

Learning Module 6: Capital Structure

Q.1357 Nisha Jatoi is an equity analyst and is assigned to discount the net present value (NPV) of Indo Inc. that has 30% debt in its capital structure. If the after-tax cost of debt is 8%, the risk premium is 6%, the risk-free rate is 4%, and the Beta of Indo is 0.9, the discount rate Jatoi should use is *closest to*:

- A. 9.4%.
- B. 8.9%.
- C. 17.4%.

The correct answer is **B**.

$$\begin{aligned}\text{Cost of equity} &= \text{Risk-free rate} + \text{Beta} (\text{Market risk} - \text{Risk-free rate}) \\ &= 4\% + 0.9 \times (6\%) = 0.094\end{aligned}$$

$$\begin{aligned}\text{Discount rate} &= (\text{Weight of debt} \times \text{After-tax cost of debt}) + (\text{Weight of equity} \times \text{Cost of equity}) \\ \text{Discount rate} &= (0.3 \times 0.08) + (0.7 \times 0.094) = 0.089\end{aligned}$$

A is incorrect. It suggests using a discount rate of 9.4%, which is actually the calculated cost of equity before considering the weighted average with the cost of debt. This option does not accurately reflect the combined effect of both equity and debt in the company's capital structure, which is essential for calculating the WACC.

C is incorrect. It suggests a discount rate of 17.4%, which is significantly higher than what is calculated using the given data. This option does not follow the standard formula for calculating the WACC and does not accurately represent the cost of financing for Indo Inc. considering its mix of debt and equity.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.2882 A manager is valuing a project that is to be financed with 60% equity. Suppose the market risk premium is 4%, the risk-free rate is 5%, the after tax cost of debt is 7%, and the beta is 0.9, then the rate used for calculating the net present value (NPV) of the project is *closest to*:

- A. 7.96%.
- B. 8.60%.
- C. 9.68%.

The correct answer is **A**.

The NPV of a project is calculated using the discount rate or weighted average cost of capital (WACC).

First, we will calculate the cost of equity using the CAPM.

$$\text{Cost of equity} = \text{Risk-free rate} + \text{Beta} (\text{Market risk premium}) = 5\% + 0.9(4\%) = 8.6\%$$

$$\text{WACC} = \text{Weight of debt} \times \text{Cost of debt} + \text{Weight of equity} \times \text{Cost of equity}$$

$$\text{WACC} = ((1 - 0.6) \times 7\%) + (0.6 \times 8.6\%) = 7.96\%$$

B is incorrect. 8.60% represents only the cost of equity calculated using the CAPM model and does not account for the weighted average of both the cost of equity and the cost of debt, which is necessary to determine the WACC.

C is incorrect. 9.68% does not correspond to any calculation related to the given data. It neither represents the cost of equity nor the WACC as per the given proportions of debt and equity financing.

CFA Level I, Portfolio Management, Learning Module 2: Portfolio Risk & Return: Part II.
LOS (f): Explain the capital asset pricing model (CAPM), including its assumptions, and the security market line (SML).

Q.3934 Which stage in a company's lifecycle is *most likely* characterized by slowing revenue growth, positive cash flow, and low cost of debt?

- A. Start-up.
- B. Growth.
- C. Mature.

The correct answer is C.

The mature stage in a company's lifecycle is most accurately characterized by a deceleration in revenue growth, the generation of positive and stable cash flows, and a relatively low cost of debt. This stage signifies that the company has successfully navigated through its initial growth phases and has established a solid presence within its industry. Companies in the mature stage typically have a well-established customer base, efficient production and operational processes, and are able to generate consistent earnings.

A is incorrect. The start-up stage of a company's lifecycle is characterized by rapid revenue growth from a low base, negative cash flows due to significant upfront investment in product development and market entry, high business risk due to unproven business models and market acceptance, very limited access to debt financing due to the high risk of failure, and consequently, a high cost of debt for the debt that can be accessed.

B is incorrect. The growth stage of a company's lifecycle is characterized by rapidly increasing revenue growth as the company begins to see the payoff from its initial investments in product development and market entry. Cash flows improve as revenues grow, but can still be variable as the company continues to invest in growth opportunities. The business risk is medium, as the company has proven its business model to some extent but still faces significant competition and market challenges.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (d): Describe optimal and target capital structures.

Q.3935 Which of the following is *least likely* a reason for a mature company's de-leveraging?

- A. Share buybacks.
- B. Share price appreciation.
- C. Increased cash flow generation.

The correct answer is **A**.

Share buybacks are not a reason for a mature company's de-leveraging but rather a method that can lead to an increase in leverage ratios. De-leveraging refers to the process of reducing the level of a company's debt relative to its equity or assets. When a company buys back its shares, it uses available cash to purchase outstanding equity.

This action reduces the number of shares outstanding, potentially increasing the earnings per share (EPS) and the share price. However, it also reduces the company's cash reserves, which could have been used to pay down debt. If no debt is paid down while cash reserves decrease, the company's leverage could actually increase, not decrease.

B is incorrect. Share price appreciation is not a direct method of de-leveraging, but it can indirectly support de-leveraging efforts. When a company's share price appreciates, it reflects an increase in the market's valuation of the company's equity.

