CECN506 Assignment W2019

Due June 10, 2019 at 11:59pm

Last Name: _____

First Name: _____

Student Number: _____

Submission Information: Your completed assignment should be submitted via the Assignment Packet #1 dropbox (in the Assessments area of the course). The deadline for submission is 11:59pm EST.

***The assignment must be submitted as a single PDF file. No other file format will be accepted (so no WORD or other formats will be accepted).

Note: This assignment is being marked on: **Neatness, Orderliness, Correct-ness, Completeness and Succinct-ness**. Any egregious disregard for any one of these measures may result in significant penalties including a **zero grade**. Since these measures have subjective elements, consider erring on the side of caution.
I strongly urge using the assignment document itself (space provided) for solving the questions to keep your assignment neat and organized. You can solve the assignment with the computer or by hand, but regardless you need to show your work and present neat and organized solutions.

Note: No (photo- or identical) copies accepted. Do your own work!!
Each question is worth equal marks out of the 30 total marks for the assignment.

Chapter 3 (Module 2): 10 marks

Suppose you purchase 5-year annual coupon bond in the primary market. The face value of the bond is $10,000. The current risk-adjusted interest rate is 2%. The bond belongs to an asset class appropriated a 3% risk premium.

a) After a year has passed, you collect your coupon payment. At that point, a new investment becomes available to you and you decide to sell your bond in the secondary market. By the time of the sale, the economic outlook has improved and the risk-free rate has risen to 1 %. What was your one-year rate of return for the one-year period you held the bond?

b) Now put yourself in the shoes of the buyer of the bond from part (a). The buyer holds the bond for one year and then immediately after collecting the coupon payment, she decides to sell the bond as well. By this time, although the risk-free rate remains steady at 1%, the risk-premium has increased to 4%. What was her one-year rate of return for the one-year period she held the bond?

Chapter 4 (Module 3): 10 marks

Our end-goal with this question is to derive the expected inflation rate is for the economy described below.
We'll start with the Money Supply and Money Demand curves.
$M^S = 1000$
$M^D = P*L(Y_{+},i_{-})$, where L(Y,i) is known as the Liquidity function
The description above says that, all else equal, money demand:

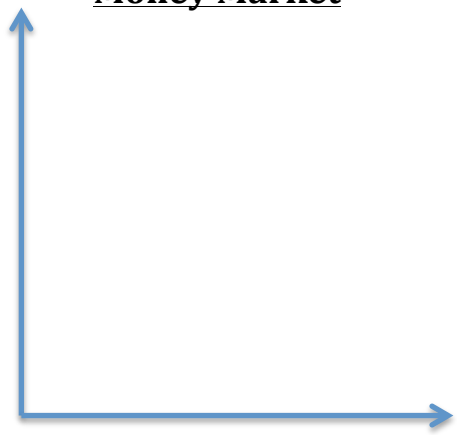
- changes one-to-one with price level (if the price increases by 10% then, all else equal, a person requires 10% more money)
- is positively correlated with real GDP, Y (though not necessarily one-to-one)
- is inversely correlated with the nominal interest rate

Suppose the price level in the economy is 2, real GDP is 1250 and Liquidity function is described as $L(Y,i) = (Y/10)^{1/3}/i^2$

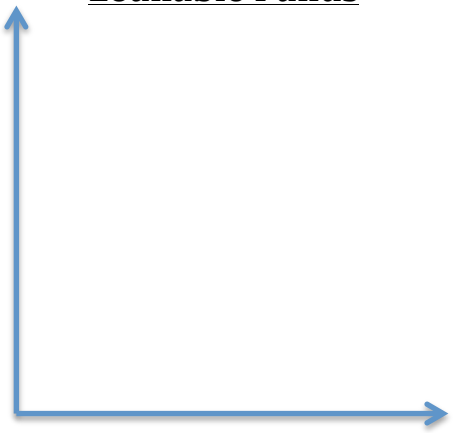
The Supply of Savings curve and Investment Demand curves in the economy are described as:
$S = S^{DOM} + NCI$
$I^D = K^f - (1-d)K^0$, where K^0 is the period's starting level of capital, K^f is the future capital requirement, and d is the depreciation rate of capital.
The equation for the Investment Demand function above suggests that required Investment has to compensate for depreciated capital as well as increased capital needs going forward.
$S^{DOM} = 160 + 1500r$
$NCI = 200 + 2500r$
$K^f = 5000 - 10000r$; $K^0 = 4750$; d = 20% (use d=0.20 in the equation!)

