SNS COLLEGE OF TECHNOLOGY

An Autonomous Institution
Coimbatore-35

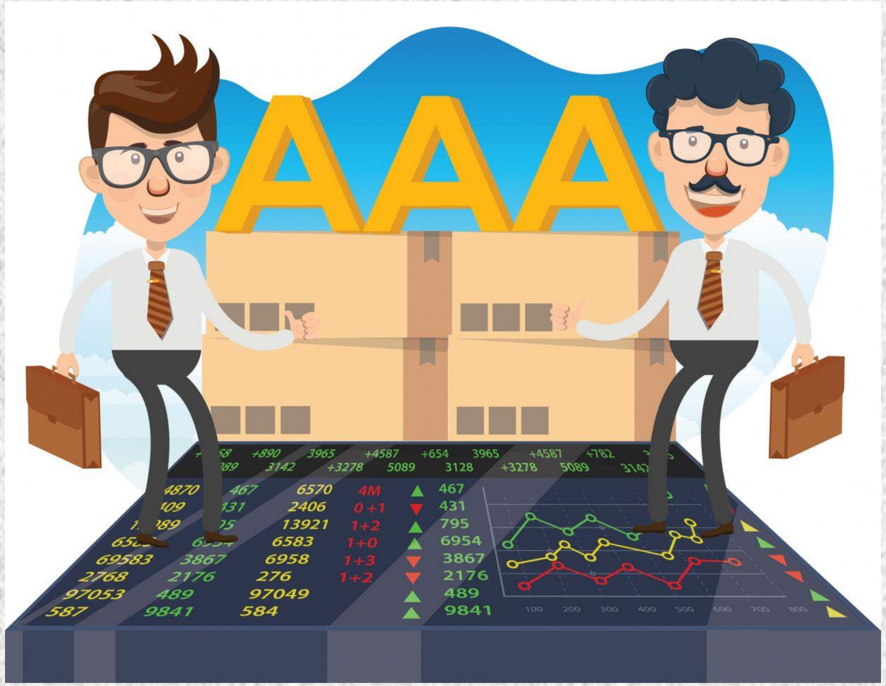
Department of Management Studies

23BBE731 – Security Analysis and Portfolio Management

II / III SEMESTER

UNIT III : Technical Analysis

Topic: Market Efficiency



Introduction to Market Efficiency

- Market Efficiency refers to how quickly and accurately **market prices reflect all available information.**
- Proposed by **Eugene Fama (1970)** as the **Efficient Market Hypothesis (EMH).**
- In an efficient market, it's **impossible to consistently achieve returns higher than average** without taking additional risk.
- Efficiency = **No information advantage.**

Core idea: Prices reflect knowledge — not luck.

Meaning of Market Efficiency

- **Efficient Market:** All investors have equal access to information.
- **Prices react instantly** to new data (earnings, news, or policies).
- **Information flow → Price adjustment → New equilibrium.**
- Eliminates chances of **arbitrage** (risk-free profit).

Efficiency ensures fairness and stability in capital markets.

