Høgskolen i Østfold

EKSAMEN

Course code: SFB13114	**Course:** Global Markets and Institutions
Date: 14/12/2018	**Duration:** 4 Hours (written examination)
Allowed aids: Pen, pencils, ruler, simple calculator	**Academic responsible:** Imtiaz Badshah
Grading: A-F	**Attachments:** formula sheet

The Examination:

The examination paper consists of 5 pages (including this page) and a Formula sheet (three pages hand written). Please check that the examination papers are complete before you start answering the questions.

The school exam entails 5 (five) problems. Each problem comprised of several parts. All problems (and all parts) should be answered/solved.

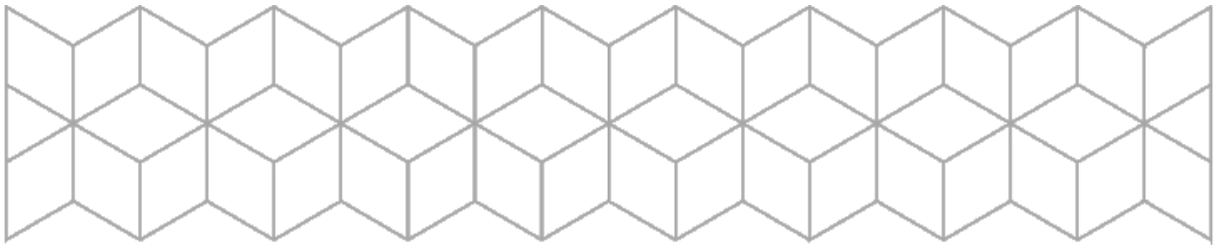
Please start answering each problem on a NEW page.

Read the text relating to each problem carefully. If something is unclear, you have to make realistic assumptions about how you understand the problem and how you decide to solve the problem. Any such assumptions must be clearly outlined.

Grading Deadline: 04/01/2019

The examination results are available on the Studentweb.

LYKKE TIL/ BEST OF LUCK!



Problem 1 (20 %)

A: Assume you just deposited $1,000 into a bank account. The current real interest rate is 2% and inflation is expected to be 6% over the next year. What nominal interest rate would you require from the bank over the next year? How much money will you have at the end of one year? If you are saving to buy a stereo that currently sells for $1,050, will you have enough to buy it?

B: Risk premiums on corporate bonds are usually anticyclical; that is, they decrease during business cycle expansions and increase during recessions. Why is this so?

C: Consider the following two companies and their forecasted returns for the upcoming year:

		Fly-by-Night	Feet-on-the Ground
Outcome A	Probability	50%	100%
	Return	15%	10%
Outcome B	Probability	50%	
	Return	5%	

What is the standard deviation of the returns on the Fly-by-Night Airlines stock and Feet-on-the-Ground Bus Company, with the return outcomes and probabilities described above? Of these two stocks, which is riskier?

Problem 2 (20 %) (Start on a new page)

A: "The independence of the Fed has meant that it takes the long view and not the short view." Is this statement true, false, or uncertain? Explain your answer.

B: The short-term nominal interest rate is 5% with an expected inflation of 2%. Economists forecast that next year's nominal rate will increase by 100 basis points, but inflation will fall to 1.5%. What is the expected change in real interest rates?

C: What procedures can the Fed use to control the three-month Treasury bill rate? Why does control of this interest rate imply that the Fed will lose control of the money supply?

Problem 3 (20 %) (Start on a new page)

A: Why do businesses use the money markets?

B: The price of $8,000 face value commercial paper is $7,930. If the annualized discount rate is 4%, when will the paper mature? If the annualized investment rate % is 4%, when will the paper mature?

C: Consider the two bonds described below:

	Bond A	**Bond B**
Maturity	15 years	20 years
Coupon Rate (Paid semiannually)	10%	6%
Par Value	$1000	$1000

a. If both bonds had a required return of 8%, what would the bonds' prices be?

b. Describe what it means if a bond sells at a discount, a premium, and at its face amount (par value). Are these two bonds selling at a discount, premium, or par?

c. If the required return on the two bonds rose to 10%, what would the bonds' prices be?

Problem 4 (20 %) (Start on a new page)

A: What is the purpose of requiring that a borrower make a down payment before receiving a loan?

B: If the bank you own has no excess reserves and a sound customer comes in asking for a loan, should you automatically turn the customer down, explaining that you don't have any excess reserves to loan out? Why or why not? What options are available for you to provide the funds your customer needs?

C: NewBank started its first day of operations with $6 million in capital. $100 million in checkable deposits is received. The bank issues a $25 million commercial loan and another $25 million in mortgages, with the following terms:

- mortgages; 100 standard 30-year, fixed-rate with a nominal annual rate of 5.25% each for $250,000.

- commercial loan: 3-year loan, simple interest paid monthly at 0.75%/month.

If required reserves are 8%, **what does the bank balance sheets look like?** Ignore any loan

loss reserves.

Moreover, NewBank decides to invest $45 million in 30-day T-bills. The T-bills are currently trading at $4,986.70 (including commissions) for a $5,000 face value instrument. **How many do they purchase? What does the balance sheet look like?**

Problem 5 (20 %) (Start on a new page)

A: On January 1st, a mutual fund has the following assets and prices at 4:00 p.m.:

Stock	Shares Owned	Price
1	1,000	$ 1.97
2	5,000	$48.26
3	1,000	$26.44
4	10,000	$67.49
5	3,000	$2.59

Calculate the net asset value (NAV) for the fund. Assume that 8,000 shares are outstanding for the fund.

Next, an investor sends the fund a check for $50,000. If there is no front-end load, **calculate the new number of shares and price/share**. Assume the manager purchases 1,800 shares of stock 3, and the rest is held as cash.

B: Kio Outfitters estimated the following losses and probabilities from past experience:

Loss	Probability
$ 30,000	0.25%
$ 15,000	0.75%
$ 10,000	1.50%
$ 5,000	2.50%
$ 1,000	5.00%
$ 250	15.00%
$ 0	75.00%

What is the probability Kio will experience a loss of $5,000 or greater? If an insurance company offers a loss policy with $1,500 deductible, what is the most Kio will pay?