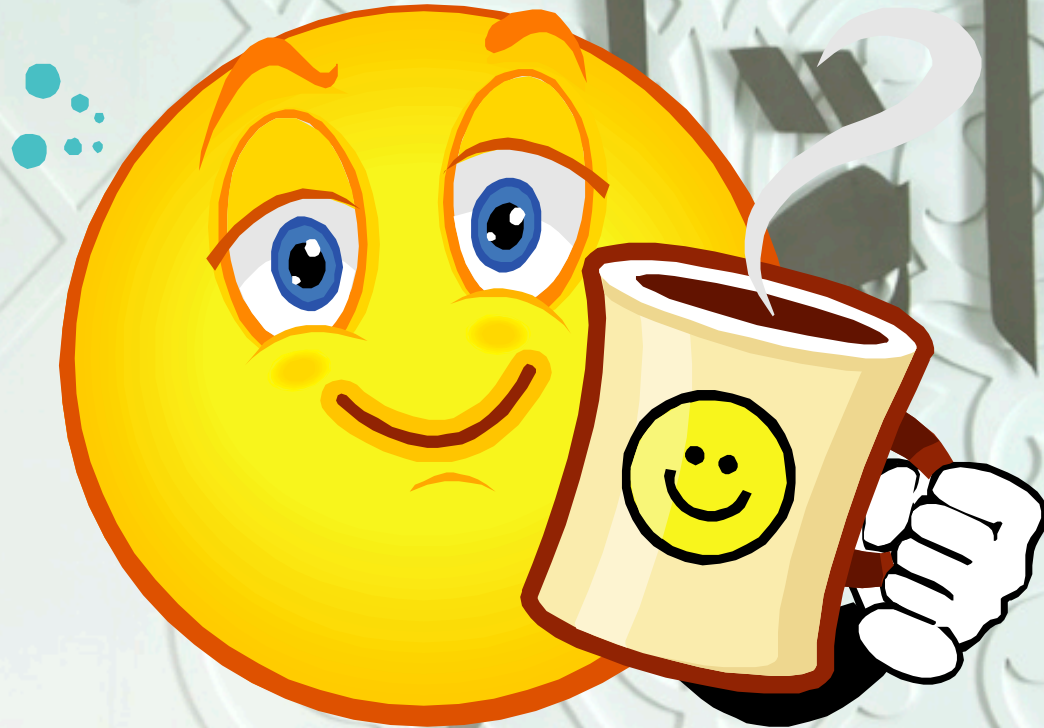
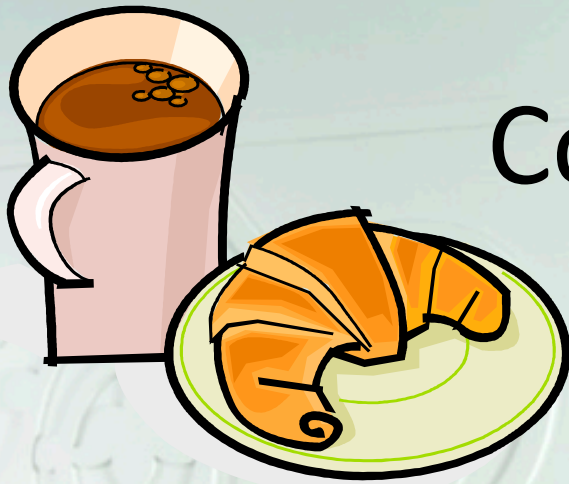
1. Islamic mortgage market recording high growth (especially so in Malaysia and the United Kingdom);
2. UK Islamic mortgage market worth £164 million, growing at an average annual rate of 68.1% pa. Projected market value = £1.4 billion (2009).
3. To further push the growth of the Islamic mortgage markets, the regulators in Malaysia have reduced the stamp duties for *bai' bithaman ajil* agreements and removed the double stamp duty for *murabahah* based mortgages.



