Learning Module 9: Analysis of Income Taxes

Q.282 Unused tax losses expected to be used in future periods will:

A. increase deferred tax assets.

B. increase deferred tax liabilities.

C. have no impact on tax assets nor liabilities.

The correct answer is **A.**

Deferred tax assets represent the amount of taxes that can be recovered in future periods due to deductible temporary differences and unused tax losses. When a company has unused tax losses, it means that it has incurred losses that can be carried forward to offset taxable income in future periods. This potential future tax benefit is recognized as a deferred tax asset. Therefore, if a company expects to use these unused tax losses in future periods, it will increase its deferred tax assets.

B is incorrect. Deferred tax liabilities arise from taxable temporary differences, not from unused tax losses. A deferred tax liability is created when a company's taxable income is higher than its accounting income due to differences in the timing of income recognition for tax and accounting purposes. Unused tax losses, on the other hand, would reduce future taxable income, leading to an increase in deferred tax assets, not liabilities.

C is incorrect. Unused tax losses have a direct impact on deferred tax assets. As explained earlier, these losses can be used to offset future taxable income, which creates a future tax benefit for the company. This benefit is recognized as a deferred tax asset in the company's financial statements. Therefore, unused tax losses expected to be used in future periods do have an impact on tax assets.

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9b: explain how deferred tax liabilities and assets are created and the factors that determine how a company's deferred tax liabilities and assets should be treated for the purposes of financial analysis

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Q.284 Deferred tax liabilities (DTL) *mostly* arise when:

A. the income tax expense is the same as the payable taxes.

B. the income tax expense is temporarily smaller than the payable taxes.

C. the income tax expense is temporarily greater than the payable taxes.

The correct answer is **C.**

Deferred tax liabilities (DTL) primarily occur when the income tax expense reported on the company's income statement is temporarily higher than the taxes payable to the tax authorities. This discrepancy usually arises due to differences in accounting principles used for financial reporting and tax laws.

For instance, certain expenses might be recognized immediately according to accounting standards but are deductible over several years for tax purposes. This leads to higher income reported to shareholders and a higher income tax expense in the financial statements compared to the actual taxes paid to the government in the current period. Over time, as these differences reverse, the deferred tax liability will decrease as the company pays more in actual taxes than what is expensed on its income statement.

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Q.285 A company has the following:

Income Tax Expense	$60,000
Change in Deferred Tax Assets	+$2,500
Change in Deferred Tax Liabilities	+$3,000

What is the company's income tax payable?

A. $59,500

B. $60,000

C. $60,500

The correct answer is **C.**

To determine the company's income tax payable, we need to understand the relationship between income tax expense, deferred tax liabilities (DTL), and deferred tax assets (DTA). The formula to calculate income tax payable (ITP) is as follows:

$$\text{Income Tax Payable (ITP)} = \text{Income Tax Expense (ITE)} - \text{Change in Deferred Tax Assets (DTA)} + \text{Change in Deferred Tax Liabilities (DTL)}$$

Given the values:

- Income Tax Expense (ITE) = $60,000
- Change in Deferred Tax Assets (DTA) = +$2,500
- Change in Deferred Tax Liabilities (DTL) = +$3,000

We can substitute these values into the formula:

$$\begin{aligned} \text{ITP} &= \$60,000 - \$2,500 + \$3,000 \\ &= \$63,000 - \$2,500 \\ &= \$60,500 \end{aligned}$$

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Q.535 Which of the following may *least likely* result in a change in the carrying value of the deferred tax?

A. Increase in COGS.

B. A change in the tax rate.

C. A redetermination of recoverability of the deferred tax asset.

The correct answer is **A.**

The question is about which of the given options may least likely result in a change in the carrying value of the deferred tax. Here's an explanation for each option:

1. **Increase in COGS (Cost of Goods Sold)**: An increase in COGS would result in a decrease in pre-tax income, which could potentially decrease the firm's tax liability. However, this would not necessarily result in a change in the carrying value of the deferred tax asset or liability, as these are dependent on temporary differences between the tax base and carrying amount of assets and liabilities, not on the firm's actual tax expense for the year.
2. **A change in the tax rate**: A change in the tax rate would most likely result in a change in the carrying value of the deferred tax. This is because deferred tax assets and liabilities are measured using the enacted tax rate expected to apply to taxable income in the periods in which the deferred tax asset or liability is expected to be settled or realized. Therefore, a change in the tax rate would directly impact the measurement of deferred tax assets and liabilities.
3. **A redetermination of recoverability of the deferred tax asset**: A redetermination of the recoverability of the deferred tax asset would most likely result in a change in the carrying value of the deferred tax. If it is determined that it's less likely that the deferred tax asset will be realized, this could result in a valuation allowance being recorded against the deferred tax asset, reducing its carrying value.

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Q.541 A company has net deferred tax assets amounting to $2,250,000. Which of the following components of the financial statements would benefit from an increase in the statutory tax rate?

A. The income statement will benefit, but not the balance sheet.

B. The balance sheet will benefit, but not the income statement.

C. Both the income statement and the balance sheet will benefit.

The correct answer is **B.**

An increase in the statutory tax rate would benefit the balance sheet of a company that has net deferred tax assets. Deferred tax assets are created due to timing differences between the accounting income and taxable income, which will result in future tax savings. When the statutory tax rate increases, the value of these future tax savings increases, thereby increasing the value of the deferred tax assets on the balance sheet. This is because the deferred tax assets are essentially the future tax benefits the company expects to receive, and these benefits are more valuable when tax rates are higher.

A is incorrect. While deferred tax assets are related to future tax savings, an increase in the statutory tax rate typically leads to higher current tax expenses. This increase in tax expense would negatively impact the net income reported on the income statement in the period the tax rate change occurs.

