FinQuiz Formula Sheet CFA Program Level III

Reading 6: Overview of the Global Investment Professional Standards

1. Total return (when no external cash flows)
   Total return = $r_t = \frac{V_1 - V_0 - CF}{V_0 + (CF \times w_i)}$

2. Time weighted return = $r_{twr} = (1 + r_{t,1}) \times (1 + r_{t,2}) \times \ldots \times (1 + r_{t,n}) - 1$

3. Original Dietz Method = $R_{Dietz} = \frac{V_1 - V_0 - CF}{V_0 + (CF \times 0.5)}$

4. Modified Dietz Method = $R_{ModDietz} = \frac{V_1 - V_0 - CF}{V_0 + (CF \times w_i)}$

5. Time weighted return using Modified Dietz = $r_{ModDietz} = \frac{V_1 - V_0 - CF}{V_0 + \sum_{i=1}^{n}(CF \times w_i)}$

   where,
   $w_i = \frac{CD - D_i}{CD}$
   CD = total calendar days,

   D_i = no. of calendar days from beginning of period to tie cash flow CF_i occurs.

$$V_1 = \sum_{i=1}^{n}[CF_i \times (1 + r)] + v_o(1 + r)$$

6. Sum of beginning assets and weighted external cash flows = $V_0 + \sum_{i=1}^{n}(CF \times w_i)$

7. Composite return under the beginning of period value method =

$$r_c = \sum_{i=1}^{n}\left[r_{pi} \times \frac{V_{0,pi}}{\sum_{pi=1}^{n} V_{0,pi}}\right]$$

8. Return for a portfolio under the beginning of period value and weighted cash flows (r_C) is R_C =

9. $$\sum_{i=1}^{n}\left(r_{pi} \times \frac{V_{pi}}{\sum V_{pi}}\right)$$

10. Standard Deviation of Composite (in which constituents are equally weighted) =

$$S_c = \sqrt{\frac{\sum_{i=1}^{n}(r_i - \bar{r}_c)^2}{n - 1}}$$

11. Asset weighted Standard Deviation of individual portfolio returns within a composite =

$$S_c = \sqrt{\sum_{i=1}^{n}[(r_i - \bar{r}_{proxy})^2 \times w_i]}$$

where, $\bar{r}_{proxy} = \sum_{i=1}^{n}(w_i - r_i)$

12. Position of a percentile y in an array with n entries sorted in descending order =

$$L_y = (n + 1)\frac{y}{100}$$

13. Annualized Internal Rate of Return from Value of r =

$$V_0 = \frac{CF_1}{(1 + r)^1} + \frac{CF_2}{(1 + r)^2} + \cdots + \frac{V_N}{(1 + r)^N}$$

Reading 7: The Behavioral Finance Perspective

1. Expected utility (U) = Σ (U values of outcomes × Respective Prob)

2. Subjective expected U of an individual =Σ [u (xi) × Prob (xi)]