

## Fundamentals of Alternative Investments



#### Characteristics of Alternative Investments

- Illiquidity of underlying investments
- ➤ Narrow manager specialization(精细的专业化管理)
- Low correlation with traditional investments
- Less regulation and less transparency
- Limited and potentially problematic historical risk and return data (survivorship bias, etc)
- Unique legal and tax considerations

## **Fundamentals of Alternative Investments**



### **Categories of Alternative Investments**

- ➤ Hedge Funds (对冲基金)
- ➤ Private Equity Funds (私募股权基金)
- Real estate (不动产)
- Commodities (大宗商品)

#### 注意:

- > 对冲基金和私募股权基金是投资媒介(Investing Vehicles)
- 不动产和大宗商品是投资标的,后面会介绍这两类资产的投资媒介种类

## **Fundamentals of Alternative Investments**



#### **Alternative Investment Strategies**

- Alternative investments are generally actively managed.
  - Absolute Return(绝对回报):
    - ✓ Seeking to generate returns independent of market returns (close to zero beta)
    - ✓ Typically no market index specified to beat
    - Performance objective is stated relative to a cash rate(e.g. Libor), or inflation rate



## Fundamentals of Alternative Investments



#### Alternative Investment Strategies (Cont.)

- Market Segmentation(市场细分):
  - Segmentation results from institutional, or regulatory restrictions on traditional asset managers, or from differences across investors in investment objectives or liabilities.
  - Examples of restrictions: portfolios managed relative to market indices, limitations on the use of derivatives, restrictions on foreign securities
  - These restrictions provide an opportunity for active managers to move into higher returning segments



## Fundamentals of Alternative Investments



#### Alternative Investment Strategies (Cont.)

- Concentrated Portfolios(集中投资):
  - Concentrating assets among fewer securities, strategies, or managers
  - Resulting in less diversification but potentially higher returns

## Fundamentals of Alternative Investments



#### **Benefits in Portfolio Management**

- Combining alternative investments and traditional investment in a portfolio has the following benefits:
  - Diversification opportunities due to low correlations with traditional investments
  - Potentially higher returns due to higher returns than traditional investments.
  - Potentially higher shape ratio(夏普比值)

# Tundamentals of Alternative Investments



#### **Investment Structures**

- The common structure is partnership(合伙制):
  - Limited partners (LP)有限合伙人: are investors who understand and be able to assume the risks associated with the investments.
  - **General partner (GP)**一般合伙人: runs the fund and bears unlimited liability for anything that might go wrong.

#### Fee structures

- Management fee(管理费): Based on assets under management
- Incentive fee(激励费): Based on realized profits.

## Practice



Compared with traditional investments, alternative investments are most likely to be characterized by high:

- A. leverage.
- B. liquidity.
- C. regulation.

#### A is correct.

Alternative investments are likely to use more leverage than traditional investments. Alternative investments are likely to be more illiquid and subject to less regulation.



## Summary



➤ Importance: ☆☆

#### Content:

- · Comparison of alternative and traditional investments
- · Characteristics of alternative investments
- Categories of alternative investments
- · Benefits in portfolio management
- · Investment strategies, Investment and fee structures

#### Exam tips:

- 能够识别传统和另类投资
- 重点掌握: 另类投资的特征, 另类投资在组合管理中的益处



## **Hedge Fund**



#### **Characteristics of Hedge Funds**

- Aggressively managed portfolio across asset classes, use leverage and/or derivatives, take long and short positions
- ➤ Aimed at high returns, with few investment restrictions
- Private partnership open to a limited number of investors willing and able to make a large initial investment
- ➤ Imposes restrictions on redemptions(赎回)
  - Lockup period(锁定期): a minimum period before investors are allowed to make withdrawals
  - Notice period(通知期): the amount of time to fulfill a redemption request after receiving the request





#### Funds of Hedge Funds (FOFs) (母基金)

- > FOFs are funds that hold a portfolio of hedge funds
  - Benefits
    - ✓ Making hedge funds accessible to smaller investors
    - ✓ Diversification
    - ✓ Expertise in conducting due diligence on hedge funds
    - ✓ Able to negotiate better redemption terms
    - ✓ Possible access to closed funds(封闭式基金)
  - Drawbacks
    - ✓ More complex (higher) fees structures



## Hedge Fund

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#### **Hedge Fund Strategies**

- Event-Driven Strategies(事件驱动策略) seek to profit from short term events such as acquisition or restructuring
  - Merger arbitrage(并购套利): long the stock of the company being acquired, and short the stock of the acquiring company
  - Distressed securities (危机证券): focus on securities of companies either in bankruptcy or perceived to be near to bankruptcy.

