

CF01

Introduction to Monetary Economics and the Malaysian Financial System

7 APRIL 2003

1. Time allowed : Three (3) hours
2. Total number of questions : Seven (7) questions
3. Number of questions to be answered : Five (5) questions
Part A : Two (2) questions [20 marks each]
Part B : Three (3) questions [20 marks each]
4. Candidates must obtain a minimum of 30 marks in Part B as well as pass the paper as a whole.
5. Begin each answer to a new question on a fresh page.
6. Answer **all** questions in **English**.

PART A

ANSWER TWO (2) QUESTIONS ONLY

1. (a) Explain the following methods of measuring the national income:
- (i) Income method [4]
 - (ii) Expenditure method [4]
 - (iii) Product method [4]
- (b) Consider a hypothetical economy that only produces tennis balls, chairs, and pizzas. Here is the data on prices and quantities of these **three** goods in the years 1995 and 2002.

Year	Tennis ball		Chair		Pizza	
	Quantity	Price (RM)	Quantity	Price (RM)	Quantity	Price (RM)
1995	100	5	300	20	100	20
2002	125	7	250	20	110	25

Assume that the base year is 1995. Calculate the following:

- (i) The nominal Gross Domestic Product (GDP) and the real GDP for 1995. [4]
 - (ii) The nominal GDP and the real GDP for 2002. [4]
(Total:20 marks)
2. (a) Normal and inferior goods are defined in terms of how their demand curves are affected by an increase in income.
- How will a decrease in income affect the demand for a normal good and an inferior good? [6]
- (b) Using the demand-supply curve diagram, discuss the impacts on the equilibrium price and quantity in the potato chip market if both the following events occur simultaneously:
- Researchers discover that a vitamin found in potatoes provides protection against cancer and heart disease.
 - A flash flood destroys part of the potato field.
- [14]
(Total:20 marks)
3. (a) Assume that Miss X deposits RM10,000 with Bank A. If the cash ratio (statutory reserve ratio) is 10%, explain the process of credit creation and calculate the size of the money multiplier. State any assumptions made and illustrate your answer using the partial ledger of the bank.[14]
- (b) Name and explain **three** functions of money. [6]
(Total:20 marks)

PART B

ANSWER THREE (3) QUESTIONS ONLY

4. (a) Explain the various stages in the development of a financial system. [10]
- (b) Explain the following in relation to the Malaysian financial market:
- (i) Components of the money market [2]
 - (ii) Basic functions of the money market [2]
 - (iii) Primary market [2]
 - (iv) Secondary market [2]
 - (v) Interbank market [2]
- (Total:20 marks)
5. Elaborate on the following functions of Bank Negara Malaysia:
- (a) Bank for currency issue [4]
 - (b) Keeper of international reserves [4]
 - (c) Banker and financial advisor to the Government [4]
 - (d) Promote sound and stable financial system [4]
 - (e) Banker to the banks [4]
- (Total:20 marks)
6. Discuss the following:
- (a) Objectives of a monetary policy [5]
 - (b) Statutory reserve requirement [5]
 - (c) (i) Money market operations [2½]
 - (ii) Open market operations [2½]
 - (iii) Direct (interbank) borrowing or lending [2½]
 - (iv) Discount operations [2½]
- (Total:20 marks)
7. Write short notes on the following topics:
- (a) Main functions of commercial banks and merchant banks [10]
 - (b) Development finance institutions [5]
 - (c) Al-Mudharabah and Al-Musyarakah principles [5]
- (Total:20 marks)

- END OF QUESTION PAPER -

OUTLINE ANSWERS

PART A

Question 1

Candidates displayed a lack of understanding of the concept of national income, as reflected in their answers. Most candidates managed to calculate the Gross Domestic Product (GDP) although there were a few who could not differentiate between real and nominal GDP.

1. (a) (i) *Income method*

The money value of the income received by factors of production employed in producing the output is added together. The components of the income approach are:

- wages and salaries,
- interest and dividends,
- rent and imputed rent, and
- profits (include both undistributed and income of self-employed).

