

Tutorial Letter 201/2/2014

Monetary Economics III

ECS3701

Second Semester

Department of Economics

This tutorial letter contains important information about your module.

Bar code

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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 and broad knowledge of the entire body of study material.

In this tutorial letter we provide the answers to the multiple-choice questions in the assignments, with brief explanations where necessary. The comments refer to the 10th edition of Mishkin's *The Economics of Money, Banking and Financial Markets* (the prescribed book for this module) or the Study Guide.

If possible, please visit the ECS3701 website on myUnisa. We regularly place extracts from other sources there that you might find interesting and also make recommendations concerning topics of discussion associated with these extracts. This will be a good way to practice answering insight questions in the examination. Note that these additional resources are not prescribed for examination purposes, but it does offer an alternative way of engaging with some of the topics.

Read section 1 of this tutorial letter very carefully because it deals with the examination. It contains important information. We have included the May/June 2014 examination paper in section 4.1 (May/June and October/November 2013 are also available on myUnisa). Remember that the examination is about one month away. Try to adhere to the study programme provided in Tutorial Letter 101 and make sure to leave enough time for revision, especially if you are writing other exams as well.

1. THE OCTOBER/NOVEMBER 2014 EXAMINATION

The explanation of the examination system is set out on pp.10-12 of Tutorial Letter 101/2014 (section 8), which covers among others the weighting of your year and examination marks as well as further information.

The October/November 2014 examination paper consists of two sections:

Section A: Section A contains only compulsory questions that all students have to answer. It consists of short and discussion-type questions that cover the whole syllabus. Section A counts 40 marks.

Section B: Section B consists of four questions of 20 marks each. You have to answer three out of the four questions, for a total of 60 marks. These questions might be a combination of short questions and longer/essay questions.

Total marks: 100

Total time: Two hours.

To ensure that you are well-prepared for the paper we strongly recommend that you work through the self-study questions in your study guide. These questions appear at the end of each chapter, and serve as checkpoints. You should use these questions to test your understanding once you have finished working through the prescribed material of a specific chapter, and should also be studied as part of your exam revision. Do not try to memorize the entire body of prescribed material. We want you to understand the work and be able to critically engage with the material.

Please note that all of the written material is prescribed. A mistake that students always make in this module – given its optional questions in the exam – is to not study certain sections, thinking that they will just answer those other sections that they have studied or understood well. Unfortunately it might happen that you are forced to choose between two or three sections, none of which you have studied well, come exam time... Also note that the compulsory section A can include questions from the entire syllabus (not just e.g. short questions from the first three chapters), so rather be safe and don't leave out sections.

2. DISCUSSION OF ASSIGNMENT 01/2014

11. See Figure 3 on p.50 of Mishkin.

The correct option is [4].

12. The CPI is the aggregate price level measure used to calculate inflation.

The correct option is [1].

13. Indirect finance involves the flow of funds through an intermediary (Mishkin p.78). Options [1] – [3] are all examples of direct finance, and option [4] is the only example of funds flowing through an intermediary (the mutual fund).

The correct option is [4].

14. According to Mishkin (p.72), money market instruments “undergo the least price fluctuations and so are the least risky investments” and subsequently “corporations and banks actively use the money market to earn interest on surplus funds that they expect to have only temporarily”.

The correct option is [2].

15. Treasury bonds are the most widely traded bonds in the US (Mishkin. p.76), and therefore the most liquid in the context of the capital market.

The correct option is [1].

16. Mishkin (p.83) explains how economies of scope “can lower the cost of information production for each service by applying one information resource to many different services”.

The correct option is [1].

17. When a financial institution provides multiple services it is possible that some objectives might conflict (Mishkin p.83). Auditors check the books of companies and monitor the quality of information produced by firms to reduce the information asymmetry between the firms’ managers and its shareholders. However, auditors might be willing to skew their judgments and opinions to win favours (such as consulting business) from these same clients, leading to biased audits and incorrect information (such as the case of the accounting firm Arthur Andersen). They might also be unwilling to criticise their non-audit counterparts on their systems or financial strategies. This is an example of moral hazard.