C is incorrect. While it's true that the balance sheet benefits from an increase in the value of deferred tax assets, as explained, the income statement typically suffers due to higher tax expenses in the short term. The immediate effect of an increased tax rate is an increase in tax expense, which reduces net income.

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Q.542 What would be the result if accounting standards require the capitalization of an expenditure, whereas income tax laws require recording it as an expense?

A. Deferred tax asset.

B. Deferred tax liability.

C. No deferred tax asset or liability.

The correct answer is **B.**

When accounting standards mandate the capitalization of an expenditure while income tax laws require it to be recorded as an expense, this creates a temporary difference between the book value of assets and their tax base. This discrepancy leads to the recognition of a deferred tax liability. The reason for this is that capitalizing an expenditure (as required by accounting standards) means that the expense will be recognized over time through depreciation, rather than immediately. This results in higher profits in the early years (since the expense is spread out) and, consequently, higher taxable income reported in the financial statements compared to what is reported for tax purposes (where the expense is deducted immediately).

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Q.2286 The tax-related expense that is recognized in a firm's income statement is *most likely* known as:

A. Tax base.

B. Tax payable.

C. Tax expense.

The correct answer is **C.**

Tax expense is the amount of tax owed in a given period. It appears in the income statement.

Note: Tax payable is a liability account that reports the amount of taxes a company owes as of the balance sheet date.
Tax base is defined as the income or asset balance used to calculate a tax liability.

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Q.2288 Which of the following is *most likely* the definition of a deferred tax liability? A balance sheet account that results in the excess of:

A. tax payable over tax expense that a firm is liable to pay in the future.

B. tax expense over tax payable that a firm is liable to pay in the future.

C. tax expense over tax payable that a firm is expected to receive in the future.

The correct answer is **B.**

A deferred tax liability is a balance sheet account that represents the excess of tax expense over tax payable that a firm is liable to pay in the future. This situation typically arises when a company's accounting practices recognize income before it is taxable or recognize expenses after they are deductible for tax purposes. The recognition of deferred tax liabilities ensures that the financial statements reflect future tax consequences of current transactions, aligning the company's tax expense with its accounting income over time.

A is incorrect. In reality, a deferred tax liability occurs when the tax expense recognized in the financial statements exceeds the amount of taxes currently payable to the tax authorities. This discrepancy usually results from differences in the timing of income recognition or expense deduction between accounting standards and tax laws, not the other way around as suggested by option A.

C is incorrect. A deferred tax liability represents a future tax obligation due to temporary differences that will result in taxable amounts in the future, not an expected tax receivable. Deferred tax assets, on the other hand, arise when a company anticipates paying more taxes on its financial statements than it will owe in the future, potentially due to deductible temporary differences or carryforwards.

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Q.2290 Identify the condition that will *most likely* create a deferred tax liability (DTL).

A. Revenue is recognized in the tax return for taxable income before it is recognized in the income statement.

B. Expenses or tax-deductible charges are recognized for tax purposes before they are deducted from the income statement.

C. Expenses or tax-deductible charges are recognized in the income statement before they are deducted from taxable income for tax purposes.

The correct answer is **B.**

A deferred tax liability (DTL) arises when there are temporary differences between the accounting income before taxes reported in the financial statements and the taxable income reported to the tax authorities. These differences can result from the timing of revenue recognition, expense deduction, and the utilization of tax credits. A DTL indicates that a company will pay more taxes in the future due to these temporary differences.

A is incorrect. It describes a scenario that would lead to the creation of a deferred tax asset (DTA), not a liability. When revenue is recognized in the tax return before it is recognized in the income statement, it means that the company has paid taxes on income that has not yet been reported as earned in its financial statements. This situation will likely result in paying less tax in the future when the revenue is recognized in the income statement, as the company has already paid taxes on it.

C is incorrect. It describes a scenario that would typically result in a deferred tax asset (DTA). When expenses or tax-deductible charges are recognized in the income statement before they are deducted from taxable income for tax purposes, it leads to higher taxable income in the current period compared to accounting income. This discrepancy means the company will pay more taxes now but will benefit from lower taxes in the future when these expenses are deducted for tax purposes. This anticipation of future tax savings creates a deferred tax asset.

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Q.2293 A firm uses straight-line depreciation in its income statement for accounting purposes and uses double-declining depreciation for tax purposes. Determine the *most likely* result due to the difference in depreciation methods.

A. A deferred tax asset is created.

B. A deferred tax liability is created.

C. Since the differences are in depreciation methods, no deferred tax assets or deferred tax liabilities are created.

The correct answer is **B.**

When a firm uses straight-line depreciation for accounting purposes and double-declining depreciation for tax purposes, it results in a timing difference between the accounting income and taxable income. This timing difference creates a deferred tax liability (DTL). The straight-line method spreads the cost of an asset evenly over its useful life, resulting in consistent depreciation expenses each year.

In contrast, the double-declining balance method accelerates depreciation in the early years of an asset's life, leading to higher depreciation expenses and lower taxable income in those years. Over time, the total depreciation expense recognized will be the same for both methods, but the timing of when these expenses are recognized differs.

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Q.2295 Lex Corp uses straight-line depreciation to depreciate the $550,000 cost of one of its assets for tax purposes. For reporting purposes, Lex Corp depreciates the same asset using the accelerated depreciation method. Calculate the tax base of the asset for the first year if its useful life is ten years.

A. $55,000

B. $440,000

C. $495,000

The correct answer is **C.**

The tax base is the amount or value of the asset or liability after deducting the depreciation that is used for tax reporting purposes. Since Lex uses straight-line depreciation for tax purposes, the tax base is calculated as follows:

$$\begin{aligned}\text{The tax base of the asset} &= \text{Cost of the asset} - \text{Straight line depreciation}\\ &= \$550,000 - \$55,000\\ &= \$495,000\end{aligned}$$

A is incorrect. It is the amount of depreciation using straight-line depreciation for the first year.