## Hedge Fund



#### **Hedge Fund Strategies**

- Event-Driven Strategies (Cont.)
  - Activist shareholder(积极股东): purchase sufficient equity to influence a company's policies or direction
    - Distinct from private equity because it invests in the public equity market
  - Special situations: focus on companies that are currently engaged in restructuring activities other than merger / acquisitions and bankruptcy

## Hedge Fund



#### **Hedge Fund Strategies**

- Relative Value Strategies(相对价值策略) seek to profit from a pricing discrepancy between related securities
  - Fixed income convertible arbitrage: market neutral (zero beta) strategies that seek to exploit a perceived mispricing between a convertible bond and its component parts.
  - Fixed Income Asset Backed: seek to take advantage of mispricing across different asset backed securities





#### **Hedge Fund Strategies**

- Relative Value Strategies (Cont.)
  - Fixed Income General: focus on the relative value within the fixed income markets.
    - E.g., trades between two corporate issuers, between corporate and government issuers, etc.
  - Volatility: use options to go long or short market volatility
  - Multi-Strategy: look for opportunities within and across asset classes



## **Hedge Fund**

#### **Hedge Fund Strategies**

- ➤ Macro Strategies (宏观策略) seek to profit from expected movements in economic variables influenced by major economic trends and events
  - · Trade opportunistically in the fixed income, equity, currency, derivatives, and commodity markets

## **Hedge Fund**



#### **Hedge Fund Strategies**

- ➤ Equity Hedge Strategies (权益对冲策略) focus on public equity markets and take long and short positions and equity derivative securities
  - · Market Neutral: Maintains a net position that is neutral with respect to market risk. Long positions in undervalued securities and short positions in overvalued securities.
  - Fundamental Growth: uses fundamental analysis to identify companies expected to have high growth, and take long positions in these companies



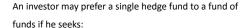
## **Hedge Fund**

#### **Hedge Fund Strategies**

- Equity Hedge Strategies (Cont.)
  - Fundamental Value: uses fundamental analysis to identify undervalued companies, and take long positions in these companies
  - Quantitative Directional: uses technical analysis to identify overvalued or undervalued companies, typically varies levels of net long or short exposure depending on the anticipated direction of the market
  - **Short Bias**: shorts overvalued equity securities
  - Sector Specific: exploits expertise in a particular sector



## **Practice**



- A. Due diligence expertise.
- B. Better redemption terms.
- C. A less complex fee structure.

#### C is correct.

Hedge funds of funds have multi-layered fee structures, while the fee structure for a single hedge fund is less complex.



## Summary



➤ Importance: ☆☆☆

Content:

- · Characteristics of hedge funds
- · Funds of hedge funds
- · Hedge fund strategies
- Exam tips:
  - 重点掌握对冲基金的基本特征
  - 重点掌握母基金的优缺点
  - 理解并能够识别对冲基金的投资策略





#### Tasks:

- Describe hedge funds including fee structures, valuation issues, and due diligence
- Calculate and interpret management and incentive fees and net-of-fees returns on hedge funds



**Hedge Fund** 

#### **Fees Structure**

- Common fee structure is "2 and 20"
  - 2% management fee and 20% incentive fee.

#### Management Fees(管理费)

Calculated on either the beginning-of-period or end-of period values of assets under management, regardless of investment performance.

#### Incentive Fees(激励费)

Calculated on profits net of management fee or on profits independent of management fees.



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## Hedge Fund

## **Incentive Fees**

- ➤ **High water mark**(高水位): The incentive fees are only paid when assets under management are above the highest value (net of fees) previously recorded
- Hurdle rate(门槛回报率): The incentive fee is only earned after the fund achieves a specified return
  - ✓ Hard hurdle rate: The incentive fees are paid only on returns in excess of the benchmark return
  - ✓ Soft hurdle rate: The incentive fees are paid on all profits only if return achieves hurdle rate



## Practice

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United Capital is a hedge fund with \$250 million of initial capital. United charges a 2% management fee based on assets under management at year end, and a 20% incentive fee based on returns in excess of an 8% hurdle rate. In its first year, United appreciates 16%. Assume management fees are calculated using end-of-period valuation. The investor's net return assuming the performance fee is calculated net of the management fee is closest to:

A. 11.58%.

B. 12.54%.

C. 12.80%.

## Solution



#### B is correct.

The net investor return is 12.54%, calculated as:

End of year capital = \$250 million x 1.16 = \$290 million;

Management fee = \$290 million x 2% = \$5.8 million;

Hurdle amount = 8% of \$250 million = \$20 million;

Incentive fee = (\$290 - \$250 - \$20 - \$5.8) million x 20% = \$2.84 million:

Total fees = (\$5.8 + \$2.84) million = \$8.64 million;

Investor net return: (\$290 - \$250 - \$8.64) / \$250 = 12.54%.

