融跃财经
RONGYUE FINANCE

Alternative Investment

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CFA Level One Exam Topic Structure

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Hedge Fund

Private Equity

Real Estate

Commodities

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Alternative investments v.s. traditional investments

- *Illiquidity of underlying investments*
- *Narrow manager specialization*
- *Low correlation with traditional investment.*
- *Low level of regulation and less transparency.*
- *Limited and potentially problematic historical risk and return data.*
- *Unique legal and tax considerations.*

Strategies and Structures

- *Total return=Alpha return + Beta return*

- *Alpha-seeking strategies：*
  1. *Absolute return*
  2. *Market segmentation*
  3. *Concentrated portfolios*

- *The most common structure for many alternative investments is partnership.*

Hedge Fund

✓ *It is an aggressively managed portfolio of investments across assets classes and regions that is leveraged, takes long and short positions, and/or uses derivatives.*

✓ *It has a goal of generating high returns, either in an absolute sense or over a specified market benchmark and has few, if any, investment restrictions.*

✓ *It is set up as a private investment partnership open to a limited number of investors willing and able to make a large initial investment.*

✓ *It often imposes restrictions on redemptions.*

- *Lockup period: investors are required to keep their money in the hedge fund for a minimum period.*
- *Notice period: typically 30 to 90 days in length, investors are required to give notice of their intent to redeem.*

Fund of Funds (FOF)

Invests in a portfolio of hedge funds.

- *Diversification.*
- *The investors may invest in a portfolio of hedge funds with limited capital.*
- *The management fee will decrease the investor's returns.*

Hedge Fund Strategies

Event-Driven Strategies

➢ *Merger arbitrage*

- *Buying the stock of the company being acquired and selling the stock of the acquiring company when the merge is announced.*
- *The acquirer may overpay for the acquisition and perhaps suffer from an increased debt load.*
- *Risk: the announced merger or acquisition does nor occur.*

➢ *Distressed/restructuring*

- *Focus on the securities of companies either in bankruptcy or perceived to be near to bankruptcy.*
- *Simply purchase fixed income securities trading at a significant discount to par.*
- *Buy senior debt and short junior debt or buy preferred stock and short common stock.*

Hedge Fund Strategies

Event-Driven Strategies

➢ *Activist shareholder*

◈ *Purchase of sufficient equity in order to influence a company's policies.*

◈ *The activist hedge fund may advocate for divestitures, restructuring, capital distribution, or changes in management and company strategy.*

➢ *Special situations*

◈ *Focus on opportunities in the equity of companies that are currently engaged in restructuring activities other than merge/acquisitions and bankruptcy. (security issuance/repurchase, special capital distributions and assets sales/spin-offs)*

Hedge Fund Strategies

Relative value Strategies

➢ *Convertible arbitrage fixed income*

◈ *Market neutral investment strategies that seek to exploit a perceived mispricing between a convertible bond and its component parts.(buying convertible debt securities and selling the same issuer's common stock.*

➢ *Asset-backed fixed income*

◈ *Focus on the relative value between a variety of asset-backed securities(ABS) and mortgage-backed securities(MBS) and seek to take advantage of mispricing.*

Hedge Fund Strategies

Relative value Strategies

➢ *General fixed income*

◈ *focus on the relative value within the fixed income markets: between two corporate issuers; corporate and government issuers; different parts of the same issuer's capital structure; different parts of a issuer's yield curve.*

➢ *Volatility*

◈*Typically use options to go long or short market volatility either in a specific asset or across asset classes.*

➢ *Multi-strategy*

◈*Does no focus upon one type of trade but looks for investment opportunities wherever they might exist.*

Hedge Fund Strategies

Macro strategies

- *Emphasize a top down approach to identify economic trends evolving across the world.*

Equity hedge fund strategies

Market neutral

- *Use quantitative(technical) and/or fundamental analysis to identify under-and over-valued securities. The hedge fund take long positions in undervalued securities and short positions in overvalued securities, tries to maintain a net position that is neutral with respect market risk.(Beta=0)*

Fundamental growth

- *Use fundamental analysis to identify companies expected to exhibit high growth and capital appreciation.(long position)*

Hedge Fund Strategies

Equity hedge fund strategies

➢ *Fundamental value*

◈ *Use fundamental analysis to identify companies that are undervalued.(long position)*

➢ *Quantitative directional*

◈ *Use technical analysis to identify companies that are under- and over-valued.*

➢ *Short bias*

◈ *Use quantitative and/or fundamental analysis to identify overvalued equity securities.*

➢ *Sector specific*

◈ *Exploit expertise in a particular sector and use quantitative and fundamental analysis to identify opportunities in the sector.*

Hedge Fund Fees

Management fee + Incentive fee

✓ Management fees: the values of assets under management(beginning-of-period or end-of-period).