(ii) *Expenditure method*

The money value of all spending upon output is added up. This method measures the total expenditure in the economy. The components of the expenditure approach are:

- household expenditure or consumer expenditure or consumption,
- producer expenditure or gross investment or gross private formation, and
- government expenditure on goods and services, excluding transfer payments.

(iii) *Product method*

The money value of all the goods and services produced in the economy is added together. The final total is called the national product. The value of the product produced is called the Gross Domestic Product (GDP). It includes the value of goods and services rendered. GDP can be expressed as nominal GDP and real GDP.

(b) (i) Nominal GDP in 1995
 $= (100 \text{ tennis balls} \times \text{RM}5/\text{tennis ball}) + (300 \text{ chairs} \times \text{RM}20/\text{chair}) + (100 \text{ pizzas} \times \text{RM}20/\text{pizza})$
 $= \text{RM}8,500$

Real GDP in 1995
 $= (100 \text{ tennis balls} \times \text{RM}5/\text{tennis ball}) + (300 \text{ chairs} \times \text{RM}20/\text{chair}) + (100 \text{ pizzas} \times \text{RM}20/\text{pizza})$
 $= \text{RM}8,500$

(ii) Nominal GDP in 2002
 $= (125 \text{ tennis balls} \times \text{RM}7/\text{tennis ball}) + (250 \text{ chairs} \times \text{RM}20/\text{chair}) + (110 \text{ pizzas} \times \text{RM}25/\text{pizza})$
 $= \text{RM}8,625$

Real GDP in 2002 equals the quantities of the three goods produced in the year 2002, valued at the market prices that prevailed in the base year 1995.

Therefore, real GDP in 2002
 $= (125 \text{ tennis balls} \times \text{RM}5/\text{tennis ball}) + (250 \text{ chairs} \times \text{RM}20/\text{chair}) + (110 \text{ pizzas} \times \text{RM}20/\text{pizza})$
 $= \text{RM}7,825$