# Futures Market

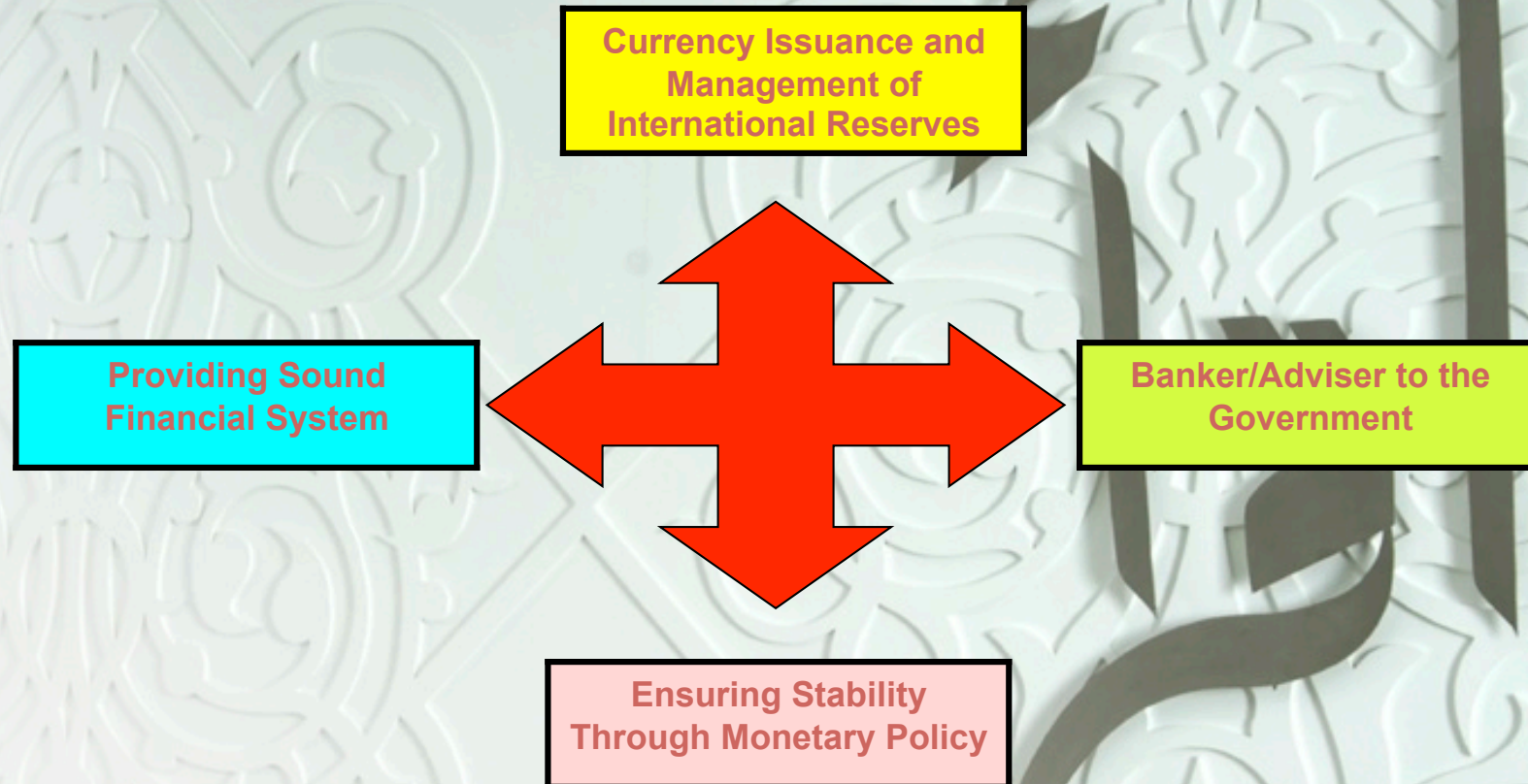
<b>Functions and organisation</b>	<ol style="list-style-type: none"><li>1. Eg Ahmad buys a future contract which obligates him to pay \$15 on 15 January, 2006 for one lot of Bank X shares. Suppose the spot price is \$17. So his gain is 2 per share (\$7 - \$5). But if the price falls, say to \$13, he will lose \$2 per share (\$15 - \$13);</li><li>2. Future contracts depend on the perception of future price movements and are mainly <b>speculative</b> in nature, hence not <i>Shariah</i>-compliant; and</li><li>3. Researchers are working on potential instruments that can offer the same flexibility and features as conventional futures.</li></ol>
<b>Shariah Issues</b>	<p><b>Ownership (<i>milkiyah</i>):</b> The seller must <b>own the object of sale</b>. Owning what one sells <b>removes <i>gharar</i></b> in the contractual obligation. In futures trading, the seller does not own the object of sale;</p> <p><b>Possession (<i>qabdh</i>):</b> One of the requirements of a valid sale is that the seller cannot sell the object he owns, until it is in his possession. In the case of futures trading, it is evident that the <b>seller does not have possession of the commodities traded</b>; and</p> <p><b>Uncertainty (<i>gharar</i>):</b> <i>Gharar</i> exists in futures contracts (sale prior to taking possession consists <b>element of potential failure to deliver</b>).</p>
<b>Developments</b>	<ol style="list-style-type: none"><li>1. Futures contracts are not applied only for speculation purposes but for hedging risks as well. Hence, researchers are focusing on <b>risk hedging aspects</b> and working towards the following:<ol style="list-style-type: none"><li>a. Feasibility of options and futures contracts from an Islamic point of view;</li><li>b. Comprehensive study of options and futures contracts mechanism for choosing appropriate options to meet the demands of the Islamic financial market; and</li><li>c. Rules and regulations to ensure transparency and controlling of risk by quantifying the same.</li></ol></li></ol>

# Coffee Break...





# Functions of a Central Bank (CB)



## Functions of a Central Bank (CB)

<b>Currency Issuance and Management of International Reserves</b>	<ol style="list-style-type: none"><li>1. In practice, CBs maintain a cover of <b>above 100% of their currency liabilities</b>, reflecting its commitment to maintain, full gold and foreign exchange backing for their currencies;</li><li>2. Currency exchange rate are market driven. CBs only intervene to <b>smooth excessively volatile fluctuations</b>; and</li><li>3. Importance of strong reserves position? For economic growth, sustainable development, protect the country against unforeseen destabilizing developments, sustain market confidence and stability, enhance creditworthiness and provide the government with more flexibility in the conduct of domestic policies.</li></ol>
<b>Banker/Adviser to the Government</b>	<ol style="list-style-type: none"><li>1. Managing the <b>government's liabilities</b> (internal and abroad);</li><li>2. Advises the government on its loan programs, including the terms and timings of the loans and the issuance of new types of securities;</li><li>3. Responsible for trading, registering, settling and redeeming Government securities through its trading and settlement system; and</li><li>4. Maintains a close relationship with the Ministry of Finance at all levels.</li></ol>
<b>Ensuring Stability Through Monetary Policy</b>	<ol style="list-style-type: none"><li>1. Objectives of the conduct of monetary policy? First, the CB needs to ensure that there is <b>sufficient money / credit available</b> to allow the economy to expand along its long-term potential growth under situations of relatively little or no inflation. Second, as a short-term measure, to <b>minimize the fluctuations of recessionary or inflationary pressures</b> which can dampen economic growth.</li><li>2. Impact of monetary policy?<ol style="list-style-type: none"><li>a. Affect the <b>cost and availability of funds</b> in the financial system; and</li><li>b. Has a direct <b>impact on the ability of depository institutions to extend credit to the economy</b> as well as on <b>interest rates</b>.</li></ol></li></ol>

