Financial Statement Analysis

Analysis of Income Taxes

Exam Focus

- Differences between accounting profit and taxable income
  - Permanent differences
  - Temporary differences
- Creation of deferred tax assets and liabilities
- Tax rates

Income Tax Accounting

Tax Reporting	**$**
Revenue	10,000
Tax allowable costs	(8,000)
Taxable income	2,000
Tax payable @ 30%	(600)
	1,400

Financial Accounting	**$**
Revenue	10,000
Accrual-based costs	(5,000)
Pretax income	5,000
Tax @ 30%	(1,500)
	3,500

Sources of Differences

- Timing differences
  - Accrual vs. modified cash accounting
  - Differences in reporting methods and estimates
- Permanent differences

Income tax expense = Tax payable + Δ deferred tax

Temporary Differences

- Will reverse over time
- Revenues and expenses recognized in different periods for accounts and tax
- Carrying values of assets and liabilities may differ from tax values

Result in deferred tax assets or liabilities

Example:
Asset cost = $30,000
UEL = 6 years
Accounts = S/L
Tax return = DDB

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Accounting Depⁿ	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$30,000
Tax Return Depⁿ	$10,000	$6,667	$4,444	$2,963	$1,975	$3,951	$30,000

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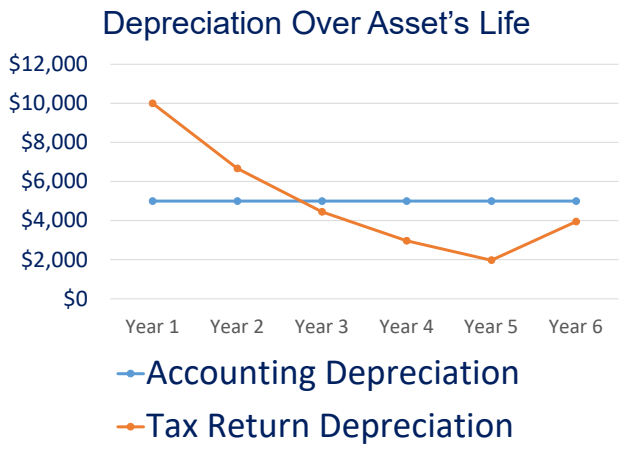
Deferred Tax Liability (DTL)

Deferred Tax Liability

Tax deduction > Accounting expense

The result is that taxable income is smaller than profit before tax; hence, we pay less tax today and more tax in the future.



Deferred Tax Assets (DTA)

Tax deduction < Accounting expense

The result is that taxable income is greater than profit before tax; hence, we pay more tax today but will pay less tax in the future.

Deferred tax assets may also result from tax losses carried forward.

I/S Tax Expense

Tax payable + ↑DTL – ↓DTL + ↓DTA – ↑DTA

Deferred Tax Liability: Example

A firm acquires an asset for $21,000 with a 3-year useful life and no salvage value. The asset will generate $16,000 of annual revenue for three years. The tax rate is 30%, and the firm is allowed to depreciate the asset using DDB for tax purposes, but it uses straight-line in the accounts.

Compute the tax implications.

Deferred Tax Liability: Solution

Tax Reporting			
Year	**1**	**2**	**3**
	$	**$**	**$**
Revenue	16,000	16,000	16,000
Depreciation	(14,000)	(4,667)	(2,333)
Taxable income	2,000	11,333	13,667
Tax payable @ 30%	(600)	(3,400)	(4,100)
	1,400	7,933	9,567

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Deferred Tax Liability: Solution

Financial Accounts: Income Statement			
Year	**1**	**2**	**3**
	$	**$**	**$**
Revenue	16,000	16,000	16,000
Depreciation	(7,000)	(7,000)	(7,000)
Pretax income	9,000	9,000	9,000
Tax provision	(2,700)	(2,700)	(2,700)
Net income	6,300	6,300	6,300
Balance Sheet Extract			
DTL	2,100	1,400	0

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Deferred Tax Liability: Solution

Timing Differences and DTL			
Year	**1**	**2**	**3**
	$	**$**	**$**
Tax return depreciation	14,000	4,667	2,333
Accounting depreciation	7,000	7,000	7,000
Timing difference	7,000	(2,333)	(4,667)
Tax rate	30%	30%	30%
Δ DTL	2,100	(700)	(1,400)

Tax Base of Assets

Tax base of asset = amount deductible for tax purposes in future periods as economic benefits are realized

Two ways to compute:

Tax reporting			
Year	**1**	**2**	**3**
	$	**$**	**$**
Revenue	16,000	16,000	16,000
Depⁿ	(14,000)	(4,667)	(2,333)
Taxable income	2,000	11,333	13,667

Taxable written down value			
Year	**1**	**2**	**3**
	$	**$**	**$**
Cost	21,000	21,000	21,000
Acc' depⁿ	(14,000)	(18,667)	(21,000)
Tax value	7,000	2,333	0

Tax Base Approach: Solution

Year	1 $	2 $	3 $
Carrying value	14,000	7,000	0
Tax base	7,000	2,333	0
Difference	7,000	4,667	0
Tax rate	30%	30%	30%
DTL	2,100	1,400	0
Δ DTL	+2,100	–700	–1,400

Deferred Tax Asset: Example

A firm has revenues of $8,000 for each of three years. The firm estimates the warranty expense to be 12.5% of revenues each year. The actual expenditure of $3,000 to meet warranty claims was not made until the third year. The tax rate is 30%.

Compute the tax implications.

Deferred Tax Asset: Solution

Tax Reporting Year	1 $	2 $	3 $
Revenue	8,000	8,000	8,000
Repairs	—	—	(3,000)
Taxable income	8,000	8,000	5,000
Tax payable @ 30%	(2,400)	(2,400)	(1,500)

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Deferred Tax Asset: Solution

Financial Reporting: Income Statement Year	1 $	2 $	3 $
Gross revenue	8,000	8,000	8,000
Warranty expense	(1,000)	(1,000)	(1,000)
Net revenue	7,000	7,000	7,000
Tax expense @ 30%	(2,100)	(2,100)	(2,100)
Net income	4,900	4,900	4,900
Balance Sheet Extract			
DTA	300	600	0

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Deferred Tax Asset: Solution

Financial Reporting: Income Statement Year	1 $	2 $	3 $
Accounting expense	1,000	1,000	1,000
Tax return expense	0	0	(3,000)
Timing difference	1,000	1,000	(2,000)
Tax rate	30%	30%	30%
Δ DTA	300	300	(600)

Liability Tax Base

A liability's tax base = carrying value minus any amounts that will be deductible for tax when the liability is settled

Exception to rule = deferred/unearned revenues

Liability Tax Base Year	1 $	2 $	3 $
B/S liability	1,000	2,000	0
Tax deductible in future periods	(1,000)	(2,000)	0
Tax base	0	0	0

Tax Base Approach: Solution

Year	1 $	2 $	3 $
Carrying value	1,000	2,000	0
Tax base	0	0	0
Difference	1,000	2,000	0
Tax rate	30%	30%	30%
DTA	300	600	0
Δ DTA	+300	+300	–600

Treatment of Temporary Differences

Balance Sheet	Carrying Value vs. Tax Base	DTA or DTL
Asset	Carrying value > tax base	DTL
Liability	Carrying value < tax base	DTL
Asset	Carrying value < tax base	DTA
Liability	Carrying value > tax base	DTA

Treatment: Example

When accounting standards require an asset to be expensed immediately but tax rules require the item to be capitalized and amortized, the company will *most likely* record:

A. a deferred tax asset.

B. a deferred tax liability.

C. no deferred tax asset or liability.

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Tax Bases: Example

Item	Carrying Value	Tax Base	Timing Difference	DTA or DTL
Dividends receivable from subsidiary	€1,000,000	€1,000,000	€0	
Development costs	€2,500,000	€2,250,000	€250,000	
Research costs	€0	€375,000	–€375,000	
Accounts receivable	€1,500,000	€1,218,750	€218,250	

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Tax Bases: Example

Item	Carrying Value	Tax Base	Timing Difference	DTA or DTL
Donations	€0	€0	€0	
Interest received in advance	€300,000	€0	€300,000	
Rent received in advance	€10,000,000	€0	€10,000,000	
Loan capital	€550,000	€550,000	€0	

Permanent Differences

- There are differences between **taxable income** and **pretax income** that *will not* reverse in the future:
  - Tax-exempt income will increase accounting income, but not taxable income
  - Some expenses may decrease accounting income, but not taxable income
  - Tax credits

Effective tax rate ≠ statutory rate

$$\frac{\text{income tax expense}}{\text{pretax income}}$$

Tax Credits: Example

When certain expenditures result in tax credits that directly reduce taxes, the company will *most likely* record:

A. a deferred tax asset.

B. a deferred tax liability.

C. no deferred tax asset or liability.

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Impacts of Tax Rate Changes

When the **tax rate *decreases:***

Deferred tax liability ↓ Income tax expense ↓

Deferred tax asset ↓ Income tax expense ↑

When the **tax rate *increases:***

Deferred tax liability ↑ Income tax expense ↑

Deferred tax asset ↑ Income tax expense ↓

tax expense = tax payable +ΔDTL – ΔDTA

Net effect depends on relative sizes of DTL and DTA.

