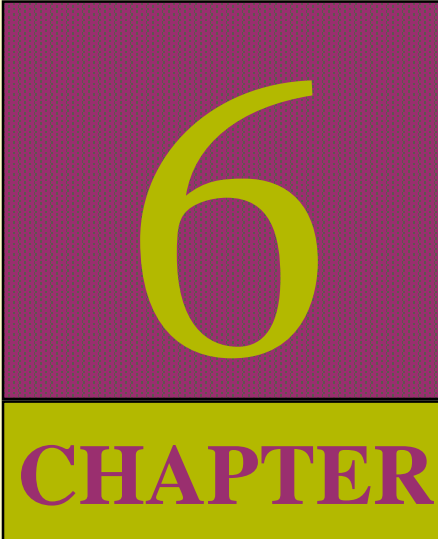


Analyzing Operating Activities



6
CHAPTER

Income Measurement

Concepts

Illustration Facts:

- Company with \$100,000 in cash
- Buys condo for \$100,000
- Rents condo for \$12,000 per year
- End of the first year: Condo valued at \$125,000

Income Measurement

Concepts

Illustration Facts:

- Net (free) cash flow = $\$(88,000)$
- Operating cash flow = $\$12,000$
- Economic income = $\$37,000$
- ($\$12,000$ rental income + $\$25,000$ holding gain)
- Accounting income = $\$11,500$ ($\$12,000$ rental income - $\$500$ depreciation*)

*Condo's useful life is 50 years and its salvage value is $\$75,000$ —yearly straight-line depreciation is $\$500$

Income Measurement

Concepts

Economic Income:



Two measures reflect the economic concept

- economic income
- permanent income

Income Measurement

Concepts

Economic Income:

- Equals net cash flows + the change in the present value of future cash flows
- Measures change in shareholder value—reflecting the financial effects of all events in a comprehensive manner
- Includes both recurring and nonrecurring components—rendering it less useful for forecasting future earnings potential



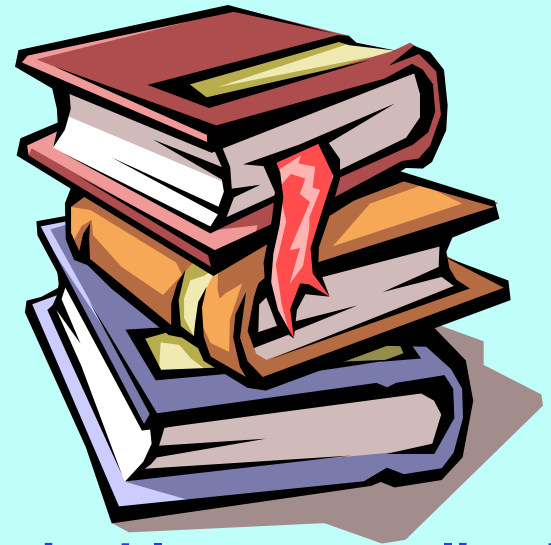
- Related to Hicksian concept of income—income includes both realized (cash flow) and unrealized (holding gain or loss) components

Income Measurement

Concepts

Permanent Income*

- Equals stable average income that a company is expected to earn over its life
- Reflects a long-term focus
- Directly proportional to company value
- Often expressed by dividing permanent income by cost of capital

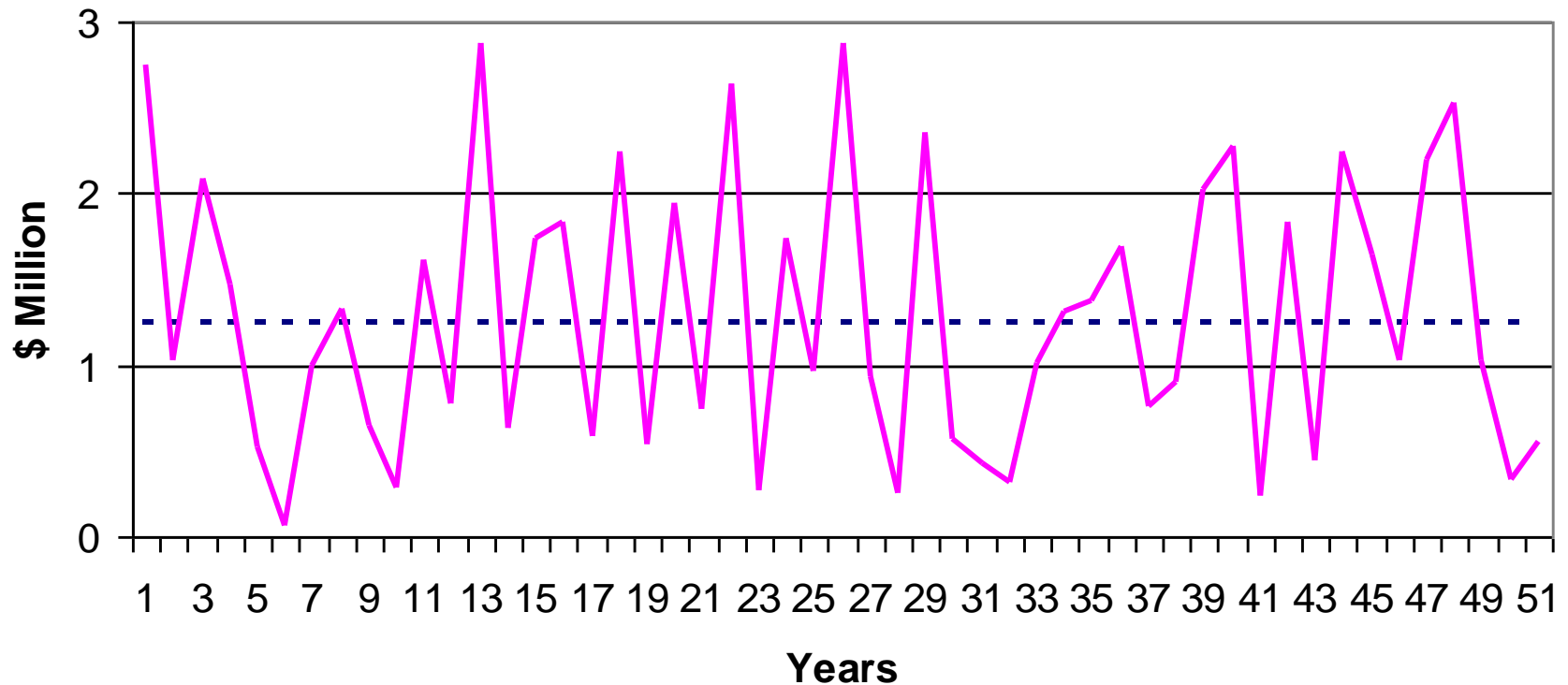


*Also called sustainable earning power, or sustainable or normalized earnings

Income Measurement

Concepts

Economic Income and Permanent Income



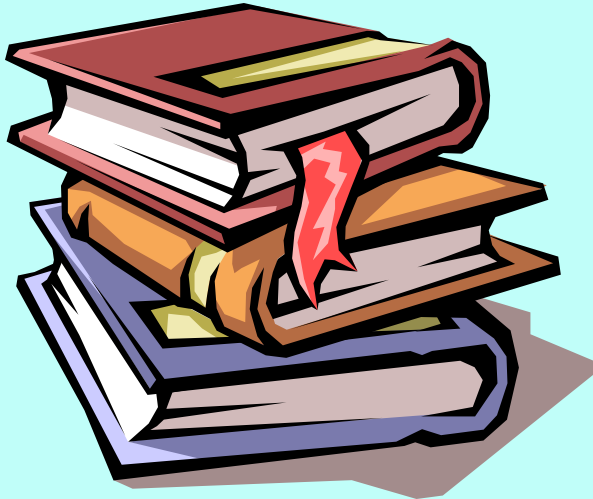
- - - Permanent Income — Economic Income

Income Measurement

Concepts

Accounting Concept of Income:

- Based on accrual accounting
- Capture aspects of both economic income and permanent income



- Suffers from measurement problems—yields accounting analysis

Income Measurement

Concepts

Revenue Recognition and Matching :

Revenue recognition

Revenues must be

- (1) realized or realizable, and
- (2) earned

Costs/Expenses matched with recognized revenues

Product costs—recognized when product or service sold

Period costs--recognized when incurred



Income Measurement

Concepts

Economic Income vs. Accounting Income:

Economic Income and Accounting Income reflect similar concepts

BUT:

Accounting income is a product of the financial reporting environment—accounting standards, enforcement mechanisms, managers' incentives, etc.

