CHAPTER 33
PRIVATE EQUITY INVESTMENTS

1. (B) General partner Carried interest

Explanation

Limited partners' liability does not extend beyond their capital investment, whereas general partners (the fund managers) have unlimited liability for the firm's debt. The general partner's share in fund profits is referred to as carried interest. Management fees are paid annually as a percentage of capital (NAV, paid-in-capital, or committed capital) and are not tied to fund profits.

(Module 33.2, LOS 33.g)

Related Material

SchweserNotes - Book 4

2. (C) The allocation of equity between shareholders and management The limited partner's realized return from the fund

Explanation

Ratchet is a contract term that specifies the allocation of equity between management and shareholders.

DPI, or distributed to paid-in capital, is the cumulative distributions paid out from the fund as a fraction of cumulative invested capital. DPI measures the limited partners' realized return from the fund.

Note: The GP's share of fund profits is called carried interest. The year the fund was set up is called the vintage. There should be no distinction between realized and unrealized return for the GP. Also, there is no term for dividends over paid-in capital as dividends are seldom paid out from a private equity fund.

(Module 33.3, LOS 33.i)

Related Material

SchweserNotes - Book 4

3. (B) incorrect, because earn-outs refer to tying the acquisition price paid by Pauler for the portfolio companies to the companies' future performance.

Explanation

Earn-outs are typically used in venture capital investments where the acquisition price paid for portfolio companies by private equity firms is tied to the companies' future performance.

(Module 33.1, LOS 33.b)

Related Material

SchweserNotes - Book 4

4. (A) **Aligning the interests between private equity owners and limited partners.**

Explanation

The three sources of value-added a private equity firm provides over public firms are: reengineering the portfolio firms, obtaining debt on favorable terms (cheap credit), and aligning the interests between private equity owners (the limited partners) and portfolio managers.

(Module 33.1, LOS 33.a)

Related Material

SchweserNotes - Book 4

5. (C) **Kappa may be a younger fund than Delta.**

Explanation

Delta's distributed to paid-in capital (DPI) ratio of 2.0 indicates that investors in the fund realized a profit of $2.0 for every dollar invested and that this profit has already been paid out. Kappa's multiples indicate that the fund has yet to pay out profits to its investors. The residual value to paid-in capital (RVPI) of 2.0 implies that all returns are still unrealized and will be paid out in future years. One likely explanation for Kappa's multiples is that the fund is younger than Delta)

(Module 33.2, LOS 33.h)

Related Material

SchweserNotes - Book 4

6. (B) **Don't buy stake Don't buy stake**

Explanation

Step 1: Calculate the post-money valuation (POST).

POST = exit value / ROI

POST for Melton = $51 million / 5 = 10.2 million.

POST for Apple = $29 million / 10 = 2.9 million.

Step 2: Calculate pre-money valuation.

PRE = POST – investment.

PRE for Melton = 10.2 million – $7 million = 3.2 million.

PRE for Apple = 2.9 million – $1 million = 1.9 million.

Step 3: Determine the fractional ownership.

F = INV / POST

F for Melton = $7 million / 10.2 million = 68.63%.

F for Apple = $1 million / $2.90 million = 34.48%.

Step 4: Determine the number of shares the firm must buy.

Stake = Entrepreneurs' shares x [F / (1 – F)].

Stake for Melton = 1.5 million * (0.6863 / 0.3137) = 3,281,639 shares.

Stake for Apple = 80,000 * (0.3448 / 0.6552) = 42,100 shares.

Step 5: Calculate stock price per share.

P = INV / Stake

P for Melton = $7 million / 3,281,639 = $2.13

P for Apple = $1 million / 42,100 = $23.75

Both valuations result in a price below the offer price. Richmond Group should not buy either stake.

(Module 33.1, LOS 33.d)

Related Material

SchweserNotes - Book 4

7. (B) Discounted cash flow Pre-money valuation

Explanation

Buyout investments have predictable cash flows and there are typically several comparable firms in the industry. Both the discounted cash flow and relative value approach are thus reasonable valuation techniques for buyout firms.

Venture capital firms, on the other hand, have less stable cash flows and few industry comparables given their young age and position in the business life cycle. Pre-and post-money valuation techniques are frequently used valuations for these firms.

(Module 33.1, LOS 33.c)

Related Material

SchweserNotes - Book 4

8. (B) it will take longer for the investor to realize a return from the fund.

Explanation

Paid-in capital measures the amount of capital drawn down out of total committed capital. Residual value to paid-in capital is the value of the investor's holding in the fund as a ratio of cumulative invested capital.

A high RVPI to DPI ratio indicates that the fund has not distributed a large portion of profits and may indicate difficulty realizing profits from its investments. In this case it would take longer for the investor to receive distributions from the fund (low cash flows to date).

