CF01

Introduction to Monetary Economics and the Malaysian Financial System

4 OCTOBER 2004

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) (i) Define "cross-elasticity of demand" and explain how it is measured. [5]

(ii) (aa) What are complementary goods? [2]

(bb) What can you say about the value of cross price elasticity between complementary goods? [3]

(b) Using the demand-supply diagram, describe the effects on the equilibrium price and the equilibrium quantity when:

(i) there is an increase in demand and supply remains constant. [5]

(ii) there is an increase in demand that is proportionately lesser than the increase in supply. [5]

(Total:20 marks)

2. (a) Consider a hypothetical economy that only produces notebooks, pens and magazines. The information on the quantities and prices of these three goods in 1990 and 2003 is as follows:

Year	Notebook		Pen		Magazine	
	Quantity	Price (RM)	Quantity	Price (RM)	Quantity	Price (RM)
1990	10	3.00	10	1.00	12	4.00
2003	11	3.50	15	1.20	14	4.60

Assume that the base year is 1990. Calculate the following:

(i) The nominal Gross Domestic Product (GDP) for 1990 and 2003. [3]

(ii) The real GDP growth between 1990 and 2003. [6]

(b) (i) Explain why economists prefer real GDP to nominal GDP as a measure of output growth. [5]

(ii) What is the aggregate demand for goods and services of an economy? [6]

(Total:20 marks)

3. (a) Assume a closed economy with only one bank, Bank XYZ Bhd, which holds no excess cash reserve. Everyone in the economic system will deposit all their money and take loans from Bank XYZ. Suppose that Mr A deposits RM10,000 with Bank XYZ Bhd. The cash ratio (statutory reserve ratio) is assumed to be at 5%.

Explain the process of credit creation and calculate the size of the money multiplier. Demonstrate your answers using the partial balance sheet of Bank XYZ Bhd. [14]

(b) State **six** qualities of a good medium of exchange. [6]

(Total:20 marks)

PART B

ANSWER THREE (3) QUESTIONS ONLY

4. (a) Briefly explain the components of a financial system. [10]

(b) Using a diagram, illustrate the structure of the Malaysian financial system. [10]
(Total:20 marks)

5. (a) Elaborate on the following functions of Bank Negara Malaysia:

(i) Issuer of currency notes [5]

(ii) Keeper of international reserves [5]

(iii) Lender of last resort [5]

(b) What is an asset management company? [5]
(Total:20 marks)

6. (a) (i) What is monetary policy? [2]

(ii) Briefly describe **four** objectives of monetary policy. [6]

(b) In relation to monetary policy, briefly describe the following:

(i) Statutory reserve requirement [3]

(ii) Liquidity requirement [3]

(iii) Open market operations [3]

(iv) Moral suasion [3]
(Total:20 marks)

7. (a) Are commercial banks subjected to the statutory reserve requirement and liquidity requirement? Briefly explain your answer. [5]

(b) What are the core businesses of finance companies? [5]

(c) Briefly explain the merger programme for the domestic banking sector and state its objectives. [5]

(d) Briefly describe the following Islamic banking principles:

(i) Al-Murabahah (cost-plus financing) [2½]

(ii) Al-Musyarakah (joint venture) [2½]
(Total:20 marks)

- END OF QUESTION PAPER -

OUTLINE ANSWERS

The comments given in the boxes below indicate the areas of weaknesses the examiners have identified and their advice to future candidates.

PART A

Question 1

- Candidates failed to demonstrate a basic understanding of the elasticity concept and were not able to explain how equilibrium price and quantity are determined using the demand-supply diagram.

- Candidates should understand the concepts/principles rather than just memorising them. A detailed analysis should be given when explaining how the equilibrium price and quantity can change due to a change in demand and/or supply. For example, candidates should explain why there is an increase in the equilibrium price and quantity when there is an increase in demand (with supply remaining constant).

1. (a) (i) Cross-elasticity of demand measures whether goods are substitutes or complements. It looks at response of the demand of one product when the price of another product changes.