HENCE:

Accounting income can diverge from economic income (yielding accounting distortions)



Income Measurement

Concepts

Accounting Income consists of:

- **Permanent Component--the recurring component expected to persist indefinitely**
- **Transitory Component--the transitory (or non-recurring) component not expected to persist (Note: The concept of economic income includes both permanent and transitory components.)**
- **Value Irrelevant Component--value irrelevant components have no economic content; they are accounting distortions**

Income Measurement

Concepts

Analysis Implications:

- Adjusting accounting income is important task
- Necessary to specify analysis objectives--e.g., determining economic income or permanent income or sustainable earning power
- Adopt an inclusive approach— including recurring and non-recurring components



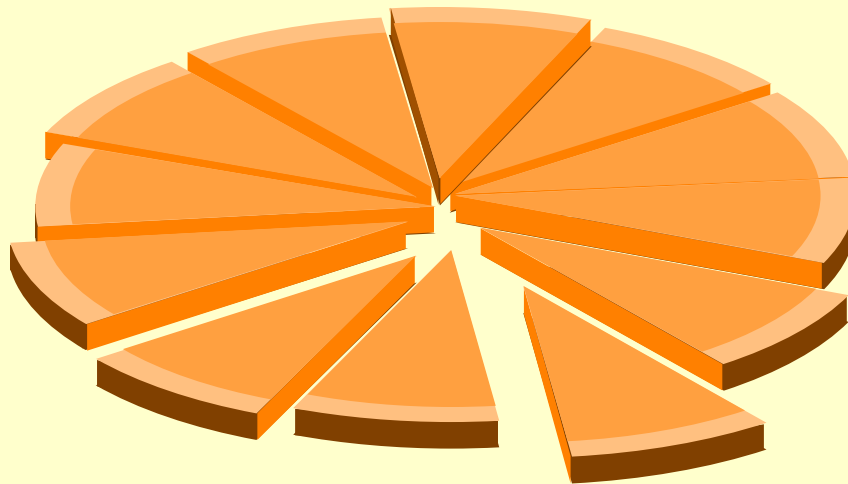
Income Measurement

Measurement

Two main components of accounting income:

Revenues (gains)

Expenses (losses)



Income Measurement

Measurement

Sample Income Statement

Amber Corp. and Subsidiaries

	2001	2000	1999
Sales	\$14,314	\$12,716	\$13,033
Equity income	51	39	43
Interest income	12	74	15
Cost of goods sold	<u>(8,333)</u>	<u>(7,567)</u>	<u>(8,001)</u>
Gross profit	\$ 6,044	\$5,262	\$ 5,090
Expenses:			
Selling and administrative	\$(2,964)	\$(2,478)	\$(2,396)
Research and development	(1234)	(899)	(855)
Restructuring charge	--	(1016)	--
Interest expense	<u>(725)</u>	<u>(715)</u>	<u>(654)</u>
Income before taxes	\$ 1,121	\$ 154	\$ 1,185
Income taxes	<u>(336)</u>	<u>(351)</u>	<u>(356)</u>
Income from continuing operations	\$ 785	\$ (197)	\$ 830
Gain from extinguishment of debt	38	--	--
Loss from operating discontinued segment	--	0	(23)
Gain from sale of discontinued segment	<u>--</u>	<u>--</u>	<u>66</u>
Net income	\$ 823	\$ (197)	\$ 873
Foreign currency translation adjustments	82	(54)	(31)
Unrealized holding gains on available-for-sale securities	24	22	6
Additional minimum pension liability adjustment	<u>0</u>	<u>(4)</u>	<u>--</u>
Comprehensive income	\$ 929	\$ (233)	\$ 848

Income Measurement

Measurement

Revenues and Gains

- **Revenues** are earned inflows or prospective inflows of cash from operations*
- **Gains** are recognized inflows or prospective inflows of cash from non-operations**

* Revenues are expected to recur

**Gains are non-recurring



Income Measurement

Measurement

Expenses and Losses

- **Expenses** are incurred outflows, prospective outflows, or allocations of past outflows of cash from operations
- **Losses** are decreases in a company's net assets arising from non-operations



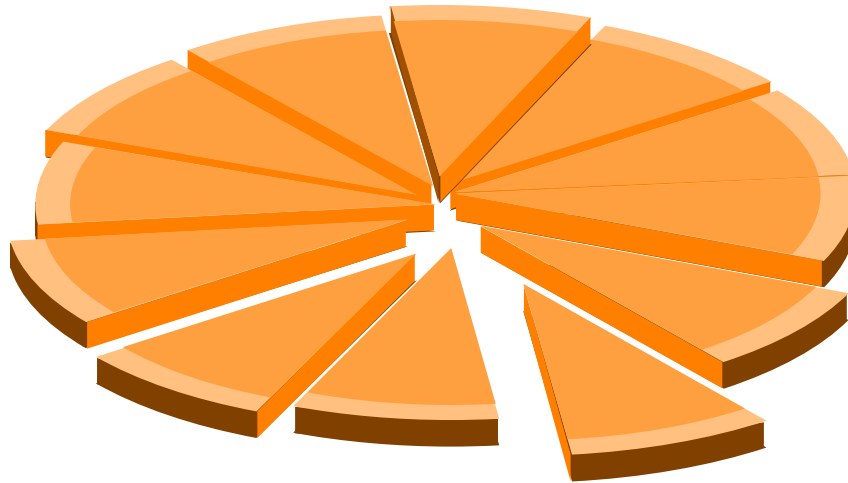
Expenses and losses are resource consumed, spent, or lost in pursuing revenues and gains

Income Measurement

Alternatives

Two major income dimensions:

1. operating versus non-operating
2. recurring versus non-recurring*

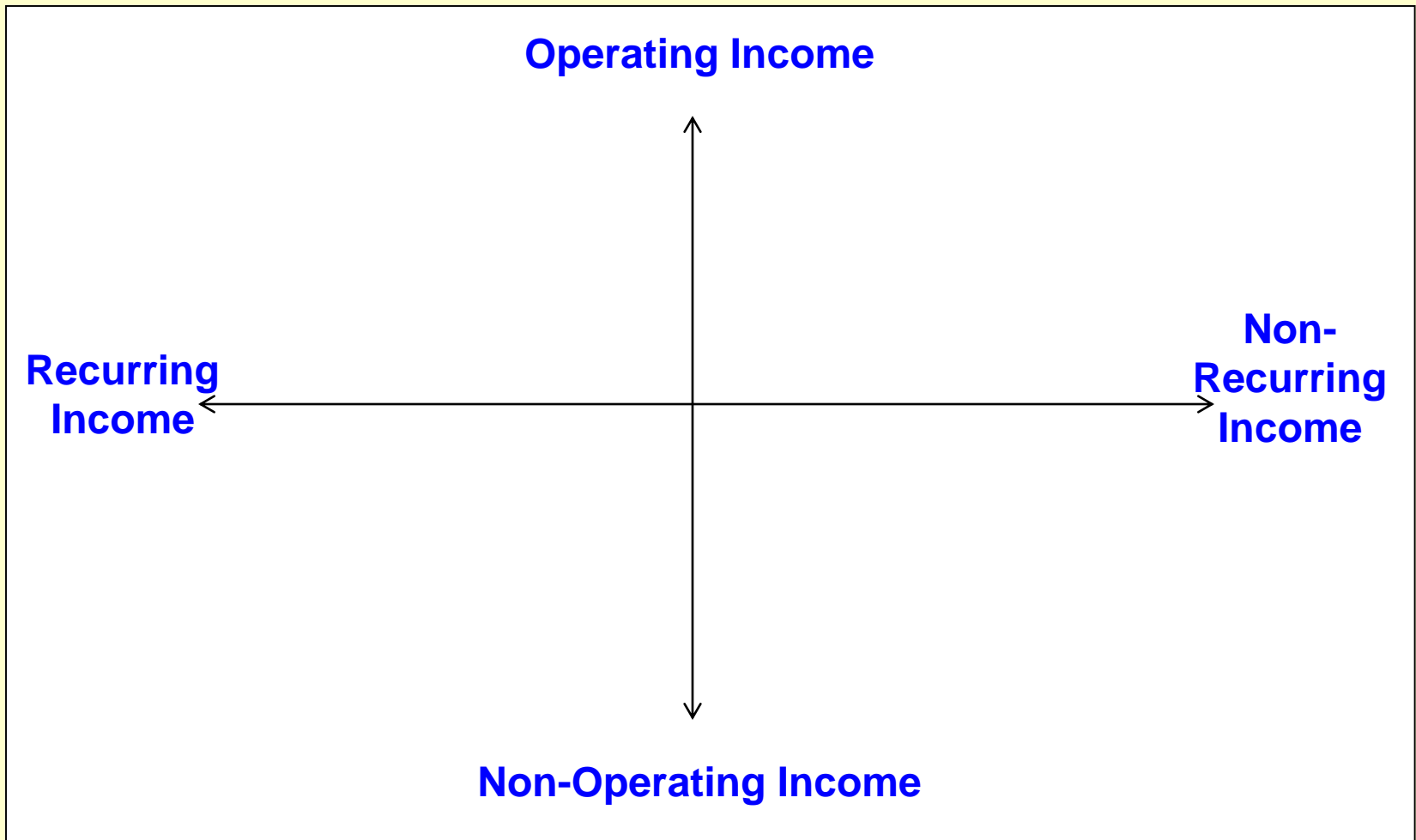


***Motivated by need to separate permanent and transitory components**

Income Measurement

Alternatives

Operating vs. Non-Operating and Recurring vs. Non-Recurring



Income Measurement

Alternatives

Alternative Income Statement Measures

- **Net income**—widely regarded as “bottom line” measure of income
- **Comprehensive income**--includes most changes to equity that result from non-owner sources; it is actually the bottom line measure of income; is the accountant’s proxy for economic income
- **Continuing income**--excludes extraordinary items, cumulative effects of accounting changes, and the effects of discontinued operations from net income
- **Core income**--excludes all non-recurring items from net income

*Often erroneously referred to as “operating income”

Income Measurement

Analysis

What constitutes the ‘correct’ measure of income for analysis purposes?