This higher equity valuation can improve the company's debt-to-equity ratio, a common measure of leverage. Although share price appreciation does not directly reduce the amount of debt on the company's balance sheet, it makes the company's capital structure appear less leveraged relative to its equity value.

C is incorrect. Increased cash flow generation is actually a primary reason for a mature company's de-leveraging. As companies mature and their operations stabilize, they often generate more consistent and higher levels of cash flow.

This increased cash flow can be used directly to pay down existing debt, reducing the company's overall leverage. Paying down debt with cash reduces the total amount of liabilities on the balance sheet, directly impacting the company's leverage ratios in a positive way.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.3936 Which of the following is *most likely* a reason why share buybacks are attractive to companies?

- A. They are not an actual expense to the company.
- B. They reduce the share prices and per-share metrics.
- C. They offer greater flexibility compared to dividends.

The correct answer is C.

Share buybacks offer companies a significant advantage in terms of financial flexibility compared to dividends. This flexibility stems from the fact that, unlike dividends, which once initiated, create an expectation for regular, ongoing payments, share buybacks do not establish such an expectation. Companies can choose to buy back shares when they have excess cash or when they believe their stock is undervalued, without committing to future buybacks.

A is incorrect. Share buybacks represent a significant use of a company's cash reserves. When a company decides to repurchase its shares, it is essentially investing in itself, using its cash resources to buy back equity from shareholders. This transaction reduces the company's cash reserves and is recorded as a reduction in shareholders' equity on the balance sheet.

B is incorrect. Share buybacks can have the opposite effect on per-share metrics. By reducing the number of shares outstanding, share buybacks can increase per-share measures such as earnings per share (EPS) and book value per share, assuming the buyback is conducted at prices below the intrinsic value of the shares. This improves financial ratios and signals to the market that the company's management believes the stock is undervalued.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.3937 Which of the following is *least likely* an assumption of Modigliani-Miller?

- A. There are no agency costs.
- B. Investors have homogenous expectations.
- C. Financing and investment decisions are dependent on each other.

The correct answer is **C**.

The Modigliani-Miller theorem is a cornerstone of corporate finance theory, proposing conditions under which the valuation of a firm is unaffected by its capital structure. One of the critical assumptions of the Modigliani-Miller theorem is that financing and investment decisions are independent of each other. This assumption implies that the choice between debt and equity financing does not influence a firm's investment decisions or its value.

A is incorrect. The assumption that there are no agency costs is part of the Modigliani-Miller framework. Agency costs refer to the costs associated with resolving conflicts of interest between various stakeholders in a firm, such as managers and shareholders. The Modigliani-Miller theorem assumes these costs do not exist, which simplifies the analysis by focusing solely on financing decisions without considering the potential for conflicts between different parties within the firm.

B is incorrect. The assumption that investors have homogeneous expectations is another fundamental aspect of the Modigliani-Miller theorem. This assumption means that all investors have the same expectations regarding the future cash flows generated by firms, their risk, and the future market conditions. This homogeneity in expectations ensures that all investors value securities in the same way, contributing to the theorem's conclusion that a firm's value is not affected by its financing choices.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (c): Explain the Modigliani-Miller propositions regarding capital structures.

Q.3938 Which of the following would *most likely* be an effect of higher financial leverage on equity, under the Modigliani–Miller proposition II without taxes?

- A. Higher financial leverage raises the cost of equity.
- B. Higher financial leverage reduces the cost of equity.
- C. Costs of equity remain the same regardless of financial leverage.

The correct answer is **A**.

Under the Modigliani–Miller proposition II, without taxes, higher financial leverage indeed raises the cost of equity. This proposition posits that the cost of equity is a linear function of the company's debt-to-equity ratio. This means that as a company increases its leverage through debt, the risk associated with the equity of the company also increases.

Equity holders demand a higher return for bearing this increased risk, which in turn raises the cost of equity. The rationale behind this is that debt holders have a priority claim on the company's assets and earnings. In the event of financial distress or bankruptcy, debt holders are paid before equity holders.

Therefore, as the proportion of debt in the company's capital structure increases, the risk to equity holders increases because the likelihood of them receiving any residual assets or earnings decreases. This increased risk is compensated by a higher expected return, or cost of equity.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (c): Explain the Modigliani–Miller propositions regarding capital structures.

Q.3939 Which of the following is *most likely* a direct cost of financial distress?

- A. Reputational risk.
- B. Foregone investment opportunities.
- C. Expenses of the bankruptcy process.

The correct answer is **C**.

The direct costs of financial distress primarily encompass the tangible expenses associated with the bankruptcy process. These costs include legal fees, administrative fees, and any other costs directly incurred during the process of filing for bankruptcy.

The essence of these costs lies in their direct outflow of cash from the company to cover the expenses related to the legal proceedings and other administrative activities necessary for navigating through bankruptcy. These costs are immediate and quantifiable, making them a significant concern for companies facing financial distress.

A is incorrect. Reputational risk does not involve a direct outflow of cash or incur immediate financial expenses but rather results in long-term financial implications through reduced revenues and increased cost of capital.

B is incorrect. This represents lost potential income rather than an immediate financial outlay. The impact of foregone investment opportunities is felt over time as the company misses out on growth opportunities and fails to keep pace with competitors, further exacerbating its financial difficulties.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.3940 Which of the following is *least likely* a reason why a company's target capital structure may differ from its optimal capital structure?

