The Income Statement, Comprehensive Income, and the Statement of Cash Flows

The Income Statement and Comprehensive Income

The broad usefulness of the income statement is to indicate the **Value Added by the operating activities** of the firm over a specific period. (Note: the income statement reports **flows of value** while the balance sheet reports **stocks of value**). Said in another way, the purpose of the income statement is to summarize the profit-generating activities that occurred during a particular reporting period.

Income from Continuing Operations: it includes the revenues, expenses, gains, and losses that will probably continue in future periods.

1. Revenues are inflows of resources resulting from providing goods or services to customers. Expenses are outflows of resources incurred while generating revenue. Gains and losses are increases or decreases in equity from peripheral or incidental transactions of an entity.

2. A distinction often is made between operating and nonoperating income. Operating income includes revenues and expenses directly related to the primary revenue-generating activities of the company. Nonoperating income relates to peripheral or incidental activities of the company.

3. Income tax expense always is shown as a separate expense.

4. A single-step income statement format groups all revenues and gains together and all expenses and losses together (advantage: simplicity).

5. A multiple-step income statement format includes a number of intermediate subtotals before arriving at income from continuing operations (advantage: separately reports operating and nonoperating activities).

Example:

Plano Co. 12/31/2018 Partial Trial Balance Data	Debits	Credits
Sales revenue		700,000
Interest revenue		60,000
Gain on sale of investments		110,000
Cost of goods sold	500,000	
Selling expenses	150,000	
Interest expense	30,000	
General and administrative expenses	100,000	

Plano had 50,000 shares of stock outstanding throughout the year. Income tax expense has not yet been accrued. The effective tax rate is 30%.

Prepare a single-step income statement with earnings per share disclosure.

Plano Co.

Income Statement
For the Year Ended December 31, 2018

Revenues and gains:		
Sales revenue		$700,000
Gain on sale of investments		110,000
Interest revenue		60,000
Total revenues and gains		870,000
Expenses:		
Cost of goods sold	$500,000	
Selling	150,000	
General and administrative	100,000	
Interest expense	30,000	
Total expenses		780,000
Income before income taxes		90,000
Income tax expense		27,000
Net income		$ 63,000
Earnings per share		$1.26

Prepare a multiple-step income statement with earnings per share disclosure.

Plano Co.
Income Statement
For the Year Ended December 31, 2018

Sales revenue		$700,000
Cost of goods sold		500,000
Gross profit		200,000
Operating expenses:		
Selling	$150,000	
General and administrative	100,000	
Total operating expenses		250,000
Operating income (loss)		(50,000)
Other income (expense):		
Gain on sale of investments	110,000	
Interest revenue	60,000	
Interest expense	(30,000)	
Total other income, net		140,000
Income before income taxes		90,000
Income tax expense		27,000
Net income		$ 63,000
Earnings per share		$1.26

6. There are more similarities than differences between income statements prepared according to U.S. GAAP and those prepared applying IFRS.

- International standards require certain minimum information to be reported on the face of the income statement. U.S. GAAP has no minimum requirements.

- International standards allow expenses to be classified either by function (e.g., cost of goods sold, general and administrative, etc), or by natural description (e.g., salaries, rent, etc.). SEC regulations require that expenses be classified by function.

- In the U.S., the "bottom line" of the income statement usually is called either net income or net loss. The descriptive term for the bottom line of the income statement prepared according to international standards is either profit or loss.

Earnings Quality

Earnings quality refers to the ability of reported earnings (income) to predict a company's future earnings.

1. To enhance predictive value, analysts try to separate a company's **temporary earnings** from its **permanent earnings**.

2. Many believe that corporate earnings management practices reduce the quality of earnings. Two major methods used by managers to manipulate income are (1) income smoothing (use accrual estimates to adjust net income within desirable limits) and (2) classification shifting (classify operating expenses as non-operating to increase operating income).

Not all items included in operating income should be considered indicative of a company's permanent earnings.

1. Restructuring costs include costs associated with shutdown or relocation of facilities or downsizing of operations. GAAP requires these costs to be expensed in the period(s) incurred.

2. Asset impairment losses, inventory write-down charges, losses from natural disasters such as earthquakes and floods, and gains and losses from litigation settlements are other operating expenses that call into question the issue of earnings quality.

3. Earnings quality is affected by revenue issues as well (they will be discussed later).

Some nonoperating items have generated considerable discussion with respect to earnings quality, notably gains and losses generated from the sale of assets.