(Module 33.3, LOS 33.i)

Related Material

SchweserNotes - Book 4

Jon Lester is considering diversifying his personal portfolio away from traditional markets by taking on some alternative investments, and is seeking advice. Lester has $150 million in his portfolio and so as a qualifying investor in the U.S. he is

considering an opportunity to invest in a private equity fund, Titan Investments.

Titan has a range of investments in both young and old companies, and has often used high leverage to purchase young companies from the existing shareholders. Lester has been invited by some of Titan's senior management to discuss a potential investment and a result has seen the reported performance on some of Titan's recent transactions.

Of particular interest to Lester was the method used to report the performance of the fund. To his knowledge it is recommended that PE firms use since inception IRR, and he was encouraged to see that Titan has adhered to this recommendation, particularly as it suits the liquidity position that private equity firms typically find themselves in.

In addition to the total return however, Lester is interested in the split of realized and unrealized gains investors have experienced over the life of the fund. He has been presented with a range of multiples prepared by the fund but is unsure how to interpret them.

He has listed out of the following notes and is seeking advice as to the best interpretation.

Financial Performance Metrics – Titan

Metric One: Paid in capital%

Metric Two: Distributed to PIC

Metric Three: Residual value of PIC

Lester also noted down some key figures regarding a venture capital investment which the fund is currently considering. The investment required by the portfolio company would be $12 million, and they would be looking for an ROI of 6x in 5 years' time when the portfolio company is expected to go public at a total valuation of $120 million. Initial discussions have apparently taken place, and the founders along with the current management team wish to keep their two million shares.

9. (C) **No. Although it is recommended it does not suit the liquidity position of PE firms as it assumes funds are reinvested at the IRR and the fund is often illiquid.**

Explanation

GIPS recommend since inception IRR (essentially a yield measure) but it is assumption that PE firms can reinvest at the IRR is problematic. It assumes the fund is full liquid, whereas significant portion of the NAV is illiquid during a substantial part of the private equity funds life.

(Module 33.2, LOS 33.h)

Related Material

SchweserNotes - Book 4

10. (B) **Metric Two gives realized returns and Metric Three gives unrealized returns. They should be added together to get total return.**

Explanation

DPI gives distributed, or realized returns, and RVPI gives residual value, or unrealized return. They should be added together to give total return.

(Module 33.2, LOS 33.h)

Related Material

SchweserNotes - Book 4

11. (A) **$8 million and 60%.**

Explanation

Given: Exit value = $120m, ROI = 6x.

Post-money = 120/6 = $20m

Fractional ownership = 12/20 = 60%

Pre-money = POST – INV = 20 – 12 = $8m

(Module 33.1, LOS 33.d)

Related Material

SchweserNotes - Book 4

12. (B) **An IPO is likely to lead to the highest price but is costly and not flexible.**

Explanation

IPOs (Initial Public Offerings) have the following advantages:

- Higher valuation multiples via enhanced liquidity
- Access to capital
- Ability to attract higher caliber managers

IPOs have the following disadvantages:

- Expensive process (advisors, underwriters, etc.)
- Less flexible (timing of the IPO depends on the state of the financial markets)

(Module 33.2, LOS 33.e)

Related Material

SchweserNotes - Book 4

13. (A) **only one is correct.**

Explanation

Statement 1 is incorrect. PE firms tend to have a long-term, rather than short-term focus in their investment strategies, which often exceeds 10 years. Restructuring is generally a lengthy process and requires a long-term perspective.

Statement 2 is correct with regard to both manager compensation and the use of tag-along, drag-along clauses.

(Module33.1, LOS 33.b)

Related Material

SchweserNotes - Book 4

14. (C) 1.17.

Explanation

The DPI multiple is calculated as the cumulative distributions paid by the private equity fund divided by the paid-in capital (the portion of committed capital drawn down).

Nishan's current DPI is: ($50 + $100 + $200) / $300 = 1.17

(Module 33.3, LOS 33.i)

Related Material

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15. (B) $80.67 $28.06

Explanation

The terminal value under each scenario is the expected earnings multiplied by the P/E ratio. The expected terminal value is the weighted average of the three scenario (all in $ million):

Scenario 1: Terminal value = $20 x 10 = $200

Scenario 2: Terminal value = $7 x 6 = $42

Scenario 3: terminal value = $0

Expected terminal value = ($200 + $42 + $0) / 3 = $80.67

The expected terminal value is then divided by the ROI of 2.44 to arrive at the post-money (POST) valuation:

POST = terminal value / ROI = $80.67 / 2.44 = $33.06

The pre-money (PRE) valuation is the post-money valuation less the investor's initial investment:

PRE = POST – INV = $33.06 – $5.0 = $28.06

(Module 33.1, LOS 33.d)

Related Material

SchweserNotes - Book 4

16. (B) The return on preference shares, the increase in the price multiple on exit, and the reduction in debt claims.

