DEPARTMENT OF COMMERCE AND FINANCIAL STUDIES

BHARATHIDASAN UNIVERSITY, TIRUCHIRAPPALLI – 620024

MBA (Financial Management)

Course Code: FMEC5/21

Course Name: Financial Planning and Wealth Management

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Scheme of Presentation
Unit- III

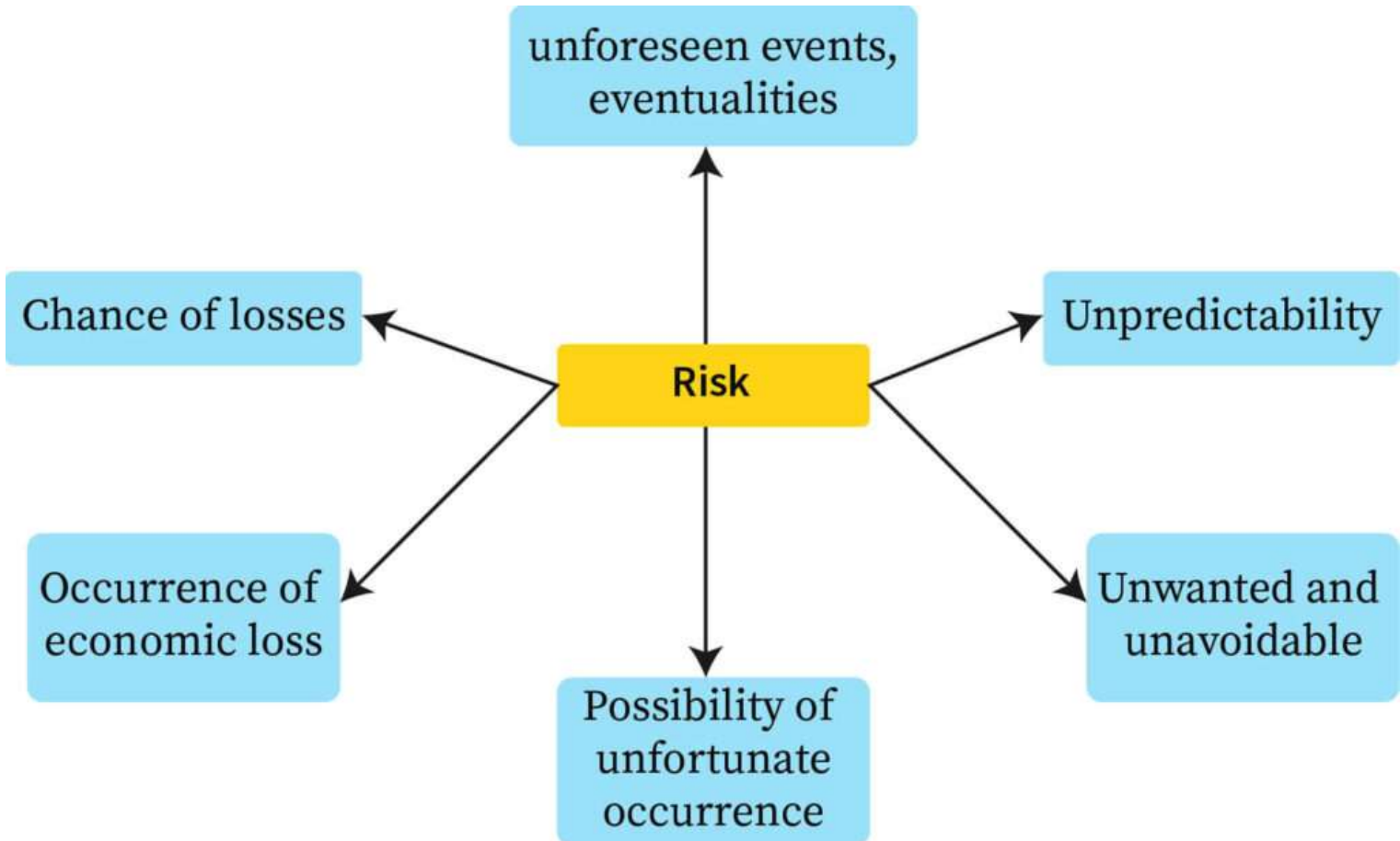
- Definition of Risk
- Types of Risk
- Risk Measurement
- Concepts of Return
- Compounding in Return
- Real rate of return vs. nominal return
- Computation of Tax adjusted return
- Computation of Risk-adjusted Returns

