

Investing

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- 3 Incentive of a rational investor
- 4 Bonds

1 Investing

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Definition

Investing is related to purchase/sale of financial assets for the purpose of generating profit in the form of return. It represents an activity that results in future cash flow, while final yield may also be negative.

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In general, the return could be divided into capital return (determined by price development) and continuous cash flow return (dividends, coupons).

Instruments for financial investment:

Instruments for financial investment:

- Equity securities

Instruments for financial investment:

- Equity securities - **Stocks**

Instruments for financial investment:

- Equity securities - **Stocks**
- Debt securities

Instruments for financial investment:

- Equity securities - **Stocks**
- Debt securities - **Bonds**

Instruments for financial investment:

- Equity securities - **Stocks**
- Debt securities - **Bonds**
- Mutual fund shares

Instruments for financial investment:

- Equity securities - **Stocks**
- Debt securities - **Bonds**
- Mutual fund shares
- ETF

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- Equity securities - **Stocks**
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- ETF
- Commodities

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- Commodities (*Financial derivatives, Stocks of companies*)

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- Commodities (*Financial derivatives, Stocks of companies*)
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- Alternative investments

Instruments for financial investment:

- Equity securities - **Stocks**
- Debt securities - **Bonds**
- Mutual fund shares
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- Commodities (*Financial derivatives, Stocks of companies*)
- Currencies
- Alternative investments (*Stamps, artwork, antiques, cars, alcohol, digital assets, etc.*)

How to choose the right financial asset?

How to choose the right financial asset?



How to choose the right financial asset?



We can use securities analysis tools or insights from portfolio theory.

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Security analysis

■ Fundamental Analysis

- Fundamental Analysis
- Technical Analysis

- Fundamental Analysis
- Technical Analysis
- Behavioral Finance

Fundamental analysis

Fundamental analysis

Definition

Fundamental analysis seeks to determine the intrinsic value of a security by looking at related qualitative and quantitative economic and financial factors.

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The objective of fundamental analysis is to detect the discrepancy between the market price of an asset and its intrinsic value. So it answers the question of what to invest in.

Fundamental analysis ...

■ Global

- **Global** (*Global, national economy, monetary policy, etc.*)

Fundamental analysis ...

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- **Sector**

Fundamental analysis ...

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Fundamental analysis ...

- **Global** (*Global, national economy, monetary policy, etc.*)
- **Sector** (*Different specifics of the sector, competition*)
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Technical analysis

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Definition

Technical analysis or chart analysis is a type of securities analysis based on historical price data, price movements and trade transactions.

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Technical analysis or chart analysis is a type of securities analysis based on historical price data, price movements and trade transactions.

The goal of technical analysis is to determine the current and future trend of an asset based on market information. Compared to fundamental analysis, it provides more information for short-term decisions and transactions. The basic task of this analysis is to answer the question of when to make an investment.

Behavioral finance

Definition

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The goal of the analysis is to reveal irrationality in market development and use it to investor's advantage (oversold/overbought market).

Behavioral finance ...

Important representatives included:

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- Gustav Le Bon

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- Gustav Le Bon (*Mass behaviour*)

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- Adré Kostalany

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- George Drasnar (*Fear vs. greed*)

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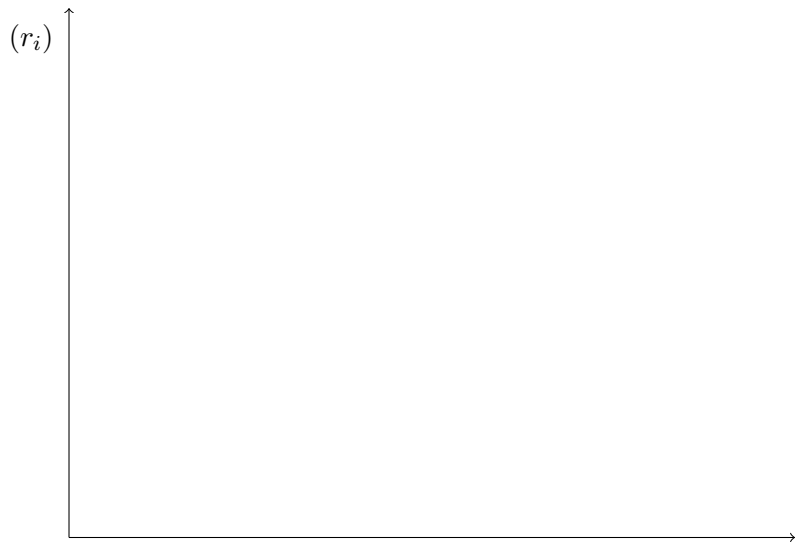
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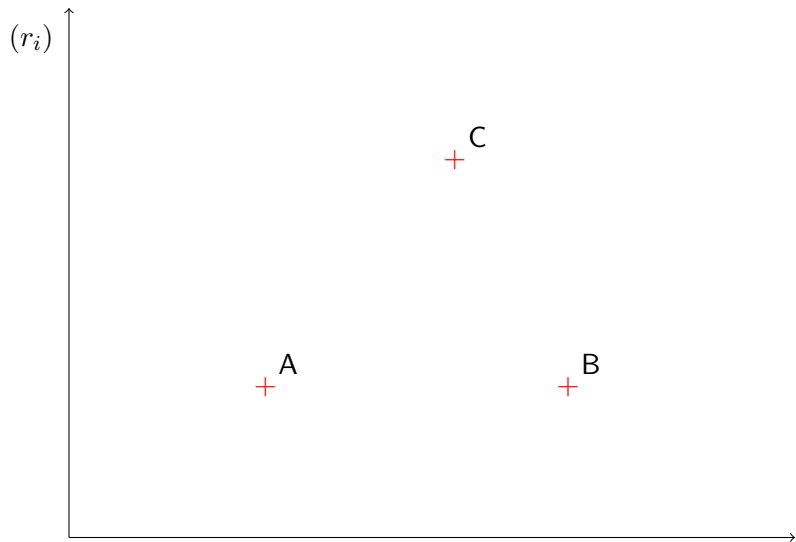
Portfolio theory

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Portfolio theory



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Plain vanilla:

Plain vanilla:

- Coupon bonds

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- Coupon bonds

$$V_0 = \frac{\sum_{i=1}^n CF_i}{(1 + ytm)^i}$$

Plain vanilla:

- Coupon bonds

$$V_0 = \frac{\sum_{i=1}^n CF_i}{(1 + ytm)^i}$$

- Zero bonds

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$$V_0 = \frac{c}{ym}$$

Components of a bond

Components of a bond

N Nominal (*Face value*)

Components of a bond

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c Coupon (%)

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ym Yield to maturity (*interest rate ...*)

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1. Determine the intrinsic value of a five-year bond if you know that face value is 100,000, the coupon is 7 % and the ytm is 8 %.
2. What should be the price of a ten-year zero-coupon bond with face value of 80,000 and a ytm of 5.5 %?
3. Calculate the price of perpetual bond with face value of 100,000,000, coupons are 4.3 % and ytm is 6.8 %.