

## Temporary Differences

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- Differences between Income Tax Expense on the financial statements and Income Tax Payable to the government that will reverse over time
- **Income Tax Expense = Adjusted Pre-tax income x statutory tax rate**
  - Adjusted Pre-tax income based on GAAP rules and excludes permanent differences
  - **For convenience, I will say Pre-Tax Income instead of Adjusted Pre-Tax Income**
  - Expense on income statement
- **Income Tax Payable = Taxable income x statutory tax rate**
  - Taxable income based on tax code rules
  - Paid to the government
- Temporary Differences are stored in Deferred Tax Assets and Liabilities
- We will use 35% as the statutory tax rate in all calculations unless otherwise noted

## Deferred Tax Liabilities

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- Arise from temporary differences where, initially, tax rules require bigger expenses or smaller revenues than GAAP
  - Pre-tax income > Taxable income
  - Income tax expense > Income tax payable
  
- The Deferred Tax Liability represents the obligation to make higher tax payments in the future

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Today

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Dr. Income Tax Expense (+E)	100
Cr. Deferred Tax Liability (+L)	10
Cr. Income Tax Payable (+L)	90

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- In the future, GAAP will require bigger expenses or smaller revenues than tax rules
  - Pre-tax income < Taxable income
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Today		Future	
Dr. Income Tax Expense (+E)	100	Dr. Income Tax Expense (+E)	90
Cr. Deferred Tax Liability (+L)	10	Dr. Deferred Tax Liability (-L)	10
Cr. Income Tax Payable (+L)	90	Cr. Income Tax Payable (+L)	100

## Example: Deferred Tax Liabilities

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- Brey Co. buys a \$120,000 machine on 1/1/2010. For book purposes, it estimates that the machine will have a 3-year life with no salvage value. For tax purposes, the MACRS schedule dictates a depreciation schedule of \$80,000, \$27,000, and \$13,000 in the three years.

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Year	Straight Line Method (books)			
	EBTDA	Depr. Exp.	Pre-tax Income	Inc. Tax Exp.
2010	100,000	40,000	60,000	21,000

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



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- 2010 Journal entry

Dr. Income Tax Expense (+E)	21,000
Cr. Deferred Tax Liability (+L)	14,000
Cr. Income Tax Payable (+L)	7,000

Deferred Tax Liab. (L)	
	14,000 '10

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2011	100,000	40,000	60,000	21,000	100,000	27,000	73,000	25,550

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- 2011 Journal entry

Dr. Income Tax Expense (+E)	21,000
Dr. Deferred Tax Liability (-L)	4,550
Cr. Income Tax Payable (+L)	25,550

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

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<b>2012</b>	<b>100,000</b>	<b>40,000</b>	<b>60,000</b>	<b>21,000</b>				

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<b>2012</b>	<b>100,000</b>	<b>40,000</b>	<b>60,000</b>	<b>21,000</b>	<b>100,000</b>	<b>13,000</b>	<b>87,000</b>	<b>30,450</b>

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### • 2012 Journal entry

Dr. Income Tax Expense (+E)	21,000
Dr. Deferred Tax Liability (-L)	9,450
Cr. Income Tax Payable (+L)	30,450

		Deferred Tax Liab. (L)
		14,000 '10
'11	4,550	
'12	9,450	
		0



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2012	100,000	40,000	60,000	21,000	100,000	13,000	87,000	30,450
		<b>120,000</b>		<b>63,000</b>		<b>120,000</b>		<b>63,000</b>

- **Temporary difference:**

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