B is incorrect. Uses accelerated method of depreciation to calculate the tax base:

$$\begin{aligned}\text{The carrying value of the asset in the income statement} &= \text{Cost of the asset} - \text{Accelerated deprec}\\ &= \$550,000 - \$110,000\\ &= \$440,000\end{aligned}$$

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Q.2296 In the income statement, a firm depreciates its assets of $900,000 over five years using the straight-line method. If, for tax reporting purposes, the company depreciates the same asset over ten years using double-declining depreciation, which of the following *best* describes the accounting treatment for the first year?

A. A deferred tax asset of $180,000 is created.

B. A deferred tax liability of $180,000 is created.

C. No deferred tax asset or deferred tax liability is created as there is no difference between tax expense and tax payable.

The correct answer is **C.**

No deferred tax asset or liability is created as there is no difference between tax expense and tax payable.

$$\begin{aligned}\text{The amount of tax expense using the straight line method} &= \frac{[\text{Cost of asset} - \text{Salvage value}]}{\text{Useful life}}\\ &= \frac{[\$900,000 - \$0]}{5}\\ &= \$180,000\end{aligned}$$

$$\begin{aligned}\text{Amount of tax payable} &= \frac{2}{\text{Useful life}} \times \text{Cost of asset}\\ &= \frac{2}{10} \times \$900,000\\ &= \$180,000\end{aligned}$$

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Q.2297 A textile company in Turkey purchased a T-shirt printing machine for $1,200,000 with a salvage value of $150,000. For reporting purposes, the textile company depreciates the asset over 6 years using the straight-line method and, for tax purposes, the company depreciates the printer over 8 years using accelerated depreciation. Assuming that the tax rate is 40%, and EBITDA is $670,000 each year, which of the following is *most likely* the deferred tax asset or liability to be created in the first year?

A. A deferred tax asset of $40,000 is created.

B. A deferred tax liability of $50,000 is created.

C. A deferred tax liability of $125,000 is created.

The correct answer is **B.**

To solve this question, we need to calculate the depreciation schedule for reporting purposes (straight-line) and for tax purposes (accelerated depreciation)
Using the table below,

$$\begin{aligned}\text{Tax expense in the income statement for the first year} &= (\text{EBITDA} - \text{Depreciation Expenses}) \times \text{Ta}\\ &= (\$670,000 - \$175,000) \times 40\%\\ &= \$198,000\\ \text{Taxes payable for the first year} &= (\text{EBITDA} - \text{Depreciation Expense}) \times \text{Tax}\\ &= (\$670,000 - \$300,000) \times 40\%\\ &= \$148,000\end{aligned}$$

Since tax expense ($198,000) is greater than taxes payable ($148,000), a Deferred Tax Liability of $50,000 is created.

Year	Staight-line Dep	Accelerated Dep
1	(1,200,000 - 150,000) / 6 = 175,000	(2/8 × (1,200,000)) = 300,000
2	(1,200,000 - 150,000) / 6 = 175,000	(2/8 × (1,200,000 - 300,000)) = 225,000
3	(1,200,000 - 150,000) / 6 = 175,000	(2/8 × (900,000 - 225,000)) = 168,750
4	(1,200,000 - 150,000) / 6 = 175,000	(2/8 × (675,000 - 168,750)) = 126,562
5	(1,200,000 - 150,000) / 6 = 175,000	(2/8 × (506,250 - 126,562)) = 94,922
6	(1,200,000 - 150,000) / 6 = 175,000	(2/8 × (379,688 - 94,922)) = 71,191
7		(2/8 × (284,766 - 71,191)) = 53,394
8		(2/8 × (213,575 - 150,000)) = 63,575

Note:

Under accelerated (double-declining) depreciation,

$$\text{Depreciation amount} = \frac{2}{\text{useful life}} \times (\text{Cost} - \text{accumulated depreciation})$$

However, note that we can also write this down as:

$$\text{Depreciation amount} = \frac{2}{\text{useful life}} \times (\text{book value at beginning of previous year} - \text{depreciation amou}$$

Both approaches will lead to the correct answer.

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Q.2298 A textile company in Turkey purchased a T-shirt printing machine for $1,200,000 with a salvage value of $150,000. For reporting purposes, the textile company depreciates the asset over 6 years using the straight-line method and, for tax purposes, the company depreciates the printer over 8 years using accelerated depreciation. Assuming that the tax rate is 40% and EBIT is $670,000 each year, calculate the tax base at the end of the 3rd year.

A. $506,250

B. $675,000

C. $693,750

The correct answer is **A.**

The depreciation for tax purposes is calculated as follows:

Year	Staight-line Dep	Accelerated Dep
1	(1,200,000 - 150,000) / 6 = 175,000	(2/8 × (1,200,000)) = 300,000
2	(1,200,000 - 150,000) / 6 = 175,000	(2/8 × (1,200,000 - 300,000)) = 225,000
3	(1,200,000 - 150,000) / 6 = 175,000	(2/8 × (900,000 - 225,000)) = 168,750
4	(1,200,000 - 150,000) / 6 = 175,000	(2/8 × (675,000 - 168,750)) = 126,562
5	(1,200,000 - 150,000) / 6 = 175,000	(2/8 × (506,250 - 126,562)) = 94,922
6	(1,200,000 - 150,000) / 6 = 175,000	(2/8 × (379,688 - 94,922)) = 71,191
7		(2/8 × (284,766 - 71,191)) = 53,394
8		(160,180 - 150,000 = 10,180)

Accumulated depreciation$_{\text{End of 3rd year}}$

$$\begin{aligned} &= \$300,000 + \$225,000 + \$168,750 \\ &= \$693,750 \end{aligned}$$

The tax base at the end of the 3rd year is calculated as the value of asset minus the Accumulated depreciation (for tax purposes)

$$\begin{aligned} \text{Tax base} &= \$1,200,000 - \$693,750 \\ &= \$506,250 \end{aligned}$$

Note that under accelerated (double-declining balance) depreciation,

$$\text{Depreciation amount} = \frac{2}{\text{useful life}} \times (\text{Cost} - \text{accumulated depreciation})$$

However, note that we can also write this down as:

$$\text{Depreciation amount} = \frac{2}{\text{useful life}} \times (\text{book value at the beginning of the year})$$

Both approaches will lead to the correct answer.