Many companies voluntarily announce non-GAAP earnings when they report quarterly or annual GAAP earnings. Non-GAAP earnings exclude certain expenses and sometimes certain revenues. Non-GAAP earnings are controversial because determining which expenses to exclude is at the discretion of management.

Discontinued Operations

Discontinued operations involve the disposal or planned disposal of a component of an entity.

A component is any part of the company, such as an operating segment or subsidiary, that includes operations and cash flows that can be clearly distinguished, operationally and for financial reporting purposes, from the rest of the company.

1. **Discontinued operations must be reported separately, below income from continuing operations.**

Income from continuing operations before income taxes	XXX
Income tax expense	XX
Income from continuing operations	XXX
Discontinued operations, net of $xx tax (expense)/benefit	XX
Net income	$XXX

2. The objective is to report all of the income effects of a discontinued operation separately. That's why we include the income tax effect in this separate presentation rather than report it as part of income tax expense related to continuing operations. The process of associating income tax effects with the income statement components that create those effects is referred to as **intraperiod tax allocation**.

What constitutes a discontinued operation?

A component or group of components that has been sold or disposed of in some other way, or is considered held for sale is reported as a discontinued operation if the disposal represents a strategic shift that has, or will have, a major effect on a company's operations and financial results.

Reporting discontinued operations

When the component has been sold, the income effects of a discontinued operation includes:

1. Operating income or loss (revenues, expenses, gains and losses) of the component from the beginning of the reporting period to the disposal date.

2. Gain or loss on disposal.

When the component is considered held for sale, the income effects of a discontinued operation include:

1. Operating income or loss (revenues, expenses, gains and losses) of the component from the beginning of the reporting period to the end of the reporting period.

2. An "impairment loss" if the book value, sometimes called carrying value or carrying amount, of the assets of the component is more than fair value minus cost to sell.

The **assets and liabilities** of a component considered held for sale are reported separately in the balance sheet at the **lower of their book value or fair value minus cost to sell**.

Example: On September 1, 2018, Jacob Furniture Mart enters into a tentative agreement to sell the assets of its office equipment division. This division qualifies as a component of the entity according to GAAP regarding discontinued operations. The division's contribution to Jacob's operating income for 2018 was a $3 million loss before taxes. Jacob has an average tax rate of 30%.

Consider independently the appropriate accounting by Jacob under the three scenarios below.

Scenario 1: Assume that Jacob sold the division's assets on December 31, 2018, for $24 million. The book value of the division's assets was $19 million at that date. Under these assumptions, what would Jacob report in its 2018 income statement regarding the office equipment division? Explain where this information would be presented.

Answer: Jacob would report $1.4 million gain ($5,000,000 – $3,000,000 = $2,000,000. $2,000,000 net of $600,000 in taxes = $1,400,000) as income from discontinued operations. This income would be reported as a separate item between income from continuing operations and net income in Jacob's income statement.

Income from continuing operations		$xxxxxx
Discontinued operations:		
Loss from operations of discontinued component		
(including gain on disposal of $5,000,000)	$2,000,000	
Income tax expense	(600,000)	
Gain on discontinued operations		1,400,000
Net income		$XXXX

Scenario 2: Assume that Jacob had not yet sold the division's assets by the end of 2018. Further, assume that the fair value less costs to sell of the division's assets at December 31, 2018, was $24 million and was expected to remain the same when the assets are sold in 2019. The book value of the division's assets was $19 million at the end of 2018. Under these assumptions, what would Jacob report in its 2018 income statement regarding the office equipment division? Explain where this information would be presented.

Answer: Jacob would report $2.1 million loss ($3,000,000 operating loss net of $900,000 in tax benefit) from discontinued operations. This loss would be reported as a separate item between income from continuing operations and net income in Jacob's income statement. **The gain on sale of the division's assets would not be recorded until realized in 2019 (conservatism).**

Income from continuing operations		$xxxxxx
Discontinued operations:		

Loss from operations of discontinued component	$(3,000,000)	
Income tax benefit	900,000	
Loss on discontinued operations		(2,100,000)
Net income		$XXXXX

Scenario 3: Assume that Jacob had not yet sold the office furniture division by the end of 2018. Further, assume that the fair value less costs to sell of the division's assets at December 31, 2018, was $12 million and was expected to remain the same when the assets are sold in 2019. The book value of the division's assets was $19 million at the end of 2018. Under these assumptions, what would Jacob report in its 2018 income statement regarding the office equipment division? Explain where this information would be presented.