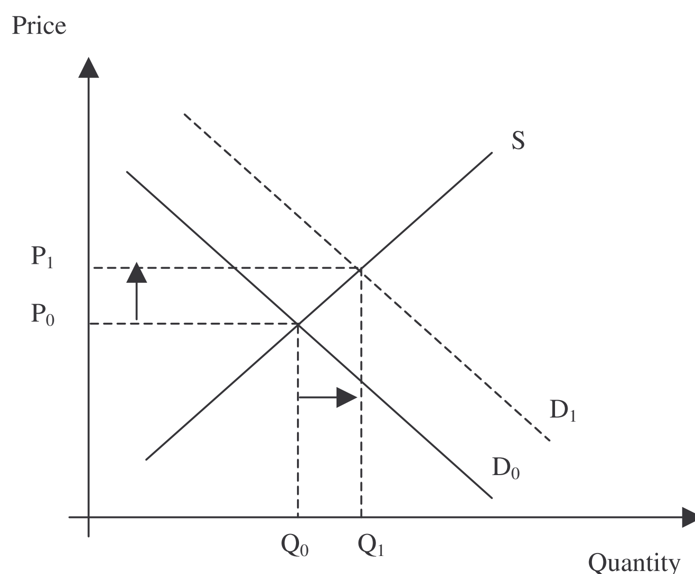
A change in the price of one good (X) can affect the quantity demanded of another good (Y). The formula for cross-elasticity is:

$$C_d = \frac{\text{\% change in demand for good Y}}{\text{\% change in price of good X}}$$

(iii) (aa) Complementary goods are goods that consumers tend to use together.

(bb) The cross price elasticity is negative, i.e., an increase in the price of good will lead to a reduction in the quantity demanded of the complementary good.

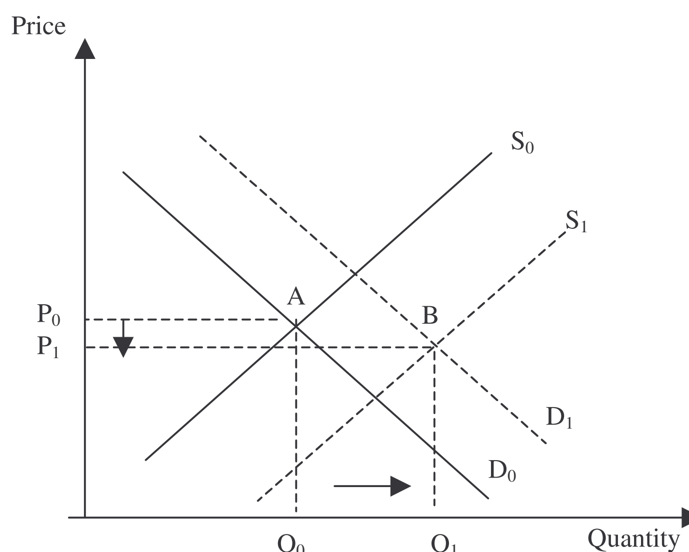
(b) (i)



An increase in demand with constant supply will shift the demand curve to the right from D_0 to D_1, resulting in:

- an increase in equilibrium price from P_0 to P_1, and
- an increase in equilibrium quantity from Q_0 to Q_1.

(ii)



An increase in demand which is proportionately much less than the increase in supply will shift the demand curve to the right from D_0 to D_1 and the supply curve to the right from S_0 to S_1, resulting in:

- a reduction in equilibrium price from P_0 to P_1, and
- an increase in equilibrium quantity from Q_0 to Q_1.

Question 2

- Candidates were unable to calculate the real Gross Domestic Product growth.
- Candidates are advised to learn the formula for growth rate calculation.

2. (a) (i) Nominal GDP 1990 = 10(RM3.00)+10(RM1.00)+12(RM4.00) = RM88.00

Nominal GDP 2003 = 11(RM3.50)+15(RM1.20)+14(RM4.60) = RM120.90

(ii) Real GDP 1990 = 10(RM3.00)+10(RM1.00)+12(RM4.00) = RM88.00

Real GDP 2003 = 11(RM3.00)+15(RM1.00)+14(RM4.00) = RM104.00

Real GDP growth between 1990 and 2003 = $\frac{104 - 88}{88}$ x 100% = 18.18%

(b) (i) Nominal GDP is the sum of the quantities of final goods and services produced multiplied with their current prices. An increase in nominal GDP can be caused by two factors, namely:

- an increase in the total production, and/or
- an increase in prices.

Therefore, we do not know whether nominal GDP is changing because of changes in the amount of goods and services produced or because of changes in prices.

Real GDP is calculated using market price from a base year. Therefore its calculation will not have the same problem as those faced in calculating Nominal GDP.