There is no answer for two reasons:

- Correct measurement depends on analysis objectives**
- Alternative accounting income measures result from including or excluding line items—still subject to accounting distortions**

Income Measurement

Analysis

Operating versus Non-Operating Income

Operating income--measure of company income as generated from operating activities

Three important aspects of operating income

- Pertains only to income generated from operations
- Focuses on income for the company, not simply for equity holders (means financing revenues and expenses are excluded)
- Pertains only to ongoing business activities (i.e., results from discontinued operations is excluded)

Non-operating income--includes all components of net income excluded from operating income

Useful to separate non-operating components pertaining to financing and investing

Income Measurement

Analysis

Clean Surplus

Articulation of income with equity in successive balance sheets--i.e., income accounts for all changes in equity from non-owner sources

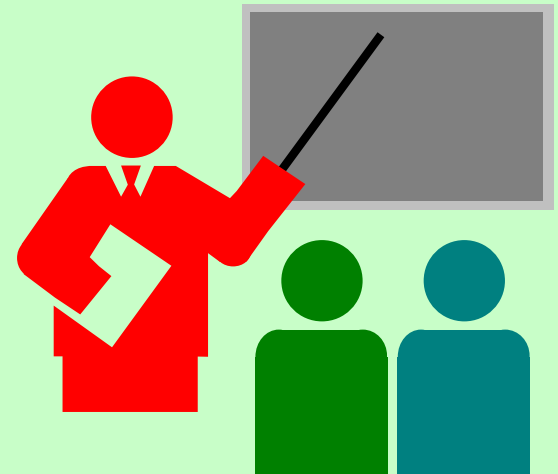
Dirty Surplus

Accounting allows certain components of income to bypass income as direct adjustments to equity

HENCE

Net income is generally a produce of dirty surplus accounting

Comprehensive income is a product of clean surplus accounting



Income Measurement

Analysis

Determination of Comprehensive Income—sample company

Net income

Other comprehensive income:

+/- Unrealized holding gain or loss on marketable securities

+/- Foreign currency translation adjustment

+/- Additional minimum pension liability adjustment

+/- Unrealized holding gain or loss on derivative instruments

Comprehensive income

Income Measurement

Analysis

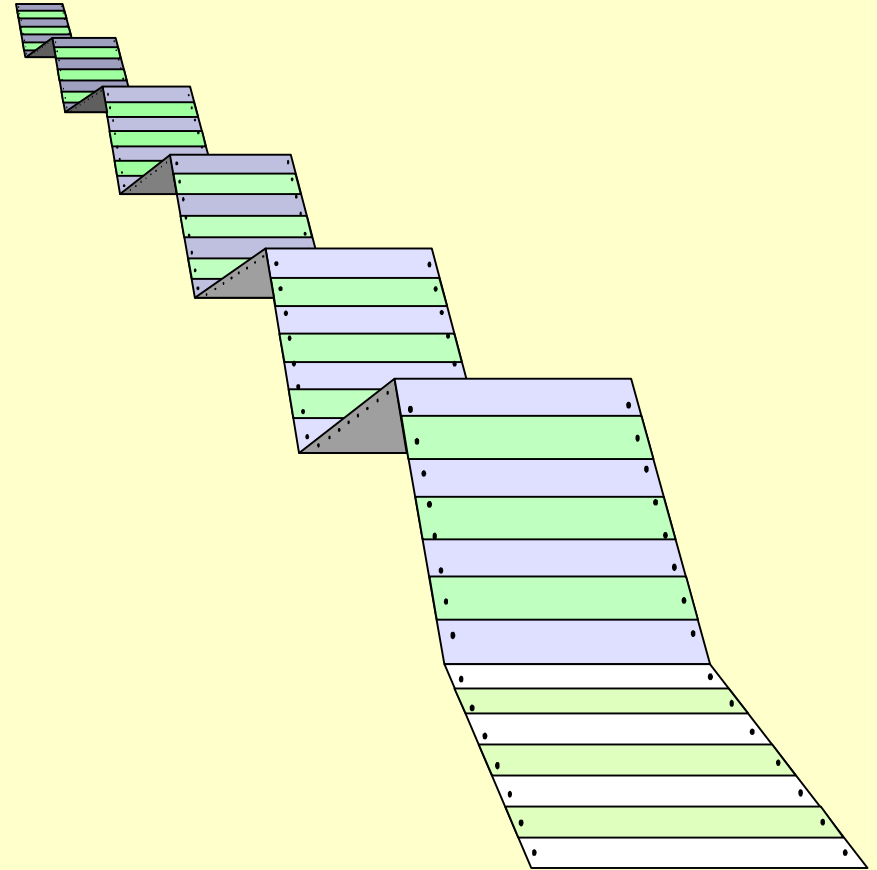
Comprehensive Income

- Accountant's proxy for economic income*
- Revenue and expense components must be adjusted in estimating economic income (confine to the four usual items):
 - Include unrealized gains and losses from investment securities
 - Include foreign currency translation adjustments
 - Exclude additional minimum pension liability adjustment
 - Include change in pension funded status (pension assets less pension obligations)

*Many components of comprehensive income are irrelevant for determining permanent income

Non-Recurring Items

- ① Extraordinary items
- ② Discontinued segments
- ③ Accounting changes
- ④ Restructuring charges
- ⑤ Special items



Non-Recurring Items

Extraordinary Items

Criteria

Unusual in nature

Infrequent in occurrence

Examples

Uninsured losses from a major casualty (earthquake, hurricane, tornado), losses from expropriation, and gains and losses from early retirement of debt

Disclosure

Classified separately in income statement

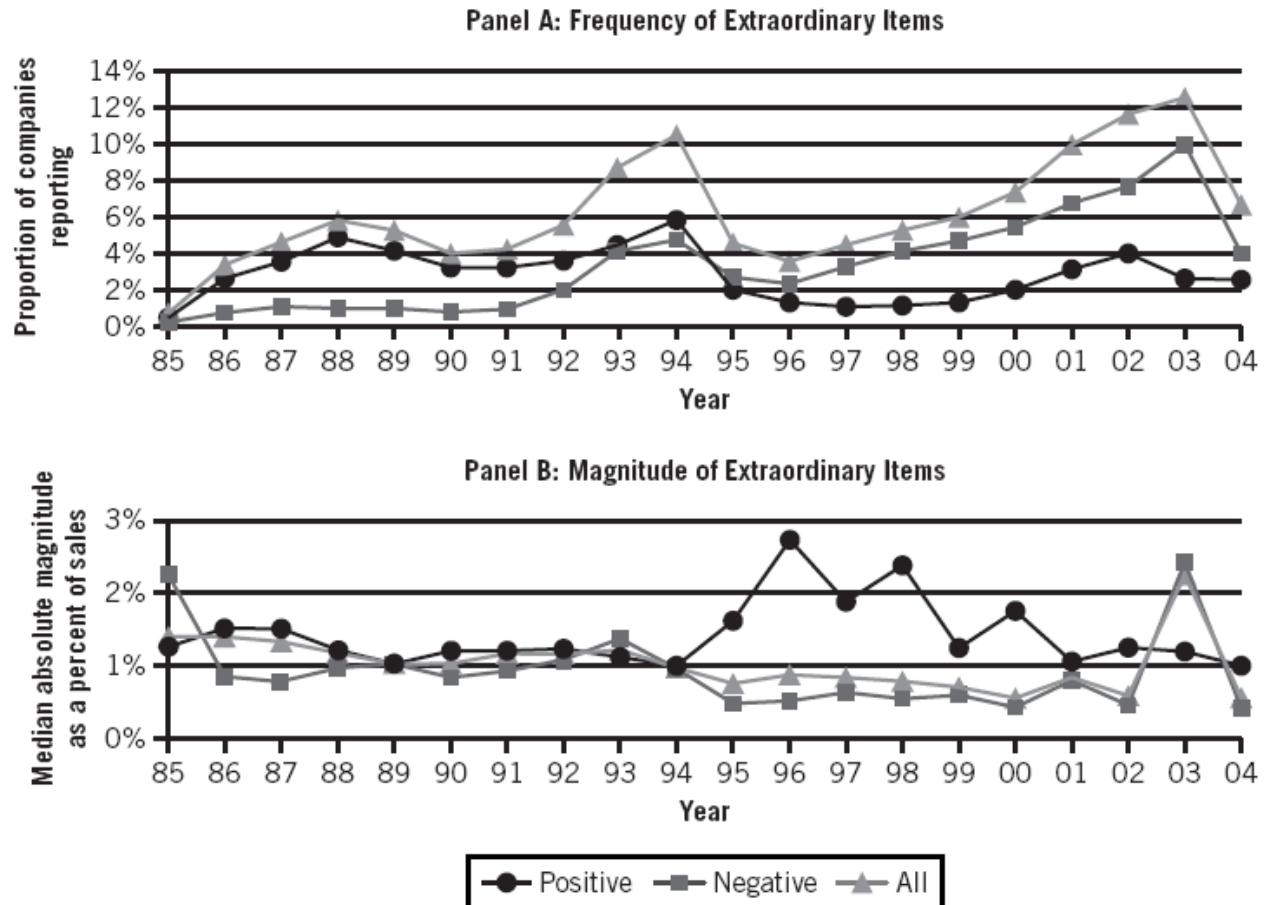
Non-Recurring Items

Extraordinary Items

Exhibit 6.4



Magnitude and Frequency of Extraordinary Items



Source: Compiled from Compustat data.