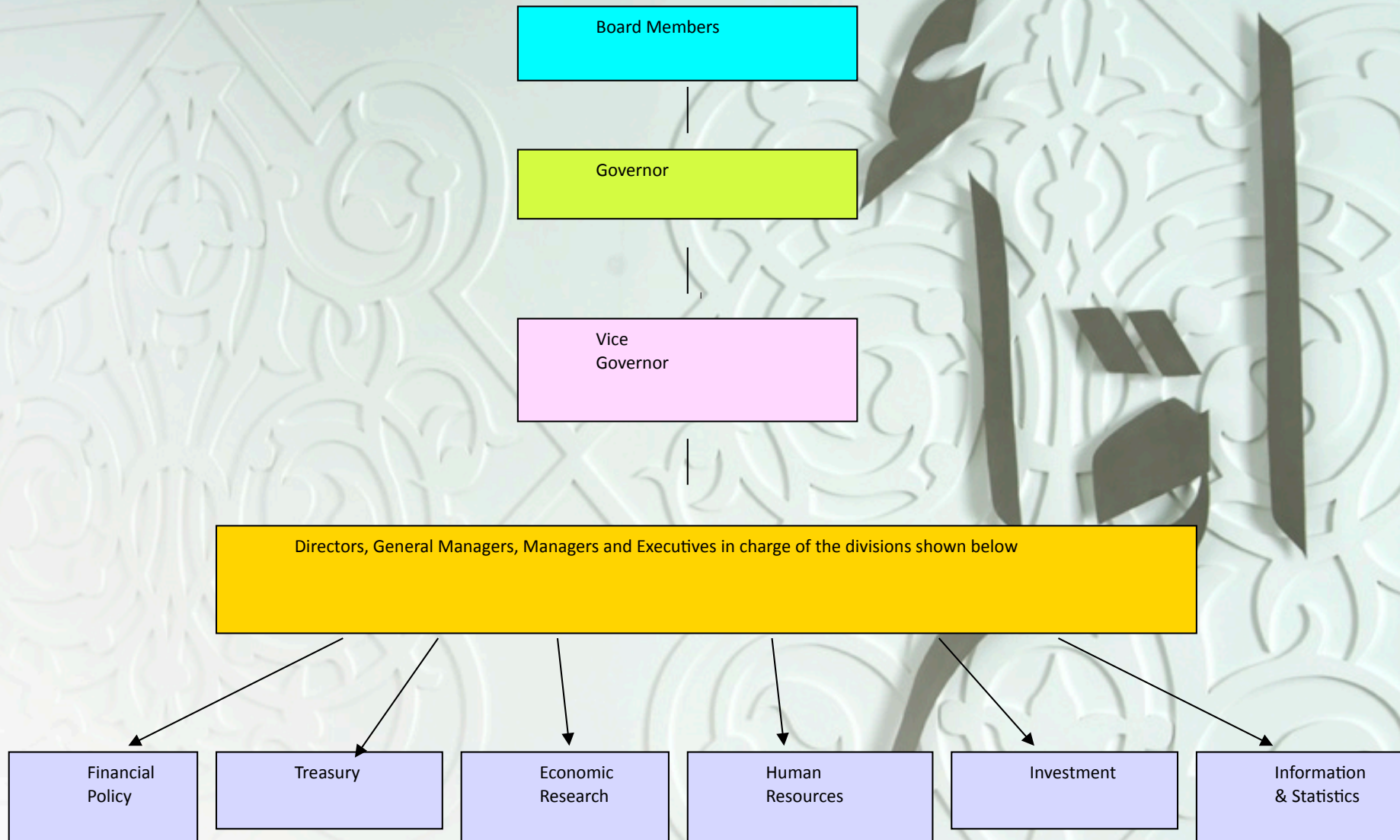


## Functions of a Central Bank (CB)

### Providing Sound Financial System

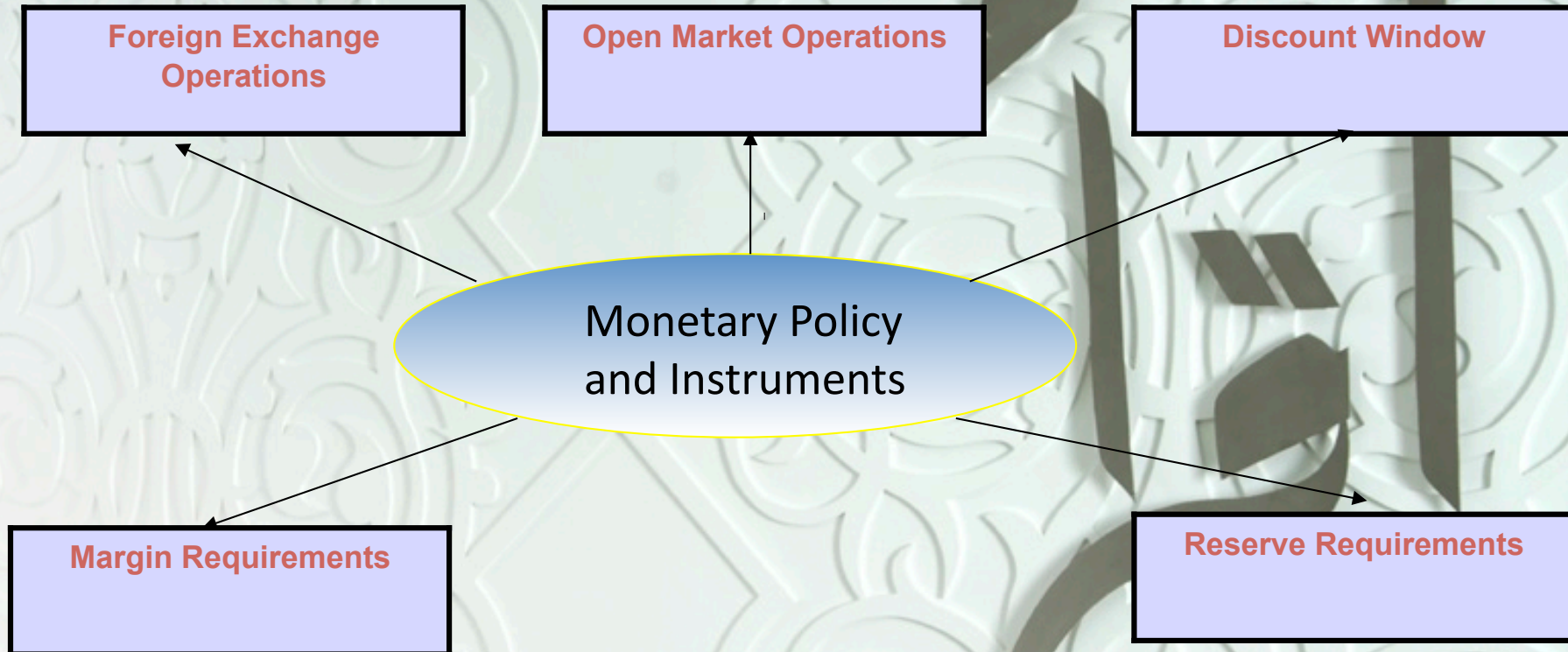
1. Ensure the existence of a **strong and effective prudential framework**;
2. Ensure that the level of risks assumed by the banking system is kept to a **manageable level**, so that the need for recourse to this facility (last resort lending) is minimized;
3. Conduct supervisory activities. How? First, through regulations and off-site monitoring and secondly, via on-site examination;
4. Regulation is concerned with the **formulation and implementation of specific rules and regulation**.
5. Off-site monitoring: Review the **financial condition** of the banking institutions;
6. Approach of on-site examinations? Customized examination to match the **size, activities and risk profiles** of the concerned banking institution; and