Year	Depreciation Expense	Accum. Depreciation	Book Value at Year End
1	1,200,000 × 0.25 = 300,000	300,000	900,000
2	900,000 × 0.25 = 225,000	525,000	675,000
3	675,000 × 0.25 = 168,750	693,750	506,250
4	506,250 × 0.25 = 126,562.50	820,312.50	379,687.50
5	379,687.50 × 0.25 = 94,921.88	915,234.38	284,765.63
6	284,765.63 × 0.25 = 71,191	986,425.79	213,574.22
7	213,574.22 × 0.25 = 53,393.56	1,039,819.34	160,180.67
8	160,180.67 - 150,000 = 10,180.67	1,050,000	150,000

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Q.2300 A textile company in Turkey purchased a T-shirt printing machine for $1,200,000 with a salvage value of $150,000. For reporting purposes, the textile company depreciates the asset over six years using the straight-line method. For tax purposes, the company depreciates the printer over eight years using accelerated depreciation. Assuming a tax rate of 40% and EBITDA of $670,000 each year, calculate the pre-tax income for the 2nd year.

A. $320,000

B. $445,000

C. $495,000

The correct answer is **C.**

Since the pre-tax income is reported in the income statement, we need to calculate depreciation schedule for reporting purposes (straight line) given in the table below.
The textile company is earning EBITDA of $670,000 every year.
The depreciation expense using straight-line depreciation is $175,000 every year.

Pre-tax income in the 2nd year;

$$\text{EBITDA} - \text{Depreciation Expense} = \$670,000 - \$175,000 = \$495,000$$

Year	Straight-line Dep	Accelerated Dep
1	(1,200,000 - 150,000) / 6 = 175,000	(2/8 × (1,200,000)) = 300,000
2	(1,200,000 - 150,000) / 6 = 175,000	(2/8 × (1,200,000 - 300,000)) = 225,000
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7		(2/8 × (284,766 - 71,191)) = 53,394
8		(213,575 - 150,000 = 63,575)

Q.2301 A textile company in Turkey purchased a T-shirt printing machine for $1,200,000 with a salvage value of $150,000. For reporting purposes, the textile company depreciates the asset over six years using the straight-line method. For tax purposes, the company depreciates the printer over eight years using accelerated depreciation. Assuming a tax rate of 40% and EBITDA of $670,000 each year, the deferred tax asset or deferred tax liability created in the 6th year is *closest to*:

A. a deferred tax asset of $41,500 is created.

B. a deferred tax asset of $71,500 is created.

C. a deferred tax liability of $41,500 is created.

The correct answer is **A.**

To solve this question we need to calculate the depreciation schedule for reporting purpose (straight line) and for tax return purposes (accelerated dep.) as given in the table below.

Tax expense in the income statement for the 6th year;

$$
\begin{aligned}
&= (\text{EBITDA} - \text{Depreciation Expense}) \times \text{Tax rate}\\
&= (\$670,000 - \$175,000) \times 40\%\\
&= \$198,000
\end{aligned}
$$

Tax payable over taxable income for the 6th year;

$$
\begin{aligned}
&= (\text{EBITDA} - \text{Depreciation Expense}) \times \text{Tax rate}\\
&= (\$670,000 - \$71,191) \times 40\%\\
&= \$239,523
\end{aligned}
$$

Since the tax expense ($198,000) is smaller than taxes payable ($239,523), a deferred tax asset of $41,523.60 is created.

Year	Staight-line Dep	Accelerated Dep
1	(1,200,000 - 150,000) / 6 = 175,000	(2/8 × (1,200,000)) = 300,000
2	(1,200,000 - 150,000) / 6 = 175,000	(2/8 × (1,200,000 - 300,000)) = 225,000
3	(1,200,000 - 150,000) / 6 = 175,000	(2/8 × (900,000 - 225,000)) = 168,750
4	(1,200,000 - 150,000) / 6 = 175,000	(2/8 × (675,000 - 168,750)) = 126,562
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Q.2302 A Mexican supplier of copper sold 200 tons of copper wire for $400,000 on credit. Due to uncertain market conditions, the supplier recorded receivables of $400,000 and $80,000 of allowance for bad debt expenses in its income statements. The tax rules of Mexico do not allow the deduction of bad debt expenses until the creditors default and receivables are deemed worthless. If the tax rate in Mexico is 28%, then the deferred tax asset or liability based on the tax base of receivables is *most likely* a:

A. deferred tax asset (DTA) of $22,400.

B. deferred tax liability (DTL) of $89,600.

C. deferred tax asset (DTA) of $112,000.

The correct answer is **A.**

$$\begin{aligned}\text{The carrying value of receivables in the income statement} &= \text{Receivables} - \text{Bad debts}\\ &= \$400,000 - \$80,000\\ &= \$320,000\end{aligned}$$

$$\begin{aligned}\text{Tax expense based on the carrying value of receivables} &= \text{Carrying value of accounts receivable} \times\\ &= \$320,000 \times 28\%\\ &= \$89,600\end{aligned}$$

The tax base of accounts receivables for tax purposes is $400,000 as the bad debt expenses are not tax deductible until receivables are deemed worthless.

$$\begin{aligned}\text{Tax payable} &= \text{Tax base of accounts receivable} \times \text{Tax rate}\\ &= \$400,000 \times 28\%\\ &= \$112,000\end{aligned}$$

Since the tax payable is greater than the tax expense, a deferred tax asset of $22,400 is created.

