1. Canadian-based mining company El Dorado Gold​ (EGO) suspended its dividend in March 2016 as a result of declining gold prices and delays in obtaining permits for its mines in Greece. Suppose you expect EGO to resume paying annual dividends in two years​ time, with a dividend of ​$0.75 per​ share, growing by 2.8% per year. If​ EGO's equity cost of capital is 9.1%​, what is the value of a share of EGO​ today?

The value of a share of EGO today is ​$\_\_\_\_\_\_\_\_\_\_\_\_ ​(Round to the nearest​ cent.)

2. Heavy Metal Corporation is expected to generate the following free cash flows over the next five​ years:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Year** | **1** | **2** | **3** | **4** | **5** |  |
| FCF​ ($ million) | 53.053.0 | 68.068.0 | 78.078.0 | 75.075.0 | 82.082.0 |
| ​ | | | | | |

After​ that, the free cash flows are expected to grow at the industry average of 4.0% per year. Using the discounted free cash flow model and a weighted average cost of capital of

14.0 %.

1. Estimate the enterprise value of Heavy Metal. ​ (Round to two decimal​ places.)
2. If Heavy Metal has no excess​ cash, debt of $300 ​million, and 40 million shares​ outstanding, estimate its share price. ​(Round to two decimal​ places.)

**3.** Given the data from the following​ table: (Question 3 data file Excel attachment) What if the period from 1990 to 2014 had been​ "normal"?

a. Calculate the arithmetic average return on the​ S&P 500 from 1926 to 1989. (Round to two decimal​ places.)

b. Replace the actual returns from 1990 to 2014 with the average return from ​(a​). How much would​ $100 invested in the​ S&P 500 at the end of 1925 have grown to by the end of​ 2014? ​(Hint​: Use the actual returns from 1926 to 1989 and then continue the growth at the assumed​ rate.) . ​(Round to the nearest​ dollar.)

c. Do the same for small stocks.

a. Calculate the arithmetic average return on the​ S&P 500 from 1926 to 1989.

The arithmetic average return of the​ S&P 500 from 1926 to 1989 is

nothing​%. ​

b. Replace the actual returns from 1990 to 2014 with the average return from ​(a​). How much would​ $100 invested in the​ S&P 500 at the end of 1925 have grown to by the end of​ 2014? ​(Hint​: Use the actual returns from 1926 to 1989 and then continue the growth at the assumed​ rate.)

​$100 invested in the​ S&P 500 at the end of 1925 would have grown to ​$

nothing

c. Do the same for small stocks. The arithmetic average return of the small stocks from 1926 to 1989 is

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Round to two decimal​ places.)

4. Aluminum maker Alcoa has a beta of about 0.64​, whereas Hormel Foods has a beta of 0.87. If the expected excess return of the market portfolio is 5%​, which of these firms has a higher equity cost of​ capital, and how much higher is​ it?

5. You need to estimate the equity cost of capital for XYZ Corp. You have the following data available regarding past​ returns:

Risk-free Return Market Return XYZ Return

2011 2% 7% 10%

2012 1% -31% -49%

a. What was​ XYZ's average historical​ return?

b. Compute the​ market's and​ XYZ's excess returns for each year.

The​ market's excess return for 2011 was \_\_\_\_\_\_\_\_\_\_\_\_\_ ​ (Round to the nearest​ integer.)

The​ market's excess return for 2012 was \_\_\_\_\_\_\_\_\_\_\_\_\_ ​ (Round to the nearest​ integer.)

​XYZ's excess return for 2011 was \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_​ (Round to the nearest​ integer.)

​XYZ's excess return for 2012 was \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_​ (Round to the nearest​ integer.)

Estimate​ XYZ's beta.

​XYZ's beta is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_​ (Round to two decimal​ places.)

c. Estimate​ XYZ's historical alpha.

​XYZ's historical alpha was \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ​ (Round to one decimal​ place.)

d. Suppose the current​ risk-free rate is 4%​, and you expect the​ market's return to be 10%. Use the CAPM to estimate an expected return for XYZ​ Corp.'s stock.

The expected return for XYZ​ Corp.'s stock was \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_​ (Round to two decimal​ places.)

e. Would you base your estimate of​ XYZ's equity cost of capital on your answer in part ​(a​) or in part ​(d​)? ​(Select the best choice​ below.)

A. Part ​(a​) because the average past returns provides a better estimate of expected returns.

B. Part ​(d​) because the average past returns provides a better estimate of expected returns.

C. Part ​(d​) because the CAPM provides a better estimate of expected returns.

D. Part ​(a​) because the CAPM provides a better estimate of expected returns.

6. In​ mid-2012, Ralston Purina had​ AA-rated, 10-year bonds outstanding with a yield to maturity of 1.83%

a. What is the highest expected return these bonds could​ have? ​(Round to two decimal​ places.)

b. At the​ time, similar maturity Treasuries had a yield of 0.83%. Could these bonds actually have an expected return equal to your answer in part ​(a​)?​ (Select the best choice​ below.)

A. ​No, if the bonds are​ risk-free, the expected return equals the​ risk-free rate, and if they are not​ risk-free the expected return is less than the yield.

B. ​Yes, if the bonds are risky​ enough, that is if the probability of default is high enough.

C. ​Yes, the yield to maturity is the maximum expected return you can expect.

D. ​Yes, because the reasons given in both A. and B. are true.

c. If you believe Ralston​ Purina's bonds have 1.4% chance of default per​ year, and that expected loss rate in the event of default is 52%​, what is your estimate of the expected return for these​ bonds?

7. Your firm is planning to invest in an automated packaging plant. Harburtin Industries is an​ all-equity firm that specializes in this business. Suppose​ Harburtin's equity beta is 0.87​, the​ risk-free rate is 3%​, and the market risk premium is 5%.

a. If your​ firm's project is​ all-equity financed, estimate its cost of capital.

After computing the​ project's cost of capital you decided to look for other comparables to reduce estimation error in your cost of capital estimate. You find a second​ firm, Thurbinar​ Design, which is also engaged in a similar line of business. Thurbinar has a stock price of $23 per​ share, with 15 million shares outstanding. It also has $111 million in outstanding​ debt, with a yield on the debt of 4.4%. ​Thurbinar's equity beta is 1.00. The​ project's cost of capital is \_\_\_\_\_\_\_\_\_\_\_\_\_\_​ (Round to two decimal​ places.)

b. Assume​ Thurbinar's debt has a beta of zero. Estimate​ Thurbinar's unlevered beta. Use the unlevered beta and the CAPM to estimate​ Thurbinar's unlevered cost of capital. (Round to two decimal​ places.)

c. Estimate​ Thurbinar's equity cost of capital using the CAPM. Then assume its debt cost of capital equals its yield and using these​ results, estimate​ Thurbinar's unlevered cost of capital. (Round to two decimal​ places.)

d. Explain the difference between your estimate in part ​(b​) and part ​(c​). (Select the best choice below.)

1. In the first case, we assumed the debt had a beta of zero so we assumed the cost of debt was the riskless rate, while in the second case we assumed the cost of debt was the yield on debt.
2. The answers are actually the same; any difference is just due to rounding errors.
3. The answers differ because we are using approximations rather than formulas that hold exactly.
4. We should have gotten the same answer, the problem is the numbers in the problem are not consistent.

e. You decide to average your results in part (b) and part (c), and then average this result with your estimate from part (a). What is your estimate for the cost of capital of your firm's project?

The average unlevered cost of capital from part (b) and part (c) is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Round to two decimal places.)

The average unlevered cost of capital from part (b) and part (c) with part (a) is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

​(Round to two decimal​ places.)

​