✓ “2 and 20”: 2% management fee + an incentive fee of 20% of profit.

✓ Profit :
- (1) any gains in value,
- (2) any gains in value in excess of the management fee,
- (3) gains in excess of a hurdle rate (fixed or floated).

Other Considerations

✓ Leverage and Redemption
✓ Valuation Issues

EXAMPLE 2

Fee and Return Calculations

AWJ Capital is a hedge fund with $100 million of initial investment capital. It charges a 2% management fee based on year-end AUM and a 20% incentive fee. In its first year, AWJ Capital has a 30% return. Assume management fees are calculated using end-of-period valuation.

1. What are the fees earned by AWJ if the incentive and management fees are calculated independently? What is an investor's effective return given this fee structure?

2. What are the fees earned by AWJ assuming that the incentive fee is calculated based on return net of the management fee? What is an investor's net return given this fee structure?

3. If the fee structure specifies a hurdle rate of 5% and the incentive fee is based on returns in excess of the hurdle rate, what are the fees earned by AWJ assuming the performance fee is calculated net of the management fee? What is an investor's net return given this fee structure?

In the second year, the fund value declines to $110 million.

4. The fee structure is as specified for Question 1 but also includes the use of a high-water mark (computed net of fees). What are the fees earned by AWJ in the second year? What is an investor's net return for the second year given this fee structure?

In the third year, the fund value increases to $128 million.

5. The fee structure is as specified in Questions 1 and 4. What are the fees earned by AWJ in the third year? What is an investor's net return for the third year given this fee structure?

6. What are the arithmetic and geometric mean annual returns for the three-year period based on the fee structure specified in Questions 1, 4, and 5? What is the capital gain to the investor for the three-year period? What are the total fees paid to AWJ for the three-year period?

Solution to 1:

AWJ fees

$130 million × 2% = $2.6 million management fee

($130 – $100) million × 20% = $6 million incentive fee

Total fees to AWJ Capital = $8.6 million

Investor return: ($130 – $100 – $8.6) million/$100 million = 21.40%

Solution to 2:

$130 million × 2% = $2.6 million management fee

($130 – $100 – $2.6) million × 20% = $5.48 million incentive fee

Total fees to AWJ Capital = $8.08 million

Investor return: ($130 – $100 – $8.08) million/$100 million = 21.92%

Solution to 3:

$130 million × 2% = $2.6 million management fee

($130 – $100 – $5 – $2.6) million × 20% = $4.48 million incentive fee

Total fees to AWJ Capital = $7.08 million

Investor return: ($130 – $100 – $7.08) million/$100 million = 22.92%

Solution to 4:

$110 million × 2% = $2.2 million management fee

No incentive fee because the fund has declined in value.

Total fees to AWJ Capital = $2.2 million

Investor return: ($110 – $2.2 – $121.4) million/$121.4 million = −11.20%

The beginning capital position in the second year for the investors is ($130 − $8.6) million = $121.4 million. The ending capital position at the end of the second year is ($110 − $2.2) million = $107.8 million.

Solution to 5:

\$128 million × 2% = \$2.56 million management fee

(\$128 – \$121.4) million × 20% = \$1.32 million incentive fee.

The \$121.4 million represents the high-water mark established at the end of Year 1.

Total fees to AWJ Capital = \$3.88 million

Investor return: (\$128 – \$3.88 – \$107.8) million/\$107.8 million = 15.14%

The ending capital position at the end of Year 3 is \$124.12 million. This amount is the new high-water mark.