The correct option is [3].

18. See Mishkin pp.83-87 for an explanation of the various types of financial intermediaries.

The correct option is [2].

19. Only one of the functions of money is its store of value function. People still need to make transactions, and, even though money is not the only thing accepted in exchange, its extreme liquidity still makes it desirable during inflationary times.

The correct option is [4].

20. Commodity money is money made up of precious metals or another valuable commodity (Mishkin p.98).

The correct option is [4].

21. Fiat money is paper currency declared as legal tender by governments (Mishkin p.98). While paper money is obviously significantly lighter than commodity money, it can be easier to counterfeit.

The correct option is [1].

22. M2 includes M1 plus short- and medium-term deposits (SG p.13). These deposits can be turned into cash relatively easily, and are therefore highly liquid.

The correct option is [2].

23. PV is calculated using the formula on Mishkin p.110. In this example,

$$PV = \frac{500,000}{(1 + 0.05)^2} = 453,514$$

The correct option is [3].

24. See the discussion on the coupon bond on Mishkin p.111.

The correct option is [2].

25. The calculation from Q1.24 above implies that

$$CP = 1,000 \times \frac{3.75}{100} = 37,50$$

The correct option is [4].

- 26.

$$i = \frac{60}{1,000} \times 100 = 6\%$$

The correct option is [2].

27. From equation (3) on Mishkin p.115 and Table 1 on p.116, it is clear that the price of a coupon bond is inversely related to the interest rate (yield to maturity).

The correct option is [4].

28. For the yield to maturity to equal the coupon rate, the bond price needs to be at its par value. Consider a one-year coupon bond with a coupon rate of 10% and face value of R1,000. This implies a cash flow in one year of R1,100. From equation (3) on Mishkin p.115, applied to only one year, the par value can be calculated as

$$P = \frac{C}{1+i} = \frac{1,100}{1+0.1} = 1,000$$

However, if the bond sells above its par value (e.g. at R1,050), the yield to maturity on this bond will be calculated as

$$1,050 = \frac{1,100}{1+i}$$

Clearly, $i = 4.8\%$, which is below the coupon rate of 10%.

The correct option is [2].

29. A 12% coupon bond with a face value of \$5,000 implies a cash flow of \$5,600 in one year's time. Solving for i as in Q1.28 above yields

$$4,500 = \frac{5,600}{1+i}$$

$i = 24.4\%$.

The correct option is [2].

30. Mishkin (p.121) explains that "the only bond whose return equals the initial yield to maturity is one whose time to maturity is the same as the holding period".

The correct option is [2].

31. An expected increase in the gold price will lower the expected return on housing relative to gold (Mishkin pp.130-132). Subsequently, the demand for houses will decrease.

The correct option is [4].

32. See Mishkin pp.133-134. The lower the price of a bond the higher the quantity demanded; therefore there is an inverse relationship between the price and quantity demanded of bonds.

The correct option is [1].

33. See Mishkin pp.134-135. The higher the price of a bond the higher the quantity supplied; therefore there is direct relationship between the price and quantity supplied of bonds.

The correct option is [4].

34. An interest rate above the equilibrium interest rate is equivalent to a price below the equilibrium price. Quantity demanded will exceed quantity supplied (i.e. a situation of excess demand), and the bond price will rise until it reaches equilibrium. See Mishkin p.135.

The correct option is [3].

35. A decrease in the riskiness of an asset will increase demand for this asset and shift the demand curve to the right. Furthermore, this will lower the demand for alternative or substitute assets, and will lead to the demand curve of the alternative asset shifting to the left.

The correct option is [3].

36. An increase in the riskiness of corporate bonds will shift the bond demand curve to the left. This will lead to a fall in the price, but an increase in the yield, *ceteris paribus*.

The correct option is [4].