Non-Recurring Items

Extraordinary Items

Extraordinary items:

- Are non-recurring
- Excluded when computing permanent income
- Included when computing economic income
- Can reveal risk exposures
- Can impact computation of sustainable earning power
- Often Excluded when making comparisons over time or across firms

Non-Recurring Items

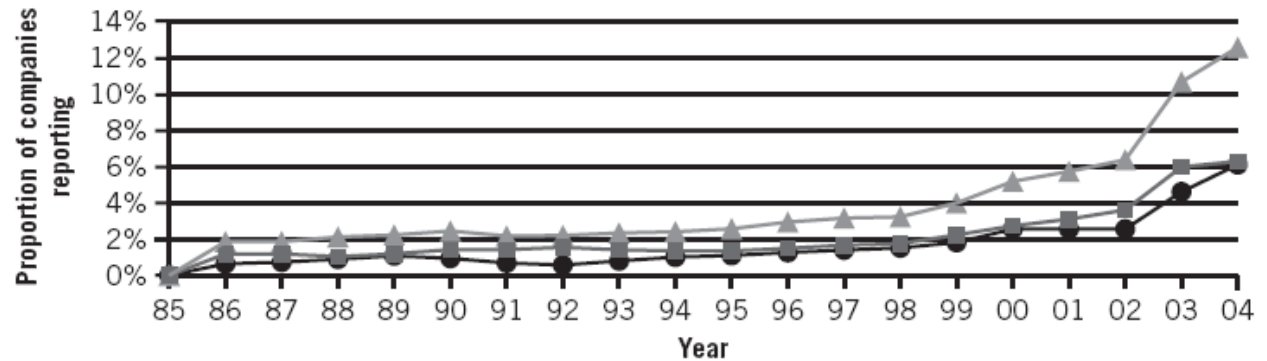
Discontinued Operations

Exhibit 6.5

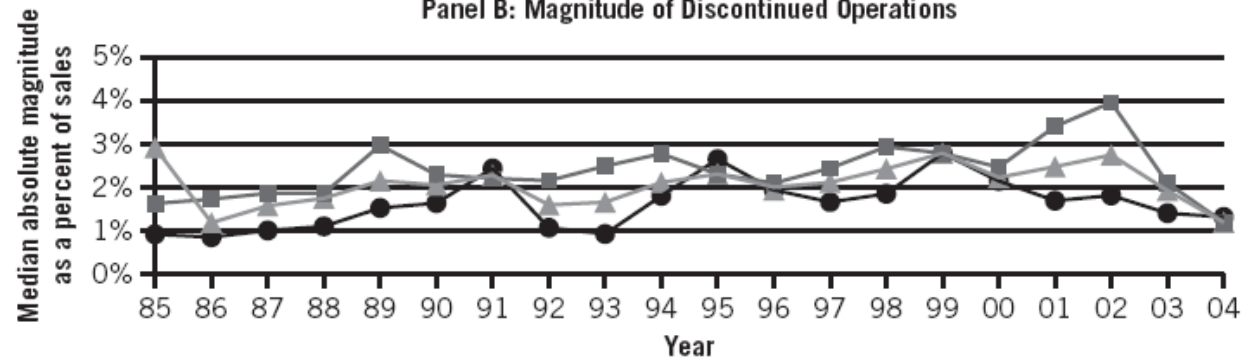
Magnitude and Frequency of Discontinued Operations



Panel A: Frequency of Discontinued Operations



Panel B: Magnitude of Discontinued Operations



● Positive ■ Negative ▲ All

Source: Compiled from Compustat data.

Non-Recurring Items

Discontinued Operations

Accounting is two-fold:

- **Income statements for the current and prior two years are restated after excluding the effects of discontinued operations**
- **Gains or losses from the discontinued operations are reported separately, net of tax***

***Reported in two categories: (i) operating income or loss from discontinued operations until the measurement date, and (ii) gains and losses on disposal**

Non-Recurring Items

Discontinued Operations

For analysis of discontinued operations:

- **Adjust current and past income to remove effects of discontinued operations**
 - **Companies disclose this info for the current and past two years**
 - **For earlier years:**
 - **Look for restated summary info or other voluntary disclosures**
 - **Take care when doing inter-temporal analysis**
- **Adjust assets and liabilities to remove discontinued operations**
- **Retain cumulative gain or loss from discontinued operations in equity**

Non-Recurring Items

Accounting Changes

Accounting changes are of 2 types:

1. Accounting principle change
2. Accounting estimate change



Non-Recurring Items

Accounting Changes

Accounting Principle Change—involves switch from one principle to another

Disclosure includes:

- Nature of and justification for change
- Effect of change on current income and earnings per share
- Cumulative effects of retroactive application of change on income and EPS for income statement years (FASB may require retrospective application under a pending amendment to the accounting standard)



Non-Recurring Items

Accounting Changes

Accounting Estimate Change—
involves change in estimate
underlying accounting

- **Prospective application—**a change is accounted for in current and future periods
- **Disclose effects on current income and EPS**



Non-Recurring Items

Accounting Changes

Analyzing Accounting Changes

- *Are cosmetic and yield no cash flows*
- *Can better reflect economic reality*
- *Can reflect earnings management (or even manipulation)*
- *Impact comparative analysis (apples-to-apples)*
- *Effect both economic and permanent income*
 - *For permanent income, use the new method and ignore the cumulative effect*
 - *For economic income, evaluate the change to assess whether it reflects reality*



Non-Recurring Items

Special Items

Special Items--transactions and events that are unusual or infrequent

Challenges for analysis

- ❖ Often little GAAP guidance
- ❖ Economic implications are complex
- ❖ Discretionary nature serves earnings management aims

Two major types

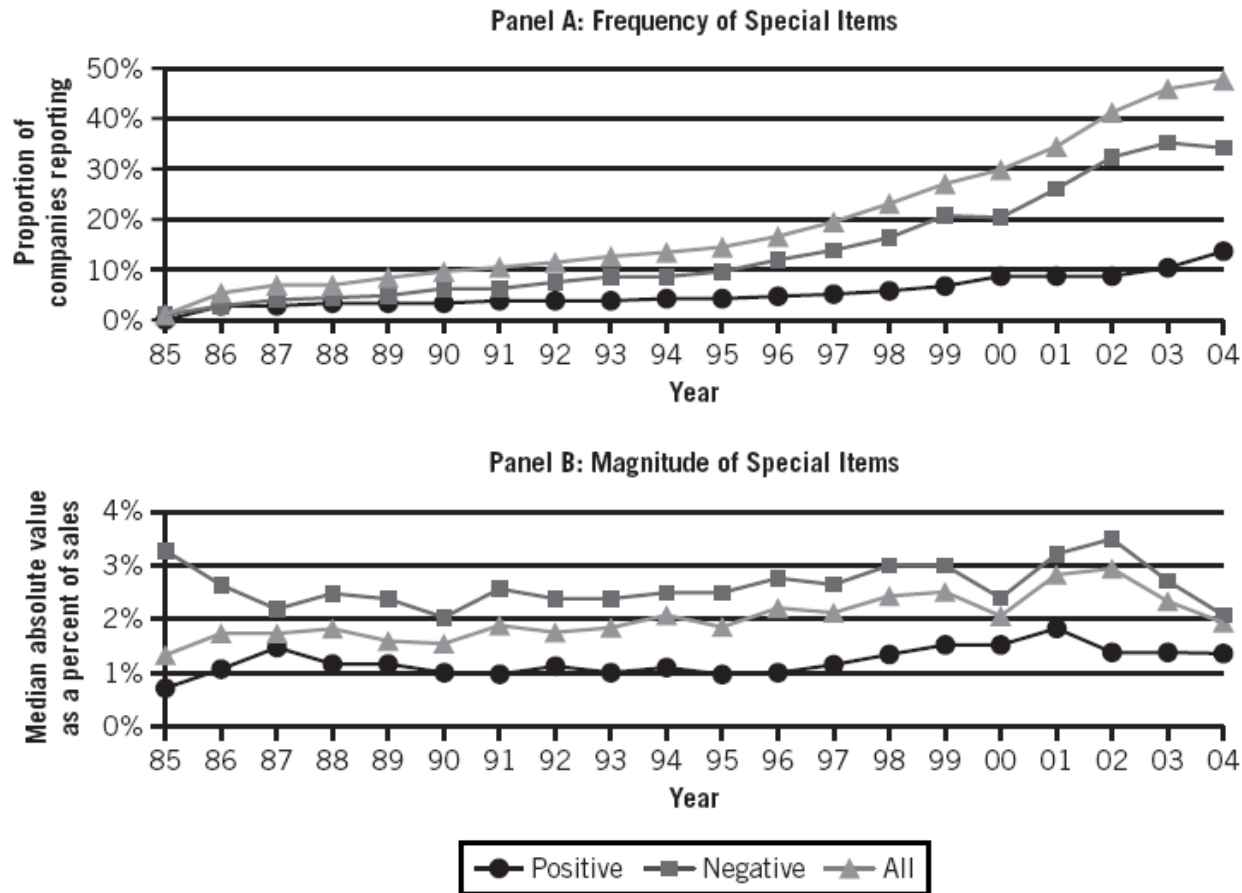
- ❖ Asset impairments (write-offs)
- ❖ Restructuring charges

Non-Recurring Items

Special Items

Frequency and Magnitude of Special Items

Exhibit 6.6



Source: Compiled from Compustat data.