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Q.2306 The changes in deferred taxes for a company due to a change in tax rate from 45% to 35% in a specific jurisdiction are provided in the following table:

Change DTL	$14,000
Change DTA	$3,500
Tax Payable	$15,000
Pretax Income	$100,000

Given the information, the effective tax rate for the firm is *closest to*:

A. 10.5%.

B. 25.5%.

C. 32.5%.

The correct answer is **B.**

$$\text{Effective tax rate} = \frac{\text{Income tax expense}}{\text{Pre-tax income}}$$

$$\begin{aligned}\text{Income tax expense} &= \text{Tax payable} + \text{Change in DTL} - \text{Change in DTA} \\ &= \$15,000 + \$14,000 - \$3,500 \\ &= \$25,500\end{aligned}$$

$$\begin{aligned}\text{Effective tax rate} &= \frac{\$25,500}{\$100,000} \\ &= 25.5\%\end{aligned}$$

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9c:calculate, interpret, and contrast an issuer's effective tax rate, statutory tax rate, and cash tax rate

Q.2307 Which of the following will *most likely* result in a permanent difference between taxable income and pre-tax income?

A. A firm enjoys tax credits on the imports of certain medicines.

B. A firm uses different methods of depreciation for reporting purposes and tax purposes.

C. A firm deducts warranty expenses from its income statement but does not deduct them from its tax statements until the receivables are deemed worthless.

The correct answer is **A.**

Option A) will most likely result in a permanent difference between pre-tax income and taxable income as the tax credits are not expected to reverse in the future. Warranty expenses and differences in depreciation methods result in temporary differences as they are expected to reverse in the future.

Q.2310 A newly incorporated construction company reported revenue of $690,000, cost of goods sold (COGS) of $550,000, and operating expenses of $210,000. Assuming a tax rate of 25%, the firm's should *most likely* report a:

A. deferred tax assets of $17,500.

B. deferred tax assets of $70,000.

C. deferred tax liabilities of $17,500.

The correct answer is **A.**

$$\begin{aligned}\text{Earnings} &= \text{Revenue} - \text{COGS} - \text{Operating expenses}\\ &= \$690,000 - \$550,000 - \$210,000\\ &= -\$70,000\end{aligned}$$

That loss carryforward will result in a deferred tax asset equal to the amount of the loss multiplied by the tax rate.

$$\text{DTA} = \$70,000 \times 25\% = \$17,500$$

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9b: explain how deferred tax liabilities and assets are created and the factors that determine how a company's deferred tax liabilities and assets should be treated for the purposes of financial analysis

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Q.2314 A highly cyclical British company reports warranty expenses of $30,000 in anticipation every year. However, during the current year, none of the customers claimed their 5-year warranties. Assuming a tax rate of 20%, the tax base of the warranty expense for the year is *closest to*:

A. $0

B. $6,000

C. $30,000

The correct answer is **A.**

The warranty expense is deducted from the income statement, but it is not deducted for tax purposes until the warranty is claimed. Therefore, the carrying value of the warranty is $30,000.

The tax base of the warranty is calculated as the carrying value of the warranty minus the amount of warranty deductible in the future:

$$\begin{aligned}\text{Tax base of the warranty expense} &= \text{Carrying value of the warranty} - \text{Warranty expense deductib}\\ &= \$30,000 - \$30,000\\ &= \$0\end{aligned}$$

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9b: explain how deferred tax liabilities and assets are created and the factors that determine how a company's deferred tax liabilities and assets should be treated for the purposes of financial analysis

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Q.2316 ABC Company had a loss of $100,000 in 2015. In 2016, the firm managed to earn a taxable income of $180,000. If the tax rate is 26%, then calculate the firm's income tax expense for 2016.

A. $20,800

B. $26,000

C. $46,800

The correct answer is **A.**

$$\begin{aligned}\text{DTA for 2015} &= \$100,000 \times 26\% \\ &= \$26,000 \\ \text{Tax payable for 2016} &= \$180,000 \times 26\% \\ &= \$46,800\end{aligned}$$

$$\begin{aligned}\text{Income tax expense} &= \text{Tax payable} + \text{Change in DTL} - \text{Change in DTA} \\ &= \$46,800 + \$0 - \$26,000 \\ &= \$20,800\end{aligned}$$

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9b: explain how deferred tax liabilities and assets are created and the factors that determine how a company's deferred tax liabilities and assets should be treated for the purposes of financial analysis

Q.2317 Assuming inflationary environment, which of the following accounting activities will *most likely* result in a deferred tax liability?

A. A firm receives payments in advance for goods to be delivered in two years.

B. A firm expenses software development costs in its income statement but capitalizes software development costs for tax purposes.

C. A firm uses the last-in, first-out (LIFO) inventory valuation method for tax purposes and the first-in, first-out (FIFO) method for reporting purposes.

The correct answer is **C.**

The inventory costing method a company uses directly affects the cost of goods sold, which is an expense. The higher the COGS, the lower the net income, and thus the lower the income tax liability. In general, the LIFO inventory costing method will produce a lower net income because COGS will comprise the newest (and most likely more expensive) items. This will, therefore, result in lower tax liability than the FIFO method. The pre-tax accounting income will be higher than taxable income, creating a deferred tax liability.

A is incorrect. Payments received in advance create a DTA. This is in line with the revenue principle, where revenue is recognized when earned, not when received. In this case, the pre-tax accounting income will be less than the taxable income. Note that the accounting entry in this scenario is a debit to the asset Cash for the amount received and a credit to the liability account such as Customer Advances or Unearned Revenues.

