**TCHE 303 – MONEY AND BANKING**

**TUTORIAL ASSIGNMENT 4**

1. What is a “junk bond”? **The bond with high level of default risk** If junk bonds are “junk,” then why do investors buy them? **High risk, high return**
2. Which should have the higher risk premium on its interest rates, a corporate bond with a Moody’s Baa rating or a corporate bond with a C rating? Why? **A corporate bond with a C rating should have the higher risk premium on its interest rate, because it has high level of default risk, so this amount of risk premium is promised to compensate for the holders in case of that corporate is uncapable of paying the bond.**
3. Why do U.S. Treasury bills have lower interest rates than large-denomination negotiable bank CDs? **T-bills is a default-free instrument as it is backed by the government. In contrast, CDs issued by banks carry a small degree of risk as they are not backed by the government. Therefore, banks must offer higher interest rates to compensate for the additional risk. Moreover, T-bills have higher liquidity than CDs, so lower interest rate.**
4. In the fall of 2008, AIG, the largest insurance company in the world at the time, was at risk of defaulting due to the severity of the global financial crisis. As a result, the U.S. government stepped in to support AIG with large capital injections and an ownership stake. How would this affect, if at all, the yield and risk premium on AIG corporate debt? **With government intervention, default risk falls, lower interest rate/yield, risk premium decreases as well (a smaller premium to compensate)**
5. Risk premiums on corporate bonds are usually anticyclical; that is, they decrease during business cycle expansions and increase during recessions. Why is this so? **Expansion, corporates do business well, capable of service debts, low default risk, low risk premium. Recession, unable to repay the full principle of the debt, high default risk, high risk premium.**
6. What is “flight to quality”? Give an example. **“Flight to quality” is the increasing spread between investment grade bonds (less risky) and junk bonds (risky). Example: Baa bonds vs C bonds; Treasury bonds vs Baa bonds. In recession, this spread increases because people tend to hold safer and less likely to default Treasury bonds compared to other kinds of bonds.**
7. “If bonds of different maturities are close substitutes, their interest rates are more likely to move together.” Is this statement true, false, or uncertain? Explain your answer. **Expectation theory: short-term interest rate and long term one move together as long term int = avarage of short term int. Short term int 2-3-4 ->> Long term int 2-2.5-3**
8. The U.S. Treasury offers some of its debt as Treasury Inflation Protected Securities, or TIPS, in which the price of bonds is adjusted for inflation over the life of the debt instrument. TIPS bonds are traded on a much smaller scale than nominal U.S. Treasury bonds of equivalent maturity. What can you conclude about the liquidity premiums of TIPS versus nominal U.S. bonds? **Small scale of trading for TIPS results in low level of liquidity, higher liquidity premium – additional compensation for holding a less easily tradable asset.**
9. Predict what will happen to interest rates on a corporation’s bonds if the federal government guarantees today that it will pay creditors if the corporation goes bankrupt in the future. What will happen to the interest rates on Treasury securities? **Interest rate on a corporate bond would decline due to the guarantee of paying creditors as it goes bankrupt, the demand for this bond increases. In contrast, Treasury securities become less attractive, demand decreases, higher interest rate.**
10. Predict what will happen to the risk premiums on corporate bonds if brokerage commissions are lowered in the corporate bond market. **Brokerage commissions falls, higher liquidity, demand rises, lower interest rate, lower risk premium.**
11. During 2008, the difference in yield (the yield spread) between three-month AA-rated financial commercial paper and three-month AA-rated nonfinancial commercial paper steadily increased from its usual level of close to zero, spiking to over a full percentage point at its peak in October 2008. What explains this sudden increase? -> **financial crisis. The increase in yield spread was a result of the decrease in demand for financial paper due to the uncertainty of financial companies and banks**
12. If the income tax exemption on municipal bonds were abolished, what would happen to the interest rates on these bonds? What effect would the change have on interest rates on U.S. Treasury securities? **No more income tax exemption on municipal bonds -> higher interest rate, demand for Treasury securities rises, interest rate lower. (*Cities, states, and other government organisations issue municipal bonds. Because the tax-exempt benefit would be eliminated, municipal bonds would be less desirable than Treasury bonds. Because of a decline in demand for municipal bonds and an increase in demand for Treasury bonds, the interest rate on municipal bonds will rise while the interest rate on Treasury bonds would fall.)***
13. Prior to 2008, mortgage lenders required a house inspection to assess a home’s value, and often used the same one or two inspection companies in the same geographical market. Following the collapse of the housing market in 2008, mortgage lenders required a house inspection, but this inspection was arranged through a third party. How does the pre-2008 scenario illustrate a conflict of interest similar to the role that credit-rating agencies played in the global financial crisis? **Inspection companies or credit rating agencies may have provided overly optimistic, independence lacking, distorted risk assessments of home/financial instrument value leading to the conflicts of interest, increase in the exposure to potential defaults, contributing to the financial crisis.**
14. “According to the expectations theory of the term structure, it is better to invest in one-year bonds, reinvested over two years, than to invest in a two-year bond if interest rates on one-year bonds are expected to be the same in both years.” Is this statement true, false, or uncertain? **False. The investments are almost of them same profitability**
15. If bond investors decide that 30-year bonds are no longer as desirable an investment as they were previously, predict what will happen to the yield curve, assuming (a) the expectations theory of the term structure holds; and (b) the segmented markets theory of the term structure holds. (a) **30-year bonds are no longer attractive, it means their demand will fall, and therefore, the price of such bonds will fall and the interest rate on such bonds will rise -> yield curve steeps upward to show the rising rate as maturity rises to 30 years.** (b) **If demand for 30-year bonds decreases, their prices would decrease, and their yields would increase to attract buyers. However, this change in the 30-year bond market would not necessarily impact other segments of the bond market directly. Therefore, the yield curve may not experience significant shifts or changes under the segmented markets theory.**
16. Suppose the interest rates on one-, five-, and ten-year U.S. Treasury bonds are currently 3%, 6%, and 6%, respectively. Investor A chooses to hold only one-year bonds, and Investor B is indifferent with regard to holding five- and ten-year bonds. How can you explain the behavior of Investors A and B? **Behaviour of investor A is consistent with Segmented market theory, which means this guy has preference for bond with particular term (one year) to maturity, this can not be substituted by different maturities bond. Behaviour of investor B is consistent with Expectation theory. Since investor B is indifferent between 5& 10 year bonds this means he must be expecting average interest on 5 year bond and 10 years bond to be equal to interest of 6%.**
17. If yield curves, on average, were flat, what would this say about the liquidity (term) premiums in the term structure? Would you be more or less willing to accept the expectations theory? **Flat yield curve, the expected short-term interest rate will fall slightly. Liquidity premiums are zero, thus we would be willing to accept the pure expectation theory.**
18. Following a policy meeting on March 19, 2009, the Federal Reserve made an announcement that it would purchase up to $300 billion of longer-term Treasury securities over the following six months. What effect might this policy have on the yield curve? **Supply of Treasury securities decreases, prices increase, lower interest rate, yield curve become less steep**
19. If the yield curve suddenly became steeper, how would you revise your predictions of interest rates in the future? **Short-term interest rate is expected to climb**
20. If expectations of future short-term interest rates suddenly fell, what would happen to the slope of the yield curve? **Flat or inverted**
21. If the income tax exemption on municipal bonds were abolished, what would happen to the interest rates on these bonds and why? **No more income tax exemption on municipal bonds, higher interest rate. Municipal bond become less valuable than taxable bonds, decline in the demand for municipal bonds, high i.**
22. Assuming that the expectations theory is the correct theory of the term structure, calculate the interest rates in the term structure for maturities of one to five years, and plot the resulting yield curves for the following path of one-year interest rates over the next five years:

