

Deferred Tax Assets

- Arise from temporary differences where, initially, tax rules require smaller expenses or bigger revenues than GAAP
 - Pre-tax income < Taxable income
 - Income tax expense < Income tax payable
- In the future, GAAP will require smaller expenses or bigger revenues than tax rules
 - Pre-tax income > Taxable income
 - Income tax expense > Income tax payable
- The Deferred Tax Asset represents the benefit of tax savings in the future

Today		Future	
Dr. Income Tax Expense (+E)	90	Dr. Income Tax Expense (+E)	100
Dr. Deferred Tax Asset (+A)	10	Cr. Deferred Tax Asset (-A)	10
Cr. Income Tax Payable (+L)	100	Cr. Income Tax Payable (+L)	90

Example: Deferred Tax Assets

- Brey Co. recognizes \$80,000 of bad debt expense on 2010 sales. There are no write-offs of those sales in 2010. In 2011, Brey wrote-off \$30,000 of accounts. In 2012, Brey wrote off \$50,000 of accounts.

Year	Allowance Method (books)				Direct Write-off Method (tax)			
	Bad Debt		Pre-tax	Inc. Tax	Bad Debt		Taxable	Inc. Tax
	EBTBD	Exp.	Income	Exp.	EBTBD	Exp.	Income	Pay.
2010	100,000	80,000	20,000	7,000	100,000	0	100,000	35,000

- 2010 Journal entry

Dr. Income Tax Expense (+E)	7,000
Dr. Deferred Tax Asset (+A)	28,000
Cr. Income Tax Payable (+L)	35,000

Deferred Tax Asset (A)	
'10	28,000

Example: Deferred Tax Assets

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	EBTBD	Exp.	Income	Exp.	EBTBD	Exp.	Income	Pay.
2010	100,000	80,000	20,000	7,000	100,000	0	100,000	35,000
2011	100,000	0	100,000	35,000	100,000	30,000	70,000	24,500

- 2011 Journal entry

Dr. Income Tax Expense (+E)	35,000
Cr. Deferred Tax Asset (-A)	10,500
Cr. Income Tax Payable (+L)	24,500

Deferred Tax Asset (A)			
'10	28,000		
		10,500	'11

Example: Deferred Tax Assets

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	EBTBD	Exp.	Income	Exp.	EBTBD	Exp.	Income	Pay.
2010	100,000	80,000	20,000	7,000	100,000	0	100,000	35,000
2011	100,000	0	100,000	35,000	100,000	30,000	70,000	24,500
2012	100,000	0	100,000	35,000	100,000	50,000	50,000	17,500

- 2012 Journal entry

Dr. Income Tax Expense (+E)	35,000
Cr. Deferred Tax Asset (-A)	17,500
Cr. Income Tax Payable (+L)	17,500

Deferred Tax Asset (A)			
'10	28,000		
		10,500	'11
		17,500	'12
	0		



Example: Deferred Tax Assets

- Brey Co. recognizes \$80,000 of bad debt expense on 2010 sales. There are no write-offs of those sales in 2010. In 2011, Brey wrote-off \$30,000 of accounts. In 2012, Brey wrote off \$50,000 of accounts.

Year	Allowance Method (books)				Direct Write-off Method (tax)			
	EBTBD	Bad Debt Exp.	Pre-tax Income	Inc. Tax Exp.	EBTBD	Bad Debt Exp.	Taxable Income	Inc. Tax Pay.
2010	100,000	80,000	20,000	7,000	100,000	0	100,000	35,000
2011	100,000	0	100,000	35,000	100,000	30,000	70,000	24,500
2012	100,000	0	100,000	35,000	100,000	50,000	50,000	17,500
		80,000		77,000		80,000		77,000

- **Temporary difference:**

- Timing of bad debt expense and tax expense is shifted across time
- But totals are the same between books and taxes

Changes in Future Tax Rates

- **Deferred tax assets and liabilities must be based on expected future tax rates**
 - Generally, assume that current tax rate will continue into the future
- **If the government changes the statutory tax rate, the balances in DTA and DTL must be adjusted to reflect the new rate, with the adjustment running through Income Tax Expense**
 - **Tax rate increase:**
 - DTAs increase -> Dr. Deferred Tax Asset (+A), Cr. Income Tax Expense (-E)
 - DTLs increase -> Dr. Income Tax Expense (+E), Cr. Deferred Tax Liability (+L)
 - **Tax rate decrease:**
 - DTAs decrease -> Dr. Income Tax Expense (+E), Cr. Deferred Tax Asset (-A)
 - DTLs decrease -> Dr. Deferred Tax Liability (-L), Cr. Income Tax Expense (-E)

Example: Deferred Tax Liabilities and Change in Tax Rates

- At the end of 2011, the government increases the tax rate to 40%

Year	Straight Line Method (books)				MACRS Method (tax)			
	EBTDA	Depr. Exp.	Pre-tax Income	Inc. Tax Exp.	EBTDA	Depr. Exp.	Taxable Income	Inc. Tax Pay.
2010	100,000	40,000	60,000	21,000	100,000	80,000	20,000	7,000
2011	100,000	40,000	60,000	21,000	100,000	27,000	73,000	25,550

- Balance in DTL is \$9,450 (under 35% rate)

