Equity Research Analysis and Valuation

Tasked to analysis the portfolio composed of three securities i.e., Apple, Ford Motor and Procter & Gamble. The goals are: (1) to find the optimal portfolio combination, (2) to valuation each individual security and (3) to decide whether to invest in the entire portfolio or not.

Optimal Portfolio Analysis

P&G analysis revealed a historical return of 10.51% with a volatility of 16.86%. Using the healthcare products unlevered industry beta of 0.97[1], P&G expected return or cost of equity is estimated at 14.95%. Apple has a historical return of 29.78% with a volatility of 29.38% and a cost of equity estimated at 16.89% based on the electronics industry unlevered beta of 1.14. On the other side, Ford has a historical return of 22.89% with a volatility of 41.26% and a cost of equity of 18.03% based on an auto industry unlevered beta of 1.24. The optimization analysis suggests a weight distribution of 70%, 20% and 10% for P&G, Apple and Ford respectively. This optimal portfolio yields an expected return of 15.6% with a volatility of 16.2%.

STOCK	*AVG. RET*	*VOLATILY*	*EXPECT. RET*	*SHARPE*
PG	10,51%	16,86%	14,95%	0,657
AAPL	29,78%	29,38%	16,89%	0,443
F	22,89%	41,26%	18,03%	0,343

Equity Valuation Analysis

P&G equity analysis based on the DCF method values its share price at $147. The subsequent industry peer valuation methods yield a share price of $168 (PE), $92 (PB) and $198.2 (EV/EBITDA). Apple share price is valued at $199.6, $203 and $157.1 by the DCF, PE and EV/EBITDA methods respectively. Finally, Ford share is estimated at $0.2, $13.1, $49.2 and $63.9 by the DCF, PE, PB and EV/EBITDA methods respectively. Critical observations can be made on the DCF value of Ford equity estimated at 0.2$. PG low value is due to poor working capital management and high debts level which results in the forecast of negative FCFF in the next 2 years and low enterprise value. We based the WC assumptions on the last 3-years average excluding Year 2020 due to the covid crisis and used industry multiples for the US from Damodaran[2]. Consequently, a significant improvement on WC will surely bring up the DCF value close to the current market value of $11.71 for Ford. In conclusion, our equity analysis suggest that the current market values ($166.79 P&G, $212.49 Apple and $11.71 Ford) are in line with future expectations.

	Cost of equity	*WACC*	*OPTIMAL PF Weight*	*DCF*	*PE*	*PB*	*EV/EBITDA*
P&G	14,95%	10%	70%	$ 146,7	$ 168,7	$ 92,0	$ 198,2
Apple	16,89%	9%	20%	$ 199,6	$ 203,6	$ 7,5	$ 157,1
Ford	18,03%	7%	10%	$ 0,2	$ 13,1	$ 49,2	$ 63,9

Invest or Not Invest

Our analysis yields positive historical and expected returns for all 3 securities and the optimal portfolio yields the highest expected return for each 1% of volatility than any single security (Sharpe 0.73). Hence, it is logical to suggest that we should invest in the entire portfolio. Additionally, the equity analysis for each firm individually suggests positive future FCFFs which result in positive equity value based on the DCF and other multiples-based methods. Furthermore, the analysis suggest that these securities are not extremely overpriced or underpriced. In consequence, we can conclude that their current market values align with future expectations. Therefore, we suggest investing in the optimal portfolio.

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[1] Damodaran, “Betas. By Sector (US)” (January 2024)

[2] Damodaran, “Enterprise value Multiples by Sector (US)” (January 2024); “Price and Value to Book by Sector (US)” (January 2024)