Valuation: Measuring and Managing the Value of Companies

Estimating the Cost of Capital

Chapter 11 Problems

1. Sao Paolo Foods is a Brazilian producer of breads and other baked goods. Over the last year, profitability has been strong and the share price has risen from R$15 per share to R$25 per share. Financial analysts (who generate projections in Brazilian Real) expect the profit growth to continue. The company has 20 million shares outstanding. The company's borrowing is conservative; the company has only R$100 million in debt. The debt trades at a yield-to-maturity 50 basis points above Brazilian risk free bonds. Sao Paolo Foods has a market beta of 0.7. If the Brazilian risk free rate is 7 percent, the market risk premium is 5 percent, and the marginal tax rate is 30 percent, what is Sao Paolo's cost of capital?

2. Sao Paolo Foods (introduced in Question 1) is considering a leveraged recapitalization of the company. Upon announcement, management expects the share price to rise by 10 percent. If the company raises R$200 million in new debt to repurchase shares, how many shares can the company repurchase? Assuming management will actively manage to the new capital structure; estimate its new market beta. If the company's interest rate rises to 100 basis points above the Brazilian risk free rate, what will its new cost of capital equal?

3. Your company, EuropeCo (a conglomerate of food, beverages, and consumer products) has announced its intention to purchase Sao Paolo Foods (introduced in Question 1). If the German risk free rate is 5 percent and the beta of EuropeCo is 0.9, what is the cost of capital for Sao Paolo Foods once under EuropeCo control?

4. In 2009, the median price-to-earnings ratio for the S&P 500 was 11.1. If the long-run return on equity is 13.5 percent and the long-run growth in GDP is expected to be 6.7 percent (3.5 percent real growth and 3.2 percent inflation), what is real cost of equity implied by the equity-denominated key value driver formula?

5. Market betas are typically computed with five years of monthly data or two weeks of yearly data. For computational simplicity, we present only 12 data points. Using a spreadsheet regression package or other software tool, compute a regression beta for the following data:

Returns, in percent

	1	2	3	4	5	6	7	8	9	10	11	12
Company	1.3	2.0	5.0	-1.0	-1.4	2.2	6.1	0.3	-4.0	3.8	-1.2	0.0
Market	1.0	1.2	3.4	0.3	-0.6	3.7	4.8	-2.3	-4.5	3.9	-1.3	1.8

6. You are analyzing a distressed bond with one year to maturity. The bond has a face value of $100 and pays a coupon rate of 5 percent per year. The bond is currently trading at $80. What is the yield to maturity on the bond? If the probability of default is 35 percent, what is the cost of debt? Assume that upon default only 50 percent of face will be recovered and that remaining coupons will not be paid.