Answer: Jacob would report a $7.0 million loss ($3,000,000 operating loss + $7,000,000 impairment loss [12,000,000-19,000,000] = $10,000,000. $10,000,000 net of $3.0 million in tax benefit = $7,000,000) from discontinued operations. The loss represents the total of the predisposal loss from operating the division ($3 million) and the impairment of the division's assets ($7 million) which will be sold in 2019. This $7.0 million net-of-tax loss ($10 million × [1 – .30]) would be reported as a separate item between income from continuing operations and net income in Jacob's income statement.

Income from continuing operations		$xxxxxx
Discontinued operations:		
Loss from operations of discontinued component (including impairment loss of $7,000,000)	$(10,000,000)	
Income tax benefit	3,000,000	
Loss on discontinued operations		(7,000,000)
Net income		$XXXX

Accounting Changes

Accounting changes fall into one of three categories: (1) a change in an accounting principle, (2) a change in estimate, or (3) a change in reporting entity.

Sometimes the FASB requires (mandates) a change in accounting principle. These changes in accounting principles potentially hamper the ability of external users to compare financial information among reporting periods because information lacks consistency. The changes are accounted for in various ways:

1. Retrospective approach. The new standard is applied to all periods presented in the financial statements as if the new accounting method had been used in those prior periods.

2. Modified retrospective approach. The new standard is applied to the adoption period only, and prior period financial statements are not restated.

3. Prospective approach. No modification is made to prior period financial statements. Instead, the change is simply implemented in the current period and all future periods.

Sometimes companies voluntarily change accounting principles. These changes usually are accounted for retrospectively.

A change in depreciation, amortization, or depletion method is considered to be a change in accounting estimate that is achieved by a change in accounting principle. These changes are accounted for prospectively, exactly as we would account for any other change in estimate.

A change in accounting estimate is reflected in the financial statements of the current period and future periods.

Correction of Accounting Errors

Errors discovered in the same year they are made are simply corrected by journal entry.

Treatment of errors discovered in a year subsequent to the year the error is made depends on whether the error is material.

1. If the error is not material, it is simply corrected in the year discovered.

2. If the error is material, the correction is considered a prior period adjustment, which requires an addition to or reduction in beginning retained earnings and a restatement of previous years' financial statements.

Earnings per Share

Earnings per share (EPS) is the amount of income reported during a period for each share of common stock outstanding.

All corporations whose common stock is publicly traded must disclose EPS.

Basic EPS is calculated as net income (less any dividends to preferred shareholders) divided by weighted common shares outstanding for the year.

Diluted EPS accounts for the dilution effect (reduction) in EPS for the potential increase in common shares outstanding because the company has other instruments that could be converted into common shares or the company has stock options outstanding that could be exercised.

The EPS for (a) income from continuing operations, (b) discontinued operations, and (3) net income must be disclosed.

Comprehensive Income

Comprehensive income is the total change in equity for a reporting period other than that from transactions with owners. That is:

Stockholder Equity ending balance = Stockholder Equity beginning balance + Comprehensive income –Dividend payments + Capital contributions – Stock repurchases (1)

Rewrite (1):

Stockholder Equity ending balance - Stockholder Equity beginning balance + Dividend payments - Capital contributions + Stock repurchases = Comprehensive income (2)

Since, Comprehensive income = Net income + Other comprehensive income (3)

Then, putting (3) into (1) we have:

Stockholder Equity ending balance = Stockholder Equity beginning balance + Net income + Other comprehensive income –Dividend payments + Capital contributions – Stock repurchases (4)

Net income is reflected in the stockholder equity account of Retained Earnings.

Other Comprehensive Income (OCI) is reflected in the stockholder equity account of Accumulated Other Comprehensive Income (AOCI).

The information in the income statement and other comprehensive income items can be presented either (1) in a single, continuous statement of comprehensive income or (2) in two separate but consecutive statements, an income statement and a statement of comprehensive income.

Both U.S. GAAP and IFRS allow companies to report comprehensive income in either a single statement of comprehensive income or in two separate statements.

Example: The trial balance of Kroeger Inc. included the following accounts as of December 31, 2018:

	Debits	Credits
Sales revenue		8,200,000
Interest revenue		60,000
Gain on sale of investments		120,000
Unrealized gains on investments		140,000
Foreign currency translation adjustment	160,000	
Cost of goods sold	6,100,000	
Selling expenses	600,000	
Goodwill impairment loss	500,000	
Interest expense	30,000	
General and administrative expenses	500,000	

Kroeger had 300,000 shares of stock outstanding throughout the year. Income tax expense has not yet been accrued. The effective tax rate is 40%.

Prepare a 2018 multiple-step income statement for Kroeger Inc. with earnings per share disclosure.