Non-Recurring Items

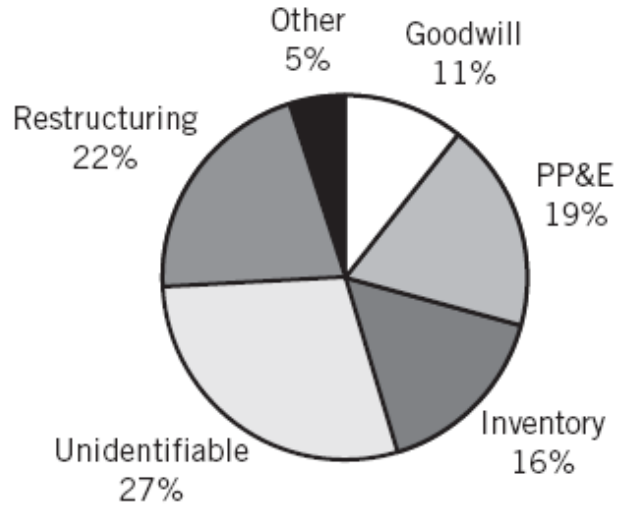
Break-Up One-Time Charges (Special Items)

Exhibit 6.7

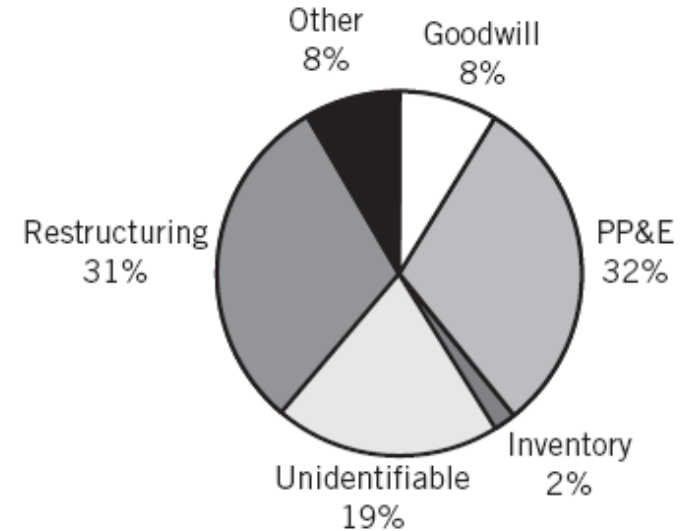
Makeup of One-Time Charges (Special Items)



One-time charges by frequency



One-time charges by amount



Source: Francis, Hanna and Vincent, *Journal of Accounting Research* (1996).

Non-Recurring Items

Special Items

Asset Impairment—when asset fair value is below carrying (book) value

Some reasons for impairments

- Decline in demand for asset output
- Technological obsolescence
- Changes in company strategy

Accounting for impairments

- Report at the lower of market or cost
 - No disclosure about determination of amount
 - No disclosure about probable impairments
 - Flexibility in determining when and how much to write-off
 - No plan required for asset disposal
- Conservative presentation of assets

Non-Recurring Items

Special Items

Restructuring Charges—costs usually related to major changes in company business

Examples of these major changes include

- Extensive reorganization
- Divesting business units
- Terminating contracts and joint ventures
- Discontinuing product lines
- Worker retrenchment
- Management turnover
- Write-offs combined with investments in assets, technology or manpower

Accounting for estimated costs of restructuring program

- Establish a provision (liability) for estimated costs
- Charge estimated costs to current income
- Actual costs involve adjustments against the provision when incurred

Non-Recurring Items

Special Items

- Analyzing special items is challenging and important
- Challenges arise from lack of guidance in accounting standards
- Challenges also arise in understanding the economics of special items
- Importance relates to the frequency and impact on past, present, and future income



Non-Recurring Items

Special Items

Earnings Management with Special Charges

- (1) Special charges often garner less investor attention under an assumption they are non-recurring and do not persist
- (2) Managers motivated to re-classify operating charges as special one-time charges
- (3) When analysts ignore such re-classified charges it leads to low operating expense estimates and overestimates of company value

Non-Recurring Items

Special Items

Earnings Management with Special Charges—An Illustration

- Company earns \$2 per share in perpetuity
- Cost of capital is 10%
- Company valuation is \$20 ($\$2/0.10$)
- Company overstates recurring earnings by \$1 per share for 4 periods and then reverses this with a single charge in the fourth year:

(\$ per share)	Year 1	Year 2	Year 3	Year 4
Recurring earnings	\$2 + \$1	\$2 + \$1	\$2 + \$1	\$2 + \$1
Special charge	--	--	--	(4)
Net Income	<u>\$3</u>	<u>\$3</u>	<u>\$3</u>	<u>\$(1)</u>

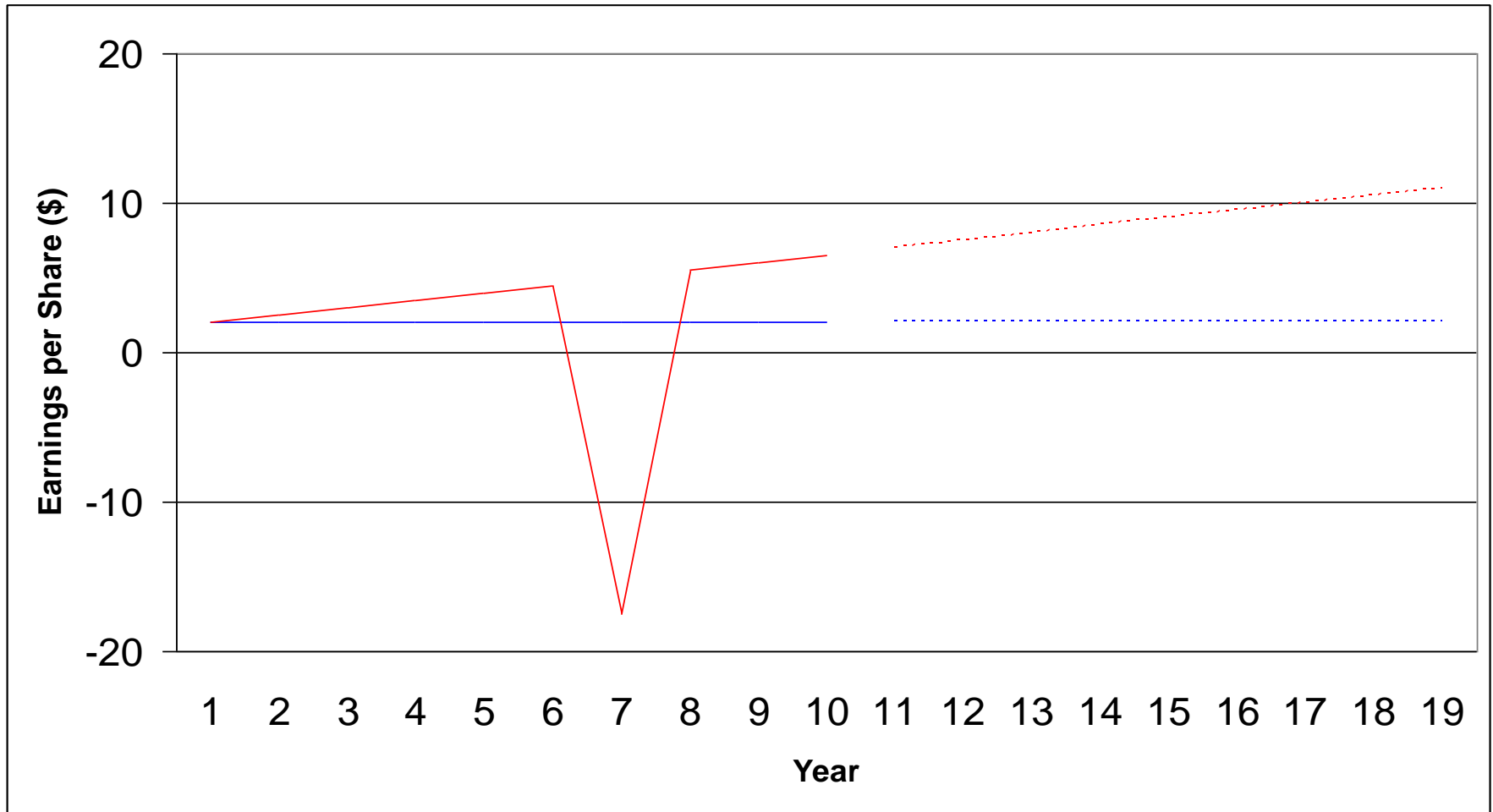
Analysis

- (1) Suggests permanent component of \$3 per share and a transitory component of \$(4) per share in Year 4
- (2) Company stock is valued at \$26 ($[\$3 / 0.10] - \4)
- (3) Ignoring special charges (as some analysts advise) yields stock valued at \$30 ($\$3 / 0.10$)

Non-Recurring Items

Special Items

Earnings Management with Special Charges—Graphical Illustration



Non-Recurring Items

Special Items

Income Statement Adjustments

- (1) Permanent income reflect profitability of a company under normal circumstances
 - Most special charges constitute operating expenses that need to be reflected in permanent income
 - Special charges often reflect either understatements of past expenses or investments for future profitability
- (2) Economic income reflects the effects on equity of all events that occur in the period
 - Entire amount of special charges is included

Non-Recurring Items

Special Items

Balance Sheet Adjustments

Balance sheets after special charges often better reflect business reality by reporting assets closer to net realizable values

Two additional points

(1) Retain provision or net against equity?

