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The South African financial system

Economics II

Tutorial Letter 201/2009

(First semester)

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Contents

Dear Student

If you have adhered to the study programme we provided in Tutorial Letter 101, you should by now have covered most of the study material. We are sure that you will have realised that we do not ask difficult questions in this course, but rather expect you to develop a thorough knowledge of the study material.

Please refer to section 1 in this tutorial letter for the erratum in the Tutorial Letter 101.

Read section 2 of this tutorial letter very carefully as it deals with the examination. It contains important information.

In this tutorial letter we also provide the answers to the multiple-choice questions in the assignments, with brief explanations where necessary. In most cases, however, we merely refer you to the textbook and/or the study guide.

We have included the October/November 2008 examination paper in section 5.1 and guidelines for answering one of the essay questions in section 5.2. The correct answers to the multiple-choice questions in section B are provided in section 5.3.

Try to keep abreast of recent happenings on the monetary front by reading the financial pages of the newspapers. This course should help you understand the jargon used there.

If possible, please visit the ECS209-J website on *my*Unisa. We regularly place extracts from other sources there that you may find interesting and also make recommendations concerning topics of discussion associated with these extracts. This will be a good way to practise answering insight questions in the examination.

Remember, the examination is about two months away. Try to adhere to the study programme in Tutorial Letter 101.

1 ERRATUM

1.1 Erratum in Tutorial Letter 101/2009

Page 24: There is no question 17. We ignored this question when calculating the marks for this assignment.

Page 33: Question 3: The sequence of the alternatives is incorrect. Replace **[3]** with **[2]** and **[2]** with **[3]**. Students all received full marks for this question.

Page 34: Question 9: The sequence of the alternatives is incorrect. Replace **[3]** with **[2]** and **[2]** with **[3]**. Students all received full marks for this question.

2 THE MAY 2009 EXAMINATION

The format of the exam paper is set out on pages 13–14 of Tutorial Letter 101/2009 (section (b) under the heading **HOW THE EXAMINATION SYSTEM WORKS**).

Please note that the examination paper includes two papers: Paper I is for students who are registered for 2009 for ECS209J and who are using the 2009 edition of the textbook (all students who are reading this tutorial letter). Paper II is based on the 2006 edition of the textbook and is for students who have permission to write the supplementary examination. Please make sure that you are answering the correct paper. Very clear instructions will be provided on the front page of the examination paper.

The formula page that appears on page 94 of Tutorial letter 101/2009 will be attached to the examination paper for your benefit. You are allowed to use a non-programmable pocket calculator in the examination for ECS209J.

2.1 Essay questions

The three essay questions (of which you have to answer two) are based on the following:

Question 1:Study units 1 and 2
Question 2:Study units 1 and 3
Question 3:Study units 1, 4 and 5

2.2 Multiple-choice questions

The examination paper includes 25 multiple2choice questions and each of these questions counts two marks. You have to answer the multiple-choice questions on a mark-reading sheet. Note that you can choose only ONE of the alternatives on the mark-reading sheet. If you mark more than one option, the computer will not mark that question.

For most of the 25 multiple-choice questions in the examination paper we provide one question or stem and a few possible answers. You are required to choose only the ONE correct answer from those alternatives. For example:

Direct financing takes place when

[1] surplus units buy shares in the secondary market.
[2] deficit units obtain a bank loan.
[3] surplus units buy negotiable certificates of deposit in the primary market.
[4] surplus units buy bonds in the primary market.
[5] the SARB sells SARB debentures to banks.

The correct answer is of course [4]. See section 1.2.1 of the textbook for a discussion of direct and indirect financing.

Note that the question in the stem may sometimes be in the negative, which means that you need to read it **VERY CAREFULLY**. Study the example below.

Which **one** of the following is **not** an example of a **money market** instrument?

[1] Treasury bill
[2] Bankers' acceptance
[3] Share
[4] SARB debenture
[5] Negotiable certificate of deposit

The correct answer here is [3], because all the others are examples of money market instruments. See section 9.6 of the textbook for a discussion of money market instruments and chapter 11 for a discussion of the share market.

The stem may also take the form of an incomplete statement. You then need to choose the correct phrase to complete the statement, for example:

A primary market for financial instruments is a market in which

[1] only instruments issued by ultimate borrowers are traded.
[2] only instruments issued by financial intermediaries are traded.
[3] only instruments issued for the first time are traded.
[4] only instruments listed on an exchange are traded.
[5] only instruments with a maturity of one year or less are traded.

The correct answer is [3]. See section 1.2.2 of the textbook.

Some of the questions will provide a list of statements of which more than one may be correct. You then have to choose the ONE combination that contains all the correct statements, for example:

Which of the following statements are correct?

A bankers' acceptance is …

[a] a primary instrument.
[b] an indirect instrument.
[c] a discount instrument.
[d] an interest add-on instrument.

[1] a c
[2] a d
[3] b c
[4] b d

The correct answer is [1]. See section 9.6.3 of the textbook.

3 DISCUSSION OF ASSIGNMENT 01/2009

Section 3.1 deals with the first ten and last two questions of this assignment. You may find it interesting to learn more about your fellow students and how they feel about the course.

Section 3.2 deals with questions 11 to 20, which are really the questions in which we test your knowledge of the first two study units.