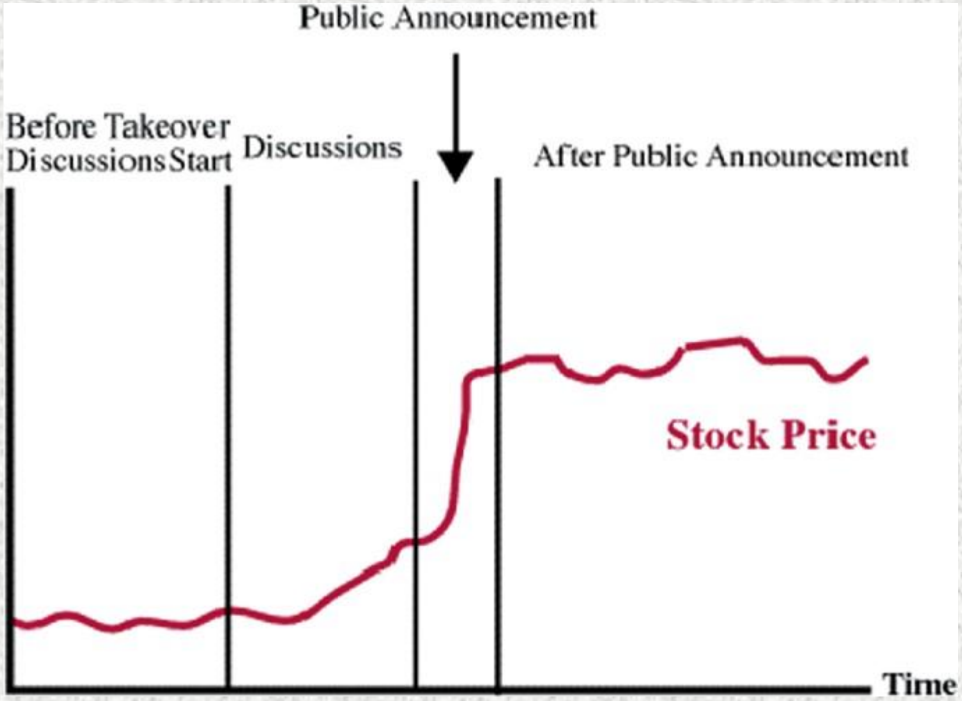
Types of Market Efficiency (Fama's Model)

Type	Description	Example
Weak Form	Prices reflect all past data (price, volume, trends).	Technical analysis becomes less useful.
Semi-Strong Form	Prices reflect all publicly available information.	Fundamental analysis adds little value.
Strong Form	Prices reflect all public & private (insider) information.	Even insiders cannot earn abnormal returns.

Assumptions of Market Efficiency

- All investors act **rationally and process information equally.**
- There are **no transaction costs** or barriers to information.
- **Information is instantly available** to everyone.
- Prices adjust **rapidly and without bias.**

Efficiency assumes perfect competition in capital markets.



Importance of Market Efficiency

- Ensures **fair pricing** of securities.
- Promotes **investor confidence** and transparency.
- Helps in **optimal capital allocation.**
- Reduces the impact of **speculation and manipulation.**
- Guides policymakers and regulators in maintaining healthy markets.

Efficient markets are the backbone of economic development.

Implications for Investors

- In an efficient market:
  - **Passive investing** (index funds) may outperform active trading.
  - **Random Walk Theory** — price changes are unpredictable.
  - Only **risk-taking or long-term strategy** yields better returns.
- Investors must rely on **diversification** rather than prediction.

Efficiency rewards consistency over speculation.

Criticism of Market Efficiency

- Real-world investors are **not always rational.**
- **Behavioral biases** (overconfidence, herd behavior) distort prices.
- **Information asymmetry** still exists.
- **Market anomalies** like January Effect, Momentum Effect challenge EMH.

Efficiency is idealistic — real markets are "efficient but not perfect.

Mapping with Design Thinking

Design Thinking Stage	Application in Market Efficiency
Empathize	Understand investor pain: lack of trust and transparency in markets.
Define	Define problem: delayed or unequal access to information.
Ideate	Develop models to test how prices react to new information.
Prototype	Simulate price movements using historical and live data.
Test	Evaluate efficiency under different market conditions.

Generative AI Connection

- **AI tools** can assess how fast and accurately markets react to new information.
- **Sentiment Analysis:** AI models read news, social media & detect information flow.
- **Predictive Modeling:** AI tests if markets behave efficiently post-announcement.
- **Generative AI dashboards** visualize inefficiencies for regulators and traders.

AI transforms EMH testing from theoretical to real-time analytics.

Real-World Application

- Stock markets like NYSE, NASDAQ, NSE exhibit semi-strong efficiency.
- Cryptocurrencies often show inefficient price behavior due to volatility.
- Efficient markets make insider trading detection easier.
- Used by regulators (like SEBI) to enhance information dissemination policies.

Efficiency links financial theory with policy and investor protection.

Summary

- Market Efficiency = Price reflects information.
- **Three forms**: Weak, Semi-Strong, Strong.
- Promotes fairness, but limited by human behavior.
- **Design Thinking + AI** can improve transparency and trust.

References

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Thank you!