Solution to 6:

Arithmetic mean annual return = (21.4% – 11.20% + 15.14%)/3 = 8.45%

Geometric mean annual return = [Cube root of (124.12/100)] – 1 = 7.47%

Capital gain to the investor = (\$124.12 – \$100) million = \$24.12 million

Total fees = (\$8.6 + \$2.2 + \$3.88) million = \$14.68 million

EXAMPLE 3

An investor is contemplating investing €100 million in either the ABC Hedge Fund (ABC HF) or the XYZ Fund of Funds (XYZ FOF). XYZ FOF has a "1 and 10" fee structure and invests 10% of its AUM in ABC HF. ABC HF has a standard "2 and 20" fee structure with no hurdle rate. Management fees are calculated on an annual basis on AUM at the beginning of the year. Management fees and incentive fees are calculated independently. ABC HF has a 20% return for the year before management and incentive fees.

1. Calculate the return to the investor from investing directly in ABC HF.

2. Calculate the return to the investor from investing in XYZ FOF. Assume that the other investments in the XYZ FOF portfolio generate the same return before management fees as ABC HF and have the same fee structure as ABC HF.

3. Why would the investor choose to invest in an FOF instead of an HF given the effect of the "double fee" demonstrated in the answers to Questions 1 and 2?

Solution to 1:

ABC HF has a profit before fees on a €100 million investment of €20 million (= 100 million × 20%). The management fee is €2 million (= €100 million × 2%), and the incentive fee is €4 million (= 20 million × 20%). The return to the investor is 14% (= [20 – 2 – 4]/100).

Solution to 2:

XYZ FOF earns a 14% return or €14 million profit after fees on €100 million invested with hedge funds. XYZ FOF charges the investor a management fee of €1 million (= €100 million × 1%) and an incentive fee of €1.4 million (= €14 million × 10%). The return to the investor is 11.6% (= [14 – 1 – 1.4]/100).

Solution to 3:

This scenario assumed that returns were the same for all underlying hedge funds. In practice, this result will not likely be the case, and XYZ FOF may provide due diligence expertise and potentially valuable diversification.

Biases in Hedge Funds Performance Measurement

- ***Survivorship Bias – understated risk & overstated return.***
- ***Self-selection bias (cherry pick) – overestimate returns.***
- ***Backfilling bias.***

Private Equity

Private Equity Strategies

Leveraged buyouts (LBO)

LBOs are the most common type of private equity fund investment.

- Management buyouts (MBO)

The current management team is involved in the acquisition.

- Management buy-ins (MBI)

the existing management team is being replaced and the acquiring team will be involved in managing the company .

Private Equity Strategies

Venture capital (VC)

- ✓ ***Formative stage***
  - ***•Angel investing***
  - ***•Seed-stage***
  - ***•Early stage***
- ✓ ***Later-stage***
- ✓ ***Mezzanine-stage financing***

Developmental capital (minority equity investing)

Earns profits form funding business growth or restructuring.
Publicly quoted companies sometimes seek private equity capital, referred to as Private investment in public equities (PIPEs)

Distressed investing

Purchasing the debt of troubled companies.

Private Equity Structure

- *PE funds are typically structured as limited partnerships.*
- *Committed capital*
- *Management fees (typically 1% to 3% of committed capital).*
- *Incentive fees (20% of the profit).*
- *Claw-back provision requires the GP to return any funds distributed as incentive fees until the LPs have received back their initial investment and the percent of the total profit.*

Exit strategies

Trade Sales

- *Sale of a company to a strategic buyer such as a competitor.*
- *Can be conducted through an auction process or by private negotiation.*
- ***Benefit:***
  - ✓*An immediate cash exit for the private equity fund;*
  - ✓*Potential for high valuation of the because of anticipated synergies;*
  - ✓*Fast and simple execution;*
  - ✓*Lower transaction costs than IPO;*
  - ✓*Lower levels of disclosure and higher confidentially.*
- ***Disadvantage:***
  - ✓*Possible opposition by management;*
  - ✓*Lower attractiveness to employees of the portfolio company;*
  - ✓*Limited number of potential trade buyers;*
  - ✓*Lower price than in an IPO;*

Exit strategies

IPO

- Selling its shares to public investors through an IPO;
- **Advantage:**
  - ✓Potential for the highest price;
  - ✓Management approval since they are retained;
  - ✓Publicity for the private equity firm;
  - ✓Potential ability to retain future upside potential as the private equity firm may choose to remain a large shareholder.
- **Disadvantage:**
  - ✓High transaction costs paid to investment banks and lawyers
  - ✓Long lead times;
  - ✓Risk of stock market volatility;
  - ✓High disclosure requirement;
  - ✓Potential lock-up period;
  - ✓Only appropriate for larger companies with attractive growth profiles.