3.1 Discussion of ECS209J students' profile and viewpoints

Because the closing date for the first assignment was moved forward, the results will be too late for us to include a discussion on the student profile and viewpoints in this tutorial letter. However, we will do this analysis and put it on the website under **Additional Resources**, where you will be able to access it.

3.2 Discussion of questions on study units 1 and 2

Unless otherwise stated, all page and section references are references to the prescribed book *Understanding South African financial markets* (2009 edition). The same applies to sections 4 and 5.

11. The correct alternative is [1].

    Because these securities are issued by the ultimate borrower, they are *direct* securities (see p 6 of the textbook). The securities can be traded in the secondary market, which makes them *negotiable* instruments (see the last paragraph on p 6 continued at the top of page 7).The correct combination is (a) and (c).

12. The correct alternative is [4].

    As trades quote buying and selling prices on a continuous basis, they contribute to *price discovery*. As they are always willing to buy financial instruments at the prices that they quote, they also ensure *liquidity* in the markets where they operate. The other alternatives are all functions of the financial markets, but not of traders.

13. The correct alternative is [3].

    The other alternatives are all institutions that are in some way involved with intermediation between surplus and deficit units. Shares are direct instruments as they are issued by the ultimate borrower and not by a financial intermediary; therefore the company issuing the shares is not busy with intermediation.

14. The correct alternative is [1].

    Trends in financial intermediation are discussed in section 1.3.3 of the textbook. Referring to statement [1], if this question had to do with global trends, the statement would be correct. However, as indicated in the first paragraph on page 18, this is not a trend that is mirrored in South Africa. As indicated is the discussions of the other trends, they do apply to South Africa as well.

15. The correct alternative is [2].

    The elements of regulation are discussed in section 5.2.1. You will note that statements [1], [3] and [4] are all mentioned there. Statement [2], however, is not mentioned. Regulators are often criticised that strict rules make it difficult for new entrants to enter a market and even for existing participants to leave the market. However, this is not what they intend by regulation – they merely want to protect consumers. Therefore we cannot say that statement [2] is correct.

16. The correct alternative is [4].

    Banks are the only private institutions that can create money. As explained in section 3.2 banks create money when they provide credit to clients. Therefore statement [4] is correct. Statement [1] is not correct. When a deficit unit issues bonds, money is transferred from the account of the surplus unit to the account of the deficit unit – it involves a transfer of money but no money creation. Statement [2] is not correct. When a bond is redeemed money is transferred from the account of the issuer to the account of the holder of the bond, once again, merely a transfer of money; therefore the total money supply in the economy stays the same. When a person buys on credit from a retailer, it involves a contract to pay the amount at a later stage. No money is created that can be used by the retailer. The retailer has to wait until the client pays his or her debt before the money is available to the retailer. Even when the debt is paid no money is created as it once again involves only a transfer of funds from the client to the retailer. Statement [3] is therefore also incorrect.

17. There is no question 17. All students were awarded marks for this question.

18. The correct alternative is [3].

    The factors that affect the amount of demand deposits are discussed in section 3.2. When the cash reserve requirement increases, banks have to take steps to acquire more reserves and to restrict lending. Therefore demand deposits **decrease**.

    When the public wishes to increase the amount of cash that it holds, it results in a **decrease** in deposits, in the first place because deposits are withdrawn in the form of cash (replaced by cash), but also because this means that banks now have less cash available to hold as cash reserves and therefore have to restrict lending accordingly.

    When the risk appetite of banks increases, they are willing to provide more loans to customers. At the moment the risk appetite of banks worldwide is very low and they are very tight when taking a decision on providing credit to a customer. This decreases money creation in an economy. However, statement [3] is correct in saying that an increase in the risk appetite of banks will increase the amount of credit provided to bank clients. When credit is provided, deposits are created and thus demand deposits increase.

    Even when banks are willing to provide credit, it often happens that clients are not willing to take it up. For example, investors may be pessimistic about future demand and therefore decide to restrict production, which means they do not have to take up credit. They are avoiding the risk of producing and then not being able to sell their goods. Consumers may also decide that it is risky to take up credit. This happens especially when interest rates are expected to increase and also during a recessionary phase in the economy when labour start to feel uncertain of their employment situation. When bank

clients do not want to take on credit owing to their perception that it is currently too risky, the amount of new deposits that are created decreases.

19. The correct alternative is [4].

The mismatch between the assets and liabilities of a bank is discussed in section 2.3. This has to do with the fact that the liabilities of a bank (the deposits) is usually available on demand to the holders of the deposits and also that they are "certain", which means deposit holders are guaranteed that the deposits are available for withdrawal. On the other hand, the assets of a bank (the loans) are of a long-term nature because clients usually have a long time period to pay them back. There is risk attached to loans because the bank is never certain how much will turn out to be bad debts. Therefore the best alternative is [4].

Those of you who know accounting, will know that:

Assets = Owner's equity + Assets

Therefore assets are not equal to liabilities in any company. Statement [1] is therefore true, but it does not *explain* the mismatch between the assets and liabilities of a bank. Therefore it is not the correct alternative.