		Deferred Tax Liab. (L)	
		14,000	'10
'11	4,550		
		9,450	

Example: Deferred Tax Liabilities and Change in Tax Rates

- At the end of 2011, the government increases the tax rate to 40%

Year	Straight Line Method (books)				MACRS Method (tax)			
	EBTDA	Depr. Exp.	Pre-tax Income	Inc. Tax Exp.	EBTDA	Depr. Exp.	Taxable Income	Inc. Tax Pay.
2010	100,000	40,000	60,000	21,000	100,000	80,000	20,000	7,000
2011	100,000	<u>40,000</u>	60,000	21,000	100,000	<u>27,000</u>	73,000	25,550
		80,000				107,000		

- Balance in DTL is \$9,450 (under 35% rate)
- Pre-tax Difference = $\$9,450 / 0.35 = \$27,000$
 - Note: this is the difference in Accumulated Depreciation ($107,000 - 80,000$)

		Deferred Tax Liab. (L)
		14,000 '10
'11	4,550	
		9,450

Example: Deferred Tax Liabilities and Change in Tax Rates

- At the end of 2011, the government increases the tax rate to 40%

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	EBTDA	Depr. Exp.	Pre-tax Income	Inc. Tax Exp.	EBTDA	Depr. Exp.	Taxable Income	Inc. Tax Pay.
2010	100,000	40,000	60,000	21,000	100,000	80,000	20,000	7,000
2011	100,000	<u>40,000</u>	60,000	21,000	100,000	<u>27,000</u>	73,000	25,550
		80,000				107,000		

- Balance in DTL is \$9,450 (under 35% rate)
- Pre-tax Difference = $\$9,450 / 0.35 = \$27,000$
- DTL at new rate = $\$27,000 \times 0.40 = \$10,800$

		Deferred Tax Liab. (L)
		14,000 '10
'11	4,550	
		10,800

Example: Deferred Tax Liabilities and Change in Tax Rates

- At the end of 2011, the government increases the tax rate to 40%

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	EBTDA	Depr. Exp.	Pre-tax Income	Inc. Tax Exp.	EBTDA	Depr. Exp.	Taxable Income	Inc. Tax Pay.
2010	100,000	40,000	60,000	21,000	100,000	80,000	20,000	7,000
2011	100,000	<u>40,000</u>	60,000	21,000	100,000	<u>27,000</u>	73,000	25,550
		80,000				107,000		

- Balance in DTL is \$9,450 (under 35% rate)
- Pre-tax Difference = $\$9,450 / 0.35 = \$27,000$
- DTL at new rate = $\$27,000 \times 0.40 = \$10,800$
- Required increase in DTL = $\$10,800 - \$9,450 = \$1,350$

Deferred Tax Liab. (L)		
		14,000 '10
'11	4,550	
		1,350 Adj.
		10,800

Dr. Income Tax Expense (+E) 1,350

Cr. Deferred Tax Liability (+L) 1,350

Example: Deferred Tax Assets and Change in Tax Rates

- At the end of 2011, the government increases the tax rate to 40%

Year	Allowance Method (books)				Direct Write-off Method (tax)			
	EBTBD	Bad Debt Exp.	Pre-tax Income	Inc. Tax Exp.	EBTBD	Bad Debt Exp.	Taxable Income	Inc. Tax Pay.
2010	100,000	80,000	20,000	7,000	100,000	0	100,000	35,000
2011	100,000	0	100,000	35,000	100,000	30,000	70,000	24,500

- Balance in DTA is \$17,500 (under 35% rate)

Deferred Tax Asset (A)			
'10	28,000		
		10,500	'11
	17,500		

Example: Deferred Tax Assets and Change in Tax Rates

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2011	100,000	0	100,000	35,000	100,000	30,000	70,000	24,500
		80,000				30,000		

- Balance in DTA is \$17,500 (under 35% rate)
- Pre-tax Difference = $\$17,500 / 0.35 = \$50,000$

Deferred Tax Asset (A)			
'10	28,000		
		10,500	'11
	17,500		

Example: Deferred Tax Assets and Change in Tax Rates

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2011	100,000	0	100,000	35,000	100,000	30,000	70,000	24,500
		80,000				30,000		

- Balance in DTA is \$17,500 (under 35% rate)
- Pre-tax Difference = $\$17,500 / 0.35 = \$50,000$
- DTA at new rate = $\$50,000 \times 0.40 = \$20,000$

Deferred Tax Asset (A)			
'10	28,000		
		10,500	'11
	20,000		

Example: Deferred Tax Assets and Change in Tax Rates

- At the end of 2011, the government increases the tax rate to 40%

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2011	100,000	0	100,000	35,000	100,000	30,000	70,000	24,500
		80,000				30,000		

- Balance in DTA is \$17,500 (under 35% rate)
- Pre-tax Difference = $\$17,500 / 0.35 = \$50,000$
- DTA at new rate = $\$50,000 \times 0.40 = \$20,000$
- Required increase in DTA = $\$20,000 - \$17,500 = \$2,500$

Deferred Tax Asset (A)		
'10	28,000	
		10,500 '11
Adj.	2,500	
	20,000	

Dr. Deferred Tax Asset (+A) 2,500

Cr. Income Tax Expense (-E) 2,500