

- 1)** After having graduated and having a very successful career as an Investment Banker, you decided to go back to Santa Barbara and enjoy life a little more. So, you decided to buy a \$5,000,000 house in Montecito.

You decided to take a loan to make the purchase of the house. In doing research for the loan you ended up with two final alternatives:

- 20 year loan, with an APR rate of 6%, with payments every six months.
 - 20 year loan, with an APR rate of 5%, with payments every month.
- a)** Which of the two alternatives you should choose? How much are you paying regularly in that loan?
- b)** After 10 years you plan to pay it all and liquidate the loan. How much will you pay then?

2) Your last job assignment before moving to Santa Barbara was to analyze the stock of Cho, Lang and Associates. The firm just paid the last dividend. The Earnings for the last year were \$3.00 per share and the firm has a policy to re-invest $\frac{2}{3}$ of their earnings and only pay the remainder as dividends. The Earnings retained in the company are able to generate a 9% rate of return, according to your studies.

Also, you know that the appropriate discount rate for the business of Cho, Lang and Associates is 16%.

a) By what Price should the stock of Cho, Lang and Associates be selling?

b) What is the Present Value of the Growth Opportunities in Cho, Lang and Associates?

c) The research you did made you believe the company will reduce the proportion of Earnings it will retain. You are confident that it will become only $\frac{1}{3}$.

i. What is the Price of Cho, Lang and Associates under these conditions?

ii. Can you explain this result?

iii. If you met the managers of Cho, Lang and Associates, what advice would you give them?

3) You already moved to Santa Barbara, and it is the year before you are going to payout the remainder of the loan you got to buy the house in Montecito. You plan to generate the cash you need to liquidate the loan by selling some bonds that you have. You have three types of Bonds:

- A ten year zero coupon Bond
- A ten year, 10% coupon bearing Bond, paying the coupon once every year
- A fifteen year, 8% coupon bearing Bond, paying the coupon once every year

All the Bonds have a Face Value of \$1,000 and have a similar risk. For that reason the Yield to Maturity of all the Bonds is 9%.

- a) What are the current prices of the three types of Bonds?
- b) Suppose that next year, when you sell the Bonds to re-pay the loan, the Yield to Maturity of the Bonds remains at 9%. What Rate of Return will each of the Bonds generate over the year? Can you identify the Current Yield and the Capital Gains yield?
- c) Suppose instead that the Yield to Maturity of the Bonds drops to 7% at the end of the year. Re-calculate the Rates of Return of each of the Bonds.
- d) (Extra credit) Suppose you are planning to use the Bonds to repay only \$2,000,000 of the loan. Also, you know that the Tax on Capital Gains is 30% and on Current Income is 20%. In the conditions of part b) which of the Bonds would you prefer to use to re-pay the loan? Which one you would least want to use?

- 4) Although you moved to Santa Barbara to “take it easy” and lower the cholesterol, you soon felt the need to get involved in a new business.

The Santa Barbara Airport has developed into a major “celebrity airport”. The airport opened a public bid for a concession stand selling Paparazzi defense paraphernalia.

The winning Bid will earn a 5 year contract, after which a new competition will be held.

After studying the market you estimate that the yearly revenues will be \$400,000 for the first and fourth years, \$500,000 for the second and third years and \$300,000 for the final year. The Variable Costs will be 60% of revenues in addition to Fixed Costs of \$36,000.

You need to buy equipment with a total cost of \$300,000, which you can depreciate using the 3-year MACRS schedule (33%, 44%, 15% and 8%). When the contract is over, you can sell it for one-third of the original price.

When you get started you will require \$9,000 in Net Working Capital, which will be recovered at the end of the contract.

The tax rate is 35% and you believe a discount rate of 20% is appropriate for projects of this nature.

- a) What is the most you are going to Bid for this project?
- b) Calculate the Profitability Index, Payback and Discounted Payback of the Project. Do not include the Bid you calculated above as part of the Investment Expense.