DEPARTMENT OF ECONOMICS AND FINANCE
College of Management and Economics

ECON*3960 – Money, Credit and the Financial System

Winter 2018 - Midterm #1

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NAME: ANSWER KEY ID#: _____

Question:

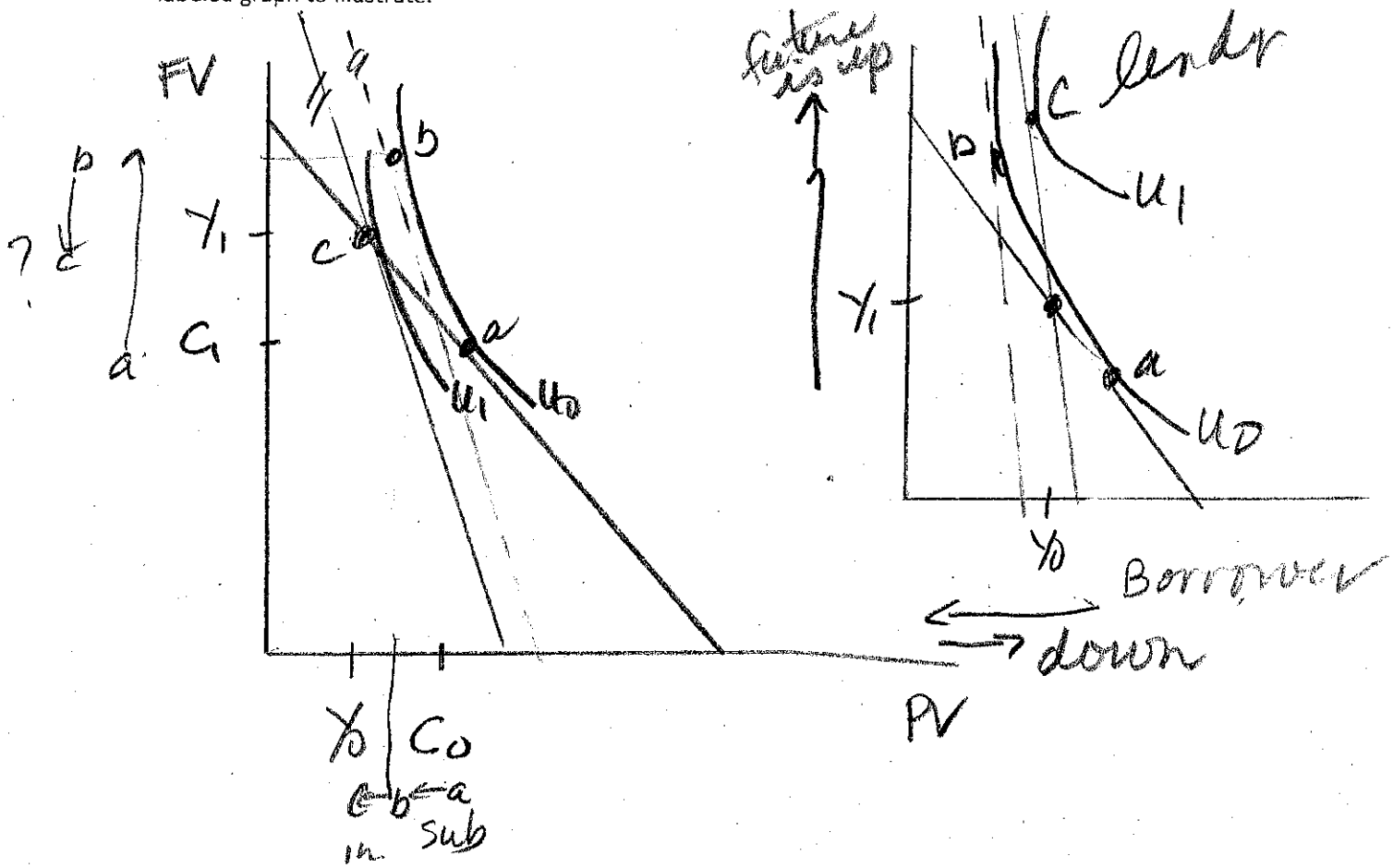
1. _____
2. _____
3. _____
4. _____

Total: _____

1) Write a brief essay about which compares and/or contrasts the US and Canadian banking system.