7. Increasing savings and monetization. Importance? As savings increases, so does lending (investment), thus leading to **overall economic growth**.

# Typical Organisational Structure of a CB





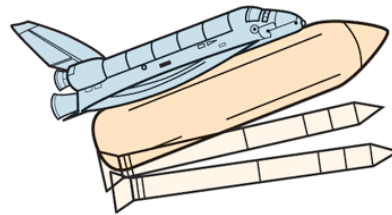
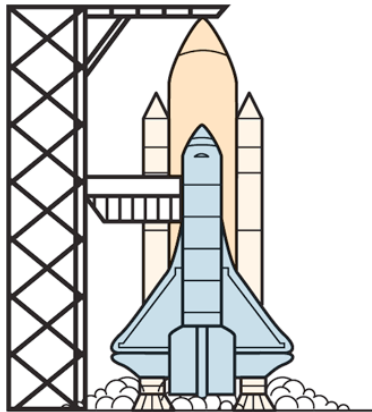
# Monetary Policy and Instruments



# Central Bank Strategy: Use of Targets

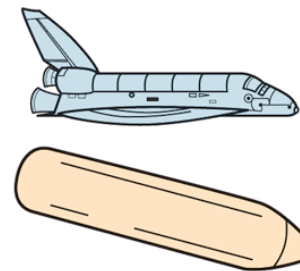
## Tools of the Central Bank

Open market operations  
Discount policy  
Reserve requirements



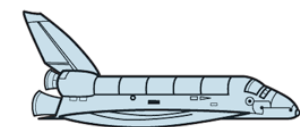
## Operating Targets

Reserve aggregates  
(reserves, nonborrowed  
reserves, monetary base,  
nonborrowed base)  
Interest rates (short-term  
such as federal funds rate)



## Intermediate Targets

Monetary aggregates  
(M1, M2, M3)  
Interest rates (short-  
and long-term)