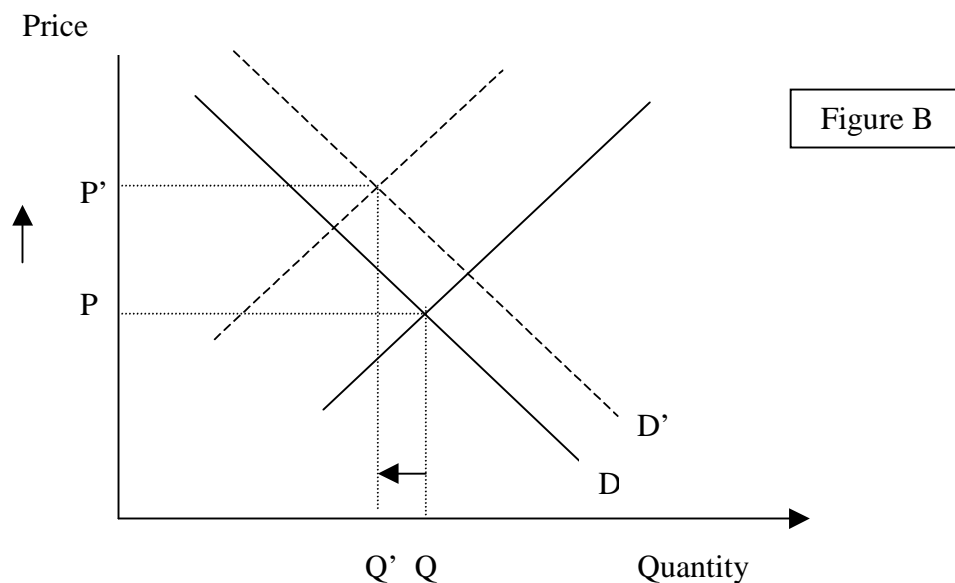
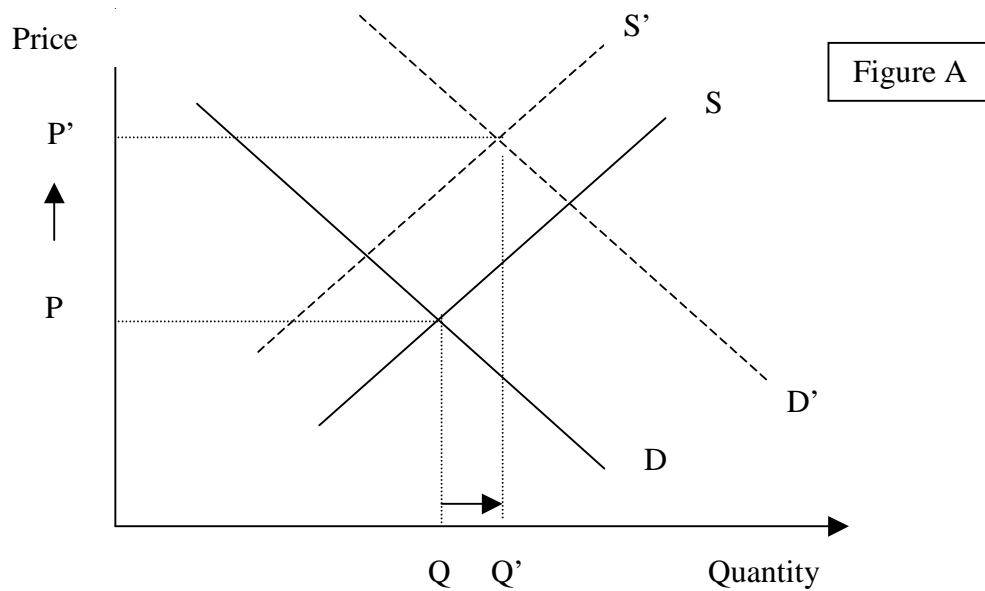
Question 2

Many candidates confused the requirement for part (a) of the question by explaining the concepts of luxury and necessity goods instead of the difference between inferior and normal goods.

In part (b) where they were asked to discuss the impact on the equilibrium price and quantity in a certain market given the simultaneous occurrence of two events, most candidates explained the effects of the events as if they happened separately.

Candidates also lacked an understanding of the concept of change in supply/demand versus a change in quantity supplied/demanded.

2. (a) A decrease in income will shift the demand curve for a normal good to the left (decrease in demand for normal good) and will shift the demand curve for an inferior good to the right (increase in demand for inferior good).
- (b) The vitamin discovery shifts the demand for potato chips to the right, and the crop losses will shift the supply of potato chips to the left. Both shifts result in an increase of the equilibrium price of potato chips. Depending on the relative magnitude of the shifts, the equilibrium quantity of potato chips may either rise [Figure A] or fall [Figure B].



Question 3

While most candidates were able to give good explanation on how the credit creation process works, a few were unsure.

While most candidates managed to name and explain the functions of money, some erroneously gave the “motives” for holding money instead.

3. (a) The following assumptions will have to be made to explain the process of credit creation:

- The economy is a closed economy.
- There is only one bank in the banking system.
- All people in the economy will deposit all their money and take loans from this bank.

When Miss X deposits RM10,000, Bank A will have an excess cash reserve of RM9,000. The bank's ledgers (partial) will show:

Liabilities		Assets	
Deposits – Miss X	RM 10,000	Cash	RM10,000

Assume that Bank A gives a loan of RM9,000 to Miss Y. This is represented only by a book entry without any cash movement as shown in the bank's ledger below:

Liabilities		Assets	
Deposits – Miss X	RM 10,000	Cash	RM10,000
Deposits – Miss Y	RM 9,000	Loans – Miss Y	RM9,000

The money supply is now RM19,000. The excess cash reserve is RM8,100 (RM9,000 x 90%). Assume that this excess cash reserve of RM8,100 is lent out to Miss Z. Bank A's ledger will be as shown on the next page:

Liabilities		Assets	
Deposits – Miss X	RM 10,000	Cash	RM10,000
Deposits – Miss Y	RM 9,000	Loans – Miss Y	RM9,000
Deposits – Miss Z	RM 8,100	Loans – Miss Z	RM8,100

The money supply is now RM27,100. The process of credit creation will continue until the total money supply equals RM100,000.

$$\text{Money multiplier} = 1/\text{cash ratio} = 1/0.10 = 10$$

Therefore, an original deposit of RM10,000 will expand the money supply to a total of RM100,000. In other words, the amount of money created will be equal to RM90,000.

(b) Functions of money (choose any **three**):

- **The medium of exchange** – money is used to pay for goods and services, or for the purpose of settling transactions and the payment of debts.
- **The store of value (store of wealth)** – money is a way of holding wealth. A person may decide to store his or her personal wealth in the form of money rather than in other forms of wealth such as property or financial assets such as stocks and shares.
- **A unit of account** – money is the unit in which prices of goods and services are quoted and in which accounts are kept. The unit of account function of money allows us to compare the relative values of goods and services even when we have no intention of actually spending the money or buying the goods.
- **A standard for deferred payment** – money functions as a standard of deferred payment, which allows people to delay paying goods or settling a debt. Whenever firms sell goods on credit or draw up contracts specifying a monetary payment due at a later date, money acts as a standard of deferred payment.

PART B

Question 4

Instead of highlighting what the question asked for, that is, the four stages in the evolution of a financial system, some candidates described the structure of the financial system instead.

Candidates were also unable to elaborate satisfactorily on the Malaysian money market.

4. (a) **Various stages of development of a financial system:**

The evolution of a financial system can be broadly categorised into four basic stages:

First stage – Took place when the economy moved from a barter trade system to a monetary system, whereby commodity money was used as the basic transmission unit. Under this system, tokens (often made of precious metals) served as a standard unit of account and measures of value to facilitate trade. As this system a great deal of inconvenience and had many disadvantages it was subsequently phased out.

Second stage – Came when the practice of borrowing began. Funds accumulated by wealthy persons were loaned to other individuals or companies who were willing to borrow these funds for a fee or interest. At this stage, however, there were some problems such as different amounts, maturity dates and the element of risk.

Third stage - Came following the establishment of financial intermediaries to overcome the problems of primary debt in the direct borrowing-lending process. During this stage, financial intermediaries mobilised funds from the surplus units and reduced their risk of default by issuing relatively risk-free liabilities. At the same time, through their specialised knowledge of the credit market, they were able to supply funds to deficit units in the amount and terms that these units were willing to pay to meet their financing needs.

Final stage – Came when a complete set of financial intermediaries were established to form a financial system providing a variety of financial instruments as savings media for the surplus units and also a varied range of credit and investment facilities to meet the financing requirements of the deficit units.

