



FACULTY OF ECONOMIC AND FINANCIAL SCIENCES

DEPARTMENT OF ECONOMICS AND ECONOMETRICS

SUBJECT	FINANCIAL ECONOMICS B	DATE	2015/11/02
CAMPUS	APK	TIME	12:30 – 15:30 (3 Hours)
ASSESSMENT	FINAL EXAMINATION	MARKS	55
EXAMINERS	MS. T.M SIBISI PROF. L BONGA-BONGA	PAGES	2
MODERATORS:	PROF. JWM MWAMBA MR I MHLANGA		

QUESTION 1:

[10]

Suppose the following are the spot price and futures price changes for the past 5 months:

Spot price changes (Rands)	Futures price changes (Rands)
+0.50	+0.56
+0.61	+0.63
-0.22	-0.12
-0.35	-0.44
+0.79	+0.60

- Under what circumstances are (i) a short hedge and (b) a long hedge appropriate? [2]
- Under what circumstances does a minimum hedge ratio lead to no hedge at all? [2]
- If the $\rho = 0.2$, calculate the minimum variance hedge ratio [6]

QUESTION 2:

[6]

A trader buys two July futures contracts on orange juice. Each contract is for the delivery of 15,000 kilograms. The current futures price is 160 cents per kilogram, the initial margin is R6,000 per contract, and the maintenance margin is R4,500 per contract.

- What price change would lead to a margin call? [3]
- Under what circumstances can R2,000 be withdrawn from the margin account? [3]

QUESTION 3:**[12]**

- a) Show that if expectations theory hold and current short-term rates are less than long-term rates, then expected future short term rates will be less than long-term rates as well. [6]
- b) Given the table below, calculate the forward rates for the second, third and fourth quarters.

Maturity (years)	Zero rate (%)
0.25	5.0
0.50	5.8
0.75	6.4
1.00	6.8

[6]**QUESTION 4:****[6]**

Companies A and B have been offered the following rates on a R20 million 5-year loan:

	Fixed rate	Floating rate
Company A	5.0%	JIBOR + 0.1%
Company B	6.4%	JIBOR + 0.6%

Company A requires a floating-rate loan; company B requires a fixed-rate loan. Design a swap that will net a bank, acting as an intermediary. 0.1% per annum and that will appear equally attractive to both companies.

[6]**QUESTION 5:****[6]**

A 1-month European put option on a non-dividend paying stock is currently selling for R2.50. The stock price is R47, the strike price is R50, and the risk-free interest rate is 6% per annum. What opportunities are there for an arbitrageur?

[6]**QUESTION 6:****[15]**

Call options with strike prices R15 and R20, are selling at R5 and R3 respectively. Put options with strike prices R15 and R20 are selling at R3 and R5 respectively. Construct the payoff tables for the following strategies:

- a. A bear spread using call options. [5]
- b. A bull spread using put options. [5]
- c. A straddle using the call and put with strike price R15. [5]