Meaning of Risk

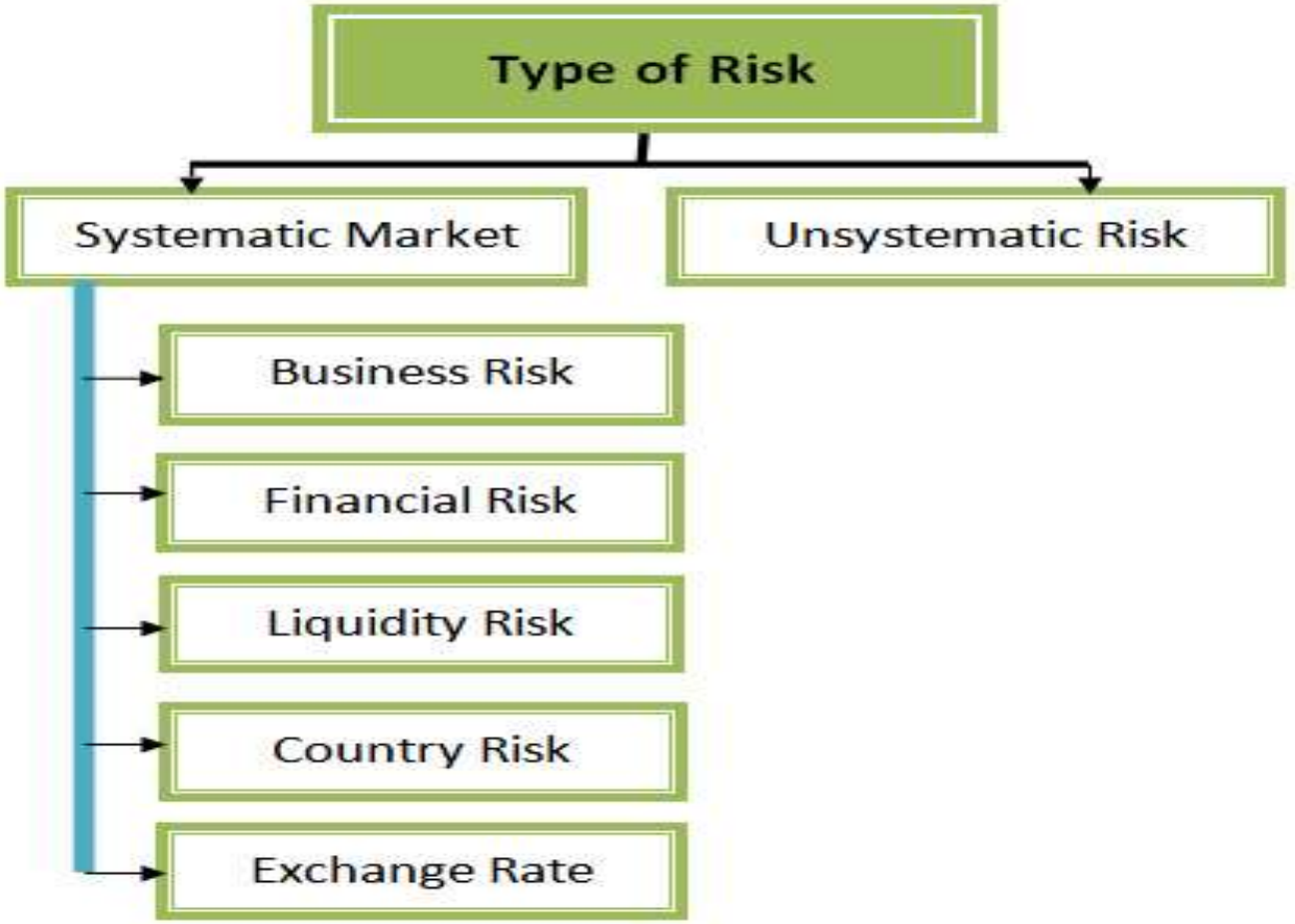
Risk is the possibility that an outcome will not be as expected, specifically in reference to returns on investment in finance. However, there are several different kinds or risk, including investment risk, market risk, inflation risk, business risk, liquidity risk and more.