B is incorrect. If the firm expenses the costs in its income statement, the pre-tax income will be lower than the taxable income for tax purposes where the software development cost is not expensed but capitalized. Since the taxable income is greater than the pre-tax income, a DTA will be created.

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9b: explain how deferred tax liabilities and assets are created and the factors that determine how a company's deferred tax liabilities and assets should be treated for the purposes of financial analysis

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Q.2318 Which of the following is *least likely* an effect of an increase in tax rates?

A. An increase in tax rates will increase Tax payable.

B. An increase in tax rates will decrease the EBIT margin.

C. An increase in tax rates will increase Deferred Tax Liabilities.

The correct answer is **B.**

The EBIT margin is a measure of a firm's operating profitability as a percentage of its revenue, calculated before the impact of interest and taxes. This metric is used to assess a company's operational efficiency without the influence of financial structure, tax rates, and non-operating factors. Therefore, changes in tax rates do not directly impact the EBIT margin, as this financial metric is calculated before taxes are applied. The primary purpose of the EBIT margin is to provide insight into the company's operational performance, making it unaffected by tax rate changes.

A is incorrect. Tax payable is directly calculated based on the applicable tax rate on the taxable income. When the tax rate increases, the amount of tax owed to the government also increases, assuming the taxable income remains constant. This relationship between tax rates and tax payable is straightforward and reflects the immediate financial impact of changes in tax legislation on a company's cash flows.

C is incorrect. The future tax payments, based on the higher tax rate, will be larger when the temporary differences reverse. Therefore, an increase in tax rates is expected to increase a company's Deferred Tax Liabilities, reflecting the future tax consequences of current transactions and events.

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9b: explain how deferred tax liabilities and assets are created and the factors that determine how a company’s deferred tax liabilities and assets should be treated for the purposes of financial analysis

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Q.2324 Which of the following is the *most appropriate* definition of a deductible temporary difference? It is a temporary difference that:

A. results in an expected increase in future taxable income.

B. results in an expected decrease in future taxable income.

C. will not increase nor decrease expected future taxable income.

The correct answer is **B.**

Temporary differences between pre-tax income and taxable income can be taxable temporary differences or deductible temporary differences. Deductible temporary differences are differences between pre-tax income and taxable income that will result in a lower expected taxable income in the future.

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9b: explain how deferred tax liabilities and assets are created and the factors that determine how a company's deferred tax liabilities and assets should be treated for the purposes of financial analysis

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Q.3792 The following Exhibit will be used for questions 2 and 3.

EBIT	Financial Year 2019
USA	$73,456
Foreign	$92,345
Provisions for Income Taxes	
Current Income Taxes	
Federal	$5,610
Foreign	$3,424
Deferred Income Taxes	
Federal	($2345)
Foreign	$340

The provision for income taxes recorded for 2019 was *closest to*:

A. $2,005

B. $7,029

C. $9,034

The correct answer is **B.**

The provision for income taxes for that year was $ 7,029; obtained as shown below.

$$\begin{aligned}\text{Income tax expense } &= \text{Taxes payable plus}\\ &\text{net increase in deferred tax liabilities}\\ &\text{less}\\ &\text{net increase in deferred tax assets}\\ &= \$(5,610 + 3,424 - 2,345 + 340) = \$7,029\end{aligned}$$

The $ 7,029 includes $ 9,034 in current income taxes and ($ 2,005) in deferred income taxes.

A is incorrect. It represents deferred income taxes. The calculation has left out current income taxes.

C is incorrect. It represents the current income taxes. The calculation has left out deferred income taxes.

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9b: explain how deferred tax liabilities and assets are created and the factors that determine how a company's deferred tax liabilities and assets should be treated for the purposes of financial analysis

Q.3793 Consider the following financial information of a company:

EBIT	Financial Year 2019
USA	$73,456
Foreign	$92,345
Provisions for Income Taxes	
Current Income Taxes	
Federal	$5,610
Foreign	$3,424
Deferred Income Taxes	
Federal	($2345)
Foreign	$340

The company's effective tax rate for the year 2019 is *closest to:*

A. 4.08%

B. 4.24%

C. 4.44%

The correct answer is **B.**

$$\text{Effective Tax Rate} = \frac{\text{Income Tax Expense}}{\text{Pre-tax Income}}$$

$$\text{Effective tax rate}\,(2019) = \frac{\$7,029}{\$\,(73,456 + 92,345)} = 4.24\%$$

A is incorrect. It is the effective tax rate on foreign income.

$$\text{Effective tax rate (Foreign Income)} = \frac{(\$3,424 + \$340)}{\$92,345} = 4.08\%$$

C is incorrect. It is the effective tax rate on US Income.

$$\text{Effective US Tax Rate} = \frac{(\$5,610 - \$2,345)}{\$73,456} = 4.44\%$$

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9c: calculate, interpret, and contrast an issuer's effective tax rate, statutory tax rate, and cash tax rate

Q.3854 Lex Corp. uses straight-line depreciation to depreciate the $550,000 cost of one of its assets for tax purposes. For reporting purposes, Lex Corp. depreciates the same asset using the accelerated depreciation method. If the asset's useful life is ten years, the tax base of the asset for the first year is *closest to*:

A. $55,000

B. $440,000

C. $495,000

The correct answer is **C.**

The tax base is the asset or liability value after deducting the accumulated depreciation that is used for tax reporting purposes. Since Lex uses straight-line depreciation,

$$\begin{aligned}\text{The tax base of the asset} &= \text{Cost of the asset} - \text{Straight line depreciation}\\ &= \$550,000 - \$55,000\\ &= \$495,000\end{aligned}$$

Note:

$$\begin{aligned}\text{The carrying value of the asset in the income statement} &= \text{Cost of the asset} - \text{Accelerated deprec}\\ &= \$550,000 - \$110,000\\ &= \$440,000\end{aligned}$$

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9c: calculate, interpret, and contrast an issuer's effective tax rate, statutory tax rate, and cash tax rate

Q.4897 Which of the following *best* describes a deductible temporary difference?