Explanation

The components of a private equity firm's returns are the return on preference shares, the increased price multiple and the reduction in debt claims. The private equity firm should see an increase in the price multiples as the operational efficiencies of the LBO firm improve. The second component is the value of the interest-bearing preference shares. The third component is the reduction in debt over the time period to exit.

(Module 33.1, LOS 33.d)

Related Material SchweserNotes - Book 4

17. (B) Net IRR Distributed to paid-in-capital

Explanation

Net IRR measures the cash flows between the fund and the limited partners and is therefore the relevant return metric for the LPs. Distributed to paid-in capital (DPI) measures the LPs' realized return from investment in the fund. It is calculated as the cumulative distributions already paid to the LPs over the cumulative invested capital.

Gross IRR measures the cash flows between the fund and the portfolio companies. Residual value to paid-in capital (RVPI) measures the LPs' unrealized return from the fund. Paid-in capital measures the percent of capital used by the general partner.

(Module 33.2, LOS 33.h)

Related Material

SchweserNotes - Book 4

18. (C) The VC firm should consider the acquisition of another firm and sell the merged entity once capital market conditions have improved.

Explanation

Liquidation occurs when a firm becomes insolvent or bankrupt, cannot function as an independent entity, and there are very few or no interested buyers. Liquidation results in low exit values. Selling the VC firm through a buyout or secondary market sale is also less feasible since these transactions require significant debt financing which the young VC firm may be unable to support.

In poor market conditions it may be feasible for the VC firm to make a strategic acquisition through a merger and sell the merged entity once market conditions have stabilized.

(Module 33.2, LOS 33.e)

Related Material

SchweserNotes - Book 4

19. (C) Debt amortization in a leveraged buyout investment increases risk to the investor as it is a burden on the firm's cash flow.

Explanation

As the amortization of debt reduces investor risk (less debt outstanding) and the reduced claim by debtholders can actually magnify investor returns.

(Module 33.1, LOS 33.d)

Related Material

SchweserNotes - Book 4

20. (C) 6.0 2.0

Explanation

(All dollar figures are in millions)

Management fee is paid annually on paid-in capital (PIC), which is just cumulative down. 2008 management fee is thus 3% of $200, or $6.0.

Carried interest is the profit distributed to the general partner. The fund specifies a method based on committed capital and is calculated as the excess of NAV before above committed capital. The 2008 carried interest paid out is then 20% of ($260 – 250) = $2.0.

(Module 33.3, LOS 33.i)

Related Material

SchweserNotes - Book 4

21. (B) Tax risk.

Explanation

Market risk is the risk of long-term changes in interest rates, exchange rates and economic risk. Certainly all of these have been factors in the less than spectacular private equity returns recently. Investment-specific risk is probably the most important source of risk in recent times, as many private equity investments suffered significant losses as a result of the subprime mortgage and real estate meltdown. Tax risk is the risk of tax changes over time, which has not been a significant factor in private equity valuations recently.

(Module 33.2, LOS 33.f)

Related Material

SchweserNotes - Book 4

Yanish Cheung, CFA, works for a U.S.-based institutional investor in private equity. He is reviewing the results of Bud Rosewood I, a venture capital fund specializing in U.S. high-technology companies in their start-up stage of development.

As the general partner (GP) of the fund comes with significant reputation, the fund is able to charge a management fee of 2.25% and a carried interest of 25% with a committed capital of $105m. The carried interest is computed using the first alternative of the total return method (i.e., the GP will first charge carried interest when NAV before Distributions exceeds committed capital). In subsequent years, provided NAV before Distributions exceeds committed capital, the GP will charge carried interest on the increase in NAV before Distributions.

Exhibit 1 summarizes the results of Bud Rosewood I for the past 6 years. Unfortunately, some of the numbers for 20X5 are missing.