- If a going-concern analysis, then retain
- If a liquidating value analysis, then offset against equity

(2) Asset write-offs conservatively distort asset and liability values

Revenue Recognition

Guidelines

Revenue Recognition Criteria

- Earning activities are substantially complete and no significant added effort is necessary
- Risk of ownership is effectively passed to the buyer
- Revenue, and related expense, are measured or estimated with accuracy
- Revenue recognized normally yields an increase in cash, receivables or securities
- Revenue transactions are at arm's length with independent parties
- Transaction is not subject to revocation



Revenue Recognition

Uncertainty

Some special revenue recognition situations are

- Revenue When Right of Return Exists
- Franchise Revenues
- Product Financing Arrangements
- Transfers of Receivables with Recourse
- Recognition at Completion of Production
- Revenue under Contracts
 - Percentage-of-completion method
 - Completed-contract method
- Unearned Finance Charges
- Recognizing “Sales” to Leasing Subsidiaries

Revenue Recognition

Analysis

Revenue is important for

- Company valuation
- Accounting-based contractual agreements
- Management pressure to achieve income expectations
- Management compensation linked to income
- Valuation of stock options

Analysis must assess whether revenue reflects business reality

- Assess risk of transactions
- Assess risk of collectibility

Circumstances fueling questions about revenue recognition include

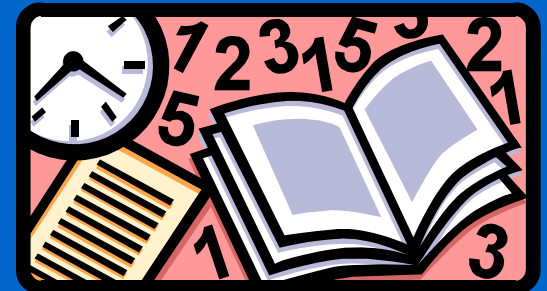
- Sale of assets or operations not producing cash flows to fund interest or dividends
- Lack of equity capital
- Existence of contingent liabilities

Deferred Charges

Costs incurred but deferred because they are expected to benefit future periods

Consider four categories of deferred costs

- Research and development
- Computer software costs
- Costs in extractive industries
- Miscellaneous (Other)

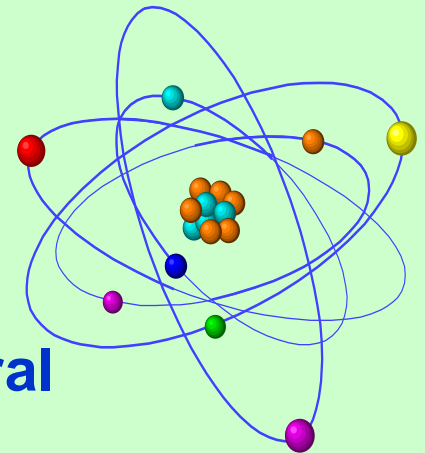


Deferred Charges

Research and Development

R&D costs include:

- **Materials, equipment, and facilities acquired or constructed for a R&D project**
- **Purchased intangibles with no alternative future uses**
- **Materials consumed in R&D activities**
- **Depreciation of equipment or facilities, and amortization of intangible assets, used in R&D activities with alternative future uses**
- **Salaries and other related costs of personnel engaged in R&D**
- **Services performed by others in connection with R&D**
- **Allocation of indirect costs, excluding general and administrative**



Deferred Charges

Research and Development

Accounting for R&D is problematic due to:*

- High uncertainty of any potential benefits
- Time period between R&D activities and determination of success
- Intangible nature of most R&D activities
- Difficulty in estimating future benefit periods

Hence:

- U.S. accounting requires expensing R&D when incurred
- Only costs of materials, equipment, and facilities with alternative future uses are capitalized as tangible assets
- Intangibles purchased from others for R&D activities with alternative future uses are capitalized

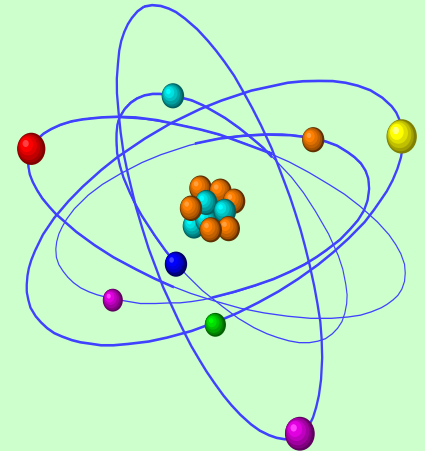
***These accounting problems are similar to those encountered with employee training programs, product promotions, and advertising**

Deferred Charges

Research and Development

Analysis of R&D is challenging because:

- Future benefits are usually created from R&D
- Conceptually, R&D should not be expensed as incurred
- Expensing R&D impairs earnings usefulness
- Market often rewards a stock price for R&D
- Understates R&D assets
- Accounting ignores experiences of many ongoing R&D activities
- Fails to serve needs and interests of many analysts

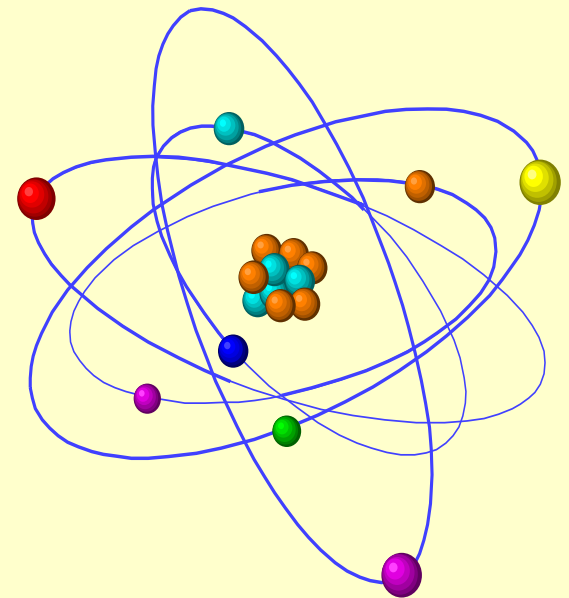


Deferred Charges

Research and Development

Analysis needs/wants include

- Types of research performed
- R&D outlays by category
- Technical feasibility
- Commercial viability
- Potential of R&D projects
- Prior success/failure with R&D



Deferred Charges

Computer Software Costs

[Note: Accounting for costs of computer software to be sold, leased, or otherwise marketed identifies a point referred to as technological feasibility]

Prior to technological feasibility, costs are expensed when incurred



After technological feasibility, costs are capitalized as an intangible asset

Deferred Charges

Costs in Extractive Industries

Search and development costs for natural resources is important to extractive industries including oil, gas, metals, coal, and nonmetallic minerals

Two basic accounting viewpoints:

- “Full-cost” view—all costs, productive and nonproductive, incurred in the search for resources are capitalized and amortized to income as resources are produced and sold
- “Successful efforts” view—all costs that do not result directly in discovery of resources have no future benefit and should be expensed as incurred



Deferred Charges

Other Deferred Costs

- Deferred charges are often substantial
- Validating many deferred charges depends on estimates
- Assessing the benefit period to amortize deferred charges is difficult
- Analysis must be alert to deferred charges that do not carry future benefits
- Descriptions of deferred costs are useful in analysis
- Deferred charges are generally incapable of satisfying creditors' claims
- Assess propensity of management to defer costs

Employee Benefits

Overview

- ❖ Increase in employee benefits supplementary to salaries and wages
- ❖ Some supplementary benefits are not accorded full or timely recognition:



- **Compensated absences**
- **Deferred compensation contracts**
- **Stock appreciation rights (SARs)**
- **Junior stock plans**
- **Employee Stock Options (ESOs)**

Employee Benefits

Employee Stock Options

ESOs are a popular form of incentive compensation—reasons include:



- **Enhanced employee performance**
- **Align employee and company incentives**
- **Viewed as means to riches**
- **Tool to attract talented and enterprising workers**
- **Do not have direct cash flow effects**
- **Do not require the recording of costs**