(b) **The Malaysian financial market:**

- (i) **Components of the money market** - The money market comprises the interbank market, where the lending and borrowing of short-term funds take place; and the market for short-term money market papers, consisting of Malaysian Government Securities (MGS), Treasury Bills (TBs), Cagamas bonds and notes, Bankers' Acceptances (BAs), Negotiable Instruments of Deposit (NIDs), Repurchase agreements, Government Investment Certificates and Bank Negara Malaysia bills.
- (ii) **Basic Functions of Money Market** - The money market's primary function is to reconcile interests of two groups: (a) institutions and individuals with temporary surplus funds who want to lend these funds and earn some returns; and (b) institutions and individuals who need funds immediately for short periods.
- (iii) **Primary Market** - In the primary market for short-term funds, the participants are the initial suppliers of funds and the final users. The suppliers of funds are mainly individuals, large enterprises, plantation houses, international trading companies, provident, pension and other trust bodies, and the public authorities and Government departments. They normally keep their surplus money as short-term deposits with the various financial institutions, such as the commercial banks, finance companies and discount houses.
- (iii) **Secondary Market** - The secondary market in short-term deposits relates to the dealing activities of banks and other major financial institutions among themselves. The hub of the activities is the interbank market, which refers to trading in short-term funds among the commercial banks, merchant banks and finance companies. These three major groups of institutions also conduct daily dealings in deposits outside the interbank market. In turn, they are also a source of short-term funds for the discount houses.
- (v) **Interbank Market** - The trading of deposits among the major market institutions is confined mainly to a fairly well developed and active interbank market, primarily in the secondary market for short-term funds. Why do banks borrow in the interbank market? Banks borrow in the interbank market because they do not have a sufficient deposit base to fund their loans operations. Banks seeking to meet the BNM's statutory reserve and minimum liquidity requirements also make borrowings in the market. The interbank market has developed to serve the banking community well. Rediscounting money market papers, commonly practiced in many countries to alleviate liquidity shortages, is now a widespread practice in the local interbank market. The standard deals in the interbank market are for overnight money, 7-day money and money for 1, 2 and 3 months.

Question 5

Many candidates were able to highlight the statutory requirements governing the issue of the Malaysian currency.

Some candidates were still confused between external reserves and statutory reserves. External reserves or foreign exchange reserves are accumulated by BNM through the balance of payments, namely from the net inflow in trade of goods and services, investment income and capital funds. Statutory reserves are bank funds kept at BNM as an instrument of monetary policy.

Candidates also mistakenly thought that BNM advises the Government on everything, including fiscal and trade policies. Candidates should note that BNM only acts as banker, fiscal agent and financial adviser to the Government.

Candidates were aware that BNM is responsible to the Government for promoting monetary stability and a sound financial structure and for influencing the credit situation to help achieve the nation's overall economic objectives.

Candidates should also highlight that BNM's relationship with financial institutions has its legal foundation primarily in three main pieces of legislation, i.e. the Bank Negara Ordinance 1958, the Banking and Financial Institutions Act 1989 and the Islamic Banking Act 1983.

5. Major functions of Bank Negara Malaysia (BNM):

- (a) **Bank for Currency Issue:** Part III of the Central Bank of Malaysia Ordinance 1958 (CBO) provides for BNM to be the sole currency issuing authority in the country.

The statutory requirements governing the issue of the new Malaysian currency are set out in Part III of the Central Bank of Malaysia Ordinance 1958. The par value of the Malaysian Ringgit was defined as equivalent to 0.290299 grammes of fine gold. The currency was then required under Part IV of the CBO to have a minimum cover of 80.59% in gold and foreign exchange.

- (b) **Keeper of international reserves:** The country's holdings of official external reserves are centralised at BNM. BNM's international reserves comprise gold, foreign exchange, the reserve position with the International Monetary Fund and holdings of Special Drawing Rights. To safeguard the external value of the Ringgit, the CBO 1958 provides for the maintenance of a minimum external reserves backing of 80.59% against the currency issue.
- (c) **Banker and financial advisor to the Government:** BNM acts as banker, fiscal agent and financial advisor to the Government. Close cooperation between the Government and BNM is also evident from the centralisation of Government deposits with it. With this arrangement, government receipts, arising mainly from the new issue of Government securities, tax and dividend payments are placed with BNM and managed by it depending on the liquidity situation of the system.

BNM's responsibilities as fiscal agent of the Government include acting on behalf of the Government in its public loan program, including raising internal and external loans for the Government and managing the Government's public debt.

- (d) **Promote sound and stable financial system:** As the nation's monetary authority, BNM is responsible to the Government for promoting monetary stability and a sound financial structure, and for influencing the credit situation to help achieve the nation's overall economic objectives.

To enhance the stability of the financial system, BNM has the responsibility to manage the banking system in a manner that will ward off the possibility of systemic failure and as such, maintain public confidence in the banking system.