DTA: Realizability

- A **valuation allowance** reduces a deferred tax asset
- Based on the likelihood that the asset will not be realized (e.g., no or limited future taxable income expected)
- **U.S. GAAP**—full DTA shown, offset by valuation allowance
- **IFRS**—DTA shown is adjusted for probability that the asset will not be realized
- If it is determined that DTAs or DTLs will not be realized in future, they are reversed

Analyst Treatment: Example

Analysts should treat deferred tax liabilities that are expected to reverse as:

A. equity.

B. liabilities.

C. neither liabilities nor equity.

Deferred Tax: Example

Use the information in the exhibit to answer the next 3 questions:

Deferred Tax Assets	Year 3 $'000	Year 2 $'000
Accrued expenses	8,613	7,927
Tax credit and net operating loss carry forwards	2,288	2,554
LIFO reserves	5,286	4,327
Other	2,664	2,109
Total DTA	18,851	16,917
Valuation allowance	(1,245)	(1,360)
Net DTA	17,606	15,557

Deferred Tax: Example (cont.)

Deferred Tax Liabilities	Year 3 $'000	Year 2 $'000
Depreciation and amortization	27,338	29,313
Compensation and retirement plans	3,831	8,963
Other	1,470	764
Total DTL	32,639	39,040
Net DTL	15,033	23,483

Question 1

A reduction in the statutory tax rate would *most likely* benefit the company's:

A. income statement and balance sheet.

B. income statement but not the balance sheet.

C. balance sheet but not the income statement.

Question 2

If the valuation allowance had been the same in Year 3 as it was in Year 2, the company would have reported $115 higher:

A. net income.

B. deferred tax assets.

C. income tax expense.

Question 3

Relative to the provision for income taxes in Year 3, the company's cash tax payments were:

A. lower.

B. higher.

C. the same.

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Tax Rates

Statutory rate = corporate income tax rate in which the company is domiciled

$$\text{effective tax rate} = \frac{\text{tax expense (provision)}}{\text{pretax income}}$$

$$\text{cash tax rate} = \frac{\text{cash taxes paid}}{\text{pretax income}}$$

Effective ≠ statutory:

- Permanent timing differences
- Overseas operations
- Changes in tax rate
- Many others
- U.S. GAAP and IFRS require a reconciliation

Tax Rate: Example

Neutrino is a hypothetical company that is domiciled in the United States and that has significant operations in Ireland. The statutory tax rate in the United States is 21 percent, and the statutory tax rate in Ireland is 12 percent. Assume that Neutrino earns $1,000 in profit before taxes in each country during year 20X1.

Tax Rate: Example

Assuming that there are no other differences between Neutrino's effective and statutory tax rates, Neutrino's combined effective tax rate is *closest* to:

A. 12.0 percent.

B. 16.5 percent.

C. 21.0 percent.

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Tax Rate: Example

Assume on January 1 the following year, 20X2, Neutrino acquires company EFG, which is domiciled in South Korea. The statutory tax rate in South Korea is 25 percent. EFG earns $500 in profits in 20X2. Assuming US and Ireland operations each increase pre-tax profits by 25 percent, the effective tax rate in 20X2 for the consolidated entity is *closest* to:

A. 6.5 percent.

B. 17.9 percent.

C. 22.0 percent.

Effective Tax Rates: Example

Use the following data to answer the next 3 questions:

Earnings Before Income Taxes $'000			
	Year 3	Year 2	Year 1
USA	88,157	75,658	59,973
Foreign	116,704	113,509	94,760
Total	204,861	189,167	154,733

Effective Tax Rates: Example

Income Taxes $'000		Year 3	Year 2	Year 1
Current:	Federal	30,632	22,031	18,959
	Foreign	28,140	27,961	22,263
	Total	58,772	49,992	41,222
Deferred:	Federal	(4,752)	5,138	2,336
	Foreign	124	1,730	621
	Total	(4,628)	6,868	2,957
	Net total	54,144	56,860	44,179