(ii) Aggregate demand (AD) comprises the demand of all households, firms, the government and overseas sectors (in an open economy) for goods and services produced in an economy. AD = C + I + G + (X – M). C represents private consumption expenditure; I represents private investment expenditure; G represents public consumption and investment expenditure; (X-M) represents exports minus imports, i.e. net exports.

Question 3

- Candidates were unable to explain the process of money creation.
- Candidates should understand the statutory reserve ratio and the reason how banks create money when lending out money. The meaning of the money multiplier should be also understood.

3. (a) The process of credit creation is based on the following assumptions:

- All people in the economic system will deposit all their money into and take loans from this bank, and
- The bank holds no excess cash reserves.

When Mr A deposits RM10,000, Bank XYZ Bhd will have an excess cash reserve of RM9,500. The following is the bank's ledger (partial):

Liabilities		**Assets**	
Deposits – Mr A	RM 10,000	Cash	RM10,000

Assume that Bank XYZ Bhd gives a loan of RM9,500 to Mr B. This is represented only by a book entry and there is no movement of cash as shown in the bank's ledger below:

Liabilities		**Assets**	
Deposits – Mr A	RM 10,000	Cash	RM10,000
Deposits – Mr B	RM 9,500	Loans – Mr B	RM9,500

Money supply is now RM19,500. The excess cash reserve is now RM9,025 (RM9500 x 95%). Assume that this excess cash reserve of RM9,025 is lent out to Mr C. Bank XYZ Bhd's ledger is as shown below:

Liabilities		**Assets**	
Deposits – Mr A	RM 10,000	Cash	RM10,000
Deposits – Mr B	RM 9,500	Loans – Mr B	RM9,500
Deposits – Mr C	RM 9,025	Loans – Mr C	RM9,025

Money supply is now RM28,525.

The process of credit creation will continue until total money supply equals RM200,000.

Money multiplier = 1/cash ratio = 1/0.05 = 20

Therefore, an original deposit of RM10,000 will expand money supply to reach RM200,000. In other words, the amount of money created equals RM190,000.

Note that RM190,000 is the maximum amount of credit that can be created. If the bank holds some excess cash reserves or if individuals do not deposit all their money into the bank, the amount of credit created will be less than RM190,000.

(b) Qualities of a good medium of exchange

(Give any six of the following:)

- Acceptability: it has to be accepted as a medium of exchange
- Durability: it can be kept for a considerable period of time
- Divisibility: it is readily divisible into smaller units
- Recognition: it is easily recognisable
- Uniformity: it is similar in terms of weight and size
- Portability: it is easily carried around
- Scarcity: it is scarce

PART B

Question 4

- Candidates incorrectly highlighted individual financial institutions and ignored the important components such as the borrowers and savers as well as the financial instruments and the markets.

4. (a) The financial system comprises the following:

- savers and borrowers,
- financial institutions and the availability of financial instruments, and
- financial instruments and financial markets.

(b) The structure of the Malaysian Financial System

Banking System
- Bank Negara Malaysia
- Banking institutions
  - Commercial Banks
  - Finance Companies
  - Merchant Banks

- Others
  - Discount houses
  - Representatives offices of foreign banks
  - Offshore banks in the Labuan International Offshore Financial Centre (IOFC)

Non-Bank financial intermediaries
- Provident and pension funds
- Insurance companies
- Development finance institutions
- Savings institutions
  - National Savings Bank
  - Co-operative societies

- Other non-bank financial intermediaries
  - Unit trust
  - Pilgrims Fund Board
  - Housing credit institutions
  - Cagamas Berhad
  - Credit Guarantee Corporation
  - Leasing companies
  - Factoring companies
  - Venture capital companies

Financial Markets
- Money and Foreign Exchange Markets
  - Money market
  - Foreign exchange market

Capital Markets
- Equity market
- Bond market
  - Public debt securities
  - Private debt securities

Derivatives Markets
- Commodity CI futures
- KLSE CI futures
- KLIBOR futures

Offshore Markets
- Labuan International Offshore Financial Centre (IOFC)

Question 5

- Candidates' answers generally, lacked elaboration. They were also unable to describe an asset management company.

- A good example of an asset management company is Danaharta.