20. The correct alternative is [4].

When rands flow to the SARB, the liquidity deficit of the banking sector *increases*, and when rands flow from the SARB back into the banking system, the liquidity deficit of the banking sector *decreases.*

When the SARB buys government stock from the banking sector, the SARB pays with rands, which means that rands flow to the banks and the liquidity deficit *decreases.*

When the SARB enters into repurchase transactions with the banking sector, they provide funds to the banks to finance their deficit, so rands flow to the banks and therefore the liquidity deficit *decreases.*

When the SARB sells rands in exchange for dollars, rands flow to the banks and the liquidity deficit of the banks *decreases.*

When the SARB issues (sells) Reserve Bank debentures, the banks that buy these instruments pay for it using rands, so that rands flow to the SARB and this thus *increases* the liquidity deficit.

4 GUIDELINES FOR ANSWERING ASSIGNMENT 02/2009

Assignment 2 is based only on the calculations that form part of study units 4 and 5. If you can answer these questions, it means that you have mastered the calculations, but it does not necessarily mean that you have mastered all the theory and knowledge regarding the financial markets and instruments. You can evaluate yourself by completing Assignments 03 and 04.

Unless otherwise stated, all page and section references refer to the prescribed book *Understanding South African financial markets* (2009 edition).

Questions 1 and 2 are based on information on a bankers' acceptance (BA), which is a discount instrument.

1. The formula for calculating the consideration when a BA is sold is equation F.9.2 in the textbook:

   Consideration = N x (1 – i x n)

   The nominal value (N) of this BA is R2 million.
   The discount rate (i) at which it is sold is 15% or 0,15.
   The remaining tenure (d) of this BA is 150 days.
   The n stands for d/365.

   Thus we can calculate the consideration:

   Consideration = R2m x (1– 0,15 x 150/365)
   = R2 m x (1 – 0,06164)
   = R2 m x 0,938356
   = R1 876 712

   The correct alternative for question 1 is [3].

2. The formula for calculating the nominal annual return is equation F.9.4 in the textbook:

   Y = (discount amount/consideration) x (1/n)

   The discount amount is the difference between the nominal value and the consideration, that is R2 m – R1 876 712 = R123 288

   Thus:

   Y = (R123 288/R1 876 712) x (365/150)
   = 0,159854

   Rounded to four decimals, this gives you 0,1599 or 15,99%.

   The correct alternative is [3].

Questions 3 to 7 are based on a negotiable certificate of deposit which is an interest add-on instrument. All the calculations applicable to interest add-on securities will therefore be applicable to this instrument.

3. To calculate the maturity value of an interest add-on instrument, we use equation F.9.10 in the textbook:

   M =N x (1 + i x n)

   Interest add-on instruments are issued at their nominal value, therefore we know that the nominal value (N) of the instrument must be R5 000 000. It is issued at an interest rate of 12%, therefore this is the interest rate (i) that we should use to calculate the maturity value. When it is issued, there are 180 days left to expiry, therefore this is the number of days (d) that we use to calculate the maturity value.
   Therefore: n = 180/365:

   M = R5 000 000 x [1 + (0,12 x 180/365)]
   = R5 000 000 x [1 + 0,059178]
   = R5 000 000 x 1,059178
   = R5 295 890,41
   Rounded to the closest rand this is equal to R5 295 890.

   *The correct alternative is [2].

*Refer to the erratum that was posted to *my*Unisa about this question.

4. If we know the maturity value, the formula to calculate consideration in the secondary market is equation F.9.11 in the textbook:

   Consideration = M / (1 + i x n)

   We know from question 3 that the maturity value (M) is R5 295 890. The transaction in the secondary market takes place at an interest rate (i) of 11,5% and this transaction takes place when there are 160 days left to maturity, thus n = 160/365.

   Consideration = R5 295 890/ [1 + (0,115 x 160/365)]
   = R5 295 890/ [1 + 0,050411]
   = R5 295 890/ 1,050411
   = R5 041 731,50
   Rounded to the closest rand, this is equal to R5 041 732.

   The correct alternative is [4].

5. The formula to calculate the accrued interest when this instrument trades in the secondary market is equation F.9.12 in the textbook:

   Accrued interest = amount paid x i x n

   It is very important to remember which interest rate is the correct one to use and what amount we are working with. Remember that we are calculating the accrued interest earned by the *seller* in the secondary market. This is the person or institution that was the *buyer* in the primary market. The amount that was paid when the instrument was purchased in the primary market was R5 000 000. This person or institution held the NCD

for 20 days before selling it again, therefore
n = 20/365. The interest rate (i) at which it was bought was 12%.

Accrued interest = R5 000 000 x 0,12 x 20/365
= R5 000 000 x 0,006575
= R32 876,71

Rounded to the closest rand this is R32 877.

The correct alternative is [2].

6. The formula to calculate the capital profit or loss of the seller in the secondary market on an interest add-on instrument is equation F.9.13:

Capital profit (loss) = total income – accrued interest
Total income is the difference between the amount paid for the instrument, which was R5 000 000, and the total amount received when it was sold in the secondary market, which we calculated in question 4 to be R5 041 732.

Total income = R5 041 732– R5 000 000 = R41 732

We calculated the accrued interest in question 5 to be R32 877.

Capital profit (loss) = R41 732 – R32 877
= R8 855

Because it is a positive amount (which means that the total income is greater than the accrued interest) we know that it is a capital *profit.*

The correct alternative is [1].