## Goals

High employment,  
price stability,  
financial market  
stability, and so on



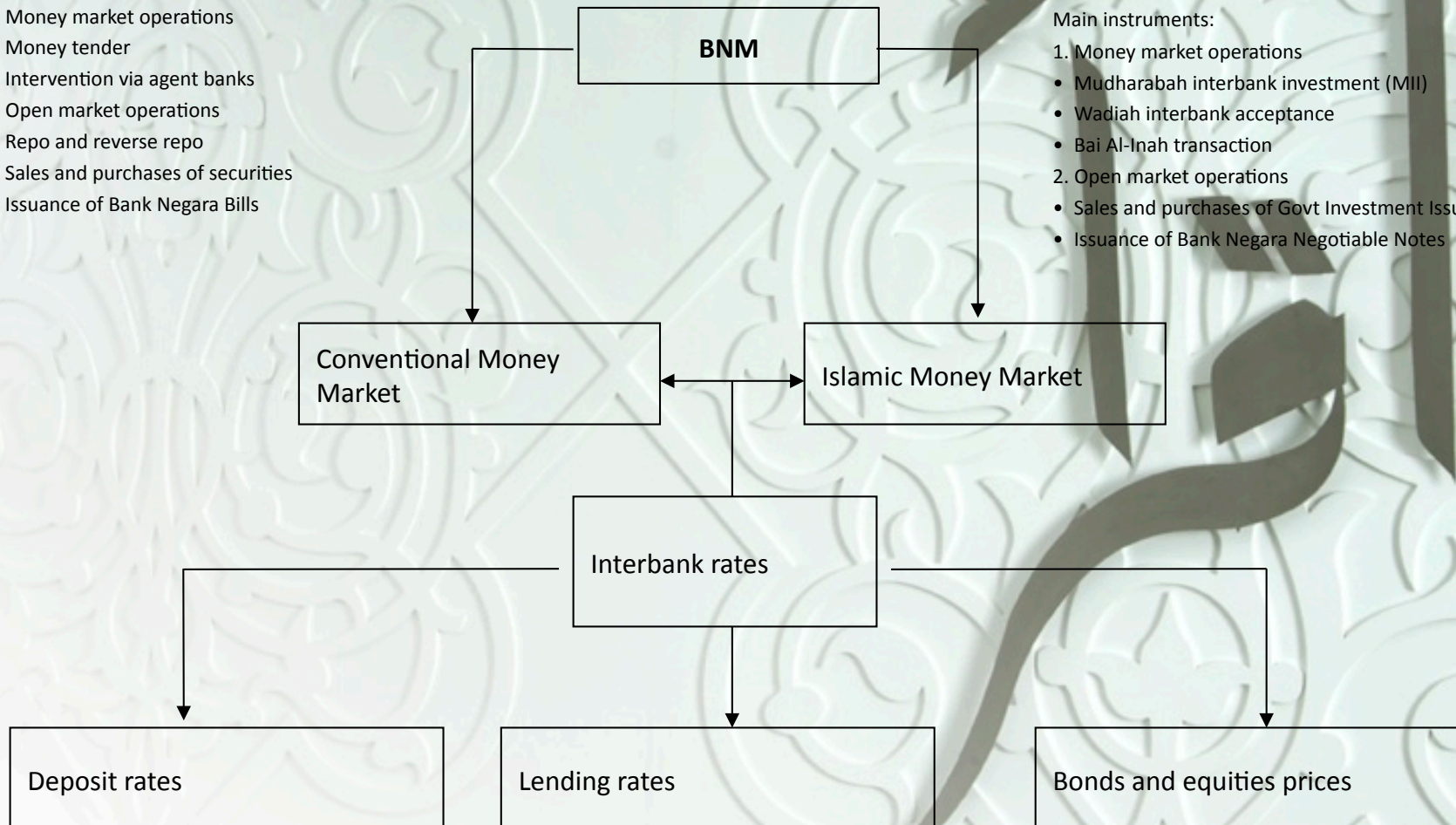
# Monetary policy implementation is carried out in both conventional and Islamic money market

Main instruments:

1. Money market operations
  - Money tender
  - Intervention via agent banks
2. Open market operations
  - Repo and reverse repo
  - Sales and purchases of securities
  - Issuance of Bank Negara Bills

Main instruments:

1. Money market operations
  - Mudharabah interbank investment (MII)
  - Wadiah interbank acceptance
  - Bai Al-Inah transaction
2. Open market operations
  - Sales and purchases of Govt Investment Issues (GII)
  - Issuance of Bank Negara Negotiable Notes



# The Conduct of a Monetary Policy

<b>Open Market Operations (OMO)</b>	<ol style="list-style-type: none"><li>1. Refer to the <b>purchase or sale of government securities</b> by the commercial banks;</li><li>2. Impact? Affects the <b>volume of reserves</b> in the banking system. Purchases of government securities increase reserves and eases credit while sales decrease reserves and tighten credit;</li><li>3. Dynamic OMO? Those taken to <b>increase or decrease the volume of reserves</b> to ease or tighten credit;</li><li>4. Defensive OMO? Those taken to <b>offset effects of other factors influencing reserves</b>;</li><li>5. By influencing the amount of money / liquidity in the system the CB can also indirectly affect the <b>price of money / credit</b>, which would in turn affect the economic conditions of the country.</li></ol>
<b>Discount Windows</b>	<ol style="list-style-type: none"><li>1. Through "discount windows," CBs act as a <b>safety valve in relieving market pressures</b>. By lending funds against acceptable collateral, CBs provide essential liquidity to FIs, while helping to assure the <b>basic stability of money markets and the banking system</b>;</li><li>2. The discount rate is the <b>interest rate paid by depository institutions on loans from the CB's credit facility</b>, the discount window; and</li><li>3. Impact of changes in the discount rate? An increase in the rate =&gt; More costly for depository institutions to borrow from the CB =&gt; Discourages depository institutions from using the discount privilege =&gt; May force depository institutions to screen their customers' loan applications more carefully =&gt; slow the growth of their loan portfolios (may be a good thing <b>during times of overheated economic conditions</b>).</li></ol>
<b>Reserve Requirements (RR)</b>	<ol style="list-style-type: none"><li>1. The percentages of deposits that depository institutions <b>must hold as cash in their institution or at the CB</b>; and</li><li>2. Impact of changes in the RR? A reduction in the reserve requirement decreases the amount of reserves that banks must hold =&gt; banks can make more loans =&gt; <b>stimulates the economy</b>.</li></ol>

