SSEI
Sanjay Saraf Educational Institute Pvt. Ltd.
A positive NPV Training Center

CFA LEVEL 1

MARATHON SERIES

ALTERNATIVE INVESTMENTS

Question 1:

A hedge fund has USD 500 million of initial capital. The fund charges a 2.0% management fee and a 18.0% incentive fee based on returns that exceed a 6.0% hurdle rate. Over a year, the fund increases in value by 20.0%. Assuming that management fees are calculated using beginning-of-year assets under management and that the performance fee is calculated net of the management fee, a fund investor's return, net of fees, is *closest* to:

A. 13.20%

B. 15.48

C. 15.84%

Solution:

C is correct.

Hedge funds typically charge both a management fee and an incentive fee. The **management fee** is calculated as a percentage of the **total value** of the fund's assets (i.e. **assets under management** [AUM]). It is assessed each year regardless of whether the fund earned a profit or incurred a loss. In this instance, the fund's management fee is USD 10 million, (500 × 2%)

The **incentive fee** is based on the fund's **profits**. In this case, the fund earned 20% over the year, resulting in total profits of USD 100 million (ending AUM − beginning AUM or 600-500). When the incentive fee is subject to a hard hurdle rate, any incentive fee is calculated on the profit in excess of the hurdle rate. Since the incentive fee is also net of the management fee here, the total profit is adjusted by both the management fee and the hurdle rate prior to applying the incentive fee:

PROFIT	= 100.00
(-)HURDLE RATE	= 30.00 (500×6%)
(-) MGMT FEE	= 10.00 (500×2%)
ADJUSTED PROFIT	= 60.00
Incentive fee	= 60 × 18% = 10.80 million

Adding the incentive fee of USD 10.80 million to the management fee of USD 10 million results in a total fee of USD 20.80 million. To calculate the **investor's return**, subtract the total fee from ending AUM (600 –20.80 = 579.20) and then calculate the return percentage as follows (recalling that beginning AUM was USD 500 million):

Return = [(579.20-500)/500] × 100 = 15.84%

(Choice A) 13.20% results from calculating the return as the profit net of fees divided by the ending, not the beginning, AUM.

(Choice B) 15.48% results from failing to calculate the incentive fee net of the management fee.

Note:

Hedge funds charge both a management fee (a percentage of the total assets under management) and an incentive fee. The incentive fee is contingent on whether the fund earns a profit and may be subject to a hurdle rate.

Question 2:

A hedge fund had the following attributes during 20X2:

Management fee	1.5%
Incentive fee	15.0%
Soft hurdle rate	5.0%
High-water mark	$200 million
Beginning assets	$191 million
Ending assets	$216 million

If the management fee is calculated on ending assets and the incentive fee is based on net returns, the return (%) to the investor for 20X3 is *closest* to:

A. 9.70%

B. 10.40%

C. 10.80%

Solution:

B is correct.

Typical hedge fund fee structure		
Fee	**Basis for calculation**	**Specific details**
Management	Assets under management (AUM)	• Typically 1%–3% of AUM annually • Does not depend on fund's profitability • Always calculated before incentive fee
Performance or incentive	Annual returns	• Can be net or gross of management fee • Can be subject to hurdle rate and/or high-water mark

An **investor's** hedge fund **return** is calculated **net of fees**. Hedge funds often levy both a management fee and an incentive fee. The **management fee** is calculated as a

percentage of the fund's total **assets under management** (AUM) and is assessed regardless of profitability.

The **incentive fee** is calculated as a **percentage of profits,** either net (ie, after deducting) or gross (ie, before deducting) of management fees. An incentive fee is often contingent on profits being greater than a hurdle rate and/or AUM being higher than the high-water mark. The threshold for this hedge fund to earn an incentive fee is contingent on exceeding the 5% soft hurdle rate and the high-water mark of $200 million. Since this fund has a *soft* hurdle rate, the incentive fee will be applied to the *entire* gain above the high-water mark.