7. Remember once again we are calculating the yield of the *seller* in the secondary market. To calculate the yield rate we need to use formula F.9.14 in the textbook:

Yield = [(end value – begin value)/begin value] x 1/n

The amount received refers to the consideration in the secondary market, while the amount paid refers to the amount that was paid for the instrument in the primary market. The difference between these two amounts is therefore the total income which has already been calculated in question 6 to be R41 732. The amount that was paid for the instrument by the seller in the secondary market is the amount that it was bought for in the primary market, namely R5 000 000. The instrument was held for 20 days before being sold again.

Yield = [R41 732/ R5 000 000] x 365/20
= 0,152322 or 15,23%

The correct alternative is [1].

Questions 8 and 9 have to do with a repurchase agreement.

8. To calculate the amount that AB Bank will receive on 15 January 2009, we have to use equation F.9.21 in the textbook:

   Consideration in leg one = nominal value of bond x all-in price of bond

   The all-in price of the bond on 15 January 2009 was R92,00%.

   Consideration in leg one = R3 000 000 x 0,92
   = R2 760 000

   The correct alternative is [2].

9. The formula to calculate the amount that will change hands in the second leg of the transaction can be calculated by using equation F.9.20 in the textbook:

   Repurchase consideration (in leg two) = start consideration x (1 + i x n)

   In question 8 we have calculated the start consideration to be R2 760 000. The repo rate is indicated as 12% or 0,12 while the number of days between the two legs is 7.

   Consideration in leg two = R2 760 000 x (1 + 0,12 x 7/365)
   = R2 760 000 x (1 + 0,002301)
   = R2 760 000 x 1,002301
   = R2 766 351, 78
   Rounded to the closest rand, this is R2 766 352.

   The correct alternative is [1].

10. To determine the answer to question 10, we first have to decide when this bond will trade cum interest and when it will trade ex interest. This is explained in section 10.2.2 of the textbook, especially in figure 10.2.

    The bond register of the bond in the question closes on 1 May and 1 November, with the bond payments due on 1 June and 1 December. During the short periods between 1 May and 1 June and between 1 November and 1 December, the bond will trade ex interest as it belongs to the seller on the day that the bond register closes. Therefore the seller will receive the full coupon. To compensate the buyer the interest accruing to the buyer should be subtracted from the clean price to calculate the all-in price of the bond. 15 February and 15 June do not fall into such an ex interest period, therefore alternatives [1] and [2] are incorrect.

    During the longer periods from the coupon payment dates until the day that the register closes, the bond will trade cum interest as it will belong to the buyer on the date that the register closes. Therefore the buyer will receive the full coupon on the coupon payment date, and to compensate the seller the accrued interest should be added to the clean price to calculate the all-in price of the bond. 15 November does not fall into this long period as it lies between the closing date of the register and the coupon payment date. Thus alternative [3] is incorrect. 15 December falls into such a cum interest period and therefore alternative [4] is correct.

    Therefore the only correct alternative is [4].

11. To answer question 11, we first have to decide whether the bond trades cum interest or ex interest. Then we have to calculate the accrued interest and lastly we can calculate the all-in price.

Let's first determine whether the bond traded cum interest or ex interest. The transaction took place on 15 September 2008. The next coupon payment date was 31 December 2008 and the register closed one month earlier, on 30 November 2008. The transaction date, 15 September 2008, is before the register closing date and therefore the bond traded cum interest.

Secondly we have to calculate the accrued interest. To do this we first have to determine how many days to use to calculate the accrued interest. The bond was sold on 15 September 2008 and the previous coupon payment was made on 30 June 2008, therefore the seller has to be compensated for interest for the period from 30 June 2008 (the previous coupon payment date) to 15 September 2008. The number of days from 30 June 2008 to 15 September 2008 is 77 days. Now we can calculate the accrued interest:

Accrued interest = coupon rate per annum x d/365
= 0,14 x 77/365
= 0,0295342
This is the same as R2,95342%.

Now we add the accrued interest to the clean price (remember that the bond trades cum interest):

All-in price = R103,55% + R2,95342% = R106,50%

To calculate the consideration we multiply the all-in price with the nominal value:

Consideration = R106,50% x R3 000 000
= 1,065 x R3 000 000
= R3 195 102,70
Rounded to the closest rand, this is equal to R3 195 103.

The correct alternative is [3].

12. The running yield is calculated as follows:

Running yield = annual income/buying price

The buying price we are referring to here is the clean price. The all-in price is to allow for the change in ownership and does not affect the running yield.

The coupon is the annual income, thus it is 14% or 0,14 and the clean price is R103,55% or 1,0355.
Running yield = 0,14/1,0355 = 0,1352 or 13,52%

We know that when a bond trades at a premium, that is at a price higher than R100%, the running yield will be lower than the coupon rate (see box 10.2 in the textbook), therefore this running yield is lower than 14%.

The correct alternative is [3].

13. When the exchange rate changes from GBP/ZAR 14,427 to GBP/ZAR 13,465, this means that before the change the price of one GBP was R14,427 but that it is now R13,465. This means that GBPs are now cheaper in rand terms, and that the rand has appreciated against the GBP. Statement (a) is therefore incorrect and (b) is correct.

    Because GBPs are now cheaper, imports to South Africa from Britain will be cheaper in rand terms. Statement (c) is therefore correct.

    Because the rand has appreciated, the British will now get less rands for one GBP and therefore South African export products will be relatively more expensive for British buyers. Statement (d) is incorrect.

    Statements (b) and (c) are correct, therefore the correct alternative is [3].

