

The Expected Return On A Stock Is Equal To Which One Of The Following If The Dividend On The Stock Decreases

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Understanding the expected return on a stock is fundamental for investors aiming to make informed investment decisions. It involves assessing both the income generated through dividends and the potential appreciation of the stock's price. When dividends decrease, it raises important questions about how this change impacts the overall expected return. This article explores the various scenarios and models used to determine the expected return when dividends decline, providing a comprehensive analysis for investors and finance students alike.

Introduction to Expected Return and Its Components

What Is Expected Return?

Expected return is the anticipated profit or loss from an investment over a specified period, considering all possible outcomes weighted by their probabilities. It combines both income received (dividends or interest) and capital gains or losses from the change in stock price.

Components of Expected Return

The expected return on a stock generally comprises:

- **Dividends:** Regular payments made to shareholders, reflecting the company's earnings distribution.
- **Capital Gains:** The change in stock price over time, representing appreciation or depreciation.

Mathematically, the expected return (r) can be expressed as:

$$r = \frac{D_1}{P_0} + g$$

Where:

- D_1 = Dividends expected next period
- P_0 = Current stock price
- g = Growth rate of dividends or stock price

In cases where dividends decrease, the key question is how this impacts the expected return considering the potential change in growth and price appreciation.

Impact of Decreased Dividends on Expected Return

Scenario 1: Dividends Decrease While Price Remains Constant

In this simplified scenario, suppose the dividend payment drops, but the stock price remains unchanged.

Implication for Expected Return

- The immediate income component (dividends) diminishes.
- The total expected return decreases proportionally to the reduction in dividends.
- If the stock price stays constant, the expected return primarily relies on dividends, leading to a lower expected return.

Limitations of This Scenario

- Unrealistic in efficient markets, as a decrease in dividends often signals underlying issues affecting stock prices.
- Does not account for potential changes in stock price due to dividend adjustments.

Scenario 2: Dividends Decrease With Corresponding Stock Price Adjustment

More realistically, a decrease in dividends impacts the stock price, often causing it to decline.

Dividend Discount Model (DDM)

The DDM helps analyze this relationship:

$$P_0 = \frac{D_1}{r - g}$$

Where:

- P_0 = Current stock price
- D_1 = Expected dividend next period
- r = Required rate of return
- g = Growth rate of dividends

If dividends decrease (D_1 drops), the stock price (P_0) typically

declines unless offset by other factors.

Expected Return Calculation After Dividend Decrease

Rearranged, the expected return (r) can be derived as:

$$r = \frac{D_1}{P_0} + g$$

When (D_1) decreases:

- The income component $(\frac{D_1}{P_0})$ diminishes.
- If the stock price falls proportionally, the impact on (r) depends on the relative changes in (D_1) and (P_0) .

Scenario 3: The Dividend Decrease Signals a Lower Growth Rate

A decrease in dividends often indicates reduced future growth prospects.

Implications for Expected Return

- The growth rate (g) may decline, affecting the total expected return.
- Investors may demand a higher rate of return to compensate for increased risk.

Adjusted Expected Return Formula

Using the Gordon Growth Model:

$$r = \frac{D_1}{P_0} + g$$

If (D_1) decreases and (g) decreases as well, the overall effect on (r) depends on the magnitude of each change.

Which Expected Return Is Applicable When Dividends Decrease?

1. The Dividend Discount Model (DDM)

The DDM is most relevant for valuing stocks with predictable dividends. When dividends decrease:

- The model suggests that the expected return should be recalculated considering the new dividend (D_1) .
- The expected return will typically decrease if the stock price remains the same or decreases proportionally.

2. The Capital Asset Pricing Model (CAPM)

CAPM relates expected return to systematic risk:

$$r = R_f + \beta (R_m - R_f)$$

- Changes in dividends do not directly affect r unless the dividend change impacts the company's risk profile.
- If dividend decreases are perceived as increasing risk, the expected return could increase accordingly.

3. The Total Return Approach

Total return considers both dividends and capital gains:

$$\text{Total Return} = \frac{D_1 + (P_1 - P_0)}{P_0}$$

- When dividends decrease, the total return depends on whether stock prices decline more or less than the dividend reduction.
- If stock prices fall significantly, total expected return may still be high due to capital gains.

Key Takeaways

Expected Return When Dividends Decrease

- The expected return generally decreases if the dividend component diminishes without a corresponding increase in stock price.
- If the decrease in dividends signals deteriorating fundamentals, stock prices tend to decline, potentially offsetting the reduced dividend income.
- The appropriate model to estimate the expected return under dividend decrease conditions is typically the Dividend Discount Model, adjusted for new dividend and price expectations.