A. It increases taxable income in future periods.

B. It leads to the recognition of a deferred tax asset.

C. It occurs when the carrying amount of an asset exceeds its tax base.

The correct answer is **B.**

A deductible temporary difference leads to the recognition of a deferred tax asset. This occurs when the tax base of an asset is higher than its carrying amount or when the carrying amount of a liability exceeds its tax base.

A is incorrect. Deductible temporary differences decrease taxable income in future periods, not increase it.

C is incorrect. Deductible temporary differences occur when the tax base of an asset exceeds its carrying amount, not the other way around.

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9a: contrast accounting profit, taxable income, taxes payable, and income tax expense and temporary versus permanent differences between accounting profit and taxable income

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Q.4898 Which of the following is an example of a permanent difference between accounting profit and taxable income?

A. Tax loss carryforwards.

B. Accelerated depreciation for tax purposes.

C. Penalties and fines that are not tax-deductible.

The correct answer is **C.**

Penalties and fines that are not tax-deductible represent a permanent difference between accounting profit and taxable income. These expenses are recognized in financial reporting but are not permitted as deductions for tax purposes, leading to a lasting disparity between accounting profit and taxable income.

A is incorrect because tax loss carryforwards also create a temporary difference, allowing losses to be used to offset taxable income in future periods, eventually aligning accounting profit and taxable income.

B is incorrect because accelerated depreciation for tax purposes creates a temporary difference, where the timing of expense recognition differs between accounting and tax reporting, but it will equalize over time.

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9a: contrast accounting profit, taxable income, taxes payable, and income tax expense and temporary versus permanent differences between accounting profit and taxable income

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Q.4899 Which of the following *best* explains how tax loss carryforwards affect the financial statements of a company? They:

A. create a deferred tax asset.

B. increase current tax expense.

C. result in a permanent difference.

The correct answer is **A.**

Tax loss carryforwards create a deferred tax asset because they can be used to reduce taxable income in future periods, thereby lowering future tax liabilities. This asset is recorded on the balance sheet, reflecting the future tax benefits that the company expects to realize.

B is incorrect because tax loss carryforwards do not increase current tax expense; instead, they provide a benefit by potentially reducing future taxable income.

C is incorrect because tax loss carryforwards result in temporary differences, which will reverse over time as the tax benefits are realized. They do not create permanent differences, which are differences between accounting and taxable income that do not reverse in future periods.

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9a: contrast accounting profit, taxable income, taxes payable, and income tax expense and temporary versus permanent differences between accounting profit and taxable income

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Q.4900 Which of the following *best* explains why deferred tax assets and liabilities are recognized on the balance sheet?

A. To reflect differences in cash flows.

B. To match tax expense with the accounting profit in the period it is earned.

C. To account for permanent differences between accounting profit and taxable income.

The correct answer is **B.**

Deferred tax assets and liabilities are recognized on the balance sheet to match tax expense with the accounting profit in the period it is earned, adhering to the matching principle.

A is incorrect. Deferred tax assets and liabilities are not primarily about reflecting differences in cash flows but about timing differences in recognizing income and expenses for accounting and tax purposes.

C is incorrect. Deferred tax assets and liabilities arise from temporary differences, not permanent differences. Permanent differences do not lead to the recognition of deferred tax items.

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9a: contrast accounting profit, taxable income, taxes payable, and income tax expense and temporary versus permanent differences between accounting profit and taxable income

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Q.4901 In the current year, Michaels Company has a carrying amount of USD3,500,000 and a tax base of USD5,000,000 for accounts receivable. Michaels will *most likely* recognize:

A. a deferred tax asset.

B. a deferred tax liability.

C. no deferred tax asset or liability.

The correct answer is **A.**

A deferred tax asset arises when the tax base of an asset is higher than its carrying amount, indicating that the company will benefit from lower taxable income in the future. In this case, Michaels Company will recognize a deferred tax asset because the tax base of the accounts receivable (USD5,000,000) is higher than the carrying amount (USD3,500,000).

B is incorrect. Deferred tax liabilities arise when the carrying amount of an asset exceeds its tax base.

C is incorrect. There is a temporary difference that results in the recognition of a deferred tax asset.

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9b: explain how deferred tax liabilities and assets are created and the factors that determine how a company's deferred tax liabilities and assets should be treated for the purposes of financial analysis.

Q.4902 Consider the following selected data below for a Company.

Year)	Year 3	Year 2	Year 1
Equipment value for accounting purposes (carrying amount)	7,000	8,000	9,000
Equipment value for tax purposes (tax base)	5,714	7,143	8,571

Assuming a 35 percent tax rate, the company's deferred tax liability in Year 3 is *closest to*:

A. USD450.

B. USD750.

C. USD900.

The correct answer is **A.**

To calculate the deferred tax liability:

Determine the temporary difference: USD7,000 (carrying amount) - USD5,714 (tax base) = USD1,286

Then, apply the tax rate: USD1,286 × 35% = USD 450

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9b: explain how deferred tax liabilities and assets are created and the factors that determine how a company's deferred tax liabilities and assets should be treated for the purposes of financial analysis.

Q.4903 Which of the following statements is the *least accurate*?

A. Deferred tax assets and liabilities are recalculated at the end of each financial year.

B. Deferred tax assets and liabilities are based on permanent differences, which result in a company paying an excess or deficit amount for taxes.

C. A deferred tax asset or liability will not be created if there is no guarantee that future economic benefits will be derived from a temporary difference.

The correct answer is **B.**

Deferred tax assets and liabilities are based on temporary, not permanent, differences. Temporary differences result in differences between accounting profit and taxable income, whereas permanent differences do not lead to deferred tax.

A is correct. Deferred tax assets and liabilities are indeed recalculated at the end of each financial year.