## Hedge Fund



#### Valuation Issues

- Using market prices or quotes for valuation
  - Common approach: the average quote, (bid + ask)/2.
  - Conservative approach: bid prices for long position and ask prices for short position.

## Hedge Fund



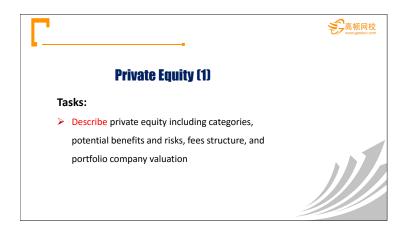
#### Valuation Issues (Cont.)

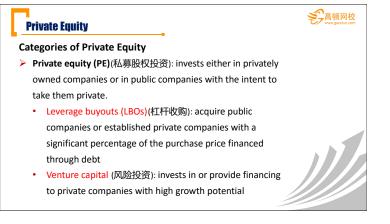
- Valuation in highly illiquid or non-traded investments
  - No reliable market values: Estimated values may be computed using statistical models.
  - Trading NAV: incorporates liquidity discounts, based on the size of the position held relative to the total amount outstanding in the issue and its trading volume.











## Private Equity

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#### Categories of Private Equity (Cont.)

- Developmental capital (发展资本): minority equity investment in mature firms that are looking for capital to expand or restructure, enter new markets, or finance acquisitions.
- Distressed investing (危机投资): invests debt of mature companies in financial difficulties in expectation of their debt increasing in value.

## Private Equity



#### **Benefits and Risks**

#### Benefits:

- · Higher average return than overall stock returns.
- Low correlation with traditional investments provides diversification opportunities.

#### Risks:

- PE indices are subject to survivorship bias(生存偏差) and backfill bias(回填偏差)
- PE firms may not regularly value their investments, leading to underestimation of volatility and correlations with other investment.

## Private Equity



#### **Fees Structure**

- Management fees: are calculated on committed capital (承诺投资金额)(the amount that LPs have agreed to provide to the private equity fund)
- Incentive fees: GP does not earn an incentive fee until the LPs have received initial investment back.
  - Claw back provision(回拨条款): requires the GP to return any incentive fees previously received until the LPs have received back initial investment and 80% of the total profit.



# Private Equity

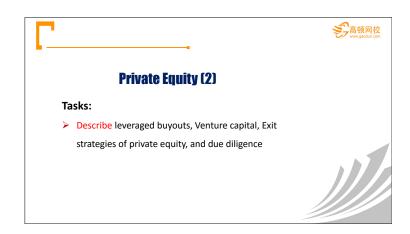


#### **Portfolio Company Valuation**

- Market/comparables approach: Value a company using estimate multiples of EBITDA, net income or revenue.
- Discounted after-tax cash flow approach: values a company as the present value of the relevant expected future cash flows
- Asset-based approach: Based on the values of its underlying assets less the value of any related liabilities.











## Private Equity

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#### Venture Capital (风险投资)

- ➤ Formative stage (成型阶段)
  - Angel investing(天使投资): provided at idea stage, funds may be used to transform the idea into a business plan and to assess market potential.
  - Seed stage(种子期) financing: Supports product development and/or marketing efforts, generally the first stage at which VC funds invest
  - Early stage(早期) financing: Financing may be provided to initiate commercial production and sales.

## Private Equity



#### **Venture Capital (Cont.)**

- Later stage(后期) financing: used for expansion of production and increasing sales.
- ➤ **Mezzanine-stage**(成熟期/夹层融资) **financing:** Provided to prepare to go public.

## Private Equity



#### Exit Strategies (退出策略)

- Trade Sale(同行出售): Sale of a company to a strategic buyer such as a competitor of the company
- > IPO(Initial Public Offerings): potential for the highest price
- Recapitalization(资本结构调整): A company issues debt to fund a dividend distribution to equity holders.
  - · Not a true exit strategy as PE maintains control
  - · Popular strategy when interest rates are low
  - A prelude to a later exit
- > Secondary Sales(二次出售): sale to another PE/other investors.
- > Write-off/Liquidation(清算)

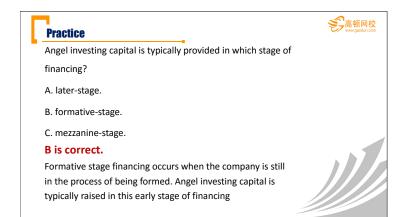
## Private Equity



#### **Due Diligence**

- > GP's experience and knowledge on finance and operation
- Valuation methodology used
- > The alignment of GP's incentives with the interests of LPs
- > The plan to draw on committed capital
- > The planned exit strategies











## Real Estate

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#### Forms of Real Estate Investment

	Debt	Equity
Private (Direct)	Mortgages     Construction lending	Direct ownership of real estate (sole ownership, joint ventures, real estate limited partnerships, etc)
Public (Indirect)	<ul><li>Mortgage-backed securities (MBS)</li><li>Collateralized mortgage obligations</li></ul>	Shares in real estate corporations     Shares of real estate investment trusts (REITs)





#### Appraisal index

- Use estimates of value as inputs to the indices.
- > Data from comparable sales and cash flow analysis techniques.
- Subjective, understate volatility.