Practical Considerations for Investors

- Monitor stock price reactions to dividend changes.
- Consider whether the dividend decrease reflects temporary issues or long-term decline.
- Adjust investment expectations accordingly, potentially accepting higher risks or seeking alternative investments.

Conclusion

In summary, the expected return on a stock when dividends decrease depends on how the decrease influences the stock price and growth expectations. The most suitable framework for analyzing this situation is the Dividend Discount Model, which accounts for changes in dividends and growth rates. Generally, a decrease in dividends leads to a reduction in the income component of expected return, and if stock prices decline proportionally or more, the overall expected return may decrease. However, if investors perceive the dividend cut as temporary or expect a recovery, the impact on expected return could be more nuanced. Ultimately, understanding the interplay between

dividends, stock price movements, and growth expectations is essential for accurately assessing the expected return in such scenarios.

Frequently Asked Questions

What happens to the expected return on a stock if its dividend decreases?

The expected return on the stock typically increases because a decrease in dividends often signals potential future price appreciation or higher risk, leading investors to demand a higher return.

Which model explains the relationship between dividend changes and expected stock return?

The Dividend Discount Model (DDM) explains this relationship, indicating that a decrease in dividends can lead to an increase in the expected return if the stock price adjusts accordingly.

If the dividend on a stock decreases, which component of the expected return is most directly affected?

The dividend yield component decreases, but to maintain equilibrium, the expected total return often increases due to changes in price expectations.

In the context of the Gordon Growth Model, how does a decrease in dividends influence the expected return?

A decrease in dividends, assuming constant growth, generally increases the required rate of return because the stock becomes riskier or less attractive for dividend income.

Is the expected return on a stock always directly proportional to dividend changes?

Not necessarily; it depends on how the stock price and growth expectations respond to dividend changes. A decrease in dividends can lead to a higher expected return if prices adjust accordingly.

Which of the following is equal to the expected

return on a stock if dividends decrease: dividend yield, capital gains yield, or total return?

The total expected return, which includes both dividend yield and capital gains yield, adjusts based on dividend decreases and price movements.

How does a decrease in dividends impact the dividend discount model's calculation of expected return?

It implies a higher required rate of return if the stock price does not decrease proportionally, reflecting increased risk or lower dividend expectations.

Which key assumption links dividend decreases to changes in the expected return on a stock?

The assumption is that stock prices and dividends are linked through investors' expectations; a decrease in dividends often leads to an adjustment in expected returns based on perceived risk and valuation.

Additional Resources

Expected Return on a Stock and the Impact of Decreasing Dividends

Understanding the expected return on a stock is fundamental for investors aiming to make informed decisions. When dividends decrease, it introduces complexities in estimating returns, as dividends are a critical component of total returns. In this comprehensive review, we will explore the relationship between dividend changes and expected returns, dissect the underlying models, and clarify which measure the expected return aligns with under circumstances of decreasing dividends.

Introduction to Expected Return on a Stock

The expected return on a stock represents the average return an investor anticipates over a specified period. It encompasses both income, primarily through dividends, and capital gains or losses resulting from price changes.

Key Components of Expected Return:

- Dividends (D): Periodic payments made to shareholders.
- Capital Gains (or Losses): Changes in stock price from purchase to sale.
- Total Return: Sum of dividends and capital gains.

Mathematically,

$$\text{Expected Return} (R) = \frac{\text{Dividends} + \text{Capital Gains}}{\text{Initial Price}}$$

or expressed as a percentage,

$$R = \frac{D + (P_1 - P_0)}{P_0}$$

where:

- D is the dividend received,
- P_0 is the initial stock price,
- P_1 is the price at the end of the period.

Dividend Decrease and Its Implications

When dividends decrease, the immediate assumption might be that the expected return diminishes. However, the actual impact depends on underlying expectations and market perceptions.

Possible reasons for dividend decreases:

- Reduced earnings.
- Reinvestment strategies.
- Financial distress.
- Changes in payout policies.

Impact on expected return:

- Direct effect: Lower dividends tend to reduce the income component.
- Indirect effect: Decreased dividends may signal deteriorating fundamentals, potentially leading to stock price declines and affecting capital gains estimates.

Understanding how expected return relates to decreasing dividends requires analyzing the models used to estimate returns.