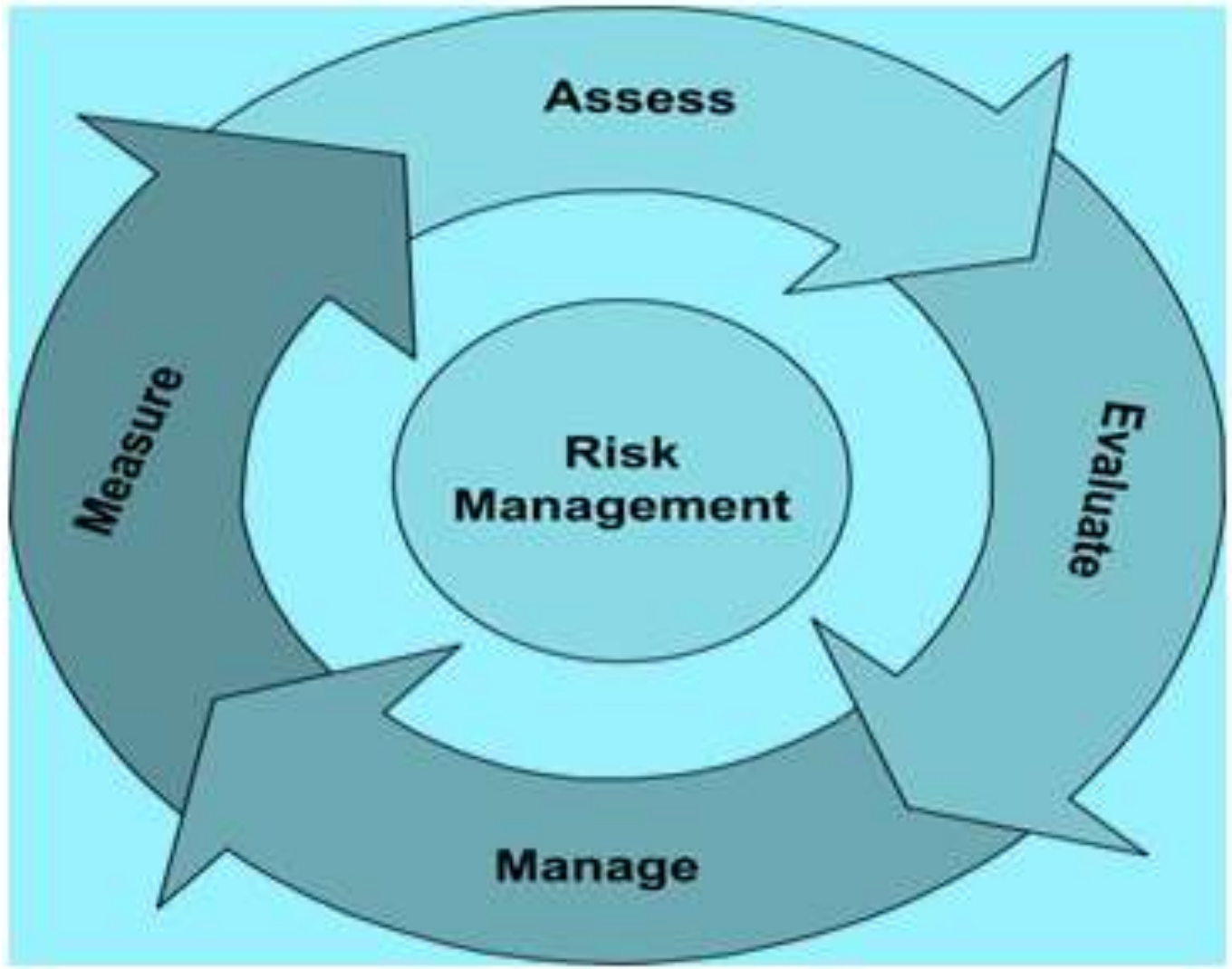
Definition for Risk

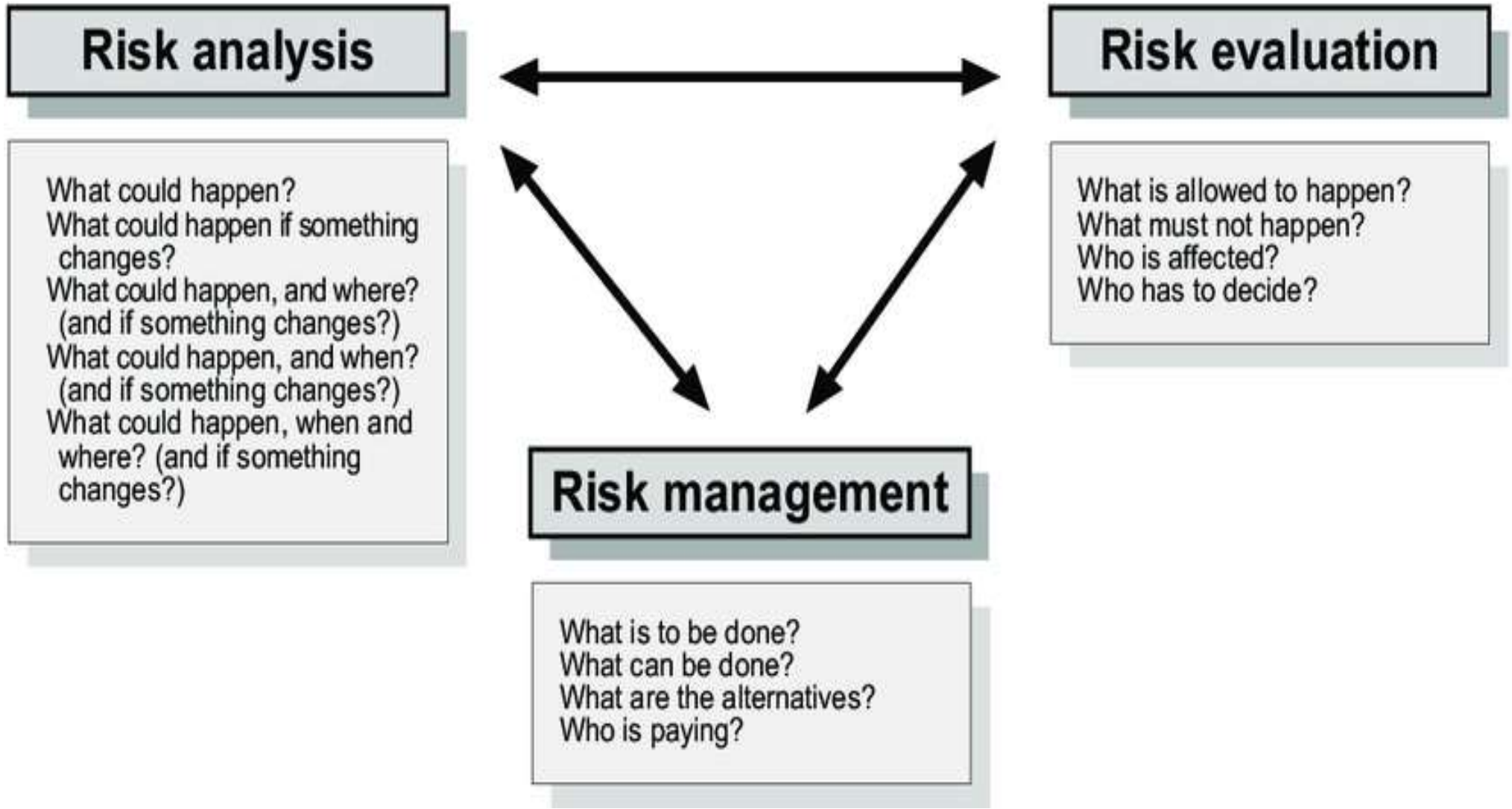
Risk implies future uncertainty about deviation from expected earnings or expected outcome. Risk measures the uncertainty that an investor is willing to take to realize a gain from an investment.


unforeseen events, eventualities
Chance of losses
Risk
Unpredictability
Occurrence of economic loss
Unwanted and unavoidable
Possibility of unfortunate occurrence

Types of Risk




Assess
Evaluate
Manage
Measure
Risk
Management


Risk analysis
What could happen?
What could happen if something changes?
What could happen, and where? (and if something changes?)
What could happen, and when? (and if something changes?)
What could happen, when and where? (and if something changes?)
Risk evaluation
What is allowed to happen?
What must not happen?
Who is affected?
Who has to decide?
Risk management
What is to be done?
What can be done?
What are the alternatives?
Who is paying?

Methods of Measuring Risk in Investments

Methods of risk Measurement

Some common method of measurement of risk are

1. Standard deviation,
2. Sharp ratio
3. Beta, value at risk (VaR),
4. Conditional value at risk (CVaR).
5. R-squared

Return

- Return is the profit or money an investor receives from an investment over a period of time. It's usually expressed as a percentage of the original investment.

- A return is the change in price of an asset, investment, or project over time, which may be represented in terms of price change or percentage change.
- A positive return represents a profit, while a negative return marks a loss.
- Returns are often annualized for comparison purposes, while a holding period return calculates the gain or loss during the entire period that an investment was held.
- The real return accounts for the effects of inflation and other external factors, while the nominal return is only interested in price change.
- The total return for stocks includes price change as well as dividend and interest payments.