5. (a) (i) **Issuer of currency notes**

Part III of the Central Bank of Malaysia Ordinance 1958 (CBO) provides for Bank Negara Malaysia (BNM) to be the sole currency issuing authority in the country. Initially, the par value of the Malaysian Ringgit was defined as equivalent to 0.290299 grams 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.

(ii) **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 provides for maintenance of a minimum external reserves backing of 80.59% against the currency issue.

(iii) **Lender of last resort**

BNM is ready to provide lender of last resort facilities to licensed financial institutions. The rediscounting of eligible bills with BNM or direct borrowing from BNM against collateral are the main forms of assistance given by BNM. When unforeseen circumstances arise and an institution is temporarily short of funds, BNM readily extends credit to aid the institution. BNM can also extend assistance by placing short-term deposits with these institutions on a roll over basis.

(b) An asset management company (AMC) is a special purpose vehicle which facilitates the transfer of problem assets from commercial banks in exchange for:

- the consideration of financing and resolution of problem loan assets,
- expert management of problem loans through reconstruction and rehabilitation of assets, and
- focused management of the process to maximise net returns over the time frame.

An example of such a special purpose vehicle is Danaharta – set up to purchase NPLs. The proceeds realised from the sale of NPLs will be a key determinant of the capital injection required for Danamodal's restructuring and consolidation strategy for the banking sector.

Question 6

- Candidates could not describe the various monetary policy terminologies, particularly moral suasion.

6. (a) (i) Monetary policy is essentially the control of the nation's money supply and credit base by Bank Negara Malaysia (BNM) with the aim of achieving the stated economic objectives of the Government. In a nutshell, BNM is entrusted with the responsibility of ensuring that growth of money supply and credit is sufficiently elastic with respect to money demand. This is to counter the threats of inflation (overheating of the economy) or alternatively deflation brought about by excess capacity in the economy. For over four decades, the sound monetary policy pursued by BNM has contributed tremendously towards the structural transformation of the Malaysian economy.

(ii) Objectives of monetary policy

- **To maintain price stability** – the constant fluctuation of prices of goods can be disruptive to the economy. Prices should only be allowed to fluctuate within a certain acceptable range in order to maintain economic stability. Price stability is a key prerequisite for sustained economic growth for in its absence, mobilising and efficient chanelling of resources to productive investment can be adversely affected.

- **To achieve a higher level of economic growth** – this can be achieved when major macro-economic issues such as unemployment and inflation are well controlled.

- **To control aggregate demand and employment** – there must be a balance between aggregate demand and the level of employment in order to achieve a stable economy.

- **Maximum employment of resources** – all factors of production should be fully employed for maximum benefits to the economy.

These objectives should essentially steer the economy towards financial stability where appropriate policies are put in place to ensure a sound banking system that facilitates an efficient intermediation process. The acid test of an efficient monetary system is an effective transmission mechanism – an environment where financial institutions are operating in a prudent manner with minimal risk of failure.

(b) (i) Statutory reserve requirement (SRR)

The oldest monetary instrument used by central banks to control the liquidity condition of the banking system. Under section 37(1c) of the CBO, banking institutions are required to maintain a certain percentage of their reserves with Bank Negara Malaysia (BNM). The SRR is defined in terms of a bank's eligible liabilities (EL). The EL comprise deposits (including negotiable certificates of deposits), repurchase agreements and net interbank borrowings. All banking institutions are required to place a certain percentage of the EL as cash reserves with BNM.

The SRR is a powerful instrument as it affects the level of deposits and loans that a bank can legally support, given the size of its reserves. A higher ratio will therefore reduce the level of reserves available to the banking institutions for credit creation. Implementing the SRR may:

- raise the cost of funds, a rise usually passed on to consumers as higher lending rates;

- affect some institutions more than others as frequent changes in reserves disrupt forward planning; and

- exert a powerful influence on economic agents for e.g. the banks' ability to lend will be curbed while consumer spending can be restrained through the higher lending rates.

(ii) Liquidity requirement (LR)

Under Section 38 (1) of the Banking and Financial Services Act 1989, banking institutions are required to observe a minimum liquidity ratio in order to ensure that they are sufficiently liquid at all times to meet customers' liquid withdrawals. The LR is expressed as a percentage of the eligible liabilities. Raising the LR will reduce the amount of deposits and loans available. When the LR is reduced, the impact is expansionary, i.e. there will be more deposits and credit available.