- A. Lack of floatation costs.
- B. Market value fluctuations.
- C. Management trying to exploit short-term opportunities.

The correct answer is **A**.

Lack of flotation costs is the least likely reason why a company's target capital structure may differ from its optimal capital structure. Flotation costs refer to the expenses incurred by a company when it issues new securities, such as underwriting fees, legal fees, and registration fees. These costs can be significant, especially for smaller companies or those issuing securities infrequently. The presence of flotation costs can deter a company from frequently adjusting its capital structure to align with its optimal capital structure.

B is incorrect. Market value fluctuations are a valid reason why a company's target capital structure may differ from its optimal capital structure. The market value of a company's equity and debt can fluctuate due to various factors, including changes in interest rates, investor sentiment, and the company's financial performance.

C is incorrect. Management's efforts to exploit short-term opportunities is another valid reason for a discrepancy between a company's target and optimal capital structures. Management may decide to take advantage of favorable conditions in the debt or equity markets to adjust the company's capital structure in a way that is not aligned with the long-term optimal structure.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (d): Describe optimal and target capital structures.

Q.3941 Which of the following is *least likely* a method analysts use to estimate a company's target capital structure?

- A. Assume a company's target capital structure from its stage in its life cycle.
- B. Assume a company's current capital structure is its target capital structure.
- C. Use comparables of comparable companies to infer a company's target capital structure.

The correct answer is **A**.

Assuming a company's target capital structure based on its stage in its life cycle is the least likely method analysts use to estimate a company's target capital structure. This approach is generally considered too simplistic and does not accurately reflect the complexities and strategic financial planning involved in determining a company's optimal capital structure.

Companies at the same stage in their life cycle can have vastly different capital structures due to differences in their business models, industry dynamics, risk profiles, and access to capital markets.

B is incorrect. Assuming a company's current capital structure is its target capital structure is a common method used by analysts. This approach is based on the premise that the company has already optimized its capital structure in response to its financial strategy and market conditions.

Analysts may look at the company's historical capital structure as an indication of its management's preferences and strategic objectives regarding financing. However, this method also has its limitations, as it assumes that the current capital structure is optimal and does not account for potential changes in the company's strategy or market conditions that could affect its capital structure decisions.

C is incorrect. Using comparables of similar companies to infer a company's target capital structure is another method frequently employed by analysts. This approach involves analyzing the capital structures of companies within the same industry and with similar operational characteristics. The rationale is that companies operating in the same industry and facing similar economic and competitive conditions may adopt similar capital structures.

By examining a peer group, analysts can gain insights into industry norms and practices regarding capital structure, which can be useful in estimating a company's target capital structure. However, while this method provides valuable benchmarks, it also has limitations, as it may not fully account for a company's unique circumstances and strategic considerations.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (d): Describe optimal and target capital structures.

Q.3942 Consider the following information:

Company	Market Value of Debt	Market Value of Equity
A	\$120	\$150
B	\$80	\$90
C	\$150	\$180

A fourth company, Company X, operates in the same industry. Using the competitor's capital structure, what would be Company's X proportions of debt and equity?

- A. 45.65% debt; 54.34% equity
- B. 54.34% debt; 45.65% equity
- C. 44.65% debt; 55.35% equity

The correct answer is **A.**

To determine Company X's proportions of debt and equity based on its competitors' capital structures, we calculate the average proportions of debt (W_d) and equity (W_e) from the given data. The market value of debt and equity for each company provides the basis for these calculations.

The proportion of debt and equity for each company is calculated by dividing the market value of debt by the total market value (debt + equity) for debt proportion, and similarly, dividing the market value of equity by the total market value for equity proportion.

The average of these proportions across the three companies gives an estimate for Company X's capital structure.

Using the values in the values in the tables, we have:

$$W_d = \frac{\frac{\$120}{(\$120+\$150)} + \frac{\$80}{(\$80+\$90)} + \frac{\$150}{(\$150+\$180)}}{3} = \frac{1.3695}{3} = 0.4565$$
$$W_e = \frac{\frac{\$150}{(\$120+\$150)} + \frac{\$90}{(\$80+\$90)} + \frac{\$180}{(\$150+\$180)}}{3} = \frac{1.63005}{3} = 0.5434$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.3943 Which of the following factors will *least likely* affect the capital structure and the use of leverage by management?

- A. Capital investment financing.
- B. Capital structure policies and targets.
- C. Information symmetry in the company.

The correct answer is C.

Information symmetry refers to a situation where all parties involved have access to the same information. In the context of capital structure decisions, while information asymmetry (the opposite of symmetry) between management and external investors can influence the cost of capital and investment decisions, it is not a primary driver of capital structure decisions. Capital structure decisions are more directly influenced by factors that affect the cost and availability of financing, such as interest rates, the company's risk profile, and market conditions.

A is incorrect. Capital investment financing is a critical factor that directly affects a company's capital structure and leverage. When a company decides to finance new capital investments, it must choose between using debt, equity, or a combination of both. The decision on how to finance these investments will directly impact the company's leverage ratios and overall capital structure.

B is incorrect. Capital structure policies and targets set by management and the board are fundamental determinants of a company's use of leverage. These policies and targets outline the preferred mix of debt and equity financing that aligns with the company's strategic objectives, risk tolerance, and financial health. They serve as a guideline for making financing decisions, directly influencing how much debt or equity the company uses to fund its operations and growth.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (d): Describe optimal and target capital structures.