Exhibit 1: Bud Rosewood I - Cash Flows and Distributions (USD million)

Year	Called-down Capital	Paid-in capital	Manage-ment Fee	Operating Results	NAV before Distributions	Carried Interest	Distri-butions	NAV after distributions
20X0	45.0	45.0	(1.0)	(3.0)	41.0	0.0	0.0	41.0
20X1	12.0	57.0	(1.3)	(12.0)	39.7	0.0	0.0	39.7
20X2	8.0	65.0	(1.5)	13.0	59.2	0.0	0.0	59.2
20X3	24.0	89.0	(2.0)	30.0	111.2	(1.6)	(18.0)	91.7
20X4	7.0	96.0	(2.2)	40.0	136.5	(6.3)	(37.)0	93.2
20X5	4.0			60.0			(68.0)	

Cheung is very careful about evaluating the corporate governance features of the funds in which he invests. To this end, he asks a junior analyst, Roy Zograff, to look at two other funds. Information about them is summarized in Exhibit 2:

Exhibit 2

	Fund Alpha	Fund Bravo
Management Fee	3%	1%
Carried Interest	15%	30%
Hurdle Rate	5%	10%
Clawback provision	No	Yes
Distribution Waterfall	Deal-by-Deal	Total Return
PIC	0.40	0.80
DPI	0.20	0.65
RVPI	1.25	0.95

Having collected the data, Zograff believes that the "cash-on-cash" return of Fund Alpha is lower, but its unrealized return is higher compared to that of Fund Bravo.

Based on the information contained in Exhibit 2, Cheung makes the following two comments:

Comment 1: The interests of the GP and LPs are more likely better aligned in Fund Alpha.

Comment 2: The GP in Fund Alpha will receive carried interest earlier than the GP of Fund Bravo, keeping all else constant.

22. (A) 1.23.

Explanation

Paid-in capital in 20X5 = paid-in capital 20X4 + capital called down in 20X5 = 96 + 4 = $100m

Total distributions are 18 + 37 + 68 = $123m.

So Distributions to paid-in capital = 123/100 = 1.23

(Module 33.3, LOS 33.i)

Related Material

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23. (B) 0.82.

Explanation

We need the NAV after Distributions in 20X5. We first compute the management fee = 2.25% x $100m = $2.25m.

We compute NAV before Distributions = $93.2 + $4 – $2.25 + $60 = $154.95

Carried interest is 25% x increase in NAV before Distributions

= 25% x (154.95 – 136.5) = $4.61m

NAV after Distributions = $154.95 – $4.6 – $68 = $82.35m

The residual value to paid-in capital (RVPI) = NAV after Distributions/paid-in capital = 82.35/100 = 0.82

(Module 33.3, LOS 33.i)

Related Material

SchweserNotes - Book 4

24. (C) Only Comment 2 is correct.

Explanation

Comment 1 is incorrect. Despite higher carried interest (30% vs. 15%), Fund Bravo has a higher hurdle rate and has a clawback provision. The hurdle rate indicates that carried interest will only be paid if the long-term returns of the fund exceed it. A clawback provision means that investors can claim back carried interest in the event of suboptimal performance of the fund over its life. The presence of both a higher hurdle rate and a clawback provision indicate that management of Fund Bravo have a stronger incentive to generate wealth for their investors.

Comment 2 is correct. Distribution waterfall structure based on the deal-by-deal method results in carried interest being paid to the GP after each successful exit. This method is mostly employed in the United States.

(Module 33.2, LOS 33.g)

Related Material

SchweserNotes - Book 4

25. (A) both metrics.

Explanation

Fund Alpha has a lower DPI but higher RVPI compared to Fund Bravo. Distributions to paid-in capital is a proxy of "cash-on-cash" return (or realized return) whereas residual value to paid-in capital is a proxy of unrealized return.

(Module 33.2, LOS 33.h)

Related Material

SchweserNotes - Book 4

26. (B) $7.85 0.68

Explanation

Step 1: Calculate the post-money (POST) valuation (all dollar figures in millions):
POST = ($120) / 4.83 = $24.85 million.

Step 2: The pre-money valuation is Eizak's current value without P&H's investment:
PRE = $24.85 million - $17 million = $7.85 million.

Step 3: P&H's fractional ownership is the value of its investment as a fraction of Eizak's POST valuation:
f = INV / POST = $17 / $24.85 = 0.68.

(Module 33.1, LOS 33.d)

Related Material

SchweserNotes - Book 4

Sammy Porter is a qualified investor based in the U.S. He is currently looking to invest up to $5 million and has decided to consider private equity funds as a potential vehicle. Porter has looked into several options and met with Michael Weber, an ex-colleague of Porter's who has several years' experience in the world of private equity.

Weber has extended an invitation to Porter to visit his offices in and discuss a prospectus for a potential new venture, which Weber is in the process of setting up.

Porter has reviewed the prospectus and highlighted several areas, which he wished to discuss with Weber. The points he has highlighted include the following:

Point 1

Under the terms of the prospectus, Porter would invest as a Limited Partner in a Limited Partnership, with Weber as the General Partner. Porter is unclear as to the personal liability that results from such an arrangement.

Point 2

Carried interest is to be calculated as 20% after management fees using the deal-by-deal method. The appendix to the prospectus includes examples of how this

would be calculated. One example details a theoretical fund, which has a carried interest rate of 20%. An investment of $30 million is made and later in the year, the fund exits the investment and earns a profit of $18 million.

