

STAT 6046 Tutorial Week 8

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Today's plan

- Brief review of course material
- Go through selective tutorial questions

Incomes VS New money

- Incomes: interests ;dividends ;capital gains etc.
- “New money”:extra money paid into the fund that was not generated by the fund itself.
 - Injections: Additional investment
 - Withdrawals: Divestment

MONEY-WEIGHTED RATE OF RETURN (MWRR)

- Similar to IRR; One year duration
 - MWRR:
 - “The money-weighted rate of return is the interest rate satisfying the equation of value incorporating the initial and final fund values and the intermediate cash flows.”
 - Note that the equation of value used in calculating the MWRR only takes account of **new money**.
- $$AV(\text{final fund values}) = AV(\text{new moneys}) + AV(\text{initial fund values})$$

TIME-WEIGHTED RATE OF RETURN (TWRR)

- “The time-weighted rate of return is found from the product of the growth factors between consecutive cash flows”
- Growth factors $G_k = 1 + i_k = \frac{B_k}{A_k}$
- A_k : the fund value at time t_{k-1} after all transactions are completed.
- B_k : the fund value at time t_k after interest is credited but just before the cash flow due at time t_k occurs. (Exclude new money)
- $\prod_1^n G_k = G_1 G_2 \cdots G_n = 1 + TWRR$