Q.3944 Under the pecking order theory, which source of capital would managers *most likely* prefer to use?

- A. Debt.
- B. Equity.
- C. Internally generated funds.

The correct answer is C.

Under the pecking order theory, managers prioritize financing options based on the principle of minimizing the adverse selection costs associated with issuing new securities. The theory suggests that companies prefer to finance new projects using internally generated funds first, before resorting to external financing options such as debt and equity.

This preference is driven by the desire to avoid the higher costs and potential signaling issues associated with external financing. This makes them the most preferred source of capital under the pecking order theory.

A is incorrect. While debt is considered more favorable than equity in the pecking order theory, it is not the most preferred source of capital. The use of debt over equity is preferred due to the lower signaling costs associated with debt issuance.

However, debt also introduces financial risk due to the obligation to make fixed payments. Managers will opt for debt financing only after the internally generated funds are exhausted and before considering equity financing, which is seen as a last resort due to its higher signaling costs and the dilution of existing ownership.

B is incorrect. Equity is considered the least preferred source of financing under the pecking order theory. This preference is rooted in the information asymmetry between managers and investors. Issuing new equity is often interpreted by the market as a signal that the firm's stock might be overvalued, leading to potential adverse selection problems.

Managers are concerned that new equity issuance could be perceived negatively by investors, who may believe that insiders are looking to sell their shares at inflated prices. Therefore, equity financing is used only when internal funds and debt are insufficient to meet the company's financing needs.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.3946 Which of the following stakeholders will *most likely* benefit from a reduction in a company's leverage?

- A. Debtholders.
- B. Equity shareholders.
- C. Management.

The correct answer is **A**.

Debtholders are most likely to benefit from a reduction in a company's leverage. Leverage, in financial terms, refers to the amount of debt used by a company to finance its assets. A high level of leverage indicates that a company has taken on a significant amount of debt. While this can amplify returns when times are good, it also increases the risk of financial distress or bankruptcy during tough economic periods. When a company reduces its leverage, it decreases its risk of defaulting on its debt obligations.

B is incorrect. While it's true that reducing leverage can lead to a more stable financial position for the company, which might be seen as beneficial in the long term, equity shareholders often benefit from the use of leverage due to the potential for higher returns. Leverage can magnify the returns on equity when a company performs well, as the cost of debt is typically lower than the return on equity.

C is incorrect. Management's benefit from a reduction in leverage is not as straightforward as it might seem. On one hand, reducing leverage can make a company more financially stable and potentially improve its long-term prospects, which could be in management's interest, especially if their compensation includes stock options or other incentives tied to the company's performance.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.3947 Consider the following information for company XYZ Plc. that is being valued using the projected cash flows from its new projects:

	Current year	Next Period Forecast
Book value of debt	\$40	\$40
Market value of debt	\$60	\$62
Equity's book value	\$50	\$70
Equity market value	\$90	\$110

The weights that should apply when estimating XYZ's cost of capital for debt and equity, respectively, are:

- A. 0.3605 and 0.6395.
- B. 0.3636 and 0.6364.
- C. 0.4444 and 0.5556.

The correct answer is **A**.

When calculating the cost of capital for XYZ Plc., it is essential to use the market values of debt and equity rather than their book values. This approach is because market values more accurately reflect the current economic reality and the investors' perceptions of the company's value and risk.

The weights of debt (W_d) and equity (W_e) in the company's capital structure are calculated using the market values of debt and equity. For the next period forecast, the market value of debt is \$62, and the market value of equity is \$110. The weights are calculated as follows:

Using the table above we have:

$$W_d = \frac{\$62}{(\$62 + \$110)} = 0.36047$$

$$W_e = \frac{\$110}{(\$62 + \$110)} = 0.63953$$

These weights indicate the proportion of debt and equity in the company's capital structure, which are essential in calculating the weighted average cost of capital (WACC). The WACC is used as the discount rate in valuing the company's new projects based on projected cash flows.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (a): Calculate and interpret the weighted-average cost of capital for a company.

Q.3948 Which of the following sources of information do public market debtholders *least likely* rely on when making investment decisions?

- A. Public information.
- B. Credit rating agencies.
- C. Access to company management.

The correct answer is C.

Public market debtholders are least likely to rely on access to company management when making investment decisions. This is primarily because public market debtholders, unlike banks or private lenders, typically do not have direct access to company management or non-public information about the company.

This limitation is a result of the structure of public markets, where investments are made based on publicly available information to ensure fairness and transparency. The reliance on public information and third-party assessments, such as those provided by credit rating agencies, helps to mitigate the information asymmetry between company insiders and public investors.

A is incorrect. Public information is a crucial source of information for public market debtholders. This category includes financial statements, news releases, industry analyses, and other publicly disclosed materials. These pieces of information are essential for investors to make informed decisions. Public market debtholders rely heavily on this information to assess the financial health and performance of a company, evaluate its creditworthiness, and make investment decisions.

B is incorrect. Credit rating agencies play a significant role in the decision-making process of public market debtholders. These agencies assess the creditworthiness of issuers of debt securities, including corporations and government entities, and assign ratings that reflect their analysis of the issuer's ability to meet its financial commitments. These ratings are an important tool for investors, including public market debtholders, as they provide an independent assessment of the risk associated with investing in a particular debt security.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.3949 Which of the following is *least likely* a safeguard used by debtholders to protect their interests?