C is correct. Deferred tax assets or liabilities are not recognized if there is no reasonable assurance of future economic benefits.

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9b: explain how deferred tax liabilities and assets are created and the factors that determine how a company's deferred tax liabilities and assets should be treated for the purposes of financial analysis.

Q.4904 Which of the following *best* explains how does a reduction in the statutory tax rate affect the value of deferred tax assets and liabilities? The value of deferred tax:

A. assets decreases.

B. liabilities increases.

C. assets increases

The correct answer is **A.**

When the statutory tax rate decreases, the value of deferred tax assets also decreases because the future tax benefit is reduced. Similarly, the value of deferred tax liabilities decreases as the future tax obligation diminishes.

B is incorrect. The value of deferred tax liabilities decreases, not increases.

C is incorrect. The value of deferred tax assets decreases, not increases..

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9b: explain how deferred tax liabilities and assets are created and the factors that determine how a company's deferred tax liabilities and assets should be treated for the purposes of financial analysis.

Q.4905 Which of the following tax rates is most relevant for analyzing a company's future cash flows?

A. Cash tax rate.

B. Effective tax rate.

C. Statutory tax rate.

The correct answer is **A.**

The cash tax rate, which is the tax paid in cash during the period divided by pre-tax income, is most relevant for analyzing a company's future cash flows. This rate provides insight into the actual cash outflows related to taxes, which directly impact the company's liquidity and cash flow management.

B is incorrect because the effective tax rate is calculated by dividing the reported income tax expense by pre-tax income. This rate includes deferred taxes and other non-cash adjustments, making it less relevant for cash flow analysis compared to the cash tax rate.

C is incorrect because the statutory tax rate is the corporate income tax rate established by law in the country where the company is domiciled. While it indicates the nominal tax rate, it does not reflect the actual taxes paid after accounting for deductions, credits, and other tax planning strategies.

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9c: calculate, interpret, and contrast an issuer's effective tax rate, statutory tax rate, and cash tax rate

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Q.4906 Consider the following information for a company operating in three countries.

Country	Pre-tax Income (USD)	Statutory Tax Rate
Country X	300,000	25%
Country Y	400,000	20%
Country Z	500,000	30%

The company's overall effective tax rate is *closest to*:

A. 25.4%

B. 26.5%

C. 27.0%

The correct answer is **A.**

To calculate the overall effective tax rate:

$$\begin{aligned}\text{Total tax} &= (300,000 \times 25\%) + (400,000 \times 20\%) + (500,000 \times 30\%)\\ &= 75,000 + 80,000 + 150,000 = 305,000\end{aligned}$$

As such,

$$\text{Total pre-tax income} = 300,000 + 400,000 + 500,000 = 1,200,000$$
$$\Rightarrow \text{Effective tax rate} = \frac{305,000}{1,200,000} = 25.42\%$$

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9c: calculate, interpret, and contrast an issuer's effective tax rate, statutory tax rate, and cash tax rate

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Q.4907 AlphaTech, a technology firm, operates in countries X and Y. Table 1 contains information on both countries' tax rates. In year one, both countries' earnings before tax (EBT) are the same

	Country X	Country Y	Total
EBT	300	300	600
Statutory tax rate	20%	35%	27.5%
Tax	60	105	165
Net profit	240	195	435

If earnings before tax for Country X increase by 15 percent per year while earnings before tax for Country Y remain the same for the next three years, the overall effective tax rate will:

A. remain the same.

B. gradually decline.

C. gradually increase.

The correct answer is **B.**

Consider the following table:

Table 2: Tax Estimate Problem

Year	0	1	2	3
EBT, Country X	300	345	396.75	456.26
Growth rate		15%	15%	15%
EBT, Country Y	300	300	300	300
Growth rate		0%	0%	0%
Total EBT	600	645	696.75	756.26
Total tax	165	174	187.16	202.38
Total effective tax rate	27.5%	26.98%	26.46%	25.95%

The effective tax rate will gradually decline since a higher proportion of EBT is generated in the country with the lower tax rate.

The total effective tax rate for year 0 is calculated as:

$$\text{Effective tax rate} = \frac{60 + 105}{600} = 27.5\%$$

or year 1:

$$\text{Effective tax rate} = \frac{69 + 105}{645} = 26.98\%$$

For year 2:

$$\text{Effective tax rate} = \frac{79.35 + 105}{696.75} = 26.46\%$$

For year 3:

$$\text{Effective tax rate} = \frac{91.25 + 105}{756.26} = 25.95\%$$

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9c: calculate, interpret, and contrast an issuer's effective tax rate, statutory tax rate, and cash tax rate

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Q.4908 What is *most likely* indicated by a significant reduction in the valuation allowance for deferred tax assets?

A. An increase in deferred tax liabilities.

B. Increased likelihood of future profitability.

C. Decreased likelihood of future profitability.

The correct answer is **B.**

A significant reduction in the valuation allowance for deferred tax assets indicates an increased likelihood of future profitability. This adjustment suggests that the company expects to generate sufficient taxable income in future periods to utilize these deferred tax assets, thereby reducing the need for a valuation allowance.

A is incorrect because a reduction in the valuation allowance implies that the company is more confident in its future profitability, not less. It means the company anticipates enough taxable income to make use of the deferred tax assets.

C is incorrect because the valuation allowance pertains to deferred tax assets, which represent potential tax benefits from deductible temporary differences and carryforwards. It does not directly relate to deferred tax liabilities, which are obligations for future tax payments due to taxable temporary differences.

CFA Level I, Volume 2, Topic 5—Financial Statements Analysis, Learning Module 9: Analysis of Income Taxes, LOS 9b: explain how deferred tax liabilities and assets are created and the factors that determine how a company's deferred tax liabilities and assets should be treated for the purposes of financial analysis.