Question 1

In Year 3, the company's US GAAP income statement recorded a provision for income taxes *closest* to ($'000):

A. $30,632.

B. $54,144.

C. $58,772.

Question 2

The company's effective tax rate was highest in:

A. Year 1.

B. Year 2.

C. Year 3.

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Question 3

Relative to the company's effective tax rate on US income, the company's effective tax rate on foreign income was:

A. lower in each year presented.

B. higher in each year presented.

C. higher in some periods and lower in others.

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Effective Tax Rates: Example

A company's provision for income taxes resulted in effective tax rates attributable to losses from continuing operations before cumulative effect of change in accounting principles that varied from the statutory federal income tax rate of 34%, as summarized below.

Effective Tax Rates $	Year 3	Year 2	Year 1
Federal tax expense from continuing operations @ 34%	(112,000)	768,000	685,000
Expense nondeductible for income tax	357,000	32,000	51,000
State income tax net of federal benefit	132,000	22,000	100,000
Change in valuation allowance	(150,000)	(766,000)	(754,000)
Income tax expense	227,000	56,000	82,000

Question 1

In Year 3, the company's net income (loss) was *closest* to:

A. ($217,000).

B. ($329,000).

C. ($556,000).

Question 2

The $357,000 adjustment in Year 3 *most likely* resulted in:

A. an increase in deferred tax assets.

B. an increase in deferred tax liabilities.

C. no change to deferred tax assets and liabilities.

Question 3

Over the three years presented, changes in the valuation allowance for deferred tax assets were *most likely* indicative of:

A. decreased prospect for future profitability.

B. increased prospects for future profitability.

C. assets being carried at a higher value than their tax base.

Solutions

Treatment: Example

When accounting standards require an asset to be expensed immediately but tax rules require the item to be capitalized and amortized, the company will *most likely* record:

A. a deferred tax asset.

B. a deferred tax liability.

C. no deferred tax asset or liability.

The capitalization will result in an asset with a positive tax base and zero carrying value. The amortization means the difference is temporary. Because there is a temporary difference on an asset resulting in a higher tax base than carrying value, a deferred tax asset is created.

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Tax Bases: Example

Item	Carrying Value	Tax Base	Timing Difference	DTA or DTL
Dividends receivable from subsidiary	€1,000,000	€1,000,000	€0	N/A
Development costs	€2,500,000	€2,250,000	€250,000	DTL
Research costs	€0	€375,000	–€375,000	DTA
Accounts receivable	€1,500,000	€1,218,750	€218,250	DTL

Tax Bases: Example

Item	Carrying Value	Tax Base	Timing Difference	DTA or DTL
Donations	€0	€0	€0	N/A
Interest received in advance	€300,000	€0	€300,000	DTA
Rent received in advance	€10,000,000	€0	€10,000,000	DTA
Loan capital	€550,000	€550,000	€0	N/A

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Tax Credits: Example

When certain expenditures result in tax credits that directly reduce taxes, the company will *most likely* record:

A. a deferred tax asset.

B. a deferred tax liability.

C. no deferred tax asset or liability.

Tax credits that directly reduce taxes are a permanent difference, and permanent differences do not give rise to deferred tax.

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Analyst Treatment: Example

Analysts should treat deferred tax liabilities that are expected to reverse as:

A. equity.

B. liabilities.

C. neither liabilities nor equity.

1. If DTLs are expected to reverse = treat as liability
2. If DTLs are not expected to reverse = treat as equity
3. If the amounts and timings of payments relating to a DTL are uncertain = treat as neither a liability nor equity

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Question 1

A reduction in the statutory tax rate would *most likely* benefit the company's:

A. income statement and balance sheet.

B. income statement but not the balance sheet.

C. balance sheet but not the income statement.

The company has a net DTL. A reduction in the tax rate would, therefore, reduce the net DTL on the B/S. The other side of the accounting entry would be the decrease in the net DTL, reducing the tax expense—and, therefore, increasing earnings.

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Question 2

If the valuation allowance had been the same in Year 3 as it was in Year 2, the company would have reported $115 higher:

A. net income.

B. deferred tax assets.

C. income tax expense.

The decrease in the valuation allowance results in an increase in the net DTA in the B/S. The decrease in valuation allowance is conceptually the same as an increase in a DTA, which results in a lower tax expense and higher net income.