- A. Debt covenants.
- B. Financial distress costs.
- C. Decisions that increase a company's leverage.

The correct answer is **C**.

Decisions that increase a company's leverage are least likely to be a safeguard used by debtholders to protect their interests. This is because increasing leverage means increasing the amount of debt relative to equity in the company's capital structure, which inherently increases the risk to debtholders. Higher leverage can lead to higher interest payments, which may strain the company's cash flows and increase the risk of default.

A is incorrect. Debt covenants are a safeguard used by debtholders to protect their interests. These covenants are terms included in the debt agreement that limit or restrict certain actions by the borrower to protect the lender's interests. They covenants help ensure that the company remains in a financial position to meet its debt obligations, thereby protecting the debtholders' interests.

B is incorrect. Financial distress costs, while not a direct safeguard, are a consideration that indirectly protects debtholders' interests. Financial distress costs refer to the costs a company incurs when it is experiencing financial difficulties, such as the inability to meet its debt obligations.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.3951 According to the Modigliani-Miller Proposition I with corporate taxes, which of the following is *most likely* true?

- A. The cost of equity is a linear function of the company's debt-to-equity ratio.
- B. The market value of a company is not affected by the capital structure of the company.
- C. The market value of a levered firm is equal to the value of an unlevered firm plus the value of the debt shield.

The correct answer is **C**.

According to the Modigliani-Miller Proposition I with corporate taxes, the market value of a levered firm is indeed equal to the value of an unlevered firm plus the value of the tax shield provided by debt. This proposition highlights the benefit of debt financing due to the tax deductibility of interest payments. The value of the tax shield is essentially the present value of these tax savings. The Modigliani-Miller Proposition I with corporate taxes thus suggests that by incorporating debt into its capital structure, a firm can increase its total value.

A is incorrect. The statement that the cost of equity is a linear function of the company's debt-to-equity ratio pertains to the Modigliani-Miller Proposition II without corporate taxes. This proposition explains how the cost of equity increases as a company takes on more debt, to compensate equity holders for the increased risk associated with higher leverage. However, this does not directly relate to the market value of the firm in the context of corporate taxes, as outlined in Proposition I with taxes.

B is incorrect. The assertion that the market value of a company is not affected by the capital structure of the company is a principle of the Modigliani-Miller Proposition I without corporate taxes. It asserts that in a world without taxes, transaction costs, or other market imperfections, the market value of a firm is determined by its earning power and the risk of its underlying assets, and not by how the firm is financed. However, once corporate taxes are introduced, as in the modified Proposition I, the capital structure does indeed affect the firm's market value due to the tax advantages of debt financing.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (c): Explain the Modigliani-Miller propositions regarding capital structures.

Q.3952 Which of the following companies would *least likely* be an exception to the general relationship between company maturity and capital structure?

- A. Startups.
- B. Cyclical industries.
- C. Capital-intensive businesses with marketable securities.

The correct answer is **A**.

Startups are typically in the initial stage of the company lifecycle, characterized by high risk, limited revenues, and significant cash consumption for growth and development. This stage is crucial for understanding the general relationship between company maturity and capital structure. As companies mature, they tend to generate more stable cash flows, allowing them to take on more debt responsibly. However, startups, due to their inherent risk and lack of stable cash flows, are less likely to follow this pattern, making them the least likely exception to the general relationship between company maturity and capital structure.

B is incorrect. Cyclical industries, such as mining or manufacturing, experience significant fluctuations in their cash flows due to the cyclical nature of their markets. These fluctuations can make debt financing riskier, as their ability to meet fixed obligations may vary widely with the economic cycle. Therefore, companies in cyclical industries might not follow the typical pattern of increasing debt usage as they mature, making them a potential exception to the general relationship between company maturity and capital structure.

C is incorrect. Capital-intensive businesses with marketable securities, such as utilities or telecommunications companies, often have large amounts of fixed assets and may issue debt against these assets. The presence of marketable securities can provide additional liquidity, making it easier for these companies to manage debt. As such, these companies might follow a different pattern in their capital structure evolution compared to the general relationship between company maturity and capital structure.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.3953 Which of the following is *least likely* a Modigliani-Miller Assumption?

- A. Investors borrow and lend at the market rate.
- B. Investors agree on an investment's expected cash flows.
- C. Financing and investment decisions are independent of each other.

The correct answer is **A**.

The Modigliani-Miller theorem is a cornerstone of corporate finance theory, proposing that under certain market conditions, the value of a firm is unaffected by how that firm is financed, whether through debt or equity. One of the critical assumptions underlying this theorem is that investors can borrow and lend at a risk-free rate, not the market rate.

This assumption is crucial because it implies that the financing decisions of a firm (whether to fund operations through debt or equity) do not affect its value in a perfect market. The risk-free rate is a theoretical rate of return of an investment with zero risk, meaning it is a safe bet for investors. This contrasts with the market rate, which is influenced by a variety of factors including market demand, investor behavior, and overall economic conditions, and carries a higher level of risk.