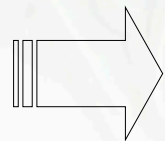
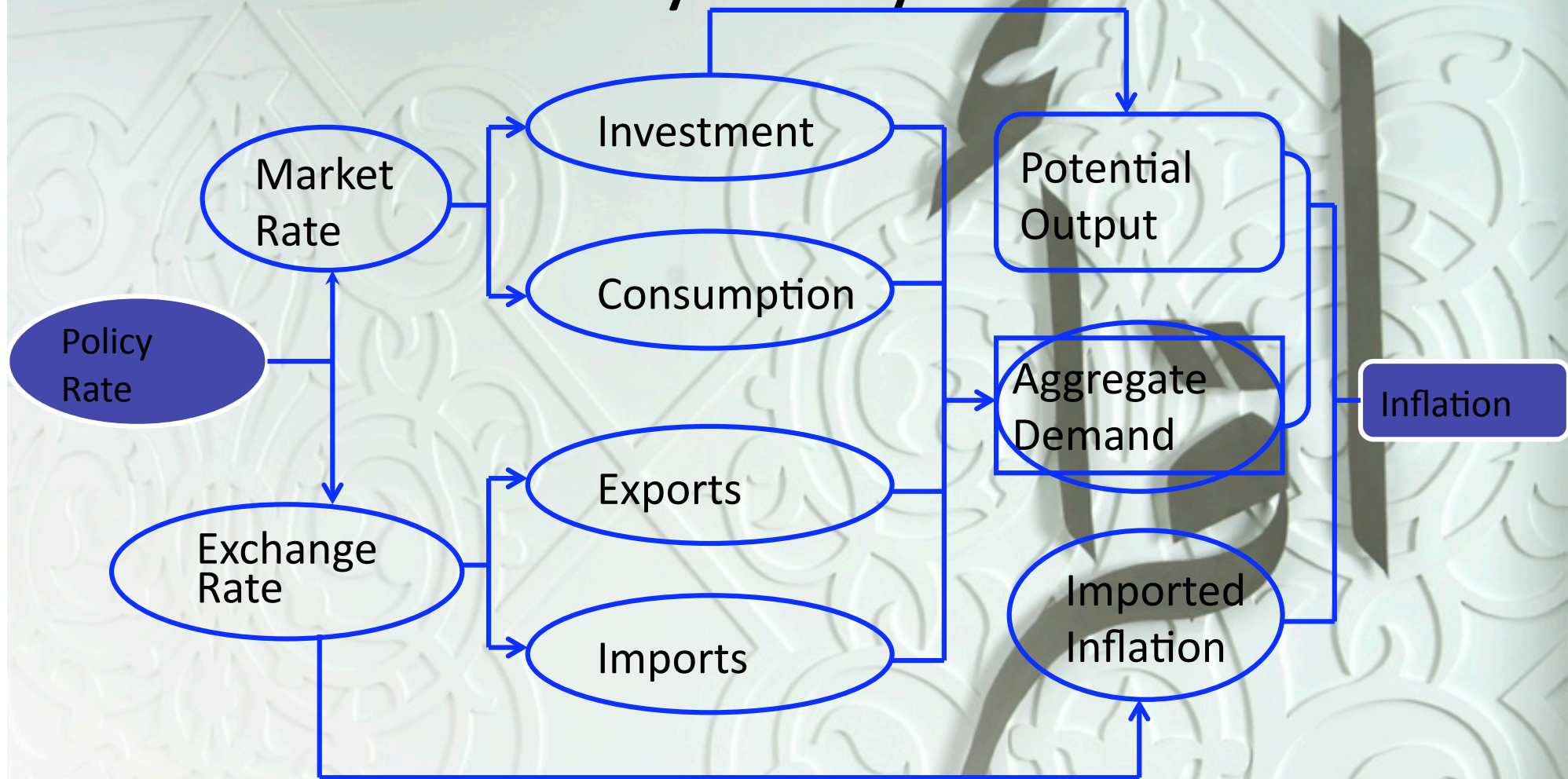


## Chapter 8 - The Monetary Authority or the Central Bank

### The Conduct of a Monetary Policy

<b>Margin Requirements</b>	<ol style="list-style-type: none"><li>1. The percentage of cash down payment a purchaser must make when <b>borrowing to buy securities</b>; and</li><li>2. CBs rarely use this instrument extensively. Some CBs may specify the margin requirements to <b>control the level of speculation of securities</b>.</li></ol>
<b>Foreign Exchange Operations</b>	<ol style="list-style-type: none"><li>1. CBs engage in the purchase and sale of foreign currencies. Why? To foster improved international liquidity, offset temporary disruptive international capital flows and ensure the stability of the exchange rate; and</li><li>2. Foreign balances generally are purchased in the market or through "swaps" with foreign CBs.</li></ol>

# How Monetary Policy affect Prices?



Inflation develops when aggregate demand runs ahead of potential supply



# Monetary Framework

- What defines monetary policy framework?
  - Targets: operational, intermediate & final
  - Transmission mechanism
  - Policy decision process
- What are the available frameworks?
  - Exchange rate targeting
  - Monetary targeting
  - Interest rate targeting
  - Inflation targeting

# MP Framework for Selected Countries

Exchange Rate Targeting	Monetary Targeting	Inflation Targeting	Other
<p>Argentina</p> <p>Brunei</p> <p>Denmark</p> <p>Hong Kong</p> <p>Singapore</p>	<p>Germany</p> <p>Euro</p> <p>China, P.R.</p>	<p>Australia</p> <p>Canada</p> <p>New Zealand</p> <p>Sweden</p> <p>United Kingdom</p> <p>Brazil</p> <p>Chile</p> <p>Korea</p> <p>Thailand</p>	<p>Euro Area</p> <p>Malaysia</p> <p>United States</p> <p>Japan</p>