The fund's return for the year is calculated as follows (AUM and profits in $ millions):

Steps	Calculations
Ending AUM − Beginning AUM = Profit before fees	Beginning AUM 191.00 Ending AUM 216.00 Profit befores fees 25.00
Ending AUM × Management fee % = 216 × 0.015 $\frac{\text{Profit after management fees}}{\text{Beginning AUM}} = \frac{21.76}{191.00}$	Profit before fees 25.00 Less: Management fee 3.24 Profit after management fee 21.76 Return after management fee 11.39% Return exceeds soft hurdle rate of 5%, earns incentive fee
High-water mark − Beginning AUM = 200.0 − 191.0 Profit after management fee − High-water mark adjustment	Profit after management fee 21.76 Less: High-water mark adjustment 9.00 Incentive fee base 12.76
Incentive fee base × Incentive fee % = 12.76 × 0.15	Incentive fee 1.91
	Investor profit before fees 25.00 Less: Management fee 3.24 Less: Incentive fee 1.91 Investor profit after fees 19.85
$\frac{\text{Investor profit after fees}}{\text{Beginning AUM}} = \frac{19.85}{191.00}$	Investor return 10.39%

(Choice A) 9.7% is the investor return by assuming no high-water mark.

(Choice C) 10.8% is the investor return assuming a hard hurdle rate of 5%. A hard hurdle rate increases an investor's return, as the incentive fee is earned only on returns at or above the hurdle rate, not the entire gain.

Note:

An investor's return in a hedge fund is calculated net of fees. Hedge funds levy both a management fee and an incentive fee. The management fee is calculated as a percentage of the fund's total value and is assessed regardless of profitability. The incentive fee is calculated as a percentage of profits, subject to hurdle rates and high-water

Question 3:

Which of the following categories best describes the sale of existing toll roads and bridges by a government to private investors for the purpose of raising money?

A. Greenfield social infrastructure

B. Brownfield economic infrastructure

C. Greenfield economic infrastructure

Solution:

B is correct.

The sale of existing toll roads and bridges to private investors for the purpose of raising money is an example of a brown field project since it involves the sale of existing infrastructure assets. The purpose of the sale is primarily to raise revenue, which indicates an economic motivation. Therefore, the correct categorization for this type of infrastructure investment is Brownfield economic infrastructure. Option B is the correct answer.

Question 4:

At which stage of financing do venture capital (VC) funds most likely provide funding to begin executing business plans?

A. Seed stage

B. Early stage

C. Formative stage

Solution:

A is correct.

Venture capital funds provide funding to begin executing business plans at the seed stage. Seed-stage financing or seed capital generally supports the development of an idea into a business plan, including market research, product development, and marketing efforts. This is usually the first stage at which VC funds invest, and it occurs after the angel investing stage where the idea is transformed into a business plan.

Formative-stage financing is for a company still being formed. Its steps are as follows:

a. Pre-seed capital, or angel investing, is capital provided at the idea stage. Funds may be used to develop a business plan and to assess market potential. The amount of financing here is typically small and sourced from individuals, often friends and family, rather than from VC funds.

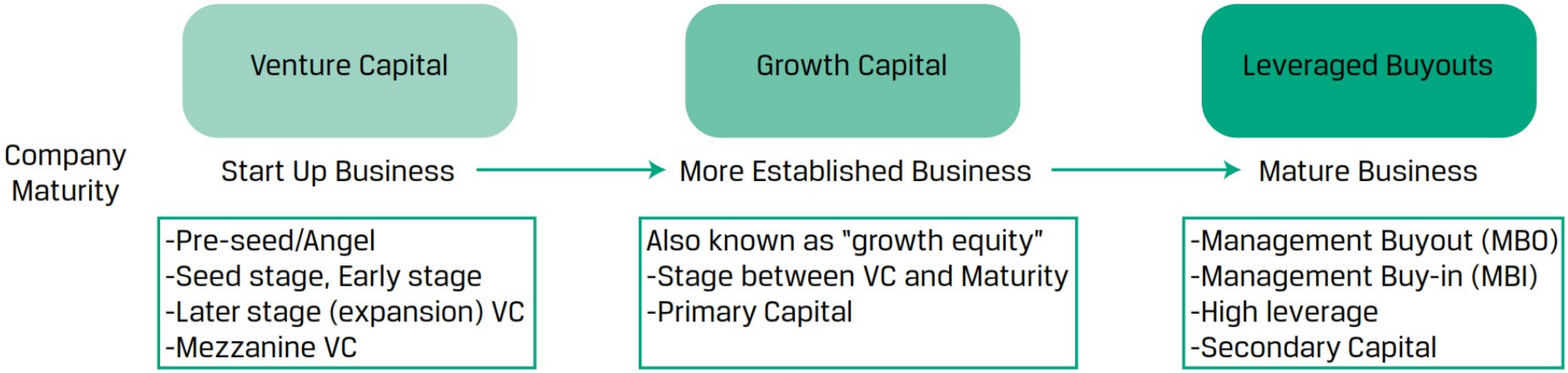
b. Seed-stage financing, or seed capital, generally supports product development and marketing efforts, including market research. This is the first stage at which VC funds usually invest.

c. Early-stage financing (early-stage VC), or start-up stage financing, goes to companies moving toward operation but prior to commercial production or sales; early-stage financing may be injected to initiate both operation and commercial production.