14. The question reads as follows:
    If a foreign exchange dealer quotes a price of GBP/USD 1,8603/1,8703 and the client wishes to buy USD2 million and sell GBP, how much GBP does the client have to pay?

    This means that the dealer will buy the base currency, which is GBP, at GBP/USD 1,8603 and sell it at GBP/USD 1,8703. The client wishes to buy USD and sell GBP, therefore the dealer will have to sell USD and buy GBP. The transaction will be executed at GBP/USD 1,8703.

1GBP	=	1,8703 USD
0,53467 GBP	=	1 USD
2m x 0,53467GBP	=	2m USD
1 069347 GBP	=	2m USD

    Then the correct alternative will be [1].

15. An option is *in-the-money* when it is profitable to the holder to exercise it and *out-of-the-money* when it is not profitable to exercise it.

    A call option is an option to buy the underlying asset at the strike price. A buyer always prefers to buy at the lowest price possible. Therefore, when the strike price of a call option is lower than the market price, a call option is *in-the-money* and it will be profitable to exercise the option. When the strike price of a call option is higher than the market price, it is more profitable to buy at the lower market price and therefore the call option is *out-of-the-money*.
    Therefore statement (a) is correct and statement (c) is incorrect.

    A put option is an option to sell the underlying asset at the strike price. A seller always prefers to sell at the highest price possible. Therefore, when the strike price of a put option is higher than the market price, a put option is *in-the-money* and it will be profitable to exercise the option. When the strike price of a put option is lower the market price, it is more profitable to sell at the higher market price and therefore the put option is *out-of-the-money*.

    Therefore statement (b) is incorrect while statement (d) is correct.

    Both a call option and a put option are said to be *at-the-money* when the strike price is equal to the market price, therefore statements (e) and (f) are incorrect.
    The only correct alternative is therefore [1].

5 OCTOBER/NOVEMBER 2008 EXAMINATION PAPER

In this section we provide the October/November 2008 examination paper. Keep in mind that this paper is based on the 2006 edition of the textbook, therefore it is likely that there are questions that you will not be able to answer correctly. Note that the formula page that appears at the end of study unit 4 in the study guide and on the last page of Tutorial Letter 101 will also be provided in the examination. We did **not** include it here, because the format of the formulas is slightly different in the new edition of the textbook. The answers of the calculations are not affected by this, so you should be able to answer all calculation questions.

In section 2 the structure of the May 2009 paper is discussed. Note that the structure is similar to that of the October 2008 paper.

In section 5.2 we provide guidelines for answering question 1 of section A of the examination paper. Together with the guidelines for answering the essay questions in Assignment 03, this should provide a clear indication of what we expect from you when you answer essay questions in the examination. In section 5.3 we provide answers to the multiple-choice questions in section B of the paper.

5.1 The October/November 2008 examination paper

This paper consists of **10** pages plus instructions for the completion of a mark-reading sheet. The formulas that you should use appear on page 10.

SECTION A - ESSAY QUESTIONS

Answer any **TWO** of the following three questions. Each question carries 25 marks. Section A therefore counts 50 marks.

IMPORTANT: Please write on **both** sides of each sheet.

QUESTION 1

(a) Lenders and borrowers are seldom able to do a direct deal because of a clash of interests. How do financial intermediaries meet the needs of both lenders and borrowers? (4)

(b) Explain the following quote:
"Banks are unique because they can create money out of thin air." (4)

(c) Explain how the Banks Act 94 of 1990 regulates banks as far as risk management and balance sheet requirements are concerned. (6)

(d) Describe how accommodation policy is applied by the SARB. (6)

(d) Read the following quote from an article that appeared on the *Finance24* website on 10 January 2008 under the title "*Keep an eye on interest rates in 08*". "US Fed" refers to the Federal Reserve Bank, which is the central bank of the United States of America. Answer the questions that follow:

> Lings believes that a recession can be avoided if the US Fed cuts interest rates sufficiently in the months ahead, but still manages to keep inflation under control. "It's a very difficult situation to manage, …"

(i) Explain why a cut in interest rates may help to avoid a recession in the US.
(ii) Why is keeping inflation under control while trying to avoid a recession "a difficult situation to manage"? (5)

[25]

QUESTION 2

(a) Briefly discuss the three elements that regulation consists of. (3)

(b) Give two reasons why, throughout the world, insurance institutions are subject to government regulation. (2)

(c) Explain why employers or sponsors may prefer defined contribution retirement funds to defined benefit retirement funds by referring to:

(i) the advantages of defined contribution retirement funds for employers
(ii) the disadvantages of defined benefit retirement funds for employers (6)

(d) Distinguish between the following investment institutions by briefly describing how they are organized and what their functions are:

(i) unit trust companies
(ii) Hedge funds
(iii) Public Investment Commissioners (6)

(e) Briefly describe a microlender and explain how they are different from banks. (3)

(f) Read the following quote from an article "*A note on changes in income and asset values of long-term insurers*" by Michael Kok that appeared in the December 2003 edition of the South African Reserve Bank Quarterly Bulletin. Please answer the questions that follow, based on the quote.

> The total asset base of long-term insurers is expected to increase swiftly when share prices recover. Real returns on assets are also likely to benefit from the lower level of inflation brought about by the consistent application of counter-inflationary policies.