Exit strategies

Recapitalization

- *Very popular strategy when interest rates are low as the private equity firm re-leverages or introduces leverage to the company and pays itself a dividend; a recapitalization is often a prelude to a later exit.*

Secondary sale

- *a sale to another private equity firm or other group of investors;*

Write-off/Liquidation

- *liquidating the portfolio company to move on to other projects;*

PE Company Valuation

➢ *Market/comparables approach*

◈ *Values a company or its equity using multiples of different measure(EBITDA, NI, Revenue…).*

➢ *Discounted cash flow approach*

◈ *Values a company or its equity as the present value of the relevant expected future cash flows.(future free cash flow, capitalization rate)*

➢ *Asset-based approach*

◈ *Values a company based on the values of its underlying assets less the value of any related liabilities.*

EXAMPLE 7

A private equity fund is considering purchasing a radio broadcaster that had an EBITDA of $200 million. In the past year, three radio broadcasting companies were sold for 8 × EBITDA, 10 × EBITDA, and 9 × EBITDA. Based on this information, the maximum value the private equity fund is most likely to assign to the broadcaster is:

A. $1,600 million.

B. $1,800 million.

$2,000 million.

Solution:

C is correct. The maximum value the private equity fund is most likely to assign is that using the highest multiple (10 × $200 million = $2,000 million). The minimum value the seller may be willing to accept is that using the lowest multiple. In negotiations, growth prospects, risk, size, current market conditions, and so on will be considered.

Real Estate

1/ Potential for competitive long-term total returns;

2/ Lessen cash flow impact from economic shocks;

3/ Diversification benefits; 4/ Inflation hedge

Real Estate Investment Categories

Residential property

◈ *Direct equity investment in a residence with the intent to occupy; financial institutions are the main providers of debt financing for home ownership.*

Commercial real estate property

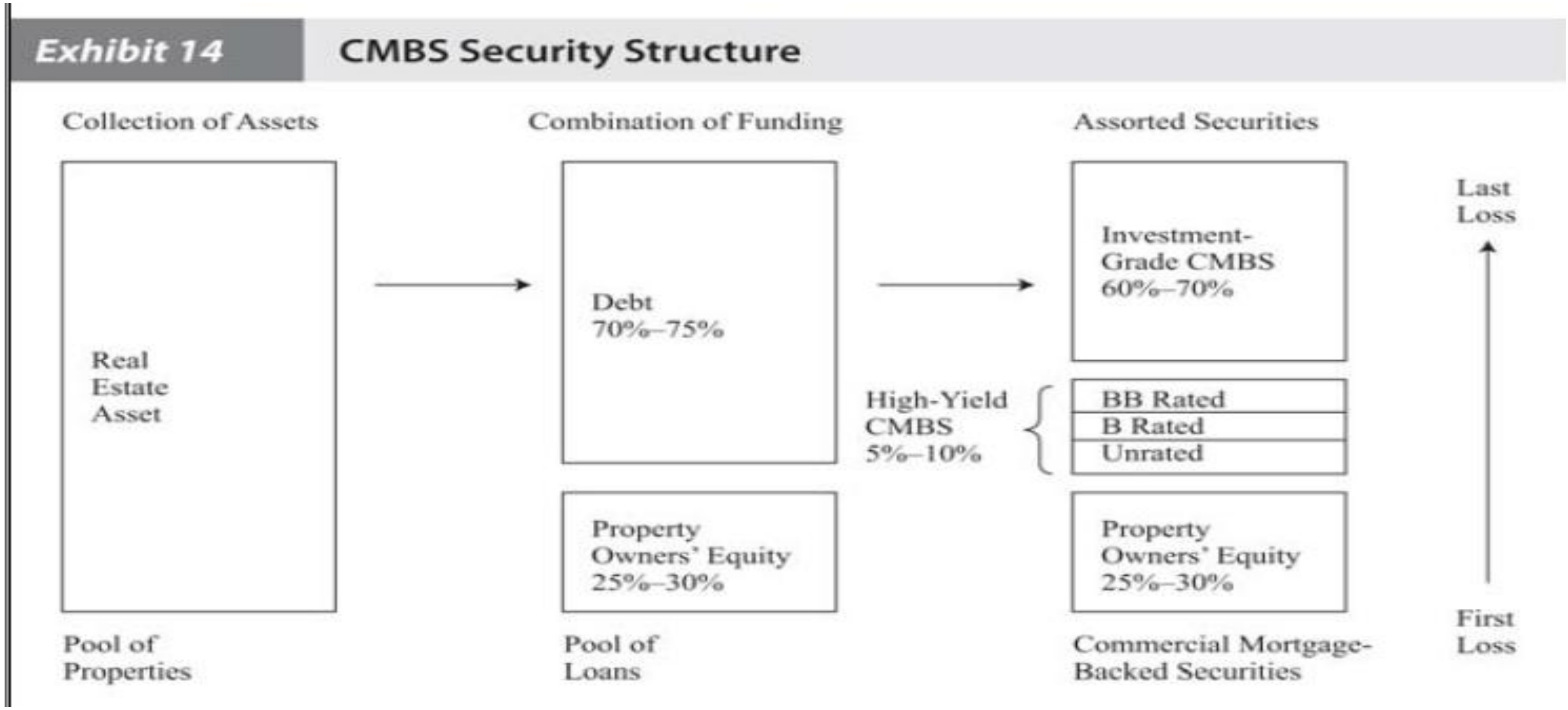
◈ *Direct investment for institutional funds or high-net-worth individuals with long time horizons and limited liquidity needs.*