The LR is immobilised in the banks and do yield interest. In addition, by limiting the banks' scope for liquidation of treasury bills and other short-dated liquid assets to support expansion of bank loans, the ratio increases the effectiveness of credit restraint.

(iii) Open market operations (OMO)

OMO involve the purchase and sale of Government papers by the Central Bank in the open organised market aimed at directly influencing bank reserves and thereby the flow of bank credit and money. OMO are conducted either through outright or repurchase agreements. A distinctive characteristic of OMO is that the initiative is taken solely by BNM.

(iv) Moral Suasion

The traditional BNM technique of inducing a voluntary response from the financial system. It operates on the principle that implementation of policies can be made more effective if financial institutions take necessary action to fulfill the role required of them on their own accord. Moral suasion was used in the 1970s, 1980s and 1990s – to discourage excessive lending for speculation and to encourage financial institutions to lend to projects on viability rather than on purely collateral basis.

Question 7

- Candidates failed to state some of the services offered by finance companies such as factoring and remittances and showed poor understanding of the Al-Murabahah principle.

7. (a) In accordance with Section 37(1) and Section 38(1) of the Central Bank of Malaya Ordinance 1958 (now known as the Central Bank of Malaysia Act 1958 [revised – 1994]) and the Banking and Financial Institution Act 1989 respectively, commercial banks are obliged to adhere to the requirement of maintaining the statutory reserve requirement (SRR) and liquidity requirement (LR). The SRR – the most effective tool for controlling credit creation as it reduces the banks' lending capacity – is currently maintained at 4% of the eligible liabilities. The eligible liabilities (EL) comprise deposits (including negotiable certificates of deposits), repurchase agreements and net interbank borrowings. All banking institutions are required to place the SRR with Bank Negara Malaysia (BNM). The LR on the other hand is expressed as a percentage of EL. When the LR is raised the amount of deposits and loans will be reduced. When the ratio is reduced the impact is expansionary. In 1983, the LR was redefined to include BNM bills. Several changes were made there after to improve liquidity management.

In June 1998, BNM proposed a new liquidity framework that aimed to:

- create awareness among banking institutions of their funding structure especially to improve their ability to handle short to medium term liquidity problems,
- permit more efficient and on going liquidity management, and
- provide BNM with a better means of assessing the banking institutions' present and future liquidity positions.
- With these changes, a more refined liquidity framework appears to have been put in place for banking institutions.

(b) The core businesses of finance companies are:

- provision of factoring services,
- provision of remittance services within Malaysia including banker's cheques, demand drafts, payment orders and telegraphic transfers ,
- participation in special funds established by BNM ,
- granting of unsecured business loans up to a maximum of RM500,000,
- participation in venture capital financing, and
- issuance of negotiable instruments of deposit up to five times their capital funds.

(c) The merger programme for domestic banks was initiated in July 1999. The initial programme envisaged the creation of six large and strong domestic financial groups from 21 domestic commercial banks, 25 finance companies and 12 merchant banks. Subsequently all domestic banking institutions were given flexibility to form their own merger groups and choose their own leader in each group to lead the merger process. In response to this approach, approval was granted for the formation of ten banking groups. By end of 2001, the merger exercises were almost completed. The recent regional currency crisis, along with the threat of globalisation and liberalisation, has served as an impetus for the initiation of this merger programme. The fragility of the fragmented banking system become evident during the Asian financial crisis when bank runs posed a systemic risk to the domestic banking system.

The domestic banking system also needed to gear itself for the challenges arising from the financial liberalisation spelt out under the General Agreement Trade in Services (GATS). As a World Trade Organisation (WTO) member, Malaysia is obliged to fulfil its part by removing entry and access barriers. Technological advancements meant strong banks. Strong banking groups form part of the solution and hence the merger has facilitated the absorption of weak banking entities by strong ones.

(d) (i) Al-Murabahah (cost-plus financing)

The concept of Al-Murabahah refers to the sale of goods at a price which includes a profit margin as agreed to by both parties. In Al-Murabahah contracts, price, other costs and the seller's profit margin must be stated at the time of the agreement of sale.

(ii) Al-Musyarakah (joint venture)

The bank shares the cost of the project with the entrepreneur based on an agreed proportion. Both parties have a right to participate in the management of the project as well as to waive such rights. The profit from the project will be shared according to an agreed ratio, not necessarily the same as the share of the cost. In the event of losses, however, both parties will share the losses according to a pre-agreed cost sharing formula.