Return on Investment

- Return on Investment estimates the loss and gain generated on the amount of money invested. ROI (Return on Investment) is generally expressed in the percentage to analyse an organisation’s profit or the earnings of different investments. In simple words, Return on Investments estimates what you receive back as compared to what you invest.

- Return on Investment can be used in different ways to calculate the profitability of the business. It can be used by a company to estimate inventory investments, pricing policy, capital equipment investments, etc.,

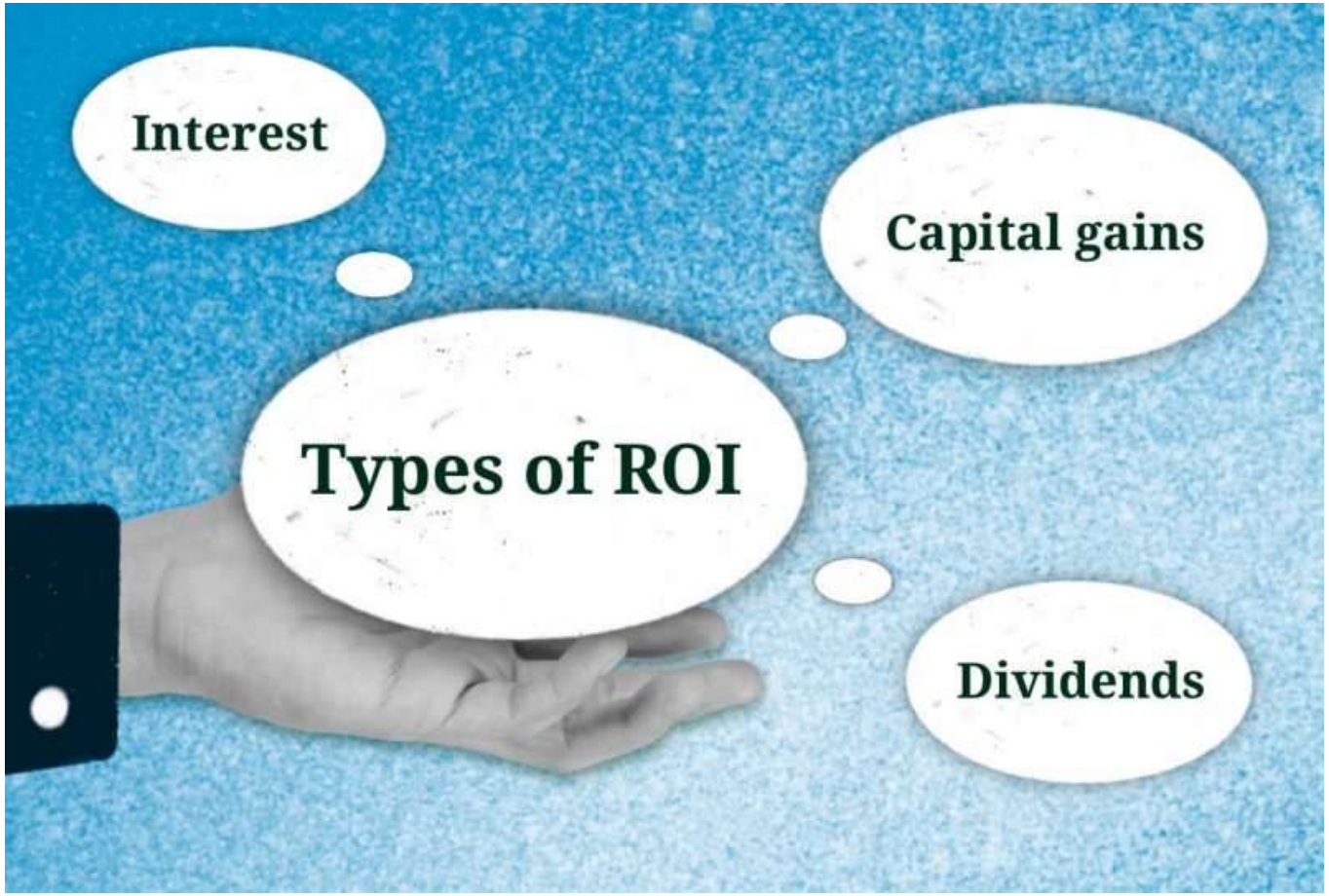
Pros of Return on Investment

- It is a tool used to calculate various financial investments of a company
- It is also used to manage which actions or projects to go after based on their prospective profitability.

