

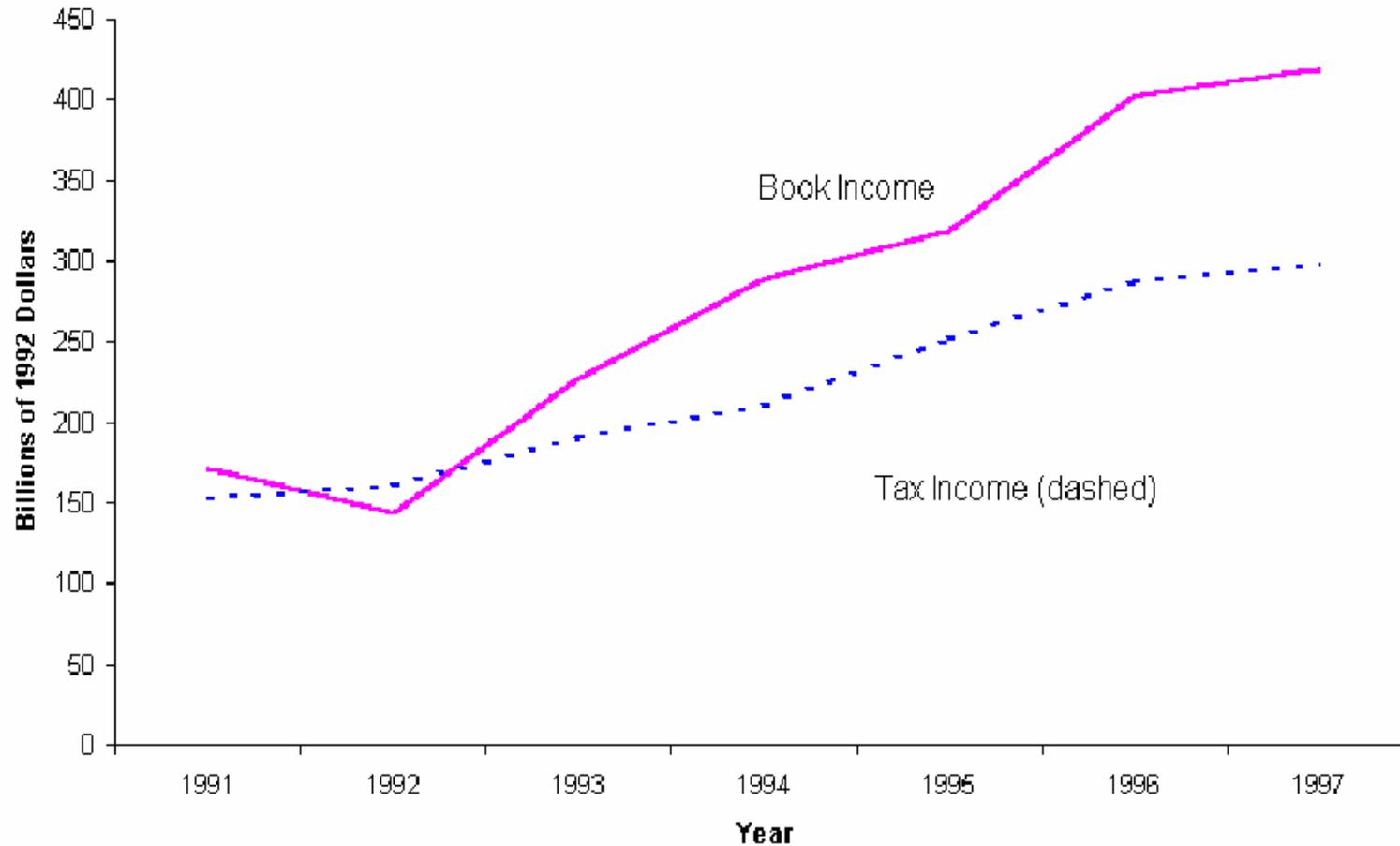
# Accounting for Income Taxes

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## Objectives:

- Understand the differences between tax accounting and financial accounting
  - Timing: temporary differences
  - Scope: permanent differences
- Understand the effects of events on income taxes
  - Net operating losses
  - Valuation allowances
  - Changes in tax rates
- Interpret income tax disclosures