REIT investing

◈ *Mortgage REITs are similar to fixed income investment; Equity REITs are similar to direct equity investments in leveraged real estate.*

Real Estate Investment Categories

MBS(mortgage-Backed Securities)



◈ *Based on the securitization model of buying a pool of assets and assigning the income and principal returns into individual security tranches.*

Real Estate Investment Categories

Timberland and farmland

- *Timberland offers an income stream based on the sale of timber products as a component of total return and has historically provided a return that is not highly correlated with other asset classes.*
- *Farmland's returns include an income component related to harvest quantities and agricultural commodity price.*
- *Often perceived to provide a hedge against inflation.*

Three Methods to value Real Estate

I. comparable sales method

◈ *Determining an approximate value based on recent sales of similar properties.(key characteristics include condition, age, location, and size.*

II. Income Approach

◈ *Direct capitalization approach: NOI/Capitalization rate*

◈ *Discounted cash flow approach: Present value of future cash flow*

III. Cost Approach

◈ *Evaluates the replacement cost of the property by estimating the value of the land and the costs of rebuilding using current construction costs and standards.*

Commodities

Commodity derivatives: futures, forwards

◈ *Futures and forward contracts are obligations to buy or sell a specific amount of a given commodity at a fixed price, location, and date in the future;*

Commodity derivatives: options

◈ *Options contracts give their holders the right but not obligation to buy or sell a specific amount of a given commodity at a specified price and delivery location on or before a specified date in the future;*

Commodity derivatives: swaps

◈ *Swaps contracts are agreements to exchange streams of cash flows between tow parties based on future commodity or commodity index prices.*

Commodities

Other Commodity investment vehicles

Exchange-traded funds (Commodity ETF)

◈ *May be suitable for investors who can only buy equity shares or seek the simplicity of trading them; ETFs may invest in commodities or futures of commodities seeking to track the performance of the commodities.*

Common stock of companies exposed to a particular commodity

◈ *Common stock of companies exposed to a particular commodity; investors may consider owning shares in a few commodity-exposed companies in order to have a small exposure to commodities; it is unclear that the performance of these stocks closely tracks the performance of the underlying commodity*

Commodities

Commodity investment vehicles

Managed futures funds

- *Actively managed investment funds, professional money managers invest in the futures market on behalf of the funds.*

Individual managed accounts

- *Managed by chosen professional money managers with expertise in commodities and futures on behalf of high net worth individuals or institutional investors.*

Funds exist that specialize in specific commodity sectors

- *Private energy partnerships, publicly available energy mutual funds...*

Commodity Futures Pricing

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

Futures returns = Change in spot prices + Collateral yield + Roll yield

Roll yield

Roll yield : the difference between the spot price of a commodity and and the price specified by its futures contract.

Collateral yield

The interest earned on the collateral posted as a good-faith deposit for the future contracts.

Spot prices

The primary determinant of spot prices is the relationship between current supply and demand.

Commodity Futures Pricing

Contango

futures price > spot price

Backwardation

futures price < spot price

- *Contango: negative roll yield.*
- *Backwardation: positive roll yield.*

Infrastructure

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THANKS