# Monetary Targeting Framework

Operating targets

Intermediate targets

Final targets

Base money

Monetary aggregates

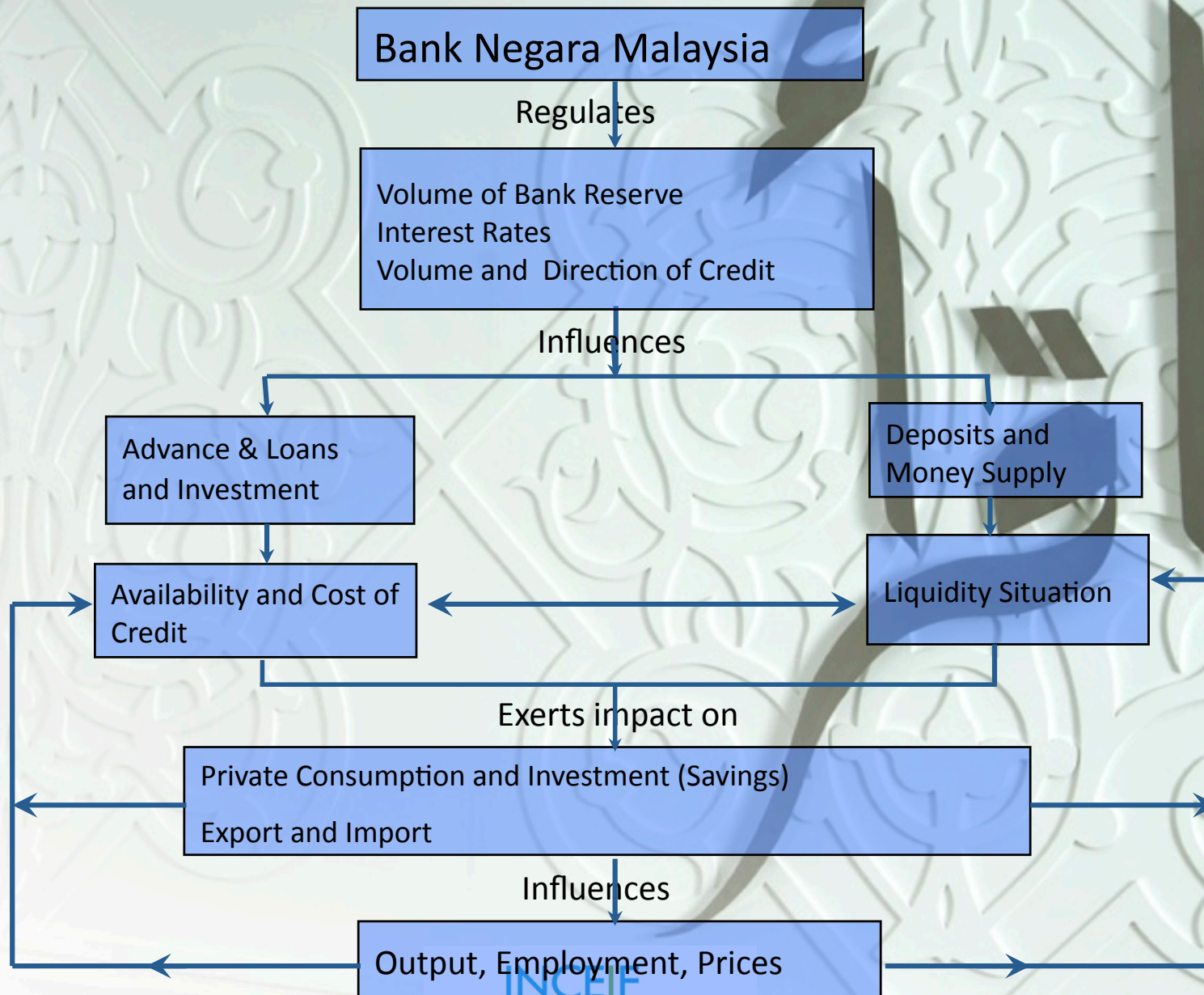
Inflation

Base money

M1, M2, M3

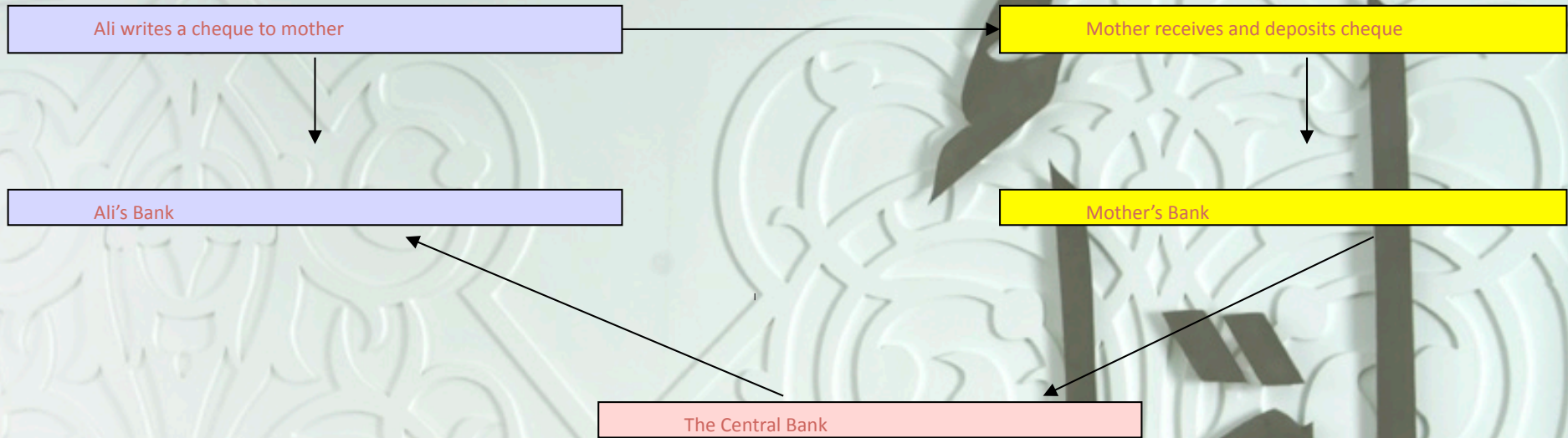
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# Monetary Transmission Mechanism