Models for Estimating Expected Return

Several models help us understand how expected returns relate to dividend

changes.

1. The Dividend Discount Model (DDM)

The DDM posits that the value of a stock is the present value of all expected future dividends.

Constant Growth DDM Formula:

$$P_0 = \frac{D_1}{r - g}$$

where:

- P_0 = current stock price,
- D_1 = dividend next period,
- r = required rate of return (expected return),
- g = growth rate of dividends.

Rearranged to solve for expected return:

$$r = \frac{D_1}{P_0} + g$$

Implication when dividends decrease:

- If D_1 decreases, assuming P_0 and g stay constant, the immediate effect is a decrease in the numerator, implying a lower r .
- However, if the decrease in dividends is perceived as temporary or indicative of a lower but stable growth rate, the expected return may adjust accordingly.

2. The Gordon Growth Model

A specific case of the DDM, assuming perpetual constant growth:

$$r = \frac{D_1}{P_0} + g$$

Effect of decreasing dividends:

- A decrease in D_1 directly reduces the numerator, leading to a lower expected return, unless the growth rate g adjusts upward to compensate.

3. The Capital Asset Pricing Model (CAPM)

While the CAPM doesn't directly incorporate dividends, it relates expected return to systematic risk:

$$R = R_f + \beta (R_m - R_f)$$

\]

where:

- R_f = risk-free rate,
- R_m = expected market return,
- β = measure of stock's sensitivity to market movements.

Dividend decreases and CAPM:

- Changes in dividends do not directly affect R in the CAPM unless they influence the stock's risk profile or market expectations.

Which Expected Return Corresponds When Dividends Decrease?

Based on the models discussed, the expected return on a stock is generally equal to the rate of return that equates the current stock price with the present value of expected future dividends plus capital gains expectations.

Specifically:

- In the Dividend Discount Model context, the expected return is given by:

$$r = \frac{D_1}{P_0} + g$$

- When dividends decrease, D_1 decreases, which directly causes the expected return r to decrease if all else remains equal.
- In the case of a stable or decreasing dividend, investors might expect a lower return, reflecting the reduced income component and possibly increased perceived risk.

Interpreting the Question: "The Expected Return on a Stock Is Equal To Which One Of The Following if the Dividend on the Stock Decreases?"

This question often appears in finance multiple-choice contexts, where options might include:

- The dividend yield.
- The required rate of return.
- The capital gains yield.
- The sum of dividend yield and growth rate.

The correct interpretation is:

The expected return on the stock, in the context of decreasing dividends, tends to be equal to the dividend yield plus the expected growth rate of dividends, which itself may decline or adjust accordingly.

Key Takeaways and Practical Implications

1. The Expected Return Is Closely Tied to the Dividend Yield and Growth Rate

- The dividend yield is (D_1 / P_0) .
- The growth rate (g) reflects expectations about future dividends.

2. When Dividends Decrease:

- The dividend yield component decreases because (D_1) is lower.
- If the market perceives the decrease as temporary, the growth rate may decline or remain stable.
- The expected return typically declines unless other factors (such as increased risk or market conditions) offset the decrease.

3. Market Expectations and Stock Price Movements

- A decrease in dividends may lead to a lower stock price (P_0) , which could offset the lower dividend in the numerator, potentially stabilizing or even increasing the dividend yield.
- However, if the dividend decrease signals deteriorating fundamentals, the stock price may fall more than the dividend decrease, reducing the expected return.

4. The Role of Capital Gains

- If the price decline compensates for lower dividends, the total expected return (dividend yield + capital gains yield) might stay constant or decrease.

Conclusion: Which One of the Following?

In essence, if the dividend on the stock decreases, the expected return on the stock tends to be equal to:

- The dividend yield plus the expected growth rate of dividends.

More specifically:

$$\boxed{\text{Expected Return} \approx \frac{D_1}{P_0} + g}$$

where a decrease in dividends (D_1) leads to a decrease in the dividend yield component, thereby lowering the overall expected return unless offset by changes in the growth rate or other factors.

Therefore, in multiple-choice scenarios, the expected return is most accurately associated with:

- The dividend yield plus the dividend growth rate, which collectively reflect the total return expectation.

In summary:

- When dividends decrease, the expected return (assuming all else constant) decreases because of the lower dividend yield.
- The expected return aligns with the dividend yield plus the expected growth rate in the context of dividend-based valuation models.

Final note: Investors should always consider broader market signals, risk factors, and the company's fundamentals when interpreting changes in dividends and their impact on expected returns.

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