(i) Do shares form a large part of the total assets of long-term insurers? Provide a reason for your answer.
(ii) Why was the total asset base of long-term insurers expected to increase when share prices recovered?
(ii) Define the term "real return" and explain why a lower level of inflation would benefit the real return on assets. (5)

[25]

QUESTION 3

(a) A repurchase transaction is used to finance the financial deficit that Big Money Bank is experiencing.

(i) Describe the first leg of the repurchase transaction.
(ii) Describe the second leg of the repurchase transaction. (6)

(b) Clearly distinguish between bonds and shares by listing the differences between the two instruments. (6)

(c) Clearly distinguish between hedging and speculation in the foreign exchange market by means of examples. (4)

(d) Explain why an option is a derivative instrument and how it is different from the underlying cash market. (4)

(e) Read the following quote from an article "*Bonds remain on the defensive*" that appeared on I-Net Bridge on 15 May 2008 and answer the questions that follow:

> By 9am the short-term government R153 bond was at 10.530% from its previous close of 10.525%, while the medium-term R157 was at 9.525% from its previous close of 9.520%. The longer-term R186 bond was bid at 9.345% from its previous close of 9.340%.
>
> "There may be a lot of political debates taking place on the merits of inflation targeting, but the reality is that this policy will not be abandoned in the short term and that further monetary tightening is inevitable."

(i) According to this report, were short-term rates higher than long-term rates or was it the other way around?
(ii) Given the information in the quote, what is expected to happen to interest rates in the future? Explain your answer.
(iii) Given the information in the quote, what is expected to happen to the prices of bonds in the future? Explain your answer. (5)

[25]

SECTION B – MULTIPLE CHOICE QUESTIONS

Answer **ALL** the questions of **SECTION B** on the mark-reading sheet. Note that only **ONE** alternative for each question can be marked on the mark-reading sheet. (There is only ONE correct alternative.) Each question counts TWO marks. Section B therefore counts 50 marks.

B1. Which of the following completes the sentence correctly?

Bank ABC sells a negotiable certificate of deposit issued by Bank XYZ to Bank PQR. This transaction takes place in the …

(a) primary market.
(b) secondary market.
(c) money market.
(d) capital market.

[1] ac
[2] ad
[3] bc
[4] bd

B2. A …is an example of an indirect security.

[1] share in a mining company
[2] government bond
[3] negotiable certificate of deposit
[4] bankers' acceptance

B3. Which **one** of the following factors will lead to a firm increasing their leverage (ie the ratio of debt finance to equity) when in need of finance?

[1] Unstable revenue generation
[2] An increase in the repo rate
[3] Risk-averse management
[4] Management that prefer to keep control of the company
[5] A lower credit rating

B4. Which of the following is **not** a function of an intermediary?

[1] Create liquidity for the borrower by aggregating a small amount of funds for on-lending.
[2] Achieve more efficient diversification of risk by investing in a wide portfolio.
[3] Ensures that savings are not channelled to bank deposits, but directly to real investment.
[4] Ease the constraint of income on expenditure, thereby ensuring more investment.
[5] Through using expertise and superior knowledge, ensure efficient allocation of available funds.

B5. Which **one** of the following does **not** fit?

Secondary markets are important because they…

[1] improve the ability of issuers to place new securities in the market.
[2] provide a means for deficit units to obtain funds to finance their deficit.
[3] provide a basis for the determination of rates to be offered on new issues.
[4] indicate the receptiveness of the market for new issues.
[5] enable investors to adjust their portfolios according to desire.

B6. Which **one** of the following is a function of the South African Reserve Bank?

[1] Sets the repo rate.
[2] Creates money by extending credit to ultimate borrowers.
[3] Provides electronic bank services to the general public.
[4] Provides investment advice to the general public.
[5] Regulates the short-term insurance sector.

B7. Which **one** of the following describes recent changes in the banking environment in South Africa accurately?

[1] Disintermediation has led to more savers channelling savings to banks and more deficit units approaching banks for loans.
[2] Savings are channelled away from insurance companies and unit trusts to banks as an inflation hedge.
[3] Foreign banks have disinvested in South Africa.
[4] Banks have moved back to traditional banking products and away from products involved with the securities markets.
[5] Competition in retail banking business has increased owing to the entrance of non-financial retailers offering traditional banking products, such as savings accounts.

B8 Suppose that there are three banks in an economy, namely Bank A, Bank B and Bank C. At the end of a particular business day the financial situations of the different banks are as follows:

Bank A: surplus of R25 million
Bank B: deficit of R15 million
Bank C: deficit of R12 million

Which **one** of the following actions will ensure that all the banks' deficits are financed so that there is no financial deficit or surplus?

[1] Bank A lends R25 million to Bank B.
[2] The central bank lends R12 million to the banking system as part of their accommodation of the banking sector.
[3] The central bank lends R15 million to the banking system as part of their accommodation of the banking sector.
[4] Bank B borrows R15 million from Bank A and Bank C borrows R10 million from Bank A.
[5] Bank A lends R15 million to Bank B and R10 million to Bank C, while the central bank lends R2 million to the banking sector.

B9 Which **one** of the following would **not** take place as part of the monetary policy process to fight an increase in the inflation rate?

[1] The Monetary Policy Committee increases the repo rate.
[2] Banks increase their lending and deposit rates.
[3] Bank clients demand more loans at the higher lending rates.
[4] Investment and consumption decrease owing to higher interest rates.
[5] Decreased demand makes it more difficult for participants in the economy to increase prices of products.