2pts thesis specific + clever
6pts facts
2pts spelling, grammar, paragraphs. flow

2) Suppose Mary is a borrower. Is it possible for Mary to become happier if interest rates increase? Show using income and substitution effects, the impact on current and future consumption using a well labeled graph to illustrate.



A. If she stays a borrower → NO

inc + sub → same present consumption

income + sub opp future consumption

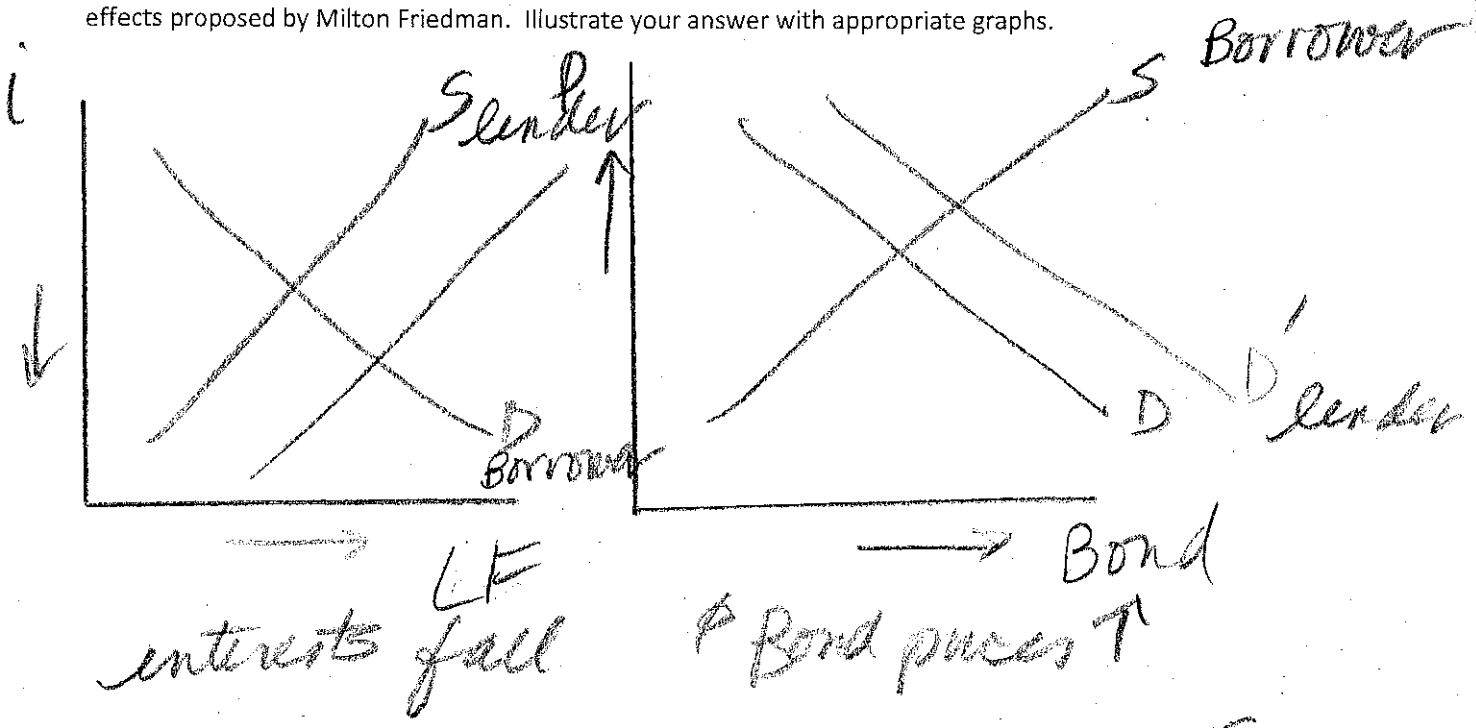
B. If she becomes a lender → yes

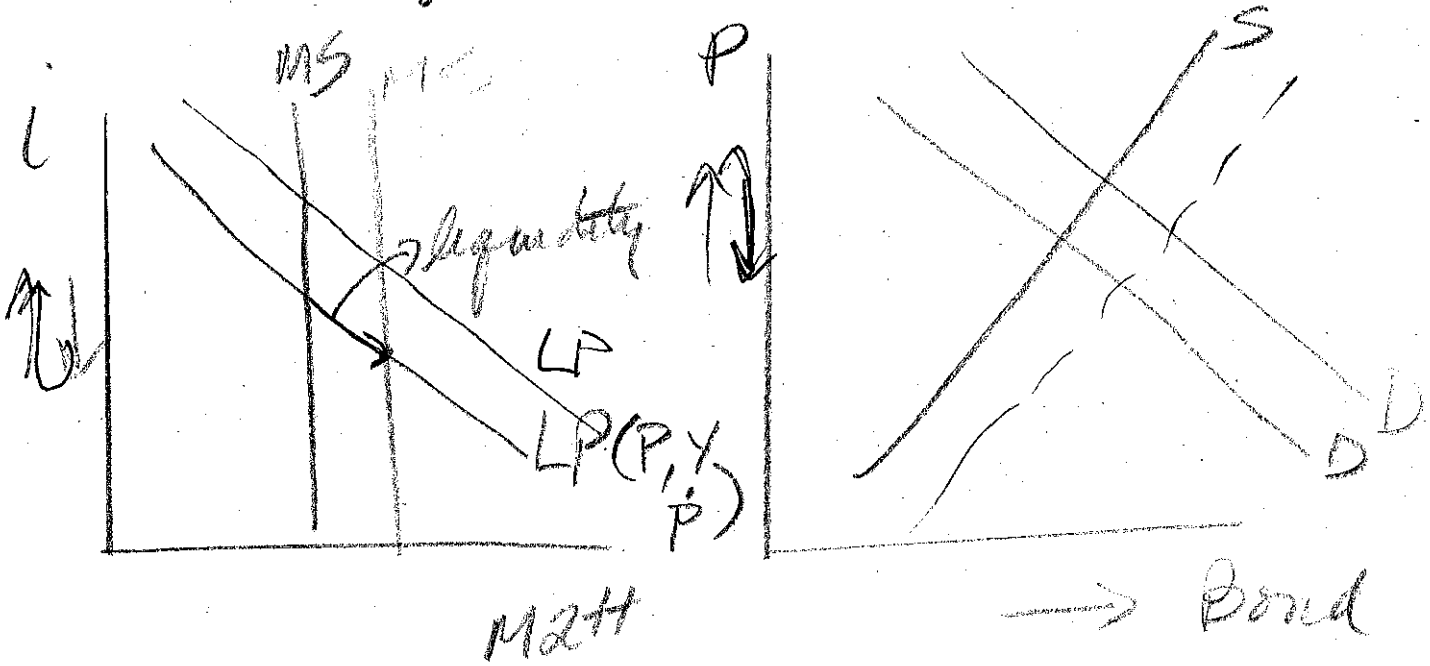
inc + sub → future ↑

inc + sub opposite but sub > inc ∴ current C ↓

5+5

3) Using the loanable funds model, show what happens to the bond market if the central bank increases the money supply. Compare this result to Keynes' Liquidity preference model including the secondary effects proposed by Milton Friedman. Illustrate your answer with appropriate graphs.





M2↑
money
people want to hold more money when interests fall

↑MS → ↓i → ↑I → ↑Y, ↑P ↑PL → ↑MD

4) A) Find the yields on the following assets in your portfolio: (Show all calculations)

i) A $100 consol bond (perpetuity) which sells for $2352.94

(2)

$$2352.94 = \frac{100}{i} \qquad i = \frac{100}{2352.94}$$

$$= 4.25\%$$

20+20 20 periods

ii) A $40 coupon bond with 10 years left to maturity and currently sells for $1030 (you can use the approximation method)

$$\$1030 = \frac{40}{i}\left(1 - \frac{1}{(1+i)^{10}}\right) + \frac{1000}{(1+i)^{10}}$$

