

# Interest rates and stocks

[Finance](#)



Running Heading: Interest rates & stocks Interest rates & stocks To calculate the return of XYZ stock, Capital Assets Pricing Model (CAPM) is used. The CAPM equation is as follows:

$$K_s = K_{rf} + (K_p * \beta)$$

According to Bloomberg, the risk free rate or U. S. 10-year Treasury bond rate is 2.125% which is denoted by 'K<sub>rf</sub>' in the above equation. K<sub>p</sub> is the market risk premium which is equal to 7.5% and β is the Beta of XYZ stock which is equal to 1.64. By using these values in the CAPM equation, the return of XYZ stock has been calculated and it is equal to 14.425%.

To calculate the price of the stock, Constant Growth Model (CGM) equation has been used. CGM equation is as follows:

$$P = D / (K_s - g)$$

The current dividend of XYZ Company is \$0.80 and 'K<sub>s</sub>' is the required rate of return of the stock which has already been calculated using CAPM and its value is 14.425%. Growth of XYZ stock is already mentioned and it is equal to 8.2%. By using these values the current price of XYZ stock has been calculated and it is equal to \$12.85.

P<sub>o</sub> is the actual share price and P is the calculated stock price and when these two prices are compared, there is a huge difference between the two prices as the value of P<sub>o</sub> is equal to \$76.28 and value of P is \$12.85. There can be several reasons for the difference between the actual price of XYZ stock and the calculated price. One major reason could be the difference between the demand and supply of stock as in reality the demand of XYZ stock would be very high which might have increased the actual price of the stock and for this reason the stock has been overvalued. Also the other reason might be that people might expect the company to perform better in <https://assignbuster.com/interest-rates-stocks/>

future and this is the reason why they would like to buy the stock of XYZ and this would have increased the price of the stock as well.

As the market risk premium has increased from 7.5% to 10%, so this would change the return of XYZ stock as well. The new return can be found using CAPM equation and the new required return with the changed market risk premium would be 18.525%.

By using the value of new required return of XYZ stock in Constant Growth Model the value of XYZ's share price has been calculated. The new price is \$7.75. The new price is lower than the price calculated previously because the market risk has increased and investors would like to have more return on the stock. So in order to get more return either the return or dividend should increase or the price of the stock should decrease, since dividend is constant therefore the price of the stock has decreased.

Price of the stock or market value of the shares can also be calculated using the P/E or Price-Earnings ratio. The formula used to calculate the Market Value of share is as follows:

$$\text{Market Value of Share} = (\text{P/E}) * \text{EPS}$$

P/E is the Price-Earnings ratio which is equal to 15.65 and EPS is the earning per share of XYZ Company and it is equal to \$4.87. By using these two values, market value of share is equal to \$76.22.

The share price of XYZ Company calculated using the P/E method is different than the share price calculated using constant growth model and the reason behind this difference in estimated share price is that these methods are used to estimate the share price and at times one method would give better result and in other circumstances, the other method would give more appropriate result. So it is up to the investors which method he or she would

like to use in order to estimate the share price.

#### Reference List

Bloomberg. Government Bonds. Retrieved October 22, 2011 from

<http://www.bloomberg.com/markets/rates-bonds/government-bonds/us/>