B10 Which **one** of the following actions will increase the liquidity deficit of the banking sector?

[1] The SARB buys foreign exchange from domestic banks.
[2] Domestic banks sell government bonds to the SARB.
[3] SARB debentures are issued in the domestic market.
[4] Funds are transferred from the government's account with the SARB to a tax and loan account with a domestic bank.
[5] Funds are transferred from Mr Maponja's account with a domestic bank to a tax and loan account with a domestic bank.

B11 Which **one** of the following does **not** have to do with the "consumer or investor protection-function" of regulation?

[1] Licensing requirements for suppliers of financial services so that only fit and proper persons are licensed to render financial services.
[2] Consumers should have access to dispute resolution mechanisms when they have been prejudiced through unlawful actions, for example ombudsmen for different industries.
[3] Consumer education, so that consumers understand the information that is disclosed to them.
[4] Regulation should stifle (limit) risk taking so that the interests of consumers are protected.
[5] Ensuring that consumers are confident about making use of services provided by the financial sector so that the economy can operate efficiently.

B12 Which **one** of the following does **NOT** apply to short-term insurance?

[1] It covers pure risk.
[2] Premiums are received in exchange for the promise to pay specified amounts in the event of possible future events.
[3] It represents an asset to the insurer.
[4] The purpose of policy is to put the insured in the same financial position as before the event occurred.
[5] The value of the compensation related to the policy is determined by the value of the loss that was covered.

B13 Which **one** of the following statements relating to the financial statements of long-term insurers is correct?

[1] The largest liability of long-term insurers would be trade creditors.
[2] The liabilities of long-term insurers are less predictable than the liabilities of short-term insurers.
[3] For a homogenous group of persons the risk that certain insured events will occur can be predicted relatively accurately, making the liabilities of long-term insurers rather predictable.
[4] A large part of the assets of long-term insurers is kept in cash and deposits.
[5] The most important source of income of long-term insurers is return on investment.

B14 Which of the following describes a situation in which a retirement fund will be most likely to invest in more risky and less liquid types of investment?

[1] The fund's liabilities are due in the very near future.
[2] Most of the members of the fund are near retirement.
[3] A fund that is growing, which means it is receiving more contributions and investment income than it has to pay in benefits.
[4] A fund that is only just solvent, which means the assets of the fund exceeds the liabilities by a small margin.
[5] The trustees of the fund are quite risk averse, and prefer to invest in "safe" assets.

B15 … is a fund company that receives investors' money in exchange for subshares issued to the investors. They pool the money and invest it in a diversified portfolio consisting of various securities (not more than 5% in any one security).It is not listed on any exchange and the share price of this company depends on the value of the underlying securities.

[1] A unit trust
[2] An investment trust
[3] A hedge fund
[4] An approved investment manager
[5] A participation mortgage bond manager

B16 A …is a community-supported bank that is owned and controlled by its members and has a link to a formal bank where it holds an account. This institution may not hold more than R10m in deposits from members. They issue shares to members in exchange for funds, they accept deposits from members and advance loans to members, and members share in the profits.

[1] Stokvel
[2] Savings and credit cooperative
[3] Financial services cooperative
[4] Friendly society
[5] Mutual bank

B17 Consider the following instrument:

Bankers' acceptance

Nominal value: R1 000 000
Issue date: 1 June 2008
Expiry date: 31 August 2008

On 23 July this bankers' acceptance trades in the secondary market at a discount rate of 11,5%. There are 52 days from 1 June 2008 to 23 July 2008, and 39 days from 23 July 2008 to 31 August 2008. The consideration paid on 23 July 2008 is …(rounded to the closest rand).

[1] R1 000 000
[2] R987 712
[3] R885 000
[4] R983 616

B18 Consider the following instrument:

Negotiable certificate of deposit

Nominal value: R2 000 000
Issue date: 15 June 2008
Term: 90 days
Maturity date: 13 September 2008
Interest rate: 12,350%

On 15 June 2008 the buyer paid … (rounded to the closest rand) for it.

[1] R2 247 000
[2] R2 060 904
[3] R2 000 000
[4] R1 939 096

B19 Consider the following instrument:

Bond X

Nominal value: R10 000 000
Issue date: 1 January 2005
Maturity date: 31 December 2025
Coupon rate: 9,50%
Coupon payment dates: 30 June and 31 December

The bond register closes one month before the coupon payment date.

Bond X belongs to BEST Bank. On 30 June 2008 Bond X is used as the underlying instrument in a repurchase agreement with the central bank at an interest rate of 12% per annum. In accordance with the repurchase agreement BEST Bank has to buy the instrument back in 7 days (on 7 May 2008). The information about the market price of the bond is as follows:

30 June 2008: R95,55%
7 July 2008: R96,60%

On 7 July 2008 BEST Bank will pay…to the central bank.

[1] R10 023 014
[2] R10 000 000
[3] R9 660 000
[4] R9 576 990
[5] R9 572 408

Questions B20 and B21 are based on the following instrument:

Bond A

Nominal value: R1 500 000
Issue date: 1 January 2000
Maturity date: 31 December 2020
Coupon rate: 15,5%
Coupon payment dates: 30 June and 31 December

The bond register closes one month before the coupon payment date.