**Figure 1.**  
**Book and Tax Corporate Income**  
**Firms with Mean Assets Over \$1 Billion**



Book Income = After-tax book income from Schedule M-1 + Federal taxes - tax exempt interest

Tax Income = Total Receipts - Total Deductions

Corporations excluding S corporations, RICs, REITs, and Foreign Corporations

Source: Internal Revenue Service, Statistics of Income

# GAAP vs. Tax Code

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Examples of differences:

Revenue Recognition: rental fees collected in advance

- GAAP : Rent revenue recognized when earned (passage of time)
- Tax Code: Rent collections considered as taxable income

Matching principle: depreciation of fixed assets

- GAAP: Different depreciation methods allowed, e.g. straight line
- Tax Code: MACRS (accelerated); no residual value

Other items: Revenue from municipal bonds

- GAAP: Revenue recognized as interest is earned (passage of time)
- Tax Code: Interest revenue exempt from federal taxes

What factors cause differences in accounting rules for GAAP and the Tax Code?

# Two Methods of Accounting for Timing Differences

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Japan, Germany: ??? = part of income tax expense

- Essentially, GAAP = Tax Code
- Tax expense = taxes currently owed, thus deferred taxes do not arise

United States: ??? = recognize as "deferred tax liability"

- Tax expense is based on the pre-tax GAAP income.
- Deferred taxes arise because tax expense  $\neq$  taxes currently owed

$$\begin{array}{rcc} \text{Income tax expense} & = & \text{Current tax expense} + \text{Deferred tax expense} \\ \text{(NI)} & & \text{(Taxes payable)} \quad \text{(Deferred Tax Liability)} \end{array}$$

$$\begin{aligned} \text{Deferred tax expense} &= \text{Timing difference} \times \text{statutory tax rate} \\ &= \text{Deferred Tax Liability} \end{aligned}$$

# Deferred Taxes over Time

Deferred taxes caused by timing differences are temporary, because they reverse over time.

Year	Financial reporting depreciation	Tax reporting depreciation	Depreciation difference	Deferred Tax Expense	Acc. Depr Difference, (EB)	Def Tax Liability (EB)
2003	30,000	60,000	30,000	9,000	30,000	9,000
2004	30,000	40,000	10,000	3,000	40,000	12,000
2005	30,000	-	(30,000)	(9,000)	10,000	3,000
disposal	10,000	-	(10,000)	(3,000)	-	-

- Timing differences that *create / increase* deferred taxes over time are called *originating* differences
- Timing differences that *remove / decrease* deferred taxes over time are called *reversing* differences

# Deferred Tax Liability: Summary

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Deferred tax liabilities arise/increase when a timing difference leads to:

$$\text{Current (IRS) Taxable income} < \text{Pretax Income (GAAP)}$$

- GAAP recognizes more revenue than the Tax Code
  - Revenue recognition before cash collection (e.g., unremitted earnings of foreign subsidiaries)
- GAAP matches less expenses than the Tax Code
  - Expenses matched in the Tax Code are accelerated relative to GAAP (e.g., MACRS vs. straight line)

Deferred tax liabilities decrease (to zero) when the above events reverse in the future.

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⇒ In future, IRS income > GAAP income  
⇒ Increased taxes will be paid (liability)

# Deferred Tax Asset: Illustration

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Suppose that total rent collected in 2003 was \$100,000, of which \$50,000 was rent paid in advance for 2004. Tax rate is 30%.

	<b>Financial reporting</b>	<b>Tax reporting</b>
NI before taxes	50,000	100,000
Tax Payable		30,000
Tax Expense	15,000	

$$\begin{aligned} \text{Tax Expense} &= \text{Taxes Payable} - \text{Deferred Tax Asset} \\ 15,000 &= 30,000 - 15,000 \end{aligned}$$

A deferred tax asset of \$15,000 was created in 2003. The reversal occurs in 2004 when the (financial) revenue for 2004 is recognized.