Kroeger Inc.

Income Statement
For the Year Ended December 31, 2018

Sales revenue		$8,200,000
Cost of goods sold		6,100,000
Gross profit		2,100,000
Operating expenses:		
Selling	$600,000	
General and administrative	500,000	
Goodwill impairment loss	500,000	
Total operating expenses		1,600,000
Operating income		500,000
Other income (expense):		
Gain on sale of investments	120,000	
Interest revenue	60,000	
Interest expense	(30,000)	
Total other income, net		150,000
Income before income taxes		650,000
Income tax expense		260,000
Net income		$ 390,000
Earnings per share		$1.30

Prepare a 2018 separate statement of comprehensive income for Kroeger Inc.

Kroeger Inc.
Statement of Comprehensive Income
For the Year Ended December 31, 2018

Net income		$390,000
Other comprehensive income:		
Unrealized gains on investments, net of tax	84,000	
Foreign currency translation adjustment, net of tax	(96,000)	
Total other comprehensive loss		(12,000)
Comprehensive income		$378,000

Prepare a 2018 single, continuous statement of comprehensive income for Kroeger Inc. Use a multiple-step income statement format.

Kroeger Inc.
Statement of Comprehensive Income
For the Year Ended December 31, 2018

Sales revenue	$8,200,000

Cost of goods sold		6,100,000
Gross profit		2,100,000
Operating expenses:		
Selling	$600,000	
General and administrative	500,000	
Goodwill impairment loss	500,000	
Total operating expenses		1,600,000
Operating income		500,000
Other income (expense):		
Gain on sale of investments	120,000	
Interest revenue	60,000	
Interest expense	(30,000)	
Total other income, net		150,000
Income before income taxes		650,000
Income tax expense		260,000
Net income		390,000
Other comprehensive income:		
Unrealized gains on investments, net of tax	84,000	
Foreign currency translation adjustment, net of tax	(96,000)	
Total other comprehensive loss		(12,000)
Comprehensive income		$378,000
Earnings per share		$1.30

The Statement of Cash Flows

The purpose of the statement of cash flows (SCF) is to provide information about cash receipts and cash disbursements that occurred during a period (it reports **flows of value**). A SCF is presented for each period in which results of operations are provided.

Classifying Cash Flows

A. The SCF classifies all transactions affecting cash into one of three categories:

1. Operating activities are inflows and outflows of cash related to the transactions entering into the determination of net operating income, other than those involving investing or financing activities. There are two approaches to calculating operating activities:

   a. The direct method

   b. The indirect method

2. Investing activities involve the acquisition and sale of (1) long-term assets used in the business and (2) nonoperating investment assets.

3. Financing activities involve cash inflows and outflows from transactions with creditors (excluding trade creditors) and owners.

B. Significant investing and financing transactions not involving cash also are reported.

C. The classification of certain cash flows differs between U.S. GAAP and international accounting standards.

Profitability Analysis

Activity ratios measure a company's efficiency in managing its assets.

A. The asset turnover ratio measures a company's efficiency in using assets to generate revenue and is calculated by dividing a company's net sales or revenues by the average total assets available for use during the period. **Asset turnover ratio = Net sales / Average total assets.**

B. The receivables turnover ratio offers an indication of how quickly a company is able to collect its accounts receivable. **Receivables turnover ratio = Net credit sales / Average net accounts receivable**.

An extension of this ratio is the average collection period, which is computed by dividing 365 days by the receivables turnover ratio. **Average collection period = 365 / Receivables turnover ratio.**

C. The inventory turnover ratio measures a company's efficiency in managing its investment in inventory. **Inventory turnover ratio = Cost of goods sold / Average inventory balance.**

An extension of this ratio is the average days in inventory, which is computed by dividing 365 days by the inventory turnover ratio. **Average days in inventory = 365 / Inventory turnover ratio.**

Profitability Ratios assist in evaluating various aspects of a company's profit-making activities.

A. The profit margin on sales measures the amount of net income achieved per sales dollar and is computed by dividing net income by net sales. **Profit margin on sales = Net income / Net sales.**

B. The return on assets (ROA) indicates a company's overall profitability and is calculated by dividing net income by average total assets. **Return on assets = Net income / Average total assets.**

Also, Return on assets = Profit margin on sales x Asset turnover =

(**Net income / Net sales) x (Net sales / Average total assets).**

C. The return on shareholders' equity (ROE) measures the return to suppliers of equity capital. It is calculated by dividing net income by average shareholders' equity.

Return on shareholders' equity = Net income / Average shareholders' equity.