Later-stage financing (expansion VC) comes after commercial production and sales have begun but before an IPO. Funds may be used to support initial growth, a major expansion (such as a physical plant upgrade), product improvements, or a major marketing campaign.

Mezzanine-stage financing (mezzanine venture capital) prepares a company to go public. It represents the bridge financing needed to fund a private firm until it can execute an IPO or be sold. The term “mezzanine-stage financing” is used because the financing is infused between private and public company status, focused on the timing rather than mechanism of the financing.

The Private Equity Stage Continuum



Question 5:

Which of the following statements is least likely correct regarding mortgage-backed securities (MBS)?

A. Commercial mortgage-backed securities tend to be less volatile and complex than residential mortgage-backed securities due to the homogeneous nature of the underlying property assets.

B. The risk of prepayment typically occurs in declining rate environments as borrowers tend to refinance their mortgages at lower rates, resulting in the prepayment of the existing mortgages.

C. Investing in a mortgage-backed security involves indirect lending to homebuyers or businesses that have taken out mortgages, with investors receiving regular interest and principal payments from the underlying mortgages.

Solution:

A is correct.

The least likely correct statement regarding mortgage-backed securities (MBS) is option A. Commercial mortgage-backed securities tend to be more complex and volatile than residential mortgage-backed securities due to the unique nature of the underlying property assets. Commercial properties have varying lease terms, rental rates, and vacancy rates that can affect the performance of the underlying mortgages, making them less homogeneous than residential mortgages.

Option B is a correct statement. The risk of prepayment typically occurs in declining rate environments as borrowers tend to refinance their mortgages at lower rates, resulting in the prepayment of the existing mortgages.

Option C is also a correct statement. Investing in a mortgage-backed security involves indirect lending to homebuyers or businesses that have taken out mortgages, with investors receiving regular interest and principal payments from the underlying mortgages.

Therefore, option A is the least likely correct statement regarding mortgage-backed securities.

Question 6:

Which of the following accurately describes the cost approach as a real estate valuation method?

A. The cost approach estimates the replacement cost of a property by subtracting the current cost of reconstruction from the cost of the land.

B. The cost approach estimates the value of a property based on its potential to generate income by discounting the net operating income at the cap rate.

C. The cost approach estimates the replacement cost of a property by adding the cost of the land and the cost of reconstructing the building at current cost.

Solution:

C is correct.

The cost approach is a real estate valuation method that estimates the replacement cost of a property by adding the cost of the land and the cost of reconstructing the building at current cost. This approach assumes that a potential buyer would not pay more for a property than it would cost to build a similar one.

Option A is incorrect, as it suggests subtracting the current cost of reconstruction from the cost of the land. This method does not consider the value of the land or the cost of building a similar property, and it would not provide an accurate estimate of the property's value.

Option B is also incorrect, as it describes the income approach, which is another real estate valuation method that estimates the value of a property based on its potential to

generate income. The income approach involves discounting the net operating income at the cap rate to arrive at an estimated value.

Therefore, the correct answer is C, which accurately describes the cost approach in real estate valuation.

Question 7:

Which of the following statements regarding the leverage employed by hedge funds is least likely correct?

A. Hedge funds can increase leverage by using derivatives instead of underlying securities.

B. Hedge funds have legally unlimited leverage because they are typically domiciled offshore.

C. Hedge funds may use margin borrowed from brokers and external sources to create leverage.

Solution:

B is correct.

Hedge funds employ leverage by borrowing from external sources, trading on margin with brokers, and using derivatives that can be traded on margin instead of the underlying securities. These sources of leverage enable hedge funds to potentially earn higher returns but also expose them to higher risk.

Option A is incorrect because hedge funds can increase leverage by using derivatives such as options, futures, and swaps, which provide a higher degree of leverage than trading the underlying securities.