37. A decrease in the riskiness of corporate bonds will increase the demand for corporate bonds, shifting the demand curve to the right and increasing the price. According to Mishkin (pp.130-132), a decrease in the riskiness of alternative assets will lower the demand for an asset. In this case, the decrease in riskiness of corporate bonds (the alternative asset to treasury bonds) will reduce the demand for treasury bonds, shifting the demand curve for treasury bonds to the left, and reducing the price of treasury bonds.

The correct option is [4].

38. A decrease in default risk on corporate bonds increases demand for these bonds (Mishkin pp.130-132). This will lead to demand for the alternative asset (default-free bonds) falling.

The correct option is [4].

39. An increase in liquidity will increase demand for this asset, leading to a rightward shift in its demand curve. At the same time, demand for alternative or substitute assets will fall, leading to a leftward shift in their demand curves.

The correct option is [1].

40. See Mishkin pp.165-167 and the "Application" box on p.167.

The correct option is [4].

3. DISCUSSION OF ASSIGNMENT 02/2014

1. This is the first of the eight basic facts about financial structure (Mishkin p.204).

The correct option is [1].

2. See Mishkin pp.204-206 for the eight basic facts about financial structure.

The correct option is [3].

3. The purpose of financial regulation is to promote the provision of information in order to reduce asymmetric information problems (Mishkin pp.210-212).

The correct option is [1].

4. Mishkin (p.214) defines collateral as “property promised to the lender if the borrower defaults”. Collateral can be sold to recover losses due to default.

The correct option is [3].

5. According to Mishkin (p.211), “the free-rider problem occurs when people who do not pay for information take advantage of the information that other people have paid for”. The presence of free-riders lowers the incentive for others to research or produce information, and subsequently reduces the efficiency of markets.

The correct option is [2].

6. Advanced economies are not as susceptible to exchange rate instability as developing economies (Mishkin p.249).

The correct option is [2].

7. This process is known as asset transformation and is explained on Mishkin p.269.

The correct option is [1].

8. This is an example of moral hazard, an asymmetric information problem, and is explained on Mishkin p.209.

The correct option is [4].

9. Banks often attempt to outguess the markets by e.g. predicting changes in the value of a financial instrument and then taking a position in anticipation of the price movement. Should their prediction be correct they stand to profit, however, if the gamble does not pay off they can make tremendous losses. See Mishkin p.288-290.

The correct option is [2].

10. See Mishkin p.273.

The correct option is [3].

11. One of the arguments against central bank independence is that policy is under control of an elite group (Mishkin p.363).

The correct option is [4].

12. The six main functions of the SARB are listed on pp.52-54 of the Study Guide. While the SARB can choose to rescue commercial banks from bankruptcy, it certainly does not always do so (the SARB allowed Saambou Bank to fail in 2002).

The correct option is [3].

13. This transaction effectively amounts to an open-market purchase by the SARB from the nonbank public, and is explained in Mishkin pp.382-384. Currency in the hands of the nonbank public will increase, but the net effect on reserves will be zero. Because $MB = C + R$, the monetary base will increase in response to the increase in C .

The correct option is [4].

14. A central bank's assets and liabilities are discussed on Mishkin pp.380-381.

The correct option is [1].

15. Price stability is seen by central bankers as "low and stable inflation" (Mishkin p.434).

The correct option is [4].

16. $M = C + D = 400 + 800 = 1,200$

The correct option is [1].

17. The simple deposit multiplier is given on Mishkin p.391.

$$\frac{1}{r} = \frac{1}{0.05} = 20$$

The correct option is [2].

18. This transaction entails funds flowing from the SARB to the banking sector. Reserves in the banking system will therefore increase (while securities in the banking system will decrease). There is no change to currency, therefore the monetary base will also increase following the increase in reserves (see Mishkin pp.381-382).

The correct option is [2].

19. See Mishkin p.381.

The correct option is [1].

20. According to the money multiplier equation (Mishkin p.397), a rise in the required reserve ratio will reduce the multiplier, leading to a fall in the money supply. See also the example on Mishkin p.399.

The correct option is [3].