- (e) **Banker to the banks** – In terms of its own direct responsibilities, BNM is charged with promoting a sound financial structure. BNM cooperates closely with financial institutions to promote and maintain a range of banking and other services for the public, enhance efficiency and strengthen the institutions' prudential standards, discipline and moral fiber. In acting as banker to these institutions, BNM maintains special accounts for the major financial institutions, inspects them regularly and performs the functions of a lender of last resort.

Under Part II of the BAFIA 1989, licensed institutions, scheduled businesses and representative offices are required to hold licenses to carry on business. Licensed institutions comprise the commercial banks, finance companies, merchant banks, discount houses and money brokers. Scheduled businesses include the building credit, credit token, development finance, factoring and leasing businesses.

Question 6

Many candidates were able to highlight the need to promote monetary stability and a sound financial system.

They also mentioned the objectives of the monetary policy, which are price stability, strong sustainable output growth, a low level of unemployment, and a satisfactory balance of payments position.

Although candidates seemed familiar with SRR, they still lacked knowledge on the concepts of open market operations, direct borrowing or lending, and discount operations.

6. (a) **Objectives of monetary policy**

The principal objective of the Central Bank is to promote monetary stability and a sound financial system. The Central Bank therefore plays a key role in formulating the overall macroeconomic policy, the final objectives of which are price stability, strong sustainable output growth, a low level of unemployment, and a satisfactory balance of payments position. The instruments the Central Bank can deploy to implement its monetary policy can generally be grouped into two broad categories: general instruments and selective instruments of monetary control.

In regulating the nation's money supply and credit base, BNM must ensure the following:

- (a) Over the longer-term, there will be sufficient credit to meet the Government's objective of sustained growth with price stability; and
- (b) Over the short-term, growth in money supply and credit is sufficiently elastic to dampen inflationary or deflationary pressures in the economy.

(b) **Statutory reserve requirement**

The statutory reserve requirement (SRR) is one of the oldest monetary instruments BNM deploys to control the liquidity situation in the banking system. Under section 37(1)(c) of Central Bank Ordinance, banking institutions are required to maintain a certain percentage of their reserves with BNM. The SRR is defined in terms of a bank's eligible liabilities (EL).

The SRR is a powerful instrument available to BNM because it affects the level of deposits and loans that a bank can legally support, given the size of its reserves. A restrictive monetary policy stance can be pursued through an increase in the ratio. This will reduce the level of excess reserves available to the banking institutions, thereby leading to a contraction of loans and deposits. As such reserves do not earn interest, the cost is usually passed onto the customers through a higher lending rate. This will discourage borrowings, particularly for conspicuous spending. Conversely, a lower ratio will increase banking institutions' lending ability. Although varying the SRR has been used as a monetary policy instrument, its imposition itself is part of the safety net put in place for the protection of depositors.

- (c) (i) **Money market operations:** Money market operations (MMO) are operations BNM conducts to influence the liquidity situation in the system. MMO can be conducted via: (a) open market operations (OMO) transacted mainly via the sale and purchase of Government papers; or (b) borrowing or lending by BNM in the interbank market.
- (ii) **Open market operations (OMO):** OMO involves the purchase and sale of Government papers by BNM in open organised markets with the intention to directly affect bank reserves and thereby the flow of bank credit and money. OMO are conducted either outright or through repurchase agreements. A distinctive characteristic of open market operations is that the initiative is taken solely by BNM.
- (iii) **Direct (interbank) borrowing or lending:** MMO can also be conducted through direct borrowing and lending in the interbank market. The main advantage of this instrument is its flexibility that is the term (maturity, rate of interest structure and amount) can be varied according to BNM's need to influence the liquidity situation.
- (iv) **Discount operations:** The discount operations are defined as deliberate measures central banks take to influence the interest rate and liquidity situations via variations in the terms and conditions under which the commercial banks and money market may have temporary access to the central banks' credit facilities.

