Reading 3 Concept Map

How Modules 3.1 & 3.2 Connect

MODULE 3.1 · TIME-WEIGHTED AND MONEY-WEIGHTED RETURNS

Money flows in and out of a portfolio

Key question: **whose** performance are we measuring?

MONEY-WEIGHTED (MWR)

The **investor's** return

= IRR: PV inflows = PV outflows

Net cash flows at each date

More money in a period → more weight

Example: **13.86%**

Use when the manager controls cash flows.

TIME-WEIGHTED (TWR)

The **manager's / investment's** return

Split at each cash flow; HPR per subperiod

Link: (1 + HPR) − 1, root by years

Each period weighted equally

Example: **15.84%**

Preferred; required by GIPS (with exceptions).

Timing rule: money added before a strong period → MWR > TWR; before a weak period → MWR < TWR.

CHOOSING THE RIGHT MEASURE

Fund manager (clients control flows) → TWR

Private equity / committed capital (manager controls flows) → MWR

GIPS exceptions for MWR: manager controls flows, closed-end, fixed life, committed capital, illiquid

Indian example: SIP **XIRR** = MWR; fund CAGR = time-based

MODULE 3.2 · SECURITY MARKET INDEXES

A benchmark: the security market index

Price index → price return · Return index → total return

FIVE STEPS TO BUILD AN INDEX

1 Objective · 2 Constituents · 3 **Weighting method** · 4 Calculations · 5 **Maintenance**

Link returns: $(1 + R_1)(1 + R_2)\ldots - 1$

PRICE	EQUAL	MARKET CAP	FLOAT-ADJ.	FUNDAMENTAL
Σ prices / divisor	Average of % changes	Price × shares	Only available shares	Earnings, sales…
High price dominates	Equal vote	Big firms dominate	Nifty 50, Sensex	Value tilt
Divisor adjusts for splits	Frequent rebalancing	Self-rebalancing		Needs rebalancing

WHY THE METHOD MATTERS · MAINTENANCE

Same stocks, same year: price-weighted **12.5%**, equal **13.5%**, market cap **18.13%**

Rebalancing = restore weights (sell winners, buy losers) — mainly equal & fundamental

Reconstitution = change members; added stocks tend to rise, deleted stocks fall

Benchmark funds against a **total return** index

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