Option C is also incorrect because hedge funds may use margin borrowed from brokers and external sources to create leverage, which increases their potential returns but also exposes them to higher risk.

Option B is correct because hedge funds are not legally unlimited in terms of their leverage. Hedge funds' limited liability agreements specify the degree of leverage they may employ. Moreover, offshore domiciliation does not provide legal immunity from regulations or limits on leverage.

Therefore, the least likely correct statement regarding the leverage employed by hedge funds is B, which suggests that hedge funds have legally unlimited leverage because they are domiciled offshore.

Question 8:

According to hedge fund industry practices, which of the following investment strategies aims to exert influence over a company's direction by acquiring a significant stake in its equity capital?

A. A volatility strategy employing options to take long or short positions on market volatility.

B. A special situations event strategy focusing on the repurchase or issuance of securities of companies engaged in restructuring activities.

C. An activist strategy that involves acquiring enough equity to secure a dominant position and influence the company's policies.

Solution:

C is correct.

An activist strategy is one of the investment strategies employed by hedge funds where they purchase a significant amount of equity to influence a company's policies or direction.

Option A is incorrect. A volatility strategy is focused on exploiting short-term market volatility by taking long or short positions using options.

Option B is also incorrect. A special situations event strategy is focused on opportunities in the equity of companies currently engaged in restructuring activities, such as repurchasing or issuing securities.

Question 9:

Which of the following best describes private capital in the context of corporate finance?

A. Funding that is not sourced exclusively from public markets.

B. Funding that is not sourced exclusively from traditional capital providers such as banks or government institutions.

C. Funding that is not sourced from public markets or traditional capital providers.

Solution:

C is correct.

Private capital refers to funding that is not sourced from public markets or traditional capital providers, such as banks or government institutions. It includes both debt and equity financing provided by private investors or firms. This type of funding is often used by companies that may not meet the criteria for public market financing or prefer to avoid the scrutiny and regulation associated with public offerings.

Question 10:

In a leveraged buyout (LBO), which of the following characteristics would a private equity firm most likely find desirable in a target company?

A. Inefficient management.

B. Average ability to generate cash flows.

C. Companies with a positive perception in the general market.

Solution:

A is correct.

When conducting an LBO, a private equity firm will typically look for companies with inefficient management that have the potential to improve their operations and increase profitability in the future. This allows the private equity firm to restructure and improve the company, potentially leading to attractive returns on equity.

Option B is incorrect. Companies with a strong ability to generate cash flows are important in LBOs because the target company will typically take on a significant amount of debt. Therefore, the company should have above-average ability to generate cash flows to meet the increased debt service requirements.

Option C is incorrect. Private equity firms often seek out companies that are out of favor in public markets, as they may be undervalued relative to their intrinsic value.

Question 11:

Which of the following terms refer to the initial period during which an investor in a hedge fund is restricted from making any withdrawals, and the subsequent period during which an investor must provide advance notice before redeeming their investment?

A. Lockup and notice periods.

B. Lockup and redemption periods.

C. Redemption and lockup periods.

Solution:

A is correct.

Hedge funds typically impose lockup periods during which investors are prohibited from redeeming their investments. The notice period is the time frame during which an investor must provide advance notice before redeeming their investment. During the hard lockup period, no redemptions are allowed, while the soft lockup period allows redemptions but at a significant discount. Once the lockup period expires, the notice period begins.

Question 12:

Graco Fund of Funds (FOF) invests $80 million each in the hedge funds, Lexor and Polygon. Graco FOF quotes a "2 and 20" free structure. The management fees are calculated based on asset values at yearend while incentive fees are calculated net of management fee. At year-end, the value of investment in Lexor and Polygon was $72 million and $96million,respectively.

The investor's net-of-fees return is closest to:

A. 2.32%

B. 1.90%

C. 2.21%

Solution:

A is correct.

Value of investment at year end	= $72+96 million= $168 million
Initial investment value	= $80 million + $80million = $160 million
Management fee	= $168 million × 0.02= $3.36 million
Incentive fee	= ($168 million– $160 million -3.36 million)×18%
	= $0.928 million
Total fees paid	= $3.36 million + $0.928 million
	= $4.288 million
Net-of-fees return	= ($168 – $160 – 4.288)/$160 million
	= 0.0232 or 2.32%