B is incorrect. It is indeed one of the Modigliani-Miller assumptions. Investors agreeing on an investment's expected cash flows is essential for the theorem's context, as it eliminates disagreements and uncertainties about the future performance of investments. This consensus ensures that the market operates efficiently, with prices reflecting all available information and expectations about future cash flows.

C is incorrect. It is another assumption of the Modigliani-Miller theorem. The independence of financing and investment decisions is a critical aspect of the theorem, suggesting that how a firm finances its operations (through debt or equity) does not influence its investment decisions or the overall market's perception of the firm's value. This assumption is vital for the theorem's conclusion that the capital structure of a firm does not affect its value in a perfect market.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (c): Explain the Modigliani-Miller propositions regarding capital structures.

Q.3954 Consider the following information:

Market value of debt	\$80 million
Market value of equity	\$120 million
Taxes	25%
Before-tax cost of debt	6%
Cost of equity	9%

The weighted average cost of capital (WACC) is *closest* to:

- A. 7.2%.
- B. 7.8%.
- C. 8.6%.

The correct answer is **A**.

The Weighted Average Cost of Capital (WACC) is a crucial metric in finance that represents the average rate of return a company is expected to pay its security holders to finance its assets. The WACC is calculated by weighting the cost of each capital component (equity, debt, etc.) by its proportional weight in the total capital structure and adjusting for taxes. The formula for WACC is given by:

$$WACC = \left(\frac{E}{V}\right) \times R_e + \left(\frac{D}{V}\right) \times R_d \times (1 - T_c)$$

where:

- E is the market value of the equity,
- D is the market value of the debt,
- V = E + D is the total market value of the company's financing (equity and debt),
- R_e is the cost of equity,
- R_d is the cost of debt, and
- T_c is the corporate tax rate.

Given the information:

- Market value of debt (D) = \$80 million,
- Market value of equity (E) = \\$120 million,
- Taxes (T_c) = 25%
- Before-tax cost of debt (R_d) = 6%, and
- Cost of equity (R_e) = 9%.

The total capital (V) is the sum of the market value of debt and equity, which is \$200 million (\$80

million + \$120 million). Using the WACC formula:

$$\text{WACC} = \left(\frac{\$120 \text{ million}}{\$200 \text{ million}} \right) \times 9\% + \left(\frac{\$80 \text{ million}}{\$200 \text{ million}} \right) \times 6\% \times (1 - 25\%)$$

After performing the calculations:

$$\text{WACC} = 0.6 \times 9\% + 0.4 \times 6\% \times 0.75 = 5.4\% + 1.8\% = 7.2\%$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (a): Calculate and interpret the weighted-average cost of capital for a company.

Q.4047 Which of the following is *most likely* to increase the operating leverage of a company?

- A. Decreasing the price of products.
- B. Relying on debt financing instead of equity financing.
- C. Substituting salaried workforce with temporary employees.

The correct answer is A.

Decreasing the price of products is most likely to increase the operating leverage of a company. Operating leverage is a measure of how revenue growth translates into growth in operating income. It is determined by the company's cost structure, specifically the proportion of fixed costs to variable costs.

A higher operating leverage indicates that a small change in sales can lead to a larger change in operating income, due to the high proportion of fixed costs. When a company decreases the price of its products, it may see an increase in sales volume. However, because the fixed costs remain constant, the company's operating leverage increases as the proportion of variable costs (in this case, the cost of goods sold) decreases in relation to fixed costs.

B is incorrect. Relying on debt financing instead of equity financing affects the company's financial leverage, not its operating leverage. Financial leverage is concerned with the impact of debt on the company's earnings per share and cost of capital.

C is incorrect. Substituting a salaried workforce with temporary employees can indeed reduce fixed costs, as salaries are typically fixed costs, while payments to temporary employees can be more variable and aligned with the company's production needs. This reduction in fixed costs would actually decrease operating leverage. Operating leverage is higher when a company has a greater proportion of fixed costs.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.4114 Which of the following is *most likely* an external factor affecting a company's capital structure?

- A. Existing leverage.
- B. Market conditions.
- C. Capital structure policies .

The correct answer is **B**.

Market conditions significantly influence a company's capital structure decisions. These conditions encompass a wide range of economic and financial factors, including but not limited to interest rates, the overall state of the economy, investor sentiment, and the availability of financing.

Market conditions also affect the cost of equity, as investor demand for stocks can vary widely based on economic forecasts, market volatility, and other external factors. Therefore, understanding and adapting to market conditions is crucial for companies aiming to optimize their capital structure in a way that minimizes costs and maximizes financial flexibility and shareholder value.

A is incorrect. A company's decision to increase or decrease its leverage is influenced by its internal assessments of risk, cost of capital, and strategic objectives. While existing leverage can affect a company's future financing options and costs, it is fundamentally a result of internal policy decisions and historical financing choices rather than external market forces.

C is incorrect. Capital structure policies are the guidelines or strategies that a company adopts to manage its mix of debt and equity financing. These policies are internal to the company and are shaped by its financial goals, risk tolerance, and the strategic direction set by its management and board of directors.

While these policies must consider external market conditions, they are fundamentally a reflection of the company's internal decision-making processes and priorities. Therefore, capital structure policies are not an external factor but rather an internal mechanism through which a company navigates its financing decisions.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.4115 Which of the following is *least likely* associated with a company in the start-up stage of a company's life cycle?