(a) 5%, 6%, 7%, 6%, 5% **Upward sloping yield curve, iST<iLT, prefer short-term bonds because they have lower risk premiums**

(b) 5%, 4%, 3%, 4%, 5% **Downward sloping yield curve, iST>iLT, prefer long-term bonds because they have lower risk premiums**

How would your yield curves change if people preferred shorter-term bonds to longer-term bonds?

1. Suppose that you are forecasting one-year T-bill rates as follows:

Year 1-year rate (%)

1 4.25

2 5.15

3 5.50

4 6.25

5 7.10

You have a liquidity premium of 0.25% for the next year and 0.50% thereafter. Would you be willing to purchase a four-year T-bond at a 5.75% interest rate?

1. Suppose that the yield curve shows that the one-year bond yield is 3 percent, the two-year yield is 4 percent, and the three-year yield is 5 percent. Assume that the risk premium on the one-year bond is zero, the risk premium on the two-year bond is 1 percent, and the risk premium on the three-year bond is 2 percent.

a. What are the expected one-year interest rates next year and the following year?

b. If the risk premiums were all zero, as in the expectations hypothesis, what would the slope of the yield curve be?

1. If inflation and interest rates become more volatile, what would you expect to see happen to the slope of the yield curve? **Inflation and interest rate become more volatile, the market is uncertain, interest rate is required to be higher so as to compensate for potential impact of that event. It is generally expected that the slope of the yield curve would increase, reflecting higher yields on longer-term bonds compared to shorter-term bonds.**
2. As economic conditions improve in countries with emerging markets, the cost of borrowing funds there tends to fall. Explain why. **Economy growth – high creditworthiness, reduce default risk, lower borrowing costs -- more confidence in the market, investing more, lenders lend more because they believe in potential returns and lower risk, interest rate reduce.**
3. If regulations restricting institutional investors to investment-grade bonds were lifted, what do you think would happen to the spreads between yields on investment-grade and speculative-grade bonds? **Nếu các nhà đầu tư tổ chức không còn cần phải giữ phần lớn danh mục là các khoản đầu từ rating above Baa, họ sẽ có tự do hơn khi đầu tư vào trái phiếu đầu cơ, tăng demand trái phiếu này, tăng giá, giảm yield** ~ **giảm risk, risk premiums. Spread narrow.**
4. In 2010 and 2011, the government of Greece risked defaulting on its debt due to a severe budget crisis. Using bond market graphs, compare the effects on the risk premium between U.S. Treasury debt and comparable-maturity Greek debt.
5. Suppose a country with a struggling economy suddenly discovered vast quantities of valuable minerals under government-owned land. How might the government’s bond rating be affected? **Increased revenues from mining activities boosts the economic growth, enhance debt-service capacity, improve creditworthiness, lower default risk** Using the model of demand and supply for bonds, what would you expect to happen to the bond yields of that country’s government bonds? **Attract more investment, demand for gov bonds increase, bonds price rise, lower yield**
6. Given the data in the accompanying table, would you say that this economy is heading for a boom or for a recession? Explain your choice

**The term spread (the gap between the 3 month Treasury yield and the 10 year Treasury bond yield) is positive and widening. This tells us that the yield curve is upward sloping and getting more steeply upward sloping. This implies that interest rates are expected to continue to rise in the future—a sign that the economy is expected to do well. The risk spread (the gap between the 10 year Treasury and corporate 10 year bonds) is narrowing. This is a sign of a healthy economy as people do not require such a high risk premium on corporate bonds.**