# Tax Effects of Marketable Securities

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Suppose the value of stock you own goes up by \$100.  
Are you \$100 richer?

In the U.S., capital gains and losses are not recognized for tax purposes unless realized. We will soon see that unrealized gains and losses from certain securities are recognized in the financial statements.

These unrealized gains and losses carry with them an obligation to pay more or less in future taxes, i.e. deferred liabilities or assets.

Consider GE Capital (1999, \$ in millions)

	1999	1998
Net deferred tax liability (asset)		
Net unrealized gains on securities	<95>	665

# Permanent Differences: Summary

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- Permanent differences are never expected to reverse (e.g., income that is never taxable)
- Permanent differences do not create deferred taxes. However, they do change the *effective tax rate*, because the basis of income tax expense is adjusted for permanent differences.
  - Tax-exempt revenues (e.g. interest income from state and local bonds) decreases the effective tax rate
  - Non-tax deductible expenses (e.g. government fines) increases the effective tax rate

Income tax expense = (Pretax income - Tax-exempt revenues  
+ Nondeductible expense) x statutory tax rate

Effective tax rate = Income tax expense / Pretax GAAP income

# Tax Deductions from Net Operating Losses (NOL)

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- **Net operating loss carryback:** generates a refund of income taxes paid from two years back, in the order of years, starting with the earliest year.

$$\begin{array}{rcccl} \mathbf{A} & & = & & \mathbf{L} & + & & \mathbf{E} \\ \text{Income tax refund receivable} & = & & & & & & \text{-(- Income tax expense)} \end{array}$$

- **Net operating loss carryforward:** reduces taxable income in subsequent years, up to a maximum of 20 years. Leftover NOL carryback may be carried forward, but once an NOL is carried forward, it can no longer be carried back.

NOL carryforwards are recorded as deferred tax assets.

$$\begin{array}{rcccl} \mathbf{A} & & = & & \mathbf{L} & + & & \mathbf{E} \\ \text{Deferred tax asset} & = & & & & & & \text{-(-Income tax expense)} \end{array}$$

# Valuation Allowance

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If the benefits of a deferred tax asset are not likely to be realized, the value of the deferred tax asset balance should be reduced by a "valuation account".

- Conservatism: no symmetric adjustment for deferred tax *liabilities*, except when future tax rates decrease
- Application of judgement: "likely" means more than 50% probability of occurring.
- Bad signal: implies that management believes not enough earnings in the future
- Valuation allowance increases the effective tax rate when recognized (because it increases income tax expense).

# Changes in Tax Rates

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When tax rates change, deferred tax assets and liabilities are readjusted to reflect the taxes that will be incurred when the reversals occur (proper matching).

- The new tax rate is used for timing differences as soon as the law instituting the tax change is enacted, even if the law is not yet officially in force.
- Adjustments to previous balances are disclosed as additions or reductions in the deferred tax component of income tax expense.
- Changes in tax rates affect the effective tax rates from the year new tax rates are enacted until the new tax rates are in effect.

$$\text{Income tax expense} = \text{Current tax expense} + \text{Deferred tax expense} + \text{DTA/L adj.}$$

(current rate)                      (future rate)                      (future-current)

In 1993, Congress increased the federal tax rate for corporations, from 34% to 35%. Ford reported a decrease in income taxes of \$199 million in 1993 due to the rate adjustment. ***Why did the tax rate increase boost Ford's income?***

(Answer: Ford had a deferred tax asset.)

# Disclosure Rules

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## ● Income statement

- ▶ Separate Income tax expense = current tax expense + deferred tax expense  
(May be done in the footnotes)

## ● Footnotes

- ▶ Components of income tax expense
- ▶ Components of deferred tax expense
  - □ Timing differences for the period
  - □ NOL credits
  - □ Effects of changes in tax rate
  - □ Changes in valuation allowance
- ▶ Components of deferred tax assets and deferred tax liabilities
- ▶ Reconciliation of statutory federal tax rate with effective tax rate

## ● Balance sheet

- ▶ Current and non-current components of deferred tax assets and liabilities netted out.

## ● SCF

- ▶ Deferred tax expense added back to net income in operating section