**Spring 2017**

**ESI 5359**

**Industrial Financial Decisions**

**Yezehao Huai (5965823)**

**Chapter 4 Homework**

**1. Gonzalez Electric Company has outstanding a 10 percent bond issue with a face value of $1,000 per bond and three years to maturity. Interest is payable annually. The bonds are privately held by Suresafe Fire Insurance Company. Suresafe wishes to sell the bonds, and is negotiating with another party. It estimates that, in current market conditions, the bonds should provide a (nominal annual) return of 14 percent. What price per bond should Suresafe be able to realize on the sale?**

I=$1000\*10%=$100 N=3 Kd=14%

V=$100(PVIFA14%,3)+$1000(PVIF14%,3)

**=**$100(2.322)+$1000(0.675)

**=$**907.20

**2. What would be the price per bond in Problem 1 if interest payments were made semiannually?**

I=$100/2=$50 N=6 Kd=14%/2=7%

V=$50(PVIFA7%,6)+$1000(PVIF7%,6)

**=**$50(4.767)+$1000(0.666)

=$904.35

**4. The stock of the Health Corporation is currently selling for $20 a share and is expected to pay a $1 dividend at the end of the year. If you bought the stock now and sold it for**

**$23 after receiving the dividend, what rate of return would you earn?**

$23-$20=$3

$3+$1=$4

Rate of return=$4/$20=20%

**6. North Great Timber Company will pay a dividend of $1.50 a share next year. After this, earnings and dividends are expected to grow at a 9 percent annual rate indefinitely.**

**Investors currently require a rate of return of 13 percent. The company is considering several business strategies and wishes to determine the effect of these strategies on the market price per share of its stock.**

1. **Continuing the present strategy will result in the expected growth rate and required rate of return stated above.**

D1=$1.50 Ke=13% g=9%

V= D1/( Ke-g)=$1.50/(13%-9%)=$37.50

**b. Expanding timber holdings and sales will increase the expected dividend growth rate to 11 percent but will increase the risk of the company. As a result, the rate of return required by investors will increase to 16 percent.**

D1=$1.50 Ke=16% g=11%

V= D1/( Ke-g)=$1.50/(16%-11%)=$30.00

1. **Integrating into retail stores will increase the dividend growth rate to 10 percent and increase the required rate of return to 14 percent. From the standpoint of market price per share, which strategy is best?**

D1=$1.50 Ke=14% g=10%

V= D1/( Ke-g)=$1.50/(14%-10%)=$37.50

**9. The 9-percent-coupon-rate bonds of the Melbourne Mining Company have exactly 15 years remaining to maturity. The current market value of one of these $1,000-parvalue bonds is $700. Interest is paid semiannually. Melanie Gibson places a nominal annual required rate of return of 14 percent on these bonds. What dollar intrinsic value should Melanie place on one of these bonds (assuming semiannual discounting)?**

N=30 I=($1000\*9%)/2=$45 Kd=7%

V=$45(PVIFA7%,30)+$1000(PVIF7%,30)

=$45(12.409)+$1000(0.131)

=$689.41

**10. Just today, Fawlty Foods, Inc.’s common stock paid a $1.40 annual dividend per share and had a closing price of $21. Assume that the market’s required return, or capitalization rate, for this investment is 12 percent and that dividends are expected to grow at a constant rate forever.**

1. **Calculate the implied growth rate in dividends.**

D0=$1.40 V=$21 Ke=12%

g=Ke - (D1/V) = Ke - (D0(1+g)/V)

=12% - ($1.40(1+g)/$21)

$21(12%-g) =$1.40(1+g)

g=5%

1. **What is the expected dividend yield?**

Expected dividend yield=P0/D1=Ke - g=12%-5%=7%

1. **What is the expected capital gains yield?**

Expected capital gains yield= g = 5%