Question 7

Candidates were unable to explain the functions of commercial and merchant banks comprehensively. They should highlight the fact that commercial banks as the biggest and most important group of financial institutions enjoy the widest scope of permissible activities, providing a full range of banking services.

Answers relating to development financial institutions and Islamic banking principles were generally good.

7. (a) **Main Functions of Commercial Banks and Merchant Banks**

Commercial banks:

Commercial banks enjoy the widest scope of permissible activities. Apart from the prohibition to engage in wholesale and retail trade, and some restrictions on investment in immovable property and shares, commercial banks are able to engage in a full range of banking services.

Traditionally, the main functions of commercial banks are to provide:

- Retail banking services such as the acceptance of deposits, granting of loans and advances, and financial guarantees;
- Trade financing facilities such as letters of credit, discounting of trade bills, shipping guarantees, trust receipts and Bankers' Acceptances;
- Treasury services;
- Cross border payment services; and
- Custody services such as safe deposits and share custody.

Commercial banks are also authorised to deal in foreign exchange i.e. to buy, sell, borrow and lend in foreign currencies, and are also the only financial institutions allowed to provide current account facilities.

Merchant Banks:

Merchant banks were specifically formed to service the needs of the corporate sector and to complement the facilities offered by commercial banks which mainly focus on providing short-term credit for working capital and trade financing. As such, the operations of merchant banks hinge mainly on providing advisory and management services to corporations as well as conducting wholesale lending and deposit-taking activities.

Specifically, merchant banks play a role in the short-term money market and capital raising activities including financing, specialising in syndication, corporate finance and management advisory services, arranging for the issue and listing of shares, as well as investment portfolio management.

Apart from engaging in the fee-based activities, merchant banks also extend credit to the economy. As the business of the merchant banking industry focuses mainly on the corporate sector, it operates mostly on a wholesale basis and is largely involved in project-based financing.

(b) **Development Finance Institutions (DFIs)**

DFIs are specialised financial institutions, established by the Government to promote investments in the manufacturing and agricultural sectors. Some of the institutions have a distinct agricultural emphasis, while others operate primarily in the commercial and industrial sectors of the economy.

Their functions include the extension of financial assistance in the form of medium and long-term loans, participation in equity capital, underwriting and wherever relevant, acting as issuing house for public share issues, and the provision of guarantees for loans. In addition, they help in identifying new projects, participate in their promotion, and where appropriate, provide ancillary financial, technical and managerial advice.

DFIs specialise in medium and long-term financing as well as supplying financial services not normally provided by the commercial banks and finance companies.

(c) **Al-Mudharabah and Al-Musyarakah principles**

Islamic banking offers investment accounts to customers based on the principle of Al-Mudharabah (trustee profit sharing). Under the agreement made between the party providing the funds and the party undertaking the business projects, profit is shared at an agreed ratio between the investor and the entrepreneur (mudharib). However if the project results in a loss, then the investor (capital provider) will bear the loss fully. The entrepreneur cannot be made to bear the loss because his contribution is only in the form of his effort, unless the loss was due to his misconduct or negligence. Hence the entrepreneur's losses are his effort, time and energy;

If in any circumstances the loss results in a decrease in the invested capital (mudharabah capital), then the mudharib (entrepreneur) shall return the remainder of the capital (after deducting the loss) to the investor.

On the asset management side, different principles are used for different kinds of loans offered to customers. For the project financing facility, the principles of Al-Mudharabah and Al-Musyarakah (partnership or joint venture with profit sharing) are often applied. The bank provides the whole capital and the borrower, often an entrepreneur, provides the management expertise. Profits gained will be shared according to an agreed proportion, while losses will be borne only by the bank.

Under the principle of Al-Musyarakah, however, the bank shares the cost of the project with the entrepreneur in an agreed proportion. Also both parties have the right to participate in the management of the project or to waive such rights. The profit from the project will be shared according to an agreed ratio, not necessarily the same as that of the share of the cost. In the event of losses, however, both parties will share these according to an earlier agreed cost-sharing formula.