



CFA

LEVEL I

Equity

泽稷网校梁老师

一级权益重难点——证券市场指数及有效市场

直播时间--北京时间19:00-20:30

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Chapter



Security Market Indices

1. Calculations of Value and Returns
2. Index Weighting Methods
3. Fixed-Income Indices

Security Market Indices

Calculations of Value and Returns

■ Price index versus total index

- ✓ A price return index reflects only price movements of the constituent securities within the index.
- ✓ A total return index includes both price and all income received(e.g. dividends)over a given period of time.
 - A more accurate measure of performance.

Security Market Indices

Calculations of Value and Returns

➤ The weighted average of returns of the constituent securities:

- $PR_t = w_1 PR_{1t} + w_2 PR_{2t} + \dots + w_n PR_{nt} = \sum_{i=1}^n w_i PR_{it}$
- $TR_t = w_1 TR_{1t} + w_2 TR_{2t} + \dots + w_n TR_{nt} = \sum_{i=1}^n w_i TR_{it}$

Security Market Indices

Calculations of Value and Returns

■ Calculation of index values over multiple time periods

✓ $V = V_0(1 + PR_1)(1 + PR_2) \dots (1 + PR_T)$

✓ $V = V_0(1 + TR_1)(1 + TR_2) \dots (1 + TR_T)$

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Security Market Indices

Index Weighting Methods

- Price Weighting 价格加权法
- Equal Weighting 等权重加权法
- Market-Capitalization Weighting 市值加权法
 - ✓ Float-Adjusted Market-Capitalization Weighting 流通市值加权法
- Fundamental Weighting 基本面加权法

Security Market Indices

Index Weighting Methods

■ Price Weighting

- ✓ 假设每只成分证券购买相同的股份数；
- ✓ 易受高价股价格变动的影响；
- ✓ 若发生拆股，则需要调整计算指数价值的分母以保证指数价值在拆股前后保持一致。



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Security Market Indices

Index Weighting Methods

■ Equal Weighting

- ✓ 假设每只成分证券购买相同的金额；
- ✓ 易受小盘股价格变动的影响；
- ✓ 为保证成分证券的权重相等，需要频繁调整各个成分证券的权重。



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Security Market Indices

Index Weighting Methods

■ Market-Capitalization Weighting

- ✓ $w_i = \frac{\text{成分证券}i\text{的总市值}}{\text{所有成分证券的总市值}}$
- ✓ 当前的指数 = 基准年份的指数 $\times \frac{\text{当前所有成分证券的总市值}}{\text{基准年份所有成分证券的总市值}}$
- ✓ 易受非流通股的影响



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Security Market Indices

Index Weighting Methods

■ Float-Adjusted Market-Capitalization Weighting

✓ $w_i = \frac{\text{成分证券}i\text{的流通市值}}{\text{所有成分证券的总流通市值}}$

✓ 当前的指数

= 基准年份的指数 $\times \frac{\text{当前所有成分证券的总流通市值}}{\text{基准年份所有成分证券的总流通市值}}$

✓ 易受高估市值股票的影响 (momentum effect) 。

Security Market Indices

Index Weighting Methods

■ Fundamental weighting

- ✓ 根据公司的基本面信息加权, 如book value, cash flow, revenues, earnings, dividends, 及number of employees 等。
- ✓ 避免了市值加权方法易受高估市值股票影响的问题。
- ✓ 具有 “value” tilt(价值倾斜), contrarian effect 的特征。

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Security Market Indices

Fixed-Income Indices

■ Indices-challenges in index construction

- ✓ 固定收益类证券的数量要远多于权益类证券。
(broader or larger)
- ✓ Dealer markets and infrequent trading.