Use all the information above to figure out the expected inflation rate in the economy. Draw the Money Market graph and the Loanable Funds Market graph below. Mark the axes. Point out the equilibria and equilibria values. You do not need to find intercepts.

Money Market



Loanable Funds



Expected Inflation Rate = ____ % (Note, if you didn't get a 'clean' integer here then you made an error.)

Show all your work here:

Solving the money market

Solving the loanable funds market

Chapter 6 Module (4): 10 marks

As a Canadian Saver, you intend to invest $50,000 in one of the three investments described below. The world risk-free rate is 1%. There is a 2% risk-premium on the Canadian discount bond but a Brasilian discount bond has a risk-premium of 6%. The current nominal Cad-Brasilian exchange rate is $e_{CAD} = 3$ (Reals per Cad dollar). Before the pay-out next period, you expect the Real to depreciate relative to the Cad$ to a new nominal exchange rate, $e^{future} = 4$. Your third alternative is to buy a condo in Florida. The current nominal Cad-US exchange rate is $e_{CAD} = 0.75$ ($\$^{US}$ per Cad dollar). You expect the condo to increase in resale value by 20% but you also forecast the exchange rate to rise to $e_{CAD} = 0.80$.

Based on your forecast, what is the expected rate of return (% yield) on each investment (correct to one decimal place is fine)? For simplicity assume zero transaction costs.

% return on Cad Bond: _____

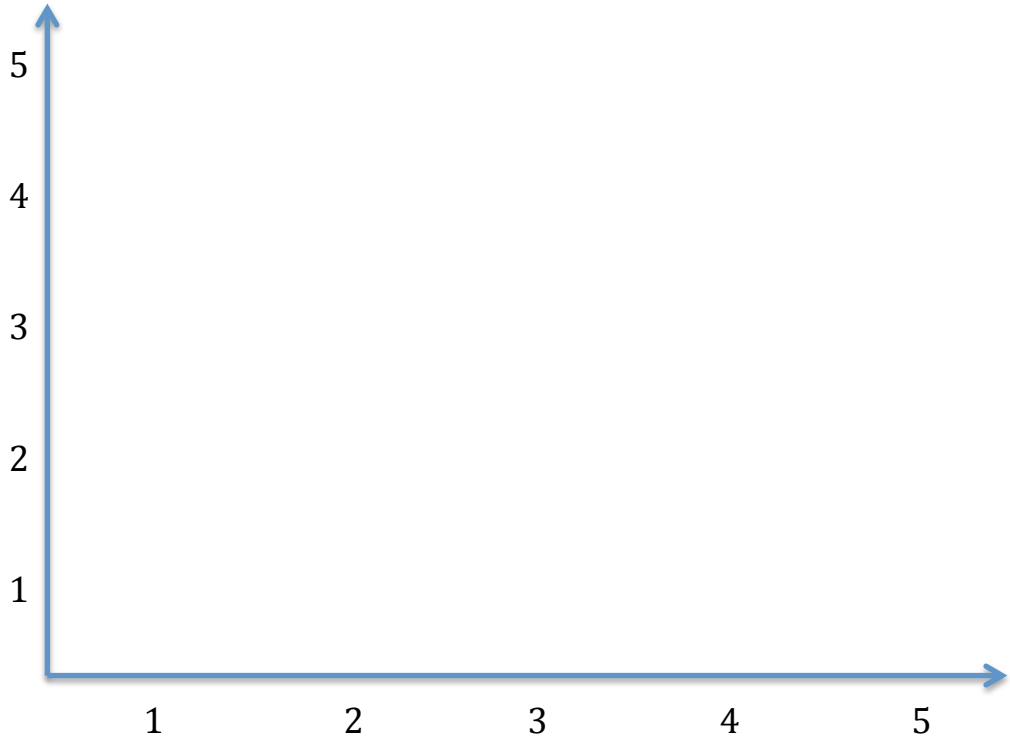
% return on Brasilian Bond: _____

% return on Florida Condo: _____

Show work below:

BONUS QUESTION (5 marks, up to a maximum of 30/30):

Draw the yield curve described as follows:
Interest rates: 3% in year 1, 2.75% in year 2, 2.5% in year 3, and 3% in year 4.
Term premiums: 1% for a one-year bond, rising by 0.25% for each additional year of maturity.



Mark the axes above clearly indicating what the axes measure and what the exact value of the important points are.

The yield curve above suggests which of the following is the predominant short to medium-term economic outlook among market participants? (circle the one you think is most appropriate)
strong recovery, weak recovery, stable growth, recession