Answers to Concepts Review and Critical Thinking Questions

1. Some of the risk in holding any asset is unique to the asset in question. By investing in a variety of assets, this unique portion of the total risk can be eliminated at little cost. On the other hand, there are some risks that affect all investments. This portion of the total risk of an asset cannot be costlessly eliminated. In other words, systematic risk can be controlled, but only by a costly reduction in expected returns.

2. If the market expected the growth rate in the coming year to be 2 percent, then there would be no change in security prices if this expectation had been fully anticipated and priced. However, if the market had been expecting a growth rate other than 2 percent and the expectation was incorporated into security prices, then the government’s announcement would most likely cause security prices in general to change; prices would drop if the anticipated growth rate had been more than 2 percent, and prices would rise if the anticipated growth rate had been less than 2 percent.

4. a. a change in systematic risk has occurred; market prices in general will most likely decline.
   b. no change in unsystematic risk; company price will most likely stay constant.
   c. no change in systematic risk; market prices in general will most likely stay constant.
   d. a change in unsystematic risk has occurred; company price will most likely decline.
   e. no change in systematic risk; market prices in general will most likely stay constant assuming the market believed the legislation would be passed.
CHAPTER 12
SOME LESSONS FROM CAPITAL MARKET HISTORY

Solutions to Questions and Problems

1. The return of any asset is the increase in price, plus any dividends or cash flows, all divided by the initial price. The return of this stock is:

\[ R = \frac{($88 - 79) + 1.45}{79} \]
\[ = .1323, \text{ or } 13.23\% \]

2. The dividend yield is the dividend divided by the beginning of the period price, so:

Dividend yield = \frac{1.45}{79}
Dividend yield = .0184, or 1.84%

And the capital gains yield is the increase in price divided by the initial price, so:

Capital gains yield = \frac{($88 - 79)}{79}
Capital gains yield = .1139, or 11.39%

3. Using the equation for total return, we find:

\[ R = \frac{($71 - 79) + 1.45}{79} \]
\[ = -.0829, \text{ or } -8.29\% \]

And the dividend yield and capital gains yield are:

Dividend yield = \frac{1.45}{79}
Dividend yield = .0184, or 1.84%
Capital gains yield = \frac{($71 - 79)}{79}
Capital gains yield = -.1013, or -10.13%

Here’s a question for you: Can the dividend yield ever be negative? No, that would mean you were paying the company for the privilege of owning the stock. It has happened on bonds.

4. The total dollar return is the increase in price plus the coupon payment, so:

Total dollar return = $940 - 970 + 70
Total dollar return = $40

The total percentage return of the bond is:

\[ R = \frac{($940 - 970) + 70}{970} \]
\[ = .0412, \text{ or } 4.12\% \]

Notice here that we could have simply used the total dollar return of $40 in the numerator of this equation.
13. CAPM states the relationship between the risk of an asset and its expected return. CAPM is:

\[ E(R_i) = R_f + [E(R_{mf}) - R_f] \times \beta_i \]

Substituting the values we are given, we find:

\[ E(R_i) = .038 + (.103 - .038)(1.15) \]
\[ E(R_i) = .1128, \text{ or } 11.28\% \]

14. We are given the values for the CAPM except for the \( \beta \) of the stock. We need to substitute these values into the CAPM, and solve for the \( \beta \) of the stock. One important thing we need to realize is that we are given the market risk premium. The market risk premium is the expected return of the market minus the risk-free rate. We must be careful not to use this value as the expected return of the market. Using the CAPM, we find:

\[ E(R_i) = .102 = .041 + .072\beta_i \]
\[ \beta_i = .85 \]

15. Here we need to find the expected return of the market using the CAPM. Substituting the values given, and solving for the expected return of the market, we find:

\[ E(R_m) = .1019, \text{ or } 10.19\% \]

16. Here we need to find the risk-free rate using the CAPM. Substituting the values given, and solving for the risk-free rate, we find:

\[ .1215 = R_f + (.102 - R_f)(1.31) \]
\[ .1215 = R_f + .13362 - 1.31R_f \]
\[ R_f = .0391, \text{ or } 3.91\% \]