- A. Low cost of debt.
- B. High business risk.
- C. Limited debt availability.

The correct answer is **A**.

Start-up companies are generally characterized by their high-risk profile, which stems from unproven business models, uncertain market acceptance, and often volatile cash flows. These factors contribute to a higher cost of debt for start-ups, as lenders perceive them as riskier investments compared to more established companies. Additionally, start-ups may be required to provide more substantial collateral or agree to more stringent loan covenants.

B is incorrect. High business risk is a hallmark of start-up companies. This risk arises from various factors, including untested business models, the challenge of establishing a customer base, and the potential for rapid changes in the market or technology. These uncertainties contribute to the perception of start-ups as high-risk ventures.

C is incorrect. Limited debt availability is a characteristic commonly associated with start-up companies. Due to their high-risk profile and lack of a proven track record, start-ups often find it challenging to access debt financing. Traditional lenders, such as banks, may be hesitant to extend credit to start-ups without substantial collateral or a clear path to profitability. This constraint on borrowing reflects the cautious approach of lenders towards start-up companies, further emphasizing the close association between limited debt availability and the start-up stage of a company's life cycle.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.4117 Which of the following is *most likely* a direct cost of financial distress?

- A. Impaired ability to conduct business
- B. Foregone investment opportunities
- C. Cash expenses of the bankruptcy process

The correct answer is **C**.

The direct costs of financial distress primarily encompass the tangible, cash expenses directly associated with the bankruptcy process. These costs include legal fees, court fees, and other related administrative expenses incurred during the process of filing for bankruptcy.

These expenses are unavoidable and quantifiable, making them direct costs. They reduce the value of the firm's assets available to creditors and shareholders by consuming a portion of the firm's resources. This reduction in asset value is a significant concern for firms facing financial distress, as it directly impacts the recoverable amount by stakeholders.

A is incorrect. The impaired ability to conduct business refers to the operational challenges and limitations a firm faces due to financial distress. This includes damage to reputation, loss of customers, and difficulties in maintaining supplier relationships.

While these factors significantly impact the firm's performance and value, they are considered indirect costs. Indirect costs are more challenging to quantify as they do not directly involve cash outflows but result in lost revenues and increased operational costs over time.

B is incorrect. It does not involve direct cash outflows or expenses. Instead, it represents a missed chance to generate additional income and improve the firm's financial position.

CFA Level I, Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.4118 Which of the following reasons is *least likely* a reason why a company's capital structure targets use book value instead of market value?

- A. Market values change dramatically.
- B. Lenders and rating agencies use book values in their calculations.
- C. The amounts and types of capital invested by the company is not of significance.

The correct answer is C.

This is the least likely reason because the amounts and types of capital invested by a company are indeed significant. The capital structure of a company refers to the mix of its long-term debt, specific short-term debt, common equity, and preferred equity. The decision on how much of each to use is crucial because it affects the company's risk and the value of the company.

Book values, which are derived from the company's financial statements, provide a historical cost of these capital components. They are used in various financial ratios and calculations that help in assessing the company's financial health and making strategic decisions.

A is incorrect. The statement that market values change dramatically is a valid reason for companies to prefer book values over market values in their capital structure targets. Market values of debt and equity can be highly volatile, fluctuating due to market conditions, investor sentiment, and other external factors. This volatility can make it challenging for companies to maintain a stable and predictable capital structure if they were to base their targets on market values.

B is incorrect. Lenders and rating agencies using book values in their calculations is another valid reason for companies to focus on book values rather than market values when setting capital structure targets. Lenders often assess a company's creditworthiness based on financial ratios that use book values, such as the debt-to-equity ratio.

By aligning their capital structure targets with the metrics used by lenders and rating agencies, companies can ensure they are viewed more favorably in terms of credit risk, potentially leading to better borrowing terms and lower costs of capital.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (d): Describe optimal and target capital structures.

Q.4119 Which of the following reasons *least likely* describes the almost negligible debt amount in the capital structures of startup companies?

- A. Low cost of debt financing.
- B. Lack of assets to be used to secure debt.
- C. Companies in the startup stage prefer equity to debt financing.

The correct answer is **A**.

Startup companies often have negligible amounts of debt in their capital structures primarily due to the lack of assets that can be used as collateral for securing debt financing. Lenders typically require tangible assets to serve as security against the loan to mitigate the risk of default. Startups, being in their nascent stages, usually possess limited tangible assets, making it challenging for them to meet the collateral requirements of traditional debt financing.

B is incorrect. Any debt financing available to startups typically comes with high interest rates to compensate for the increased risk, making it an unattractive option for many early-stage companies. This high cost of borrowing discourages startups from pursuing debt financing.

C is incorrect. Startups may indeed prefer equity financing over debt to avoid the burden of regular interest payments and the risk of default. However, the preference for equity is not merely a matter of choice but often a necessity driven by the lack of access to debt financing. Equity financing does not require collateral and is more accessible to startups, albeit at the cost of diluting ownership.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.4120 Which of the companies listed below *most likely* has the highest proportion of debt in its capital structure?

- A. A retail company in its growth phase.
- B. A software company in its mature phase.
- C. A real estate company in its growth phase.

The correct answer is C.