Point 3

Another section of the prospectus mentions some of Weber's previous investments and the use of ratchet mechanisms. The prospectus mentions that typically ratchet mechanisms affect the allocation of equity between shareholders and managers. A rachet allows the shareholders to increase their equity allocation depending on the Company's performance.

Porter also intends to question Weber on venture capital investments. Two entrepreneurs who run a new start software company have approached Porter. The startup had originally raised financing of $2 million with an expectation of going public at a valuation of $45 million. Round 1 investors had priced in ROI of 9x. The firm now needs an additional capital infusion of $10 million and the firm's IPO valuation has been revised to $200 million. Porter is aware of the risk involved and would use a ROI of 5x.

27. (A) **Porter's liability would be limited to his investment, Weber's would be unlimited.**

Explanation

The limited partners have limited liability whereas the general partner has unlimited liability.

(Module 33.2, LOS 33.g)

Related Material

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28. (C) **None.**

Explanation

The carried interest is the General Partner's share of fund profits and Porter is to be a limited partner.

(Module 33.2, LOS 33.g)

Related Material

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29. (C) **Incorrect, with regard to the shareholders increasing their allocation.**

Explanation

Ratchet mechanisms typically increase the equity allocation to management team of the portfolio company, based on performance metrics, rather than the shareholders of the PE firm.

(Module 33.2, LOS 33.g)

Related Material

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30. (B) 30%.

Explanation

Given: $1NV_1$ = \$2m, Exit $value_1$ = \$45m, ROI_1 = 9x, INV_2 = \$10m, Exit $value_2$ = \$200m, ROI_2 = 5x.

$POST_1$ = exit value1 / ROI_1 = 45 / 9 = \$5m

f_1 = INV_1 / $POST_1$ = 2 / 5 = 0.40 or 40%

$POST_2$ = exit $value_2$ / ROI_2 = 200 / 5 = \$40m

f_2= INV_2 / $POST_2$ = 10 / 40 = 0.25 or 25%

After the second round, the fractional ownership of the first round investors will decline by 25% to 0.40(1 – 0.25) = 0.30 or 30%

(Module 33.1, LOS 33.d)

Related Material

SchweserNotes - Book 4

Steve Squire, CFA, works for Opportunity Investments, a U.S.-based investment firm, which advertises a high level of expertise in the area of alternative investments. Steve is currently analyzing a request from a private equity firm to help with the analysis of a company, which it may invest in.

The target portfolio company, Meta Probes, is a high tech engineering company, which specializes in the production of scientific control apparatus designed to monitor the performance of man and machines in extreme environments.

It has recently fallen into financial difficulty after a major client went bankrupt leaving Meta Probes with a large amount of bespoke equipment, which had to be written off. Since the write off it has struggled to recover as the downturn in the economy has led to a drop off in research companies undertaking major projects.

The private equity firm is hoping to raise debt to finance a leveraged buy-out, which will also involve some of the existing management and skilled staff. The firm believes that Meta Probes still has a solid skill base and the ability to generate steady cash flows if it can restructure its capital base and see out the last half of the year.

It is hoped that an exit can be made in six years at a multiple of 1.95 of the firm's initial cost of \$420 million. The firm is seeking assistance from Squire in analyzing this valuation and interpreting the components of the portfolio company's performance over the six years until the possible exit.

Squire has been provided with the following details on the potential deal. The initial investment is to be financed with 60% debt and 40% equity.

One suggested structure for the equity investment is as follows:

- \$120 million in preference shares held by the private equity firm. The preference shares are promised an 8% compound annual return paid on exit
- \$45 million in equity held by the private equity firm

- $3 million in equity held by management

The equity of the private equity firm is promised 90% of the residual value at exit after creditors and preference shares are paid. Management equity will receive the other 10% residual value.

By exit, it is estimated that the firm will have paid off $100m of the initial debt using operating cash flow.

In addition to the $3 million equity investment by top-level management, the private equity firm also wishes to include control mechanisms on the term sheet, and is seeking guidance from Squire in this area.

31. (C) **The separation of interests between management and private equity ownership to allow management to focus on core skills.**

Explanation

A source of value creation is the alignment of interests, not the separation.

(Module 33.1, LOS 33.d)

Related Material

SchweserNotes - Book 4

32. (C) **Autonomy for management to make strategic changes to the business.**

Explanation

The PE firm is likely to implement a Required Approvals clause, which would mean the PE firm must approve any strategic changes to the business.