#### Repeat sales (transaction-based) index

- Use repeat sales of properties to construct the indices.
- Sample selection bias.

#### **REIT index**

- Use the prices of publicly traded shares of REITs to construct the indices.
- More frequently traded, more reliable is the index.

## Real Estate



#### Valuation Method

- Comparable sales approach
  - Approximate value based on recent sales of similar properties
  - · Adjustments: Condition, age, location, and size

#### Income approach

- Calculating the present value of expected future cash flow from property ownership
- Dividing the net operating income (NOI) by a capitalization rate



## Real Estate



#### Valuation Method (Cont.)

#### Cost approach

- Evaluate the replacement cost of the property by estimating the value of the land and the costs of rebuilding using current construction costs and standards.
- · Adjustments: Condition, age, location

## Real Estate

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#### Real Estate Investment Risks

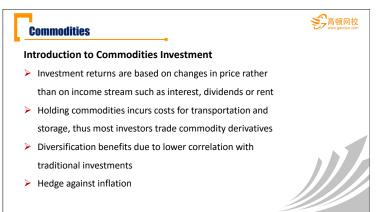
- Property values are subject to variability based on national and global economic conditions, local real estate conditions, and interest rate levels
- Property development is subject to regulatory issues, construction delays, and cost overruns
- Leverage increases the risk to equity investors and also debt investors





- ➤ Importance: ☆☆
- Content:
- · Reasons for investing real estate
- · Forms of real estate investments
- · Performance measurements using index
- · Valuation methods
- · Real estate investment risks
- Exam tips:
- 了解不动产投资的优势和风险,投资方式,业绩计算方法, 和估值方法





#### . Commodities

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#### **Commodity Investment Vehicles**

- Commodity derivatives
- Commodity Exchange-traded Funds (ETF)
- Equities directly linked to a commodity (e.g., shares of commodity producer)
- Managed futures funds
- Individual managed accounts (Managed on behalf of high) net worth individuals or institutional investors.
- Specialized funds in specific commodity sectors (e.g., private energy partnerships)

## Commodities



#### **Commodity Futures**

Futures price ≈ Spot price(1 + r) + storage costs - convenience yield

- > Futures prices may be higher or lower than spot prices depending upon the convenience yield (便利收益率)
  - Futures price > Spot price
    - ✓ Contango(期货溢价): little or no convenience yield
  - Futures price < Spot price
    - ✓ Backwardation(现货溢价): high convenience yield



## **Commodities**



#### **Sources of Commodity Futures Returns**

- > Collateral Yield: The interest earned on collateral
- Roll Yield: results from the convergence of spot price and futures price
  - Roll yield is positive in backwardation and negative in contango.
- Yield from changes in spot price

## Practice



If a commodity's convenience yield is close to zero, the futures market for that commodity is most likely:

- A. in backwardation.
- B. in contango.
- C. at fair value.

#### B is correct.

Futures price ≈ Spot price (1 + risk-free rate) + storage costs

- convenience yield. If the convenience yield is close to zero, it is likely that the futures price exceeds the spot price.

## Summary



➤ Importance: ☆☆

#### Content:

- · Introduction to commodity investments
- · Commodity investments vehicles
- · Commodity futures and its returns

#### Exam tips:

- 了解大宗商品的投资特征和类型。
- 重点了解大宗商品期货收益,期货溢价和现货溢价的相关概念。

# Risk Management of Alternative Investments

#### Tasks:

Describe risk management of alternative investments

## **Risk Management of Alternative Investments**



#### **Important Risk Considerations**

- Standard deviation of returns may be a misleading measure of risk
  - · Returns does not follow normal distribution
  - Valuations based on estimates, rather than observable market prices, lead to understated standard deviation
  - Sharpe ratio may be biased upward

## Risk Management of Alternative Investments



#### Important Risk Considerations (Cont.)

- ➤ Investors should consider downside risk measures such as VaR(风险价值) and Sortino ratio(索提诺比率)
- Use of derivatives introduces operational, financial, counterparty, and liquidity risk
- Risk is not just that of holding an asset but also risk of management underperformance
- > Hedge funds and PE funds are much less transparent

## Risk Management of Alternative Investments



## **Important Risk Considerations (Cont.)**

- ➤ Many alternative investments are illiquid
- Past returns and volatility may not be good indicators of future returns and volatility
- > Correlations vary across periods and are affected by events