B20 This bond will trade ex interest on …

[1] 15 January
[2] 15 May
[3] 15 July
[4] 15 November
[5] 15 December

B21 This bond was traded in the secondary market on two occasions, namely 15 December 2007 and 15 May 2008. The particulars on the two dates were as follows:

15 December 2007	**15 May 2008**
Yield: 14,5%	Yield:16,5%

(a) On 15 December 2007 the bond traded at a discount.
(b) On 15 December 2007 the bond traded at a premium.
(c) On 15 May 2008 the bond traded at a discount.
(d) On 15 May 2008 the bond traded at a premium.

[1] a c
[2] a d
[3] b c
[4] b d

B22 A bankers' acceptance is issued by …and is …instrument.

[1] a bank; a discount
[2] a bank; an interest add-on
[3] an ultimate borrower; a discount
[4] an ultimate borrower; an interest add-on
[5] an intermediary; a discount

B23 The government issues Treasury bills to …

[1] increase the money market deficit.
[2] finance a short-term deficit.
[3] finance long-term capital projects.
[4] influence the short-term interest rate level in the country.
[5] influence the exchange rate of the domestic currency.

B24 If a foreign exchange dealer quotes a price of EUR/USD 1,5591/1,5691 and the client wishes to sell USD 10 million and buy EUR, how much EUR will the client receive?

[1] EUR 6 373 080
[2] EUR 6 413 957
[3] EUR 15 591 000
[4] EUR 15 691 000

B25 We say an option is out-of-the-money when …….

[1] the strike price of a call option is lower than the current market price of the underlying instrument.
[2] the strike price of a put option is lower than the current market price of the underlying instrument.
[3] the strike price of a put option is higher than the current market price of the underlying instrument.
[4] the strike price of a put option is equal to the current market price of the underlying instrument.
[5] the strike price of a call option is equal to the current market price of the underlying instrument.

5.2 Guidelines for answering question 1 in section A of the October/November 2008 examination paper

(a) Lenders require investment in instruments with characteristics that differ from those that borrowers tend to issue. √
Different in terms of size, term to maturity, quality, liquidity, and so on. √
Financial intermediaries create markets in two types of instruments:
- Issue claims against themselves tailored to the needs of lenders (indirect securities) √
- Acquire claims against borrowers (primary securities)√ (4)

(b) Banks provide loans to borrowers – create an asset (loan account for the borrower). √
Create a deposit (liability) equal to the amount of the loan. √
Deposits form part of money supply, thus money has been created. √
Banks are the only institutions whose liabilities (deposits) are generally accepted as payment, therefore banks are unique. √ (4)

(c) **Risk management** (with description √):
Ensures that banks have proper procedures and information to determine and manage the various risks to which they are exposed.

Balance sheet requirements:

- **Share capital and reserves** (with description √):
  - First line of defence if losses are incurred.
  - Determined by the corresponding level of risk.
  - Half of required capital must consist of primary share (tier-one) capital and unimpaired reserve fund; the other half may include secondary share (tier-two) capital and unimpaired reserve funds.

- **Liquid asset requirements** (with description √):
  - 5% of average daily amount of total liabilities to the public
  - Minimum balance on a certain day not less than 75% of the total required liquid reserves
  - Include (any two√√)
    - SARB notes and coins in a bank's vault and ATMs
    - gold coin and bullion
    - clearing account balances held with the SARB
    - treasury bills issued by the government
    - SARB securities
    - short-term Land Bank bills
    - government bonds

- **Cash reserve requirement** (with description √):
  - 2,5% of total liabilities to the public.
  - Vault and ATM cash gradually reduced until August 2004, now none of it qualifies as required cash reserves.√

- **Large credit exposures** (with description √):
  - Loans exceeding 10% of banks' capital and reserves must be approved by board of directors.

- Loans exceeding 25% of banks' capital and reserves must be reported to Registrar of Banks. (Any one of the two√)

You will note that there are more than six marks; any six were acceptable. (6)

(d) Banks tender for amount of liquidity required. √
SARB allot total accommodation provided on a certain day pro rata according to tendered amounts. √
Accommodation provided at repo rate. √
Accommodation provided by means of repurchase transactions: √
Banks sell certain assets at market value to SARB for seven days and then buy it back for market value of first leg plus interest at repo rate. √
Assets that can be used for repurchase transactions with SARB: SARB debentures, Treasury bills, Land Bank bills, government bonds. (Any one √) (6)

(e) (i) Lower interest rates → credit cheaper → demand for credit increases → investment and consumption increase → increase in demand → increase in production. √ √ √

(ii) Low interest rates which are used to prevent a recession (stimulate the economy) may be inflationary. To fight inflation high interest rates are needed which may lead to a lack of aggregate demand and therefore to a recession.
√ √ (5)

5.3 Answers to the multiple-choice questions in section B of the October/November 2008 examination paper

Question	Answer	Question	Answer
B1	3	B14	3
B2	3	B15	1
B3	4	B16	3
B4	3	B17	2
B5	2	B18	3
B6	1	B19	4
B7	5	B20	5
B8	5	B21	3
B9	3	B22	3
B10	3	B23	2
B11	4	B24	1
B12	3	B25	2
B13	3		

We wish you all the best with your studies.

Your lecturers

Mrs CJ van Zyl
Tel: 012 429 4405
Fax: 012 429 3433
E-mail:vzylcj@unisa.ac.za

Mr E Ziramba
Tel: 012 429 4486
Fax: 012 429 3433
E-mail: zirame@unisa.ac.za