(Module 33.2, LOS 33.g)

Related Material

SchweserNotes - Book 4

33. (B) **24.7%.**

Explanation

The exit value for the deal is expected to be 1.95 x $420m = $819m in 6 years' time

The deal ($420m) is 60% debt = $252m and 40% equity = $168m

At exit, the creditors will have debt outstanding of $252m – $100m = $152m

The preference shares are promised an 8% return so their claim on value will be $120m x $(1.08)^6$ = $190.42m

Hence, the residual value available at exit for equity holders is $819m – $152m – $190.42m = $476.58m

The private equity firm is promised 90% ($428.92m) of this $476.58m and the management receive the remaining 10% ($47.66m)

The total investment by the private equity firm at the start is $120m + $45m

= $165m

The total payoff to the private equity firm at exit is $190.42m + $428.92m = $619.34m Hence the IRR expected for the PE Firm is $[(619.34 / 165)^{(1/6)}] - 1 = 24.7\%$

(Module 33.1, LOS 33.d)

Related Material

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34. (C) **58.6%.**

Explanation

Management initially invest $3m equity.

Using the figures from question 3, the exit value for management is expected to be $47.66m.

The IRR is therefore $(47.66 / 3)^{(1/6)} - 1 = 58.6\%$

(Module 33.1, LOS 33.d)

Related Material

SchweserNotes - Book 4

35. (A) **more heavily as a multiple of EBITDA**

Explanation

PE LBO transactions typically use higher leverage than most public companies do. Debt is usually quoted as a multiple of EBITDA, while public firm debt is usually quoted as a multiple of equity (debt-to-equity ratio).

(Module 33.1, LOS 33.a)

Related Material

SchweserNotes - Book 4

36. (A) **The limited partners use a third party to calculate the NAV of a private equity fund.**

Explanation

NAV is usually calculated by the fund's general partner, which could result in a subjective and inflated NAV. Limited partners, however, often use third party valuations to arrive at an objective and up-to-date NAV. This scenario thus describes a countermeasure to an issue in calculating NAV rather than a disadvantage itself.

The other two answers are both disadvantages in calculating NAV.

(Module 33.2, LOS 33.g)

Related Material

SchweserNotes - Book 4

37. (B) long-term macro changes only.

Explanation

Private equity investments are affected to a large degree by long-term macro-factors such as interest rate and exchange rate fluctuations and various market risks. Short-term macro-factors and short-term fluctuations are less relevant as the investor's time horizon typically exceeds 10 years.

(Module 33.2, LOS 33.g)

Related Material

SchweserNotes - Book 4

38. (C) reduce the internal tax shield.

Explanation

A PE firm's debt is frequently securitized and repackaged as collateralized debt or loan obligations, resulting in a transfer of risk to the debt buyer. Greater use of debt also requires disciplined and timely payment of interest, causing a PE firm's portfolio companies to use free cash flow efficiently. Higher leverage generally increases the tax savings from the use of debt (the interest tax shield) increasing firm value in the meantime.

(Module 33.1, LOS 33.a)

Related Material

SchweserNotes - Book 4

39. (A) 5.10 22.0

Explanation

The calculations at exit are as follows (all in million $):

- The exit value will be $500 x 2.0 (the specified multiple) = $1,000.
- Outstanding debt is $150.
- Preference shares are worth $300.
- Private equity firm's value: 80% of the residual exit value.
  (0.80) ($1,000 – $150 – $300) = $440.
- Management's value: 20% of the residual exit value:
  (0.20) ($1,000 – $150 – $300) = $110.

  Total initial investment by the private equity firm is $145, and by management $5.

  Total payoff to the private equity (PE) firm at exit is $440 + $300 = $740.

  Payoff multiple for the PE firm is $740 / $145 = 5.10.

  Total payoff to management at exit is $110.

  Payoff multiple to management is $110 / $5 = 22.0.

  (Module 33.1, LOS 33.d)

  Related Material

  SchweserNotes - Book 4

40. (C) $2.00.

Explanation

Exit value = revenues x 2 = 15 x 2 = $30 million

POST = exit value / ROI = 30 / 10 = $3 million

PRE = POST – INV = $3 – $1 = $2 million

(Module 33.1, LOS 33.d)

Related Material

SchweserNotes - Book 4

41. (B) Distribution waterfall Ratchet

Explanation

Distribution waterfall identifies the profit allocation between LPs and GPs and specifies when GPs can receive carried interest. Ratchet refers to the equity allocation between shareholders and management. Carried interest is the GP's share in fund profits.

(Module 33.2, LOS 33.g)

Related Material

SchweserNotes - Book 4

42. (B) Market risk Distribution waterfall

Explanation

Market risk describes the risk of how changes in interest rate, exchange rate and other macroeconomic factors affect private equity investments.

The method of profit distribution between the LPs and GP is called distribution waterfall.

Carried interest is the GP's share of fund profits. Capital risk refers to the risk of capital depletion in a private equity fund and the risk of obtaining additional financing.