A real estate company in its growth phase is most likely to have the highest proportion of debt in its capital structure. Real estate is a capital-intensive industry, requiring significant investment in property, buildings, and other fixed assets. These assets can serve as collateral for loans, making it easier for real estate companies to secure debt financing. Debt financing is a common way to meet their high funding requirements due to the ability to leverage large amounts of capital at a relatively lower cost compared to equity financing.

A is incorrect. A retail company in its growth phase is less likely to have a high proportion of debt in its capital structure compared to a real estate company. Retail companies, especially in their growth phase, often prioritize flexibility and agility to adapt to market changes.

While debt can provide necessary capital for expansion, it also comes with fixed obligations that can reduce a company's financial flexibility. Retail companies may opt for a mix of equity and debt financing to balance growth with financial stability, but the proportion of debt is generally lower than in capital-intensive industries like real estate.

B is incorrect. A software company in its mature phase is unlikely to have a high proportion of debt in its capital structure. Software companies are typically characterized by low capital expenditure requirements, as their business primarily revolves around intellectual property rather than physical assets.

In the mature phase, a software company would have established cash flows and potentially less need for external financing. When external financing is sought, these companies might prefer equity financing or retained earnings to fund any expansion or development projects due to the lower risk of financial distress and the absence of fixed repayment obligations associated with debt financing.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.4121 KCY Bank Holdings had 25% debt and 75% equity in its capital structure. After restructuring, it now has 50% debt and 50% equity. Assuming a perfect capital market, which of the following statements is *most likely* correct?

- A. KCY is more valuable after restructuring.
- B. KCY was more valuable before restricting.
- C. KCY's value is the same before and after restructuring.

The correct answer is **C**.

According to the Modigliani and Miller (M&M) propositions, in a perfect capital market, the capital structure of a company does not affect its overall value. This theory asserts that the market value of a firm is determined by its earning power and the risk of its underlying assets, and is independent of the way it finances its investments or distributes dividends.

Therefore, the restructuring of KCY Bank Holdings from a 25% debt and 75% equity structure to a 50% debt and 50% equity structure would not change the overall value of the firm in a perfect capital market scenario. This conclusion is drawn from the M&M Proposition I without taxes, which states that the value of a leveraged firm is the same as the value of an unleveraged firm.

A is incorrect. It suggests that KCY Bank Holdings is more valuable after restructuring, which implies that increasing debt relative to equity inherently increases the firm's value. This contradicts the M&M propositions, which argue that in a perfect capital market, the firm's value is unaffected by its financing mix. The value of a firm is primarily determined by its operational performance and not by how it is financed.

B is incorrect. It implies that KCY was more valuable before the restructuring, suggesting that a lower level of debt relative to equity inherently increases a firm's value. This statement also contradicts the M&M propositions, which state that in a perfect capital market, the capital structure does not influence the firm's value. The value of a firm is independent of its debt-to-equity ratio and is instead determined by its business operations and the risk of its assets.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (c): Explain the Modigliani-Miller propositions regarding capital structures.

Q.4123 Assume that a company's debt-to-equity ratio of 0.6 reflects its target capital structure. The weight of debt that the company should use in its cost of capital calculations is *closest* to:

- A. 0.38
- B. 0.60
- C. 0.63

The correct answer is **A**.

The debt-to-equity ratio, given as 0.6, indicates the proportion of debt financing relative to equity financing in the company's capital structure. To find the weight of debt, we use the formula:

$$\text{Weight of Debt} = \frac{DE}{1 + \frac{D}{E}}$$

Substituting the given debt-to-equity ratio of 0.6 into the formula, we get:

$$\text{Weight of Debt} = \frac{0.6}{1 + 0.6} = \frac{0.6}{1.6} = 0.375$$

This weight represents the proportion of the company's total capital that is financed through debt, and it is crucial for accurately calculating the company's overall cost of capital.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.4124 After issuing debt, a hypothetical company's WACC increases from 8% to 10%. Which of the following statements is *most likely* correct regarding the company?

- A. The company is operating at its optimal capital structure.
- B. The company is operating beyond its optimal capital structure.
- C. The company can obtain equity financing more cheaply than debt financing.

The correct answer is **B**.

When a company issues debt and its Weighted Average Cost of Capital (WACC) increases from 8% to 10%, it indicates that the company is likely operating beyond its optimal capital structure. The optimal capital structure is the mix of debt, equity, and other financing sources that minimizes the company's WACC and, in turn, maximizes the company's value. An increase in WACC after issuing debt suggests that the costs associated with additional debt, such as financial distress costs and the risk of default, have outweighed the benefits of the tax shield provided by debt financing.

A is incorrect. If the company were operating at its optimal capital structure, issuing additional debt would not increase the WACC. At the optimal point, any change in the capital structure, either through issuing more debt or equity, would lead to an increase in the company's WACC, indicating that the company has deviated from its optimal mix of financing sources. Therefore, an increase in WACC after issuing debt contradicts the notion that the company is at its optimal capital structure.

C is incorrect. The increase in WACC indicates that the marginal cost of debt has become higher, possibly due to the company taking on too much debt, which increases the financial risk and, consequently, the cost of both debt and equity. However, this does not directly imply that equity financing is cheaper than debt financing. The cost of equity could still be higher than the cost of debt, even after the increase in WACC, due to the inherent risk premium that equity investors require over debt holders.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (d): Describe optimal and target capital structures.