21. Accommodation policy involves the SARB providing funds (in the form of borrowed reserves) to commercial banks to assist them in financing the liquidity shortage (SG p.73). (Recall that the SARB uses OMOs to engineer this liquidity shortage in order to compel commercial banks to borrow funds from the SARB at the repo rate. This is done so that the repo rate can serve as a constraint on credit extension and money creation.) Accommodation policy therefore affects borrowed reserves, which in turn affects total reserves, which in turn affects the monetary base ($MB = C + R$, Mishkin p.381).

The correct option is [3].

22. As explained in 2.21, open-market operations affect reserves, which subsequently affect the monetary base. Borrowed reserves, which result from open-market operations, also affect the monetary base through total reserves, and changes in the reserve requirements (or required reserve ratio) will affect the money multiplier.

The correct option is [2].

23. If a bank knows that the central bank will come to its rescue if it gets into trouble, the bank might be willing to take on more risk (Mishkin pp.421-422).

The correct option is [4].

24. Open-market operations only affect the non-borrowed portion of total reserves (see figure 2 on Mishkin p.413 and SG pp.70-73).

The correct option is [4].

25. A decrease in the required reserve ratio will increase the money multiplier, leading to an increase in the money stock (Mishkin p.396-399).

The correct option is [2].

26. According to the Study Guide (p.78), "the success of monetary targets depends on the stable relationship between monetary aggregates and the aggregate price level" (see SG pp.78-83 for a detailed discussion on monetary targeting).

The correct option is [2].

27. Discretionary monetary policy makers are always tempted to pursue short run objectives which could give immediate satisfaction, but which might lead to unfavourable outcomes (such as higher inflation) in the long run. See Mishkin pp.435-436 for a discussion of the time-inconsistency problem. Further reading on the rules vs. discretion debate can be found on Mishkin pp.645-649.

The correct option is [1].

28. The three requirements for a policy instrument is discussed on Mishkin p.457.

The correct option is [4].

29. See the discussion on "Inflation Targeting in New Zealand, Canada, and the United Kingdom" on Mishkin pp.440-442.

The correct option is [3].

30. Mishkin discusses the advantages and disadvantages of inflation targeting on pp.442-444. A clear disadvantage is the fact that the signal is delayed, not immediate.

The correct option is [1].

4. MAY/JUNE 2014 EXAMINATION PAPER

SECTION A (COMPULSORY)

AFDELING A (VERPLIGTEND)

Question 1 [40 marks]

Vraag 1 [40 punte]