(2)

$$\text{approx} = \frac{40 + \frac{(\text{FACE} - \text{Price})}{10}}{\frac{1030+1000}{2}} = \frac{40 + \frac{(1000-1030)}{10}}{1015} = \frac{40-3}{1015} = 3.65\%$$

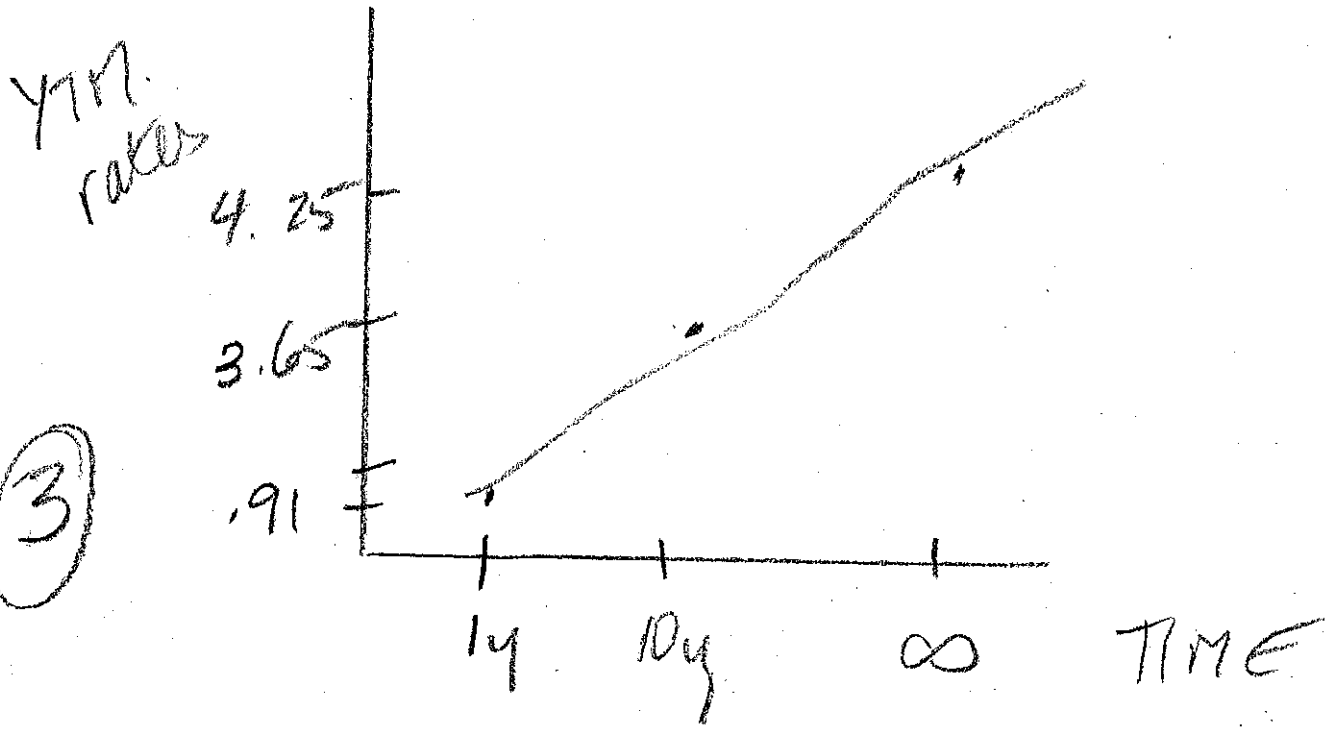
iii) A T-Bill which sells for $990.99

$$990.99 = \frac{1000}{(1+i)^1} \qquad (1+i)^1 = \frac{1000}{990.99}$$

(2)

$$i = \frac{1000}{990.99} - 1 = .91\%$$

B) Draw the yield curve.



(3)

C) Suppose the interest rate on 10 year bonds becomes 5%. What is the new price for the bond? Show the formula and put the numbers into the correct spot.

Coupon Bond.

$$P = \frac{40}{.05}\left(1 - \frac{1}{1.05^{10}}\right) + \frac{1000}{1.05^{10}}$$

(1) $= 922.78$

Strip Bond, Zero coupon Bond

$$P = \frac{1000}{1.05^{10}}$$

613.913