Cons of Return on Investment

- Though is evaluates the potential gain from an investment, but doesn’t show you what a company have to lose.
- The traditional method for evaluating Return on Investment doesn’t show the time carried out on an investment, which can affect a company’s profitability.
- It doesn’t consider the non-financial advantages involved in a project

Return on Investment



Types of Return Measures

- Absolute Return. Absolute returns are the growth or decline in your investment.
- Annualized Return.
- Total Return.
- Point to Point Return.
- Compounded Annual Growth Rate (CAGR)
- Extended Internal Rate of Return (XIRR)

Compounding in Return

Compounding is a financial concept that allows your money to grow exponentially over time. Instead of simply earning interest on your initial investment, you also earn interest on the interest you've already earned. This creates a snowball effect that can significantly increase your wealth.

Compounding Work

1. **Initial Investment**
2. **Interest**
3. **Reinvestment**
4. **Repeat**

Factors Affecting Compounding

- **Interest Rate:** Higher interest rates lead to faster compounding.
- **Time:** The longer you let your money compound, the more significant the growth.
- **Compounding Frequency:** The more frequently interest is compounded (e.g., daily, monthly, annually), the faster your money grows.

Real Rate of Return

The real rate of return is calculated by subtracting the inflation rate from the nominal interest rate.

- The real rate of return adjusts profit for the effects of inflation.
- It is a more accurate measure of investment performance than the nominal rate of return.
- Nominal rates of return are higher than real rates of return except in times of zero inflation or deflation

The real rate of return is the annual percentage of profit earned on an investment, adjusted for inflation. It provides a more accurate picture of an investment's performance by accounting for the eroding effects of inflation.

$$\text{Real Rate of Return} = \frac{(1 + \text{Nominal Rate})}{(1 + \text{Inflation Rate})} - 1$$

Nominal Rate of Return

The nominal rate of return is the percentage change in an investment's value over a specific period, without considering factors like inflation or taxes. It's a straightforward measure that shows the raw growth of your investment.

Finance Management

NOMINAL EXCHANGE RATE vs REAL EXCHANGE RATE

Basis	NOMINAL EXCHANGE RATE	REAL EXCHANGE RATE
Meaning	It tells the currency that can be bought by 1 unit of other currency.	It compares general price level of 2 countries.
Calculation	Determined by macro factors & demand & supply of currency.	Nominal exchange rate is used to determine real exchange rate.
Exports	Used to price exports as well as imports.	Used to assess export competitiveness of country.
Use	Used in everyday foreign transactions.	Used in case of overall economy.

Tax Adjusted Returns

- Tax Adjusted Return metrics are useful for estimating the returns an investor may realize after the tax impact of distributions but before liquidating from a mutual fund, ETF, or closed-end fund. These figures use Morningstar's tax cost ratio and assume the highest income tax bracket. The figures are not adjusted for sales loads or commission charges. All distributions are assumed to be reinvested. Tax-adjusted returns are the actual returns an investor receives after accounting for the impact of taxes. This is crucial because taxes can significantly reduce your overall investment gains.

Key Factors Influencing Tax-Adjusted Returns

- **Investment Type:** Different investments have varying tax implications.
  - For example, stocks, bonds, and mutual funds are taxed differently.
- **Holding Period:** Short-term gains are generally taxed at a higher rate than long-term gains.
- **Tax Bracket:** Your income tax bracket determines the percentage of your gains you'll need to pay in taxes.
- **Tax-Advantaged Accounts:** Investments held in tax-advantaged accounts like IRAs or 401(k)s often have tax benefits

Calculation for Simple Investments

1. **Calculate the gain:** Subtract the purchase price from the selling price.
2. **Determine the tax rate:** Identify your long-term capital gains tax rate based on your income bracket.
3. **Calculate the tax:** Multiply the gain by the tax rate.
4. **Calculate the after-tax return:** Subtract the tax from the gain.

- **Tax-Loss Harvesting:** Selling a losing investment to offset gains can reduce your overall tax burden.
- **Qualified Dividends:** Dividends from certain investments might qualify for a lower tax rate.
- **State and Local Taxes:** Don't forget to consider state and local taxes, which can vary significantly.

Risk-Adjusted Return Ratios

- Risk-adjusted return is a measure that evaluates how well an investment's returns compensate for its risk. It's a crucial metric for investors as it provides a more comprehensive view of an investment's performance than simply looking at its raw return.

References

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