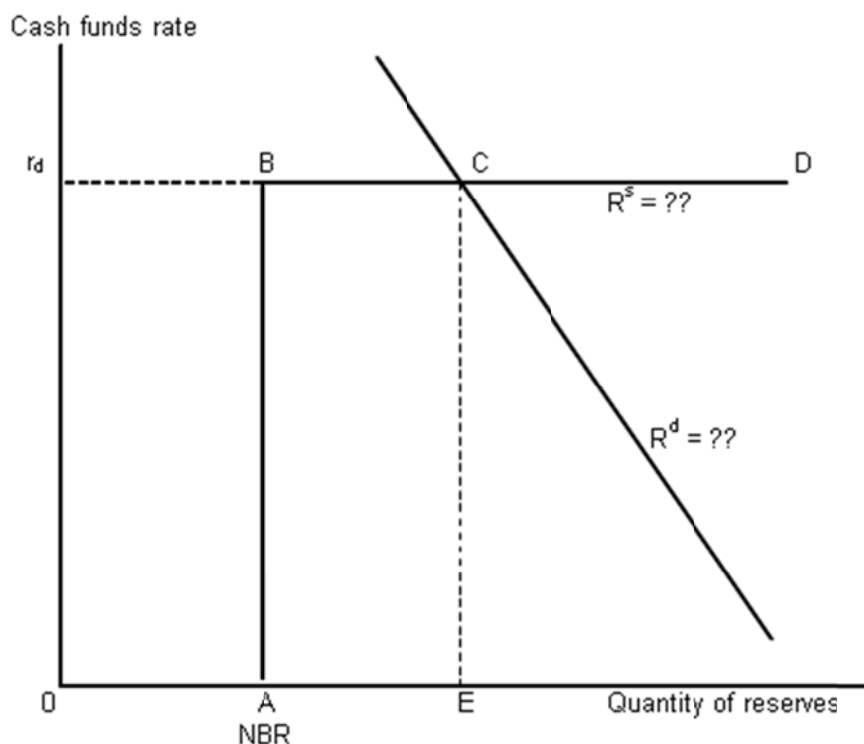
- 1.1 What is the operational instrument of monetary policy in South Africa? [1]
Wat is die operasionele instrument van monetêre beleid in Suid-Afrika?
- 1.2 Distinguish between fiscal policy and monetary policy. [4]
Onderskei tussen fiskale- en monetêre beleid.
- 1.3 Distinguish between the risk structure and term structure of interest rates. [4]
Onderskei tussen die risiko- en termynstruktuur van rentekoerse.
- 1.4 Define the yield curve. [2]
Definieër die opbrengskromme.
- 1.5 Explain how the segmented markets theory suggests that the yield curve generally slopes upward. [3]
Verduidelik hoe die marksegmenteringteorie aan die hand doen dat die opbrengskromme oor die algemeen 'n opwaartse helling toon.
- 1.6 List two ways in which financial intermediaries can reduce transaction costs. [2]
Noem twee wyses waarop finansiële tussengangers transaksiekostes kan verminder.
- 1.7 (i) What is asymmetric information? [2]
Wat is asimmetriese inligting?
- (ii) Explain the meaning of both adverse selection and moral hazard. What is the important difference between the two? [4]
Verduidelik die betekenis van beide ongunstige seleksie en morele gevaar. Wat is die vernaamste verskil tussen die twee?

- 1.8 Keynes identified three motives (factors) behind the demand for money. List these three factors, and explain based on each of them how they predict that both nominal income and interest rates affect the demand for money. [10]

Keynes het drie motiverings (faktore) geïdentifiseer agter die vraag na geld. Noem hierdie drie faktore, en verduidelik aan die hand van elkeen hoedat beide nominale inkome en die rentekoers voorspel word om die vraag na geld te beïnvloed.

- 1.9 The figure below is a graphical representation of the market for bank reserves in South Africa.

Die onderstaande figuur is 'n grafiese voorstelling van die mark vir bankreserwes in Suid-Afrika.



- (i) Give the components of both the supply and demand curves for reserves [4]

Noem die komponente van beide die aanbod- en vraagkrommes na reserwes.

- (ii) Explain briefly how the SARB uses both open-market operations as well as borrowed reserves to conduct monetary policy. [4]

Verduidelik kortliks hoe die SARB ope-mark transaksies sowel as geleende reserwes gebruik om monetêre beleid toe te pas.

SECTION B (OPTIONAL QUESTIONS)

AFDELING B (KEUSEVRAE)

Answer **any three** of the following four questions (**20 marks each**)

Beantwoord **enige drie** van die volgende vier vrae (**20 punte elk**)

Question 2 [20 punte]

Vraag 2 [20 punte]

2.1 What is the primary benefit of holding excess reserves by a bank? [2]

Wat is die primêre voordeel van die opbou van oortollige reserwes deur banke.

2.2 During the Great Depression of 1930 – 1933 and financial crisis of 2007 – 2009, there was an increase in bank panic which led to a monetary contraction, causing a huge fall in the money supply in many economies, including that of South Africa. Assume that, after these crises, depositors were afraid that they would suffer losses on their deposits, and they decided to withdraw their money from their bank accounts. At the same time the Reserve Bank decided to pay banks interest on excess reserves.

