

Business Finance

BFIN 2201

Seton Hall University

Homework 4

Evaluating a Portfolio

Consider the \$100,000 you invested in 3 stocks in Homework 3: Constructing a Portfolio. It's time to evaluate your portfolio's performance. For each stock in your portfolio, answer the following questions:

1. What is the current price of the stock?

As of March 30th, the current price of Waste Management(WM) is 161.53 per share, Procter and Gamble (PG) is 147.45 per share, and Constellation Brand (STZ) is 224.91 per share.

2. Did the stock pay a dividend since the last assignment? If so, how much was the dividend per share?

According to WallStreetZen, Waste Management (WM) paid a dividend as of March 9 at 0.7000 cents per share According to Marketbeat, Procter and Gamble (PG) paid a dividnt as of Feburary 15 at 0.9133 cents per share.. Constellation Brand does not pay dividends per share.

3. Considering both capital gains/losses and dividends, what is the current value of your investment? What was your return on this investment?

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In [1]: # The current value of my original $100000 investment into WM, PG, and STZ.

Total_initial_value = 100000

WM_shares = 294
WM_curr_SP = 161.53
WM_prev_SP = 153.10
WM_dividend = 0.7000

PG_shares = 248
PG_curr_SP = 147.45
PG_prev_SP = 141.01
PG_dividend = 0.9133

STZ_shares = 88.43
STZ_curr_SP = 224.91
STZ_prev_SP = 226.36
STZ_dividend = 0

WM_current_value = (WM_shares * WM_curr_SP) + (WM_shares * ( 1 + WM_dividend))
PG_current_value = (PG_shares * PG_curr_SP) + (PG_shares * ( 1 + PG_dividend))
STZ_current_value = (STZ_shares * STZ_curr_SP) + (STZ_shares * ( 1 + STZ_dividend))

Total_current_value = WM_current_value + PG_current_value + STZ_current_value
print("The total value of my current investment is $" + str(round(Total_current_value, 2)))

RoI = (((Total_current_value - Total_initial_value) / Total_initial_value) * 100)
print("The return on my original investment is " + str(round(RoI,2)) + "%.")
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The total value of my current investment is \$105008.94
The return on my original investment is 5.01%.

4. What factors do you think caused the stock to go up or down in value?

The factors that caused Waste Management and Procter and Gamble to increase is due to increased revenue. The revenue generated by Waste Management increased by ~8% in the second quarter alone. In the last two years, Waste Management has experienced an increase of 17% revenue increase from 2020 to 2021, and a 9.85% revenue increase from 2021 to 2022. Procter and Gamble also experienced revenue increase of a litte over 4% in the third fiscal quarter. However, Constellation Brand stock price experienced a slight decrease due to people averting away from alcohol to live healthier lifestyles.

5. Using a one-year of daily returns calculate the volatility and beta of the stock. What does this information tell you about the stock's risk profile?

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In [2]: # The beta of the three stocks taken from Yahoo Finance! summary page
STZ_beta = 1.03
PG_beta = 0.39
WM_beta = 0.73

# Calculate the volatility of the stock
import pandas as pd
import numpy as np

# read stock price data from a CSV file
df1 = pd.read_csv('WM.csv')
df2 = pd.read_csv('PG.csv')
df3 = pd.read_csv('STZ.csv')

# calculate the daily returns or calculate the return by shifting the number of periods by 1
df1['returns'] = np.log(df1['Close'] / df1['Close'].shift(1))
df2['returns'] = np.log(df2['Close'] / df2['Close'].shift(1))
df3['returns'] = np.log(df3['Close'] / df3['Close'].shift(1))

# calculate volatility
volatility1 = df1['returns'].std() * np.sqrt(252) # assuming 252 trading days in a year
print('Waste Management (WM) has a volatility of ' + str(round(volatility1, 4)) + " and a " + "beta score of " + str(round(WM_beta, 2)) + ".")

volatility2 = df2['returns'].std() * np.sqrt(252) # assuming 252 trading days in a year
print('Procter and Gamble (PG) has a volatility of ' + str(round(volatility2, 4)) + " and a " + "beta score of " + str(round(PG_beta, 2)) + ".")

volatility3 = df3['returns'].std() * np.sqrt(252) # assuming 252 trading days in a year
print('Constellation Brand (STZ) has a volatility of ' + str(round(volatility3, 4)) + " and a " + "beta score of " + str(round(STZ_beta, 2)) + ".")
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Waste Management (WM) has a volatility of 0.2198 and a beta score of 0.73.
Procter and Gamble (PG) has a volatility of 0.2223 and a beta score of 0.39.
Constellation Brand (STZ) has a volatility of 0.2559 and a beta score of 1.03.

6. If you knew the stock's volatility and beta prior to the previous assignment, would you still have invested in this stock? Why or why not?

If I had knew the stock's volatility and beta prior to the previous assignment, I still would have invested in all three stocks because Waste Management and Procter and Gamble because they have a beta score less than 1. Despite having a volatility score greater than 0.2 and beta of 1.03. I would still invest in it because the stock price lower by approximately two dollars and the company issues dividends.

7. What did you learn from this assignment?

In this assignment, I learn that selecting stocks is a skill that is learned. It requires diligent work and the ability to observe the numbers. Looking at the beta and volatility, you may be able to determine if the stock is worth investing in. This factor along with it's PE ratio and dividends can help you create a profitable portfolio.