(Module 33.2, LOS 33.f)

Related Material

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43. (A) offers the highest exit value potential.

Explanation

A private equity firm can generally realize the highest exit value for a portfolio company through an IPO, as the post-IPO firm offers greater liquidity (it is continuously traded on an open exchange) and access to capital. IPOs, however, are costly to implement and involve a complex process that ranges from dealing with underwriters, gauging market interest and complying with various regulatory requirements. IPOs are also most appropriate for large firms with a stable operating history.

(Module 33.2, LOS 33.e)

Related Material

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44. (B) 0.64.

Explanation

Step 1: Calculate $POST_1$:

$POST_1$ = exit $value_1$ / ROI_1 = 120/10 = 12

Step 2: Calculate fractional ownership f_1:

$f_1 = INV_1 / POST_1$ = 10/12 = 83.33%

Step 3: Calculate $POST_2$:

$POST_2$ = exit $value_2$ / ROI_2 = 150/5 = 30

Step 4: Calculate fractional ownership f_2:

$f_2 = INV_2 / POST_2$ = 7/30 = 23.33%.

Step 5: Fractional ownership of first round investors after the second round:

f_1 (post round 2) = f_1 (1 – f_2) = 0.8333 (1 – 0.2333) = 63.89%

(Module 33.1, LOS 33.d)

Related Material

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45. (A) Tag-along, drag-along clauses.

Explanation

A tag-along, drag-along clause is less a control mechanism for private equity firms and more a tool to tie portfolio manager interests to the portfolio companies. The clause gives portfolio managers the right to obtain an equity stake in the portfolio companies should the private equity firm decide to dispose of its holding.

Priority in claims and board representation are both effective tools that give PE firms greater control over portfolio companies. Priority in claims allows the PE firm to receive distributions before all other owners. Should the portfolio company experience a major event (bankruptcy, restructuring, IPO, etc.), the private equity firm can gain control of the company through board representation.

(Module 33.1, LOS 33.b)

Related Material

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46. (B) 40% $22.50

Explanation

The calculation requires four steps:

Step 1: Calculate POST:

POST = exit value / ROI = 150 million / 4 = $37.50 million

Step 2: Milat's fractional ownership of the venture capital firm is the investment divided by POST:

f = $15 million / $37.50 million = 0.40, or 40%

Step 3: Calculate the number of shares required by Milat (S_{pe}) for its fractional ownership of 40%:

S_{pe} = 1,000,000 [0.40 / (1 – 0.40)] = 666,667

Step 4: The share price is the value of Milat's initial investment divided by the number of shares Milat requires:

$P = INV_1 / S_{pe}$ = $15 million / 666,667 = $22.50

Alternatively, PRE = POST – INV = 37.50 – 15 = 22.50 million

Price per share (founders) = 22.50 million / 1 million = $22.50

(Module 33.1, LOS 33.d)

Related Material

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47. (B) NAV before distributions – Carried interest – Distributions.

Explanation

NAV after distributions is calculated as NAV before distributions minus carried interest (the general partner's profit from the fund) minus distributions from the fund.

(Module 33.3, LOS 33.i)

Related Material

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48. (A) both are incorrect.

Explanation

Both statements are incorrect. Committed capital refers to the amount of funds investors committed to over the life of the private equity fund. Funds from committed capital are drawn down over time as the firm needs more capital. If the firm needs financing beyond investors' committed capital, it would have to look for additional sources of funds.

The J-Curve refers to a pattern in private equity investment return, not risk. The return on investments usually declines initially, then increases as exit nears.

(Module 33.2, LOS 33.f)

Related Material

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49. (C) Venture capital Buyout

Explanation

Venture capital investments often have high and increasing working capital (current assets less current liabilities) requirements to finance growth. Buyouts typically have low requirements due to more reliable cash flows and earnings and a substantial asset base.

Stable EBITDA (or EBIT) growth is generally a characteristic of buyout investments. These firms traditionally have a history of stable sales and cash flows and have

already established a strong market position. The high amount of debt required by the private equity firm to make the investment also requires that the buyout firm have stable and steady earnings to finance the interest payments.

(Module 33.1, LOS 33.c)

Related Material

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50. (B) correct on both statements.

Explanation

Both of Cyly's statements are correct. Her description of earn-outs as a control mechanism accurate. Her comment on cash flows and earnings growth is also correct, given most venture capital firms' lack of stable cash flow and earnings patterns. This type of valuation is better suited for leveraged buyout investments.

(Module 33.1, LOS 33.b)

Related Material

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51. (B) $1.2 million 20%

Explanation

The post-money valuation (PRE) is directly given as $1.5 million. The pre-money valuation (PRE) is simply the post-money valuation (POST) less the investment (INV):

PRE = POST – INV = $1.5 million – $300,000 = $1.2 million.