Tydens die Groot Depressie van 1930–1933 en finansiële krisis van 2007–2009 was daar 'n toename in bankpaniek wat tot 'n monetêre inkrimping gelei het en wat 'n groot daling in die geldvoorraad in baie ekonomieë, insluitende Suid-Afrika, veroorsaak het. Aanvaar dat, na die krisis, depositohouers bang was dat hulle verdere verliese op hul deposito's sou loop en hulle eerder hul geld uit hul bankrekeninge onttrek het. Terselfertyd het die Reserwebank besluit om rente aan banke te betaal op oortollige reserwes.

(i) Define bank panic [3]

Definieer bankpaniek

(ii) Give a detailed explanation of the effect of these actions (depositors withdrawing their money and increased excess reserves) on the money supply. Make explicit use of the monetary base and the money multiplier to substantiate your answer. [10]

Gee 'n gedetailleerde verduideliking van die uitwerking wat hierdie aksies (deponeerders wat hul geld onttrek en verhoogde oortollige reserwes) op geldvoorraad. Gebruik die monetêre basis en geldvermenigvuldiger om jou antwoord te staaf.

2.3 List the five elements of inflation targeting. [5]

Noem die vyf elemente van inflasietekening.

Question 3 [20 marks]**Vraag 3 [20 marks]**

- 3.1 Explain why the IS-LM model may be regarded as unrealistic. Focus particularly on the interpretation of endogenous and exogenous variables in the ISLM model and on how money supply is determined in South Africa. Which additional assumption regarding the LM curve would improve the relevance of the ISLM model for monetary policy in South Africa? [10]

Verduidelik waarom die IS-LM-model as onrealisties beskou kan word. Fokus veral op die interpretasie van endogene en eksogene veranderlikes in die IS-LM-model en hoe geldvoorraad in Suid-Afrika bepaal word. Watter bykomende veronderstelling oor die LM-kromme sal die toepaslikheid van die IS-LM-model vir die monetêre beleid in Suid-Afrika verbeter.

- 3.2 Explain how each of the following factors affect the money supply:

- (i) changes in borrowed reserves
- (ii) changes in non-borrowed reserves
- (iii) changes in excess reserves
- (iv) changes in required reserves ratio
- (v) changes in currency holdings [10]

Verduidelik hoe elkeen van die volgende faktore die geldvoorraad affekteer:

- (i) veranderinge in geleende reserwes
- (ii) veranderinge in nie-geleende reserwes
- (iii) veranderinge in oortollige reserwes
- (iv) veranderinge in vereiste reserweverhouding
- (v) veranderinge in die hou van kontant

Question 4 [20 marks]**Vraag 4 [20 punte]**

- 4.1 (i) Define the aggregate price level and list two ways in which it is measured in South Africa. [3]

Definiëer die totale prysvlak en lys twee maniere waarop dit in Suid-Afrika gemeet word.

- (ii) How is the M3 monetary aggregate determined in South Africa? List all the components. [5]

Hoe word die M3 geldtotaal in Suid-Afrika bepaal? Skryf al die komponente neer.

- 4.2 Price stability is the primary goal of most central banks. List and explain any four (4) other goals of monetary policy. [12]

Prysstabiliteit is die primêre doelwit van die meeste sentrale banke. Noem en verduidelik enige vier (4) ander doelwitte van monetêre beleid.

Question 5 [20 marks]

Vraag 5 [20 punte]

- 5.1 Is the South African Reserve Bank (SARB) independent? Base your explanation on goal independence and operational (instrument) independence. [10]

Is die Suid-Afrikaanse Reserwebank (SARB) onafhanklik? Baseer u verduideliking op teiken onafhanklikheid en operasionele (instrument) onafhanklikheid

- 5.2 Briefly explain the nature of the time-inconsistency problem in monetary policymaking. What is the role of the nominal anchor in this context? [5]

Verduidelik kortliks wat bedoel word met die tyd-inkonsekwentheidsprobleem in monetêre beleidstelling. Wat is die rol van 'n nominale anker in hierdie konteks?

- 5.3 List any five (5) of the main functions of the South African Reserve Bank (SARB) [5]

Noem enige vyf (5) hoof funksies van die Suid-Afrikaanse Reserwe Bank (SARB).

* * * * *

We wish you all the best with your studies.

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