# Traditional Cheque Clearing System



The arrows show the movement of a cheque through the system. The CB plays two roles:

1. It **forwards the cheque** from the bank receiving the cheque (Mother's bank) to the bank on which it is written (Ali's bank);
2. It **transfers funds** from the bank on which the cheque is written (drawn) to the bank receiving the deposit (Mother's); and
3. When the process is complete, **Ali has lesser funds** in his account and his **Mother has more funds** in hers.

# Traditional Cheque Clearing System

<b>Other Payment Mechanisms</b>	<ol style="list-style-type: none"><li>1. Cash (most popular), card-based payment instruments and electronic-based payment mechanism (for bulk transactions that cannot be undertaken using cash).</li></ol>
<b>Card Based Payments</b>	<ol style="list-style-type: none"><li>1. Credit card purchases more prevalent, relative to charge/debit card transactions.</li><li>2. Issues? High level of fraud.</li></ol>
<b>Electronic-based Payment</b>	<p>Uses:</p> <ol style="list-style-type: none"><li>1. Standing instructions;</li><li>2. E-money or value loading;</li><li>3. Electronic Bill Presentment and Payment (EBPP);</li><li>4. Electronic Invoice Presentment and Payment (EIPP); and</li><li>5. Electronic Money Transfer (EMT).</li></ol> <p>An efficient and effective payment system would facilitate FIs in being more <b>innovative and efficient</b> in dealing with their products and services.</p>





# Money Creation



- What is Money
  - ‘...anything that is generally accepted as payment of goods and services, and repayment of debt.’
  - Functions of Money:
    - Medium of exchange
    - Unit of account
    - Store of value
    - Unit of deferred payment



# The Typical Balance Sheets of a Commercial Bank and a Central Bank

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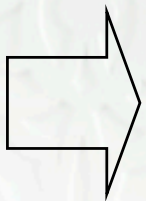
# Commercial Banks

## Liabilities

Checkable account  
Savings account  
Fixed deposits  
Negotiable certificates  
of deposits  
Other liabilities

## Assets

Fixed assets  
Short-term loans  
Long-term loans  
Foreign assets  
**SRR**  
Other assets



The key linkage between BNM & commercial banks is through SRR

# BNM

## Liabilities

Notes & Coins

SRR (Deposits of  
commercial banks)

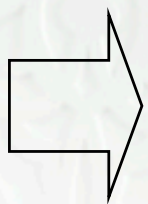
Other liabilities

## Assets

Fixed assets

Gold & foreign  
assets

Other assets



Notes & Coins + SRR are known as base money  
or high powered money



# Money Creation Process

- The Standard T-account
  - Assets vs. Liabilities
- Assumptions:
  - Reserve Requirements ~ assume to be 10%
  - Transactions by checks only
  - Commercial bank gives out loans on all deposits received
  - Thus, bank does not hold any other assets
  - We begin with a deposit of \$1000

- Aminah, which represents a surplus unit, deposits \$1000 with the Neighborhood Bank
- Neighborhood Bank records \$1000 as liability and deposits \$100 (10%) with the central bank as required reserve (RR)
- Bank loans out \$900 to Ashok. He in turn deposits the check ...

## Liabilities

## Assets

Deposit – Aminah	\$1000
.	
.	
.	

Reserve	\$100
Loan to Ashok	\$900
.	
.	
.	



## Liabilities

Deposit – Aminah	\$1000
Deposit – Ashok	\$900
Deposit – B	\$810
Deposit – C	\$729
.	
.	
.	

## Assets

Reserve	\$100
Loan to Ashok	\$900
Reserve 2	\$90
Loan to B	\$810
Reserve 3	\$81
Loan to C	\$729
Reserve 4	\$72.90
.	
.	

- We may continue the process until all deposits are exhausted, that is, we started off with a *strong assumption*, single depositor
- The total amount of money created will be computed by calculating either the total assets or liabilities of the Neighborhood Bank
- Not Convinced...? [Example](#)

# So What is Money Multiplier?

- Is there a simple way of doing this?
- YES.
- The total amount of money created is exactly the inverse of the required reserve of the deposits, i.e.:
  - $1/RR \Rightarrow$  Deposit Expansion Multiplier (DEM)
  - From our example, DEM is:  $1/.10 = 10$ ;
  - The total money created is  $10 * \$1,000 = \$10,000$ .
  - Or simply:  $\$1,000/0.10 = \$10,000$ .
  - Thus the higher the required reserve, the lower the amount of money created by the banking system
  - Why does this thingy matters? 😊



# Some Policy Implications

- The Quantity Theory of Money

- $MV = PT \sim MV = PY$

- Assumptions:  $V$  and  $P$  are fixed in the short-run, therefore, an increase in  $M$  will lead to an increase in  $Y$

- The Conduct of Monetary Policy by the Central Bank

# Food for Thought!

- Is there any difference in the money creation process between the conventional and Islamic banking systems?
- Fractional versus 100% reserve banking system



# Coffee Break...