The DuPont framework helps identify how profitability, activity, and financial leverage trade off to determine return to shareholders.

Return on shareholders' equity = Profit margin on sales x Asset turnover x Equity multiplier = (Net income / Net sales) x (Net sales / Average total assets) x (Average total assets / Average total equity).

The equity multiplier is also called financial leverage multiplier because it helps increase (lever) return on shareholders' equity by borrowing (the higher the ratio [Average total assets / Average total equity], the higher the liabilities of the firm and the higher the return on shareholders' equity.

Example 1: The following information (in $ millions) comes from the Annual Report of Saratoga Springs Co. for the year ending 12/31/2018:

	Year ended 12/31/2018
Net sales	7,949
Cost of goods sold	4,767
Sales, general & administrative	1,909
Interest expense	416
Income before tax	857
Net income	458

	12/31/2018	12/31/2017
Cash and cash equivalents	975	64
Receivables, net	1,010	664
Inventories	1,055	519
Land, buildings and equipment at cost, net	13,500	3,844
Total assets	16,540	5,091
Total current liabilities	5,747	2,209
Long-term debt	5,591	2,221
Total liabilities	11,338	4,430
Total stockholders' equity	5,202	661

Compute the following amounts for Saratoga Springs Co.

1. Its profit margin on sales for 2018.

Its profit margin on sales for the year = 458/7,949 = 5.8%.

2. Its receivables turnover ratio for 2018.

Its receivables turnover ratio for the year = 7,949/[(1,010 + 664)/2] = 9.5.

3. Its inventory turnover ratio for 2018.

Its inventory turnover ratio for the year = 4,767/[(1,055 + 519)/2] = 6.1.

4. Its asset turnover ratio for 2018.

Its asset turnover ratio for the year = 7,949/[(16,540 + 5,091)/2] = 0.73.

5. Its average collection period for 2018.

Its average collection period for the year = 365/9.5 = 38.4 days.

6. Its average days in inventory for 2018.

Its average days in inventory for the year = 365/6.1 = 59.8 days.

7. Its return on assets for 2018.

Its return on assets for the year = 458/[(16,540 + 5,091)/2] = 4.2%.

8. Its return on stockholders' equity for 2018.

Its return on stockholders' equity for the year = 458/[(5,202 + 661)/2] = 15.6%.

Example 2: The following information is provided in the 2018 annual report to shareholders of The BizStore:

	December 31, 2018	December 31, 2017
Accounts receivable	(Y)	$6 million
Inventory	$25 million	$20 million
Total assets	$250 million	(X)

Total stockholders' equity	(W)	$130 million
Net sales	$115 million	
Cost of Goods Sold	(Z)	
Net income	(U)	
Average collection period	22.2 days	
Average days in inventory	104 days	
Equity multiplier	1.9	
Return on stockholders' equity	16.0%	
Profit margin on sales	17.4%	
ROA	(V)	

Compute items U—Z in the table above.

U: Profit margin = NI / sales, so NI = (Profit margin) x (Sales) = (.174)(115) = $20.

V: ROE = ROA x Equity multiplier, so ROA = ROE / Equity multiplier = 0.16/1.9 = 8.4%

W: ROE = 16% = Net income / Avg. equity = 20 / {[w + 130]/2}; w = 120.

X: ROA = NI / Avg. assets, so 8.4% = 20/ {[250 + x]/2}. So x = 226.

Y: Average collection period = 22.2 days = 365 / AR turnover = 365 / (Sales / Avg. AR). 22.2 = 365 / (115 / {[y + 6] / 2}); y = 8.

Z: Average days in inventory = 104 days = 365 / Inventory turnover = 365 / (COGS / Avg. inventory). 104 = 365 / (z / {[25 + 20]/2}); COGS = 79.

Appendix 4: Interim Reporting

A. Interim reports are issued for periods of less than a year, typically as quarterly financial statements.

B. With only a few exceptions, the same accounting principles applicable to annual reporting are used for interim reporting.

C. Complete financial statements are not required for interim reporting, but certain minimum disclosures are required:

1. Sales, income taxes, and net income.

2 Earnings per share.

3 Seasonal revenues, costs, and expenses.

4. Significant changes in estimates for income taxes.

5. Discontinued operations and unusual items.

6. Contingencies.

7. Changes in accounting principles or estimates.

8. Information about fair value of financial instruments and the methods and assumptions used to estimate fair values.

9. Significant changes in financial position.

For homework work on E4-4, E4-8, E4-12, E4-24, E4-27, E4-28, P4-4, P4-5, P4-13