

Corporate Finance, Module 12: Corporate Financing and Market Efficiency (Chapter 13)

*Practice Problems – Abnormal Returns*

(The attached PDF file has better formatting.)

Exercise 1.2: Abnormal Returns

An analysis of 72 monthly rates of return on a company's common stock indicates a beta of 1.75 and an alpha of 0.005 per month. One month later, the market is up by 1.0% and the stock is up by 2.0%. What is the abnormal rate of return?

Solution 1.2: The expected return is  $0.005 + 1.75 \times 1\% = 2.25\%$ . Since the stock rose by 2.0%, the abnormal rate of return is  $2.0\% - 2.25\% = -0.25\%$ .

Exercise 1.3: Abnormal Returns

An analysis of the stock of the ABC Company indicates that the stock price, on average, decreases 0.1% per month when the market index is unchanged, and increases 1.5% for each 1% increase in the market index. One month later, the market index is up 7% and ABC's stock is up 9%. What is the abnormal rate of return for the stock of ABC Company?

Solution 1.3: The expected return for ABC stock is  $-0.1\% + (1.5\% / 1.0\%) \times 7\% = 10.40\%$ . The actual return is 9.0%, so the abnormal return is  $9.0\% - 10.4\% = -1.4\%$ .

Exercise 1.4: Abnormal Returns

Company X's expected return is equal to 1.25 times the expected market return. Yesterday, the market increased by 1%, but Company X's stock decreased from \$100 to \$80. What is the abnormal return?

Solution 1.4: The expected return is  $1.25 \times 1\% = 1.25\%$ . The actual return is  $-(\$100 - \$80) / \$100 = -20\%$ . The abnormal return is  $-20\% - 1.25\% = -21.25\%$ .

Exercise 1.5: Abnormal Returns

The stock of ABC Company currently trades at \$100 per share. The stock price, on average, increases 0.5% per month when the market is unchanged and rises an additional 1.1% for each 1% increase in the market index. In a given month, the market index increased 3.5%, and the stock of ABC Company increased 4%. What was the additional price change of the stock of ABC Company?

Solution 1.5: The expected return is  $0.5\% + (1.1\% / 1.0\%) \times 3.5\% = 4.35\%$ . The actual return is 4.0%. The abnormal return is  $4.0\% - 4.35\% = -0.35\%$ .