Employee Benefits

Employee Stock Options

Option Facts

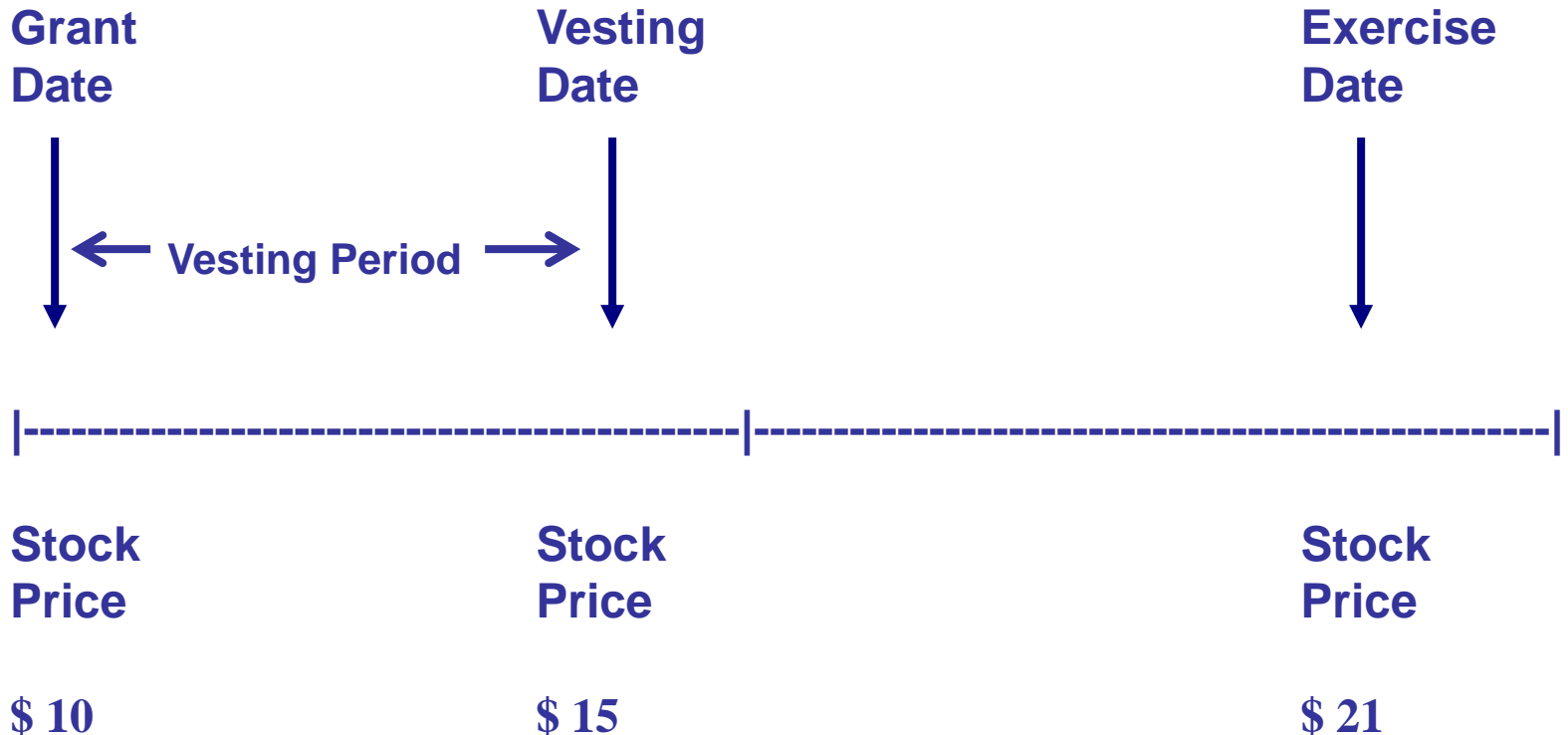
- Option to purchase shares at a specific price on or after a future date
- Exercise price is the price a holder has the right to purchase shares at
- Exercise price often set equal to stock price on grant date
- Vesting date is the earliest date the employee can exercise option
- **In-the-Money:** When stock price is higher than exercise price
- **Out-of-the-Money:** When stock price is less than exercise price



Employee Benefits

Employee Stock Options

Illustration of an Option Granted to an Employee



Employee Benefits

Employee Stock Options

Two main accounting issues

- Dilution of earnings per share (EPS)
 - ESOs in-the-money are *dilutive securities* and affect diluted EPS
 - ESOs out-of-the-money are *antidilutive securities* and do not affect diluted EPS
- Cost recognition of ESO
 - Determine cost of ESOs granted
 - Amortize cost over vesting period

Employee Benefits

Employee Stock Options

<u>Factor</u>	<u>Effect on fair value</u>
Exercise price	-
Stock price on date of grant	+
Expected life of option	+
Risk-free rate of interest	+
Expected volatility of stock	+
Expected dividends on stock	-

Employee Benefits

Employee Stock Options

ESO Accounting

- Stock Option expense is included in reported income beginning in 2005.
- Note details on options granted, outstanding, and exercisable
- Assumptions for computing fair value of options granted



Interest and Taxes

Interest Defined

Interest

Compensation for use of money

Excess cash paid beyond the money (principal) borrowed

Interest rate

Determined by risk characteristics of borrower

Interest expense

Determined by interest rate, principal, and time

Interest and Taxes

Interest Capitalization

Accounting requires interest capitalization when asset

- **constructed or produced for a company's own use**
- **constructed or produced for a company by others where deposits or progress payments are made**

Aims of interest capitalization

- (1) **Better measure asset acquisition cost**
- (2) **Better amortize acquisition cost against revenues generated**

Interest and Taxes

Interest Analysis

- **Interest on convertible debt is controversial by ignoring the cost of conversion privilege**
- **Diluted earnings per share uses number of shares issuable in event of conversion of convertible debt**
- **FAF views interest as a period cost—not capitalizable**
- **Changes in a company borrowing rate, not explained by market trends, reveals changes in risk**

Interest and Taxes

Income Taxes

- Substantial cost of business
- Important to analysis of financial statements
- Analysis focus on periodic income tax expense



Interest and Taxes

Income Tax Accounting

- Identify types and amounts of temporary differences and the nature and amount of each type of operating loss and tax credit carryforward
- Measure total deferred tax liability for taxable temporary differences
- Compute total deferred tax asset for deductible temporary differences and operating loss carryforwards
- Measure deferred tax assets for each type of tax credit carryforward
- Reduce deferred tax assets by a valuation allowance

Interest and Taxes

Permanent Income Tax Differences

Permanent differences result from tax regulations where:

- Items are nontaxable
- Deductions are not allowed
- Special deductions are granted

Effective tax rate can vary from statutory rate due to:

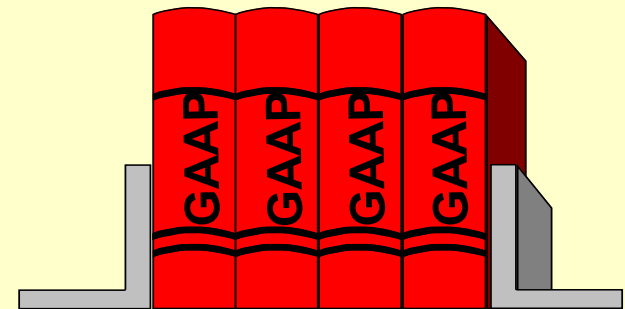
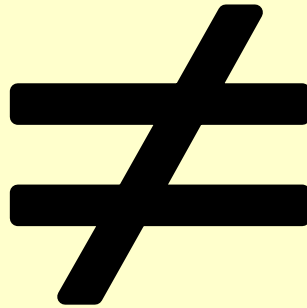
- Basis of property differs for financial and tax accounting
- Nonqualified and qualified stock option plans
- Special tax privileges
- Lower corporate income tax rate up to a certain level
- Tax credits
- Different tax rates on foreign income
- Tax expense includes both state and local income taxes
- Tax loss carryforward benefits

Interest and Taxes

Temporary Income Tax Differences



Taxable Income



**Financial
Statement Income**

- 1) Revenue or gain recognized in financial reporting but deferred for tax purposes
- 2) Expenses deducted for tax purposes *exceed* these expenses for financial reporting
- 3) Revenue or gain recognized or tax but *deferred* for financial reporting
- 4) Expenses deducted for financial reporting *exceed* these expenses for tax.

Interest and Taxes

Temporary Income Tax Differences

Reported (Pretax) Income vs. Taxable Income	Effect on Income Tax Expense	Effect on Taxes Payable	Effect on Balance Sheet Deferred Tax Accounts
Taxable income lower than pretax income	Higher	Lower	Credits
Taxable income higher than pretax income	Lower	Higher	Debits

Interest and Taxes

Income Tax Disclosures

- Total deferred tax liabilities
- Total deferred tax assets
- Total valuation allowance recognized for deferred tax assets

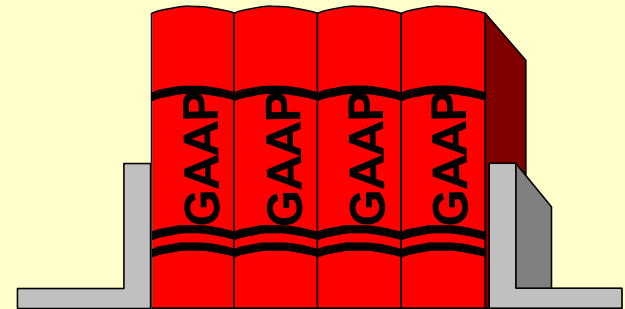
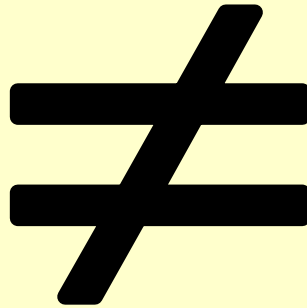
- Current tax expense or benefit.
- Deferred tax expense or benefit
- Investment tax credits.
- Government grants
- Benefits of operating loss carryforwards
- Tax expense resulting from allocating tax benefits
- Adjustments in deferred tax liability or asset
- Adjustments in beginning balance of valuation allowance
- Reconciliation between effective and statutory federal income tax rate