Chapter



Market Efficiency

1. The Concept of Market Efficiency
2. Forms of Market Efficiency
3. Market Pricing Anomalies
4. Behavioral Finance

Market Efficiency

The Concept of Market Efficiency

- An informational efficient market (an efficient market) is a market in which asset prices reflect new information quickly and rationally.
 - ✓ Asset prices reflect all available information (past and present).
 - ✓ Prices should not be affected by the release of information that is well anticipated.

Market Efficiency

The Concept of Market Efficiency

Factors Contributing to and Impeding a Market's Efficiency	
Number of market participation	The larger the number of participants, the more efficient market.
Availability of information	The more available information, the more efficient the market.
Impediments to trading	Lack of information, will limit arbitrage activity and allow inefficiency to persist.
Transaction and information-acquisition costs	Higher costs of information, analysis, and trading, more inefficient of the market.

Chapter



Market Efficiency

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Market Efficiency

Forms of Market Efficiency

	Market Price Reflect:		
Forms of Market Efficiency	Past Market Data	Public Information	Private Information
Weak form	✓		
Semi-strong form	✓	✓	
Strong form	✓	✓	✓

1.Past Market Data: historical price and trading volume.

2.Public Information: financial statement data and financial market data

Market Efficiency

Forms of Market Efficiency

	Implications of the Efficient Market Hypothesis		
Forms of Market Efficiency	Technical analysis	Fundamental analysis	
Weak form	×	√	技术分析不可用
Semi-strong form	×	×	技术分析不可用 基本面分析不可用
Strong form	×	×	Nobody can win the market

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Market Efficiency

Market Pricing Anomalies

■ Calendar anomalies

- ✓ January effect (turn-of-the-year effect)：在每年一月的前5天，股票市场的收益，特别是小盘股的收益，会显著的高于其他时候。
- Explanations for January effect
 - Tax-loss selling.
 - Window dressing.

Market Efficiency

Market Pricing Anomalies

■ Momentum and overreaction anomalies

- ✓ Momentum effects have been found where high short term returns are followed by continued high returns.
- ✓ Investors overreact to the release of unexpected public information.

Market Efficiency

Market Pricing Anomalies

- Size effect: stocks of small-sized firms tend to outperform stocks of large-sized firms.
- Value effect: value stocks (those with lower price-to-earnings(P/E), lower market-to-book(M/B), and higher dividend yields) have outperformed growth stocks (those with higher P/E, higher M/B, and lower dividend yields).

Market Efficiency

Market Pricing Anomalies

- Closed-end investment fund discounts (封闭式基金折价) : closed-end funds trade at a discount from NAV.
- Earnings surprise(earning announcements) : 收益的意外增长或降低会快速地反应在股票价格上，但是价格调整的过程并不总是有效的。
- Initial public offerings(IPOs): IPO underpricing. (IPO折价)

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Market Efficiency

Behavioral Finance

- Loss aversion (损失厌恶) : refers to the tendency of people to dislike losses more than they like comparable gains.
 - ✓ Asymmetric risk aversion.
 - ✓ Can explain observed overreaction anomaly in markets.
- Herding (羊群效应) : 一个投资群体中，单个投资者往往会忽视他自己所得到的W信息或自己的分析，而根据其他同类投资者的行动而行动，在他人买入时买入，在他人卖出时卖出。

Market Efficiency

Behavioral Finance

- Overconfidence (过度自信) : 当投资者过度自信时, 往往会高估 (overestimate) 他对信息的处理能力和分析能力。
- Representativeness (代表性偏差) : 投资者评估新信息和各种结果出现的可能性是基于当前的状态或者相似的状态。
- Mental accounting (心理账户) : 投资者将不同类型的资产 (或其所带来的收益或损失) 分别对待而不是视为一个整体。

Market Efficiency

Behavioral Finance

- Conservatism (保守主义) : 在获得新信息后, 针对新信息来采取行动的过程往往比较迟缓。 (slow to react)
- Narrow framing (窄框架) : 投资者往往会将事件割裂开来看待, 他们的行为会受到问题提出的方式的影响。



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