The ownership proportion is the investor's fractional ownership of the firm value after the capital infusion:

Ownership proportion = INV/POST = $300,000 / $1.5 million = 0.20 or 20%.

(Module 33.1, LOS 33.d)

Related Material

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52. (C) Liquidation, secondary market sale, IPO.

Explanation

Liquidation is a sale of last resort for bankrupt or insolvent firms and generally results in low exit values. The value realized on the sale to management in a management buyout typically varies, but lags behind values from a secondary market sale or an IPO.

A secondary market sale is analogous to a private sale of the firm to another firm. Secondary market sales use large amounts of debt financing and could result in the second highest valuation after an IPO. An IPO is a sale of the entire firm or

part of the firm (e.g. a division) to the public. As a result of the increased post-IPO liquidity, transparency and access to capital, the private equity firm can realize the highest exit value of a firm through the IPO process.

(Module 33.2, LOS 33.e)

Related Material

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53. (A) $15 million.

Explanation

POST = exit value / ROI = 30 / 2 = 15 million

(Module 33.1, LOS 33.d)

Related Material

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54. (C) $0.

Explanation

A clawback provision in a private equity prospectus requires the general partner to repay part of previously distributed profits if the fund subsequently underperforms.

Since carried interest is paid on a total return basis using committed capital, the general partner of RDO would only receive interest when the portfolio value exceeds committed capital ($50 million). First-year profit is $5 million, bringing the portfolio value to $35 million, therefore no carried interest is paid. Since no profit was distributed to the general partner in the first year, a clawback does not apply in the second year.

(Module 33.2, LOS 33.g)

Related Material

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55. (A) Lafonte is correct but Green is incorrect.

Explanation

Lafonte's statement is correct. Private equity firms can use scenario analysis to estimate terminal value in both venture capital and LBO investments. Under scenario analysis, terminal values are calculated under multiple scenarios using different assumptions.

Green's statement is incorrect. Private equity firms often use a relative value approach to estimate terminal value in both venture capital and LBO investments. Under the multiple of net income approach, terminal year net income is multiplied by the P/E ratio to project terminal equity value.

(Module 33.1, LOS 33.c)

Related Material

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56. (A) dilution cost.

Explanation

Management and performance cost is the explicit cost of manager compensation as a percentage of committed capital and annual fund performance. Capital costs are not discussed as a cost in private equity.

Dilution is the implicit cost of reduced investor value when firms take on additional financing or when stock options are granted (and exercised) by management.

(Module 33.2, LOS 33.f)

Related Material

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57. (B) $0 $7 million

Explanation

Since carried interest is paid on a deal-by-deal basis, profits are not netted. Also, carried interest is only paid if the investment's IRR at least meets the hurdle rate of 10%.

(All figures are in $ million):

The initial allocation between the firms was:

Deutsch: (0.60)($250) = $150

Reiner: (0.40)($250) = $100

The IRRs for the two firms are:

IRRDeutsch: PV = –$150; FV = $195, N = 3; CPT I/Y → IRR = 9.14%.

IRRReiner: PV = -$100; FV = $135; N = 3; CPT I/Y → IRR = 10.52%.

Since the return on Deutsch fell short of the 10% hurdle rate, the general partner only receives profits after Reiner. The profit is 20% of $35 million, or $7 million.

(Module 33.2, LOS 33.g)

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58. (A) 500,000 $20.00

Explanation

The answer requires four steps:

Step 1: Calculate the post-money (POST) valuation, which is simply the pre-money (PRE) valuation plus the investment:

POST = PRE + INV = $6 million + $10 million = $16 million

Step 2: Calculate the private equity firm's fractional ownership in the portfolio company: f = INV / POST = $10 million / $16 million = 0.625

Step 3: If the founders currently hold 300,000 shares, the number of shares to be held by the private equity firm to have 62.5% ownership is:

Number of shares = 300,000 [0.625 / (1 – 0.625)] = 500,000

Step 4: Given the private equity firm's $10 million investment and 500,000 shares, the share price is calculated as:

P = $10 million / 500,000 = $20.00

(Module 33.1, LOS 33.d)

Related Material

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59. (B) Placement fees Transaction fees

Explanation

Placement fees are upfront fees paid to agents for raising funds for the private equity firm. These fees typically are in the 2% range or paid as trailers.

Transaction fees are paid to the GP for investment banking services in the event of a merger or acquisition. Transaction fees are usually split with the limited partners and deducted from management fees.

Administrative costs are various annual costs including custodian fees, fees to transfer agents and accounting costs.

(Module 33.3, LOS 33.i)

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