Interest and Taxes

Income Tax Analysis



Taxable Income



**Financial
Statement Income**

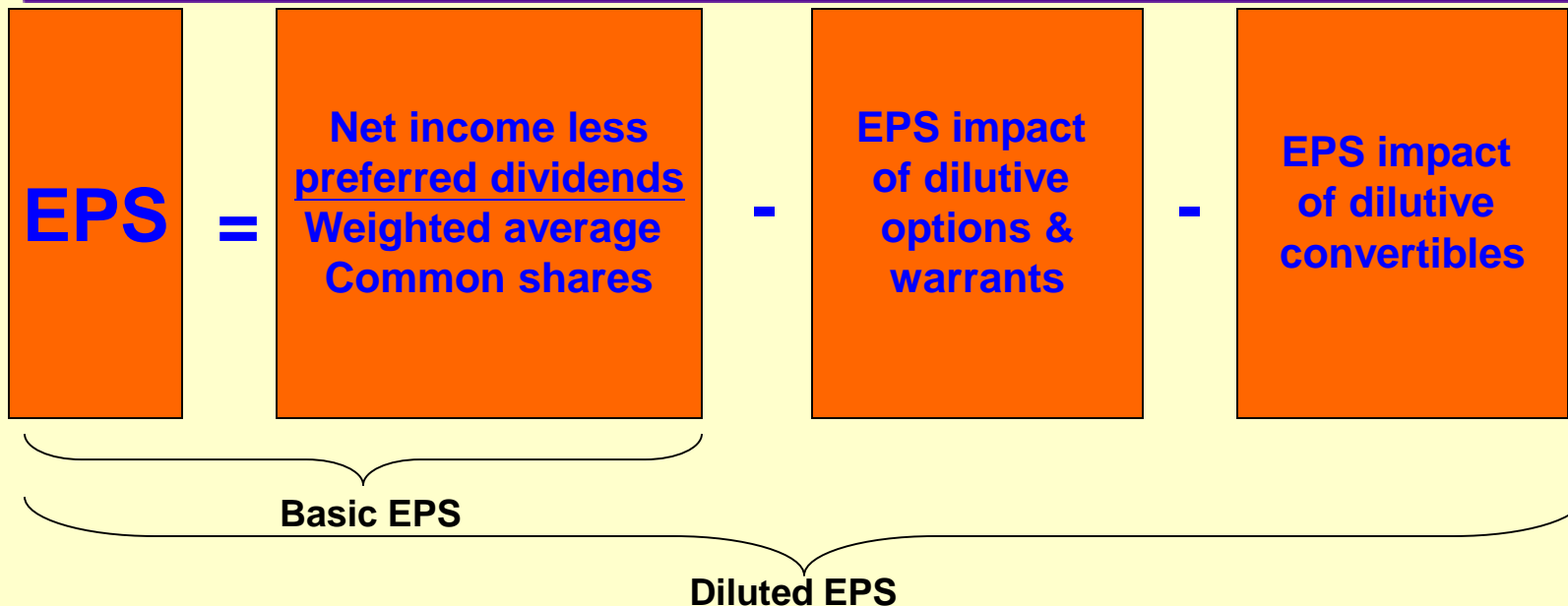
- Tax loss carrybacks yield tax refunds in the loss year and are an asset
- Tax loss carryforwards yield deferred assets
- Tax accounting ignores the time value of money
- Income tax disclosures explain why effective tax differs from statutory tax
- Effective tax rate reconciliation is useful for forecasting
- Components of deferred income tax reveal future cash flow effects

Earnings Per Share - EPS

- Simple Capital Structure

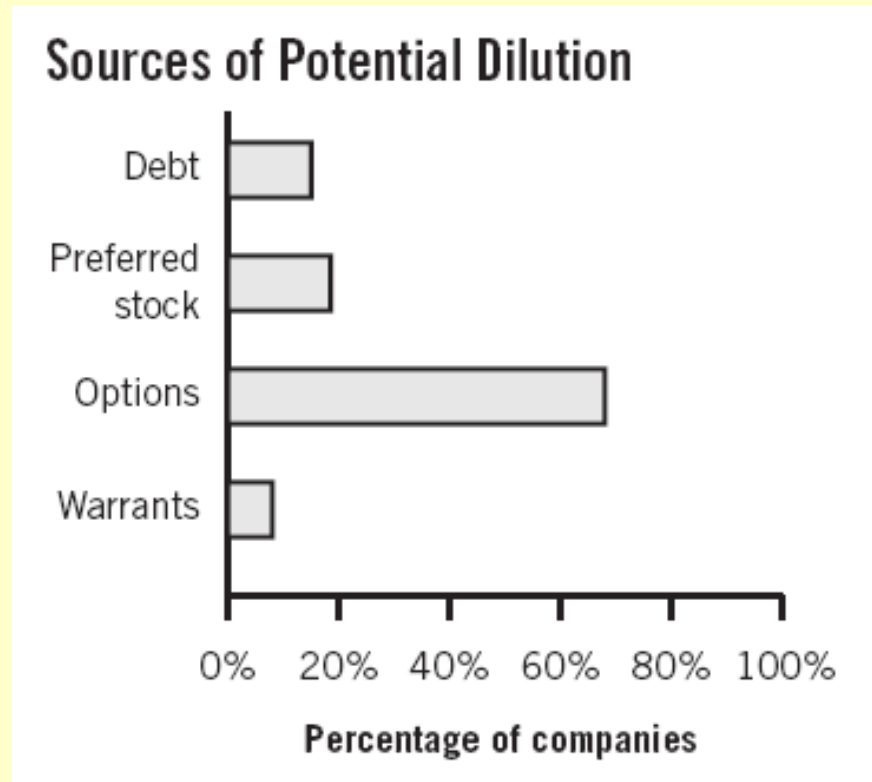
$$\text{Basic EPS} = \frac{\text{Net Income} - \text{Preferred Dividends}}{\text{Weighted-average \# of common shares outstanding}}$$

- Complex Capital Structure



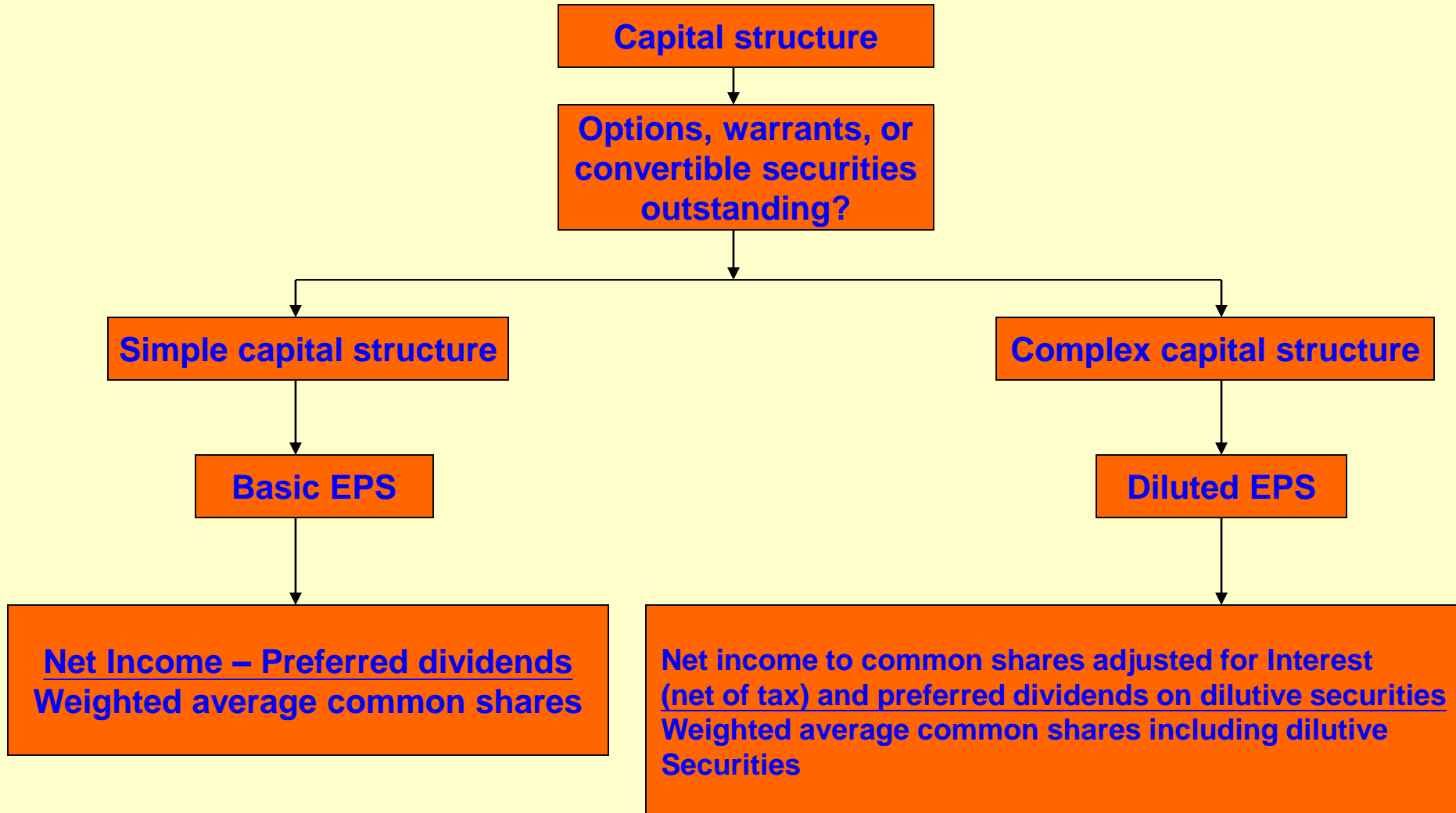
Earnings Per Share - EPS

Sources of Potential Dilution



Earnings Per Share - EPS

Computations



Earnings Per Share - EPS Computations

To illustrate the computation of EPS, consider a company with the following securities outstanding:

- Common Stock: 1,000,000 shares outstanding for the entire year.
- Preferred stock: 500,000 shares outstanding for the entire year.
- Convertible bonds: \$5,000,000 6% bonds, sold at par, convertible into 200,000 shares of common stock
- Employee stock options: options to purchase 100,000 shares at \$30 have been outstanding for the entire year. The average market price of the company's common stock during the year is \$40.
- Net Income: \$3,000,000
- Preferred dividends: \$50,000
- Marginal tax rate: 35%

$$\text{Basic EPS} = \frac{\$3,000,000 - \$50,000}{1,000,000} = \$2.95$$

$$\text{Diluted EPS} = \frac{\$3,000,000 - \$50,000 + [(\$5,000,000 \times 6\%)(1-.35)]}{1,000,000 + 200,000 + 25,000} = \$2.57$$