If the valuation allowance had not reduced:

- The net income would have been $115 lower (tax expense would have been higher)
- Net DTA in the balance sheet would be lower by $115

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Question 3

Relative to the provision for income taxes in Year 3, the company's cash tax payments were:

A. lower.

B. higher.

C. the same.

The net DTL has reduced in the year from $23,483 to $15,033 = decrease of $8,450

Given tax provision = tax payable – decrease in DTL, then tax payable must have been greater than the tax provision by $8,450

Given we have no details regarding balance sheet tax-payable liabilities, it has been assumed that the tax payable has been paid in cash

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Tax Rate: Example

Assuming that there are no other differences between Neutrino's effective and statutory tax rates, Neutrino's combined effective tax rate is *closest* to:

A. 12.0 percent.

B. 16.5 percent.

C. 21.0 percent.

Taxes are calculated as: ($1,000 × 21%) + ($1,000 × 12%) = $330
Effective tax rate = $330 / $2,000 = 16.5%

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Tax Rate: Example

Assume on January 1 the following year, 20X2, Neutrino acquires company EFG, which is domiciled in South Korea. The statutory tax rate in South Korea is 25 percent. EFG earns USD500 in profits in 20X2. Assuming US and Ireland operations each increase pre-tax profits by 25 percent, the effective tax rate in 20X2 for the consolidated entity is *closest* to:

A. 6.5 percent.

B. 17.9 percent.

C. 22.0 percent.

$$\frac{\$537.50}{\$3,000} = 0.179 \text{ or } 17.9\%$$

	Pretax Income	Rate	Tax
US	$1,250	21%	$262.50
Ireland	$1,250	12%	$150
South Korea	$500	25%	$125
Total	$3,000		$537.50

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Question 1

In Year 3, the company's US GAAP income statement recorded a provision for income taxes *closest* to ($'000):

A. $30,632.

B. $54,144.

C. $58,772.

- Current income taxes represent tax payable
- Deferred represent items passing through the income statement relating to DTA and DTL
- The final line net total must represent the tax provision

Note in Year 3:

- Taxes payable: $58,772
- Net change in DTL/DTA ($4,628): this must represent a decrease in the net DTL (either a decrease in DTL or an increase in DTA, or some combination of the two)
- Tax expense (provision): $58,772 – $4,628 = $54,144

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Question 2

The company's effective tax rate was highest in:

A. Year 1.

B. Year 2.

C. Year 3.

$$\text{effective rate} = \frac{\text{tax expense (provision)}}{\text{pretax income}}$$

	Year 3	Year 2	Year 1
Tax provision	54,144	56,860	44,179
Pretax income	204,861	189,167	154,733
Effective rate	0.26	0.30	0.29

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Question 3

Relative to the company's effective tax rate on US income, the company's effective tax rate on foreign income was:

A. lower in each year presented.

B. higher in each year presented.

C. higher in some periods and lower in others.

US Earnings	Year 3	Year 2	Year 1
Tax provision	25,880	27,169	21,295
Pretax income	88,157	75,658	59,973
Effective rate	0.29	0.36	0.36

O/S Earnings	Year 3	Year 2	Year 1
Tax provision	28,264	29,691	22,883
Pretax income	116,704	113,509	94,760
Effective rate	0.24	0.26	0.24

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Question 1

In Year 3, the company's net income (loss) was *closest* to:

A. ($217,000).
B. ($329,000).
C. ($556,000).

Use federal income tax at 34% to work out pretax income

Year 3:

Pretax income × 34% = ($112,000)

Therefore, pretax income = ($112,000) / 0.34 = ($329,412)

Net income = pretax income – tax provision

Net income = ($329,412) – $227,000 = ($556,412)

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Question 2

The $357,000 adjustment in Year 3 *most likely* resulted in:

A. an increase in deferred tax assets.
B. an increase in deferred tax liabilities.
C. no change to deferred tax assets and liabilities.

- $357,000 relates to expenses that are not deductible for income tax purposes (i.e., permanent differences)
- Permanent differences do not result in deferred tax

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Question 3

Over the three years presented, changes in the valuation allowance for deferred tax assets were *most likely* indicative of:

A. decreased prospect for future profitability.

B. increased prospects for future profitability.

C. assets being carried at a higher value than their tax base.

- The change to the valuation is negative in all three periods.
- The valuation allowance decreases if the company believes the benefits of DTA reversal (paying less tax) are likely to be realized (i.e., the company is "more likely than not" to earn sufficient taxable income to offset the deferred tax assets).