

Class 2

Value of bonds and stocks

Reading: M: Chapter 4; BM: Chapter 4.

Note: M – F. Mishkin “Economics of Money, Banking and Financial Markets”

Question 1

Вы купили облигацию со сроком погашения 5 лет сразу после выпуска. Номинал облигации 1000, купон – 7%, доходность к погашению 12%. Сколько Вы заплатили за эту облигацию?

Question 2

Какую цену вы готовы заплатить за облигацию, которая сегодня (в момент выпуска) стоит на рынке $P = 873,44$ (все считают что процент по облигациям не изменится), но Вы твердо убеждены, что через год процент по облигациям вырастет в 2 раза.

Облигация: $N=1000$, $C=0\%$ (бескупонная облигация), $T=2$ года.

Question 3

A 6-year government bond makes annual coupon payments of 5 percent and offers a yield of 3 percent annually compounded. Suppose that one year later the bond still yields 3 percent. What return has the bondholder earned over the 12-month period? Now suppose instead that the bond yield is 2 percent at the end of the year. What return would the bondholder earn in this case?

Question 4

Consider the following three stocks:

- Stock A is expected to provide a dividend of \$10 a share forever.
- Stock B is expected to pay a dividend of \$5 next year. Thereafter, dividend growth is expected to be 4 percent a year forever.
- Stock C is expected to pay a dividend of \$5 next year. Thereafter, dividend growth is expected to be 20 percent a year for 5 years (i.e. until the end of year 6) and zero thereafter.

If the market capitalization rate for each stock is 10 percent, which stock is the most valuable? What if the capitalization rate is 7 percent?

Question 5

Crecimiento s.a. currently plows back 30 percent of its earnings and earns a return of 25 percent on this investment. The dividend yield on the stock is 5 percent.

- Assuming that Crecimiento can continue to plow back this proportion of earnings and earn a return of 25 percent on the investment, how rapidly will earnings and dividends grow? What is the expected return on Crecimiento stock?
- Suppose that management suddenly announces that future investment opportunities have dried up. Now Crecimiento intends to pay out all its earnings. How will the stock price change?
- Suppose that management simply announces that the expected return on new investment will in the future be the same as the cost of capital. Now what is Crecimiento's stock price?

Question 6

	Year			
	1	2	3	4
Book equity	10.00			
Earnings per share, EPS				
Return on equity, ROE	.25	.25	.16	.16
Payout ratio	.20	.20	.50	.50
Dividends per share				
Growth rate of dividends	-			

- Complete the table above.
- Assume that the opportunity cost of capital is 12%. Calculate the value of the company's stock (i.e. at year zero).
- What part of that value reflects the discounted value of P_3 , the price forecasted for year 3?
- What part of P_3 reflects the present value of growth opportunities (PVGO) after year 3?
- Suppose that competition will catch up with the company by year 4, so that it can earn only its cost of capital on any investments made in year 4 or subsequently. What is the stock worth now under this assumption? (Make additional assumptions if necessary.)