

FINANCIAL STATEMENT ANALYSIS & VALUATION

EASTON

McANALLY

5e

SOMMERS

ZHANG



MODULE 2

Review of Business Activities and Financial Statements

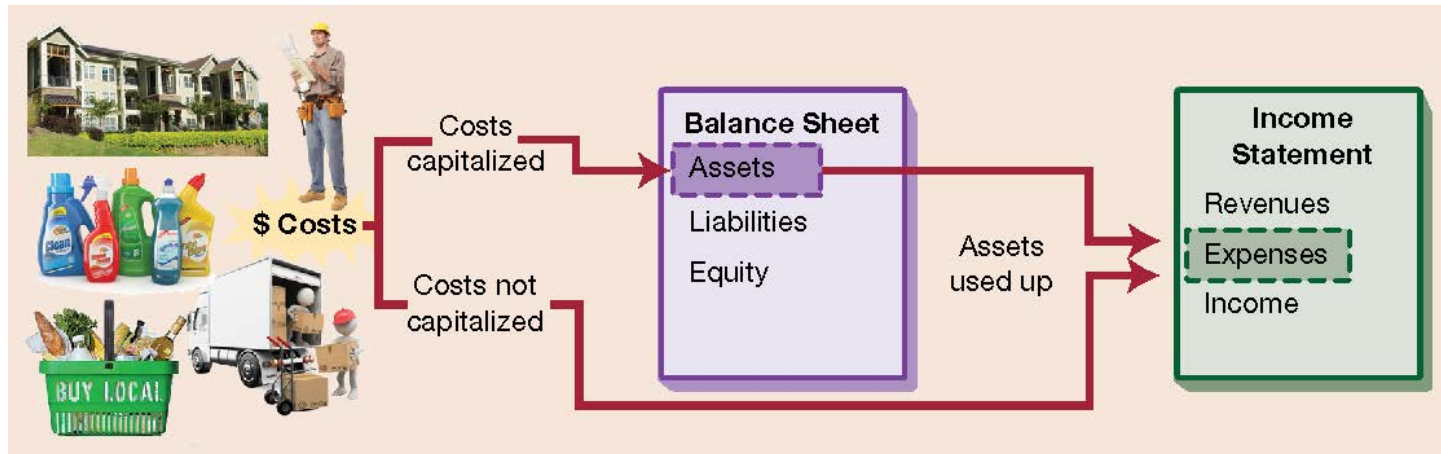
Learning Objective 1

Examine and interpret
a balance sheet.

Balance Sheet Format

- The balance sheet is divided into three sections.
 - **Assets**
 - **Liabilities**
 - **Stockholders' equity**
- It reports the assets, liabilities, and equity at a **point in time**.
- Balance sheet accounts are called **permanent accounts** in that they carry over from period to period.

Flow of Costs



- When a cost creates an **immediate benefit**, we record the cost in the income statement as an **expense**.
- When a cost creates a **future economic benefit**, we record it on the balance sheet as an **asset**.
- When an **asset is used** up, the asset's cost is transferred from the balance sheet to the income statement, where it is recognized as an **expense**.

Assets

- An **asset** must possess **two characteristics** to be reported on the balance sheet.
 1. It must be **owned** (or controlled) by the company.
 2. It must confer expected **future economic benefits** that result from a past transaction or event.

Apple's Balance Sheet

APPLE INC. Balance Sheet September 26, 2015

Assets

Current assets

Cash and cash equivalents	\$ 21,120
Short-term marketable securities	20,481
Accounts receivable, net	16,849
Inventories	2,349
Other current assets	28,579
Total current assets	89,378

Current
Assets

Assets used up or
converted to cash
within one year

Long-term assets

Property, plant, and equipment, net.	22,471
Other long-term assets	178,630*
Total assets.	\$290,479

Long-Term
Assets

Assets used up or
converted to cash
over more than
one year

*Includes \$164,065 million of long-term marketable securities

Current Assets

- **Cash**—currency, bank deposits, and investments with an original maturity of 90 days or less (called *cash equivalents*).
- **Short-term investments**—marketable securities and other investments the company expects to dispose of in the short run.
- **Accounts receivable, net**—amounts due to the company from customers arising from the sale of products and services on credit (“net” refers to the subtraction of uncollectible accounts).
- **Inventories**—goods purchased or produced for sale to customers.
- **Prepaid expenses**—costs paid in advance for rent, insurance, advertising, and other services.

Long-Term Assets

- **Property, plant, and equipment (PPE), net**—land, buildings, and equipment (“net” refers to the subtraction of accumulated depreciation).
- **Long-term investments**—investments the company does not intend to sell in the near future.
- **Intangible and other assets**—assets without physical substance (such patents, trademarks, franchise rights, and goodwill).

Measuring Assets

- Most assets are reported at their original acquisition costs, or **historical costs**, and not at their current market values.
 - If a company cannot value an asset with relative certainty, it does not recognize an asset on the balance sheet.
 - This means that sizable “assets” are *not* reflected on a balance sheet.
 - Excluded intangible assets often relate to *knowledge-based* (intellectual) assets, such as a strong management team, a well-designed supply chain, or superior technology.

Liabilities and Equity

- **Liabilities** represent a company's future economic sacrifices.
 - Liabilities are borrowed funds (such as accounts payable and obligations to lenders).
 - They can be interest-bearing or non-interest-bearing.
- **Stockholders' equity** represents capital that has been invested by the stockholders, either
 - **Directly** via the purchase of stock, or
 - **Indirectly** in the form of **retained earnings** that reflect earnings that are reinvested in the business and not paid out as dividends.

Apple's Liabilities and Equity

APPLE INC. Balance Sheet September 26, 2015

Liabilities and Shareholders' Equity		
Liabilities	Current liabilities	
	Accounts payable	\$ 35,490
	Accrued expenses (liabilities).	25,181
	Other current liabilities.	19,939
	Total current liabilities	80,610
	Long-term liabilities	90,514
	Total liabilities.	171,124
Shareholders' Equity	Shareholders' equity	
	Common stock and additional paid-in capital, \$0.00001 par value: 12,600,000,000 shares authorized; 5,578,753,000 shares issued and outstanding.	27,416
	Retained earnings	92,284
	Other shareholders' equity.	(345)
	Total shareholders' equity	119,355
	Total liabilities and shareholders' equity	\$290,479

Liabilities
requiring
payment within
one year

Liabilities
not requiring
payment within
one year

Current Liabilities

- **Accounts payable**—amounts owed to suppliers for goods and services purchased on credit.
- **Accrued liabilities**—obligations for expenses that have been incurred but not yet paid (i.e., wages earned by employees but not yet paid).
- **Unearned revenues**—obligations created when the company accepts payment in advance for goods or services it will deliver in the future.
- **Short-term notes payable**—short-term debt payable to banks or other creditors.
- **Current maturities of long-term debt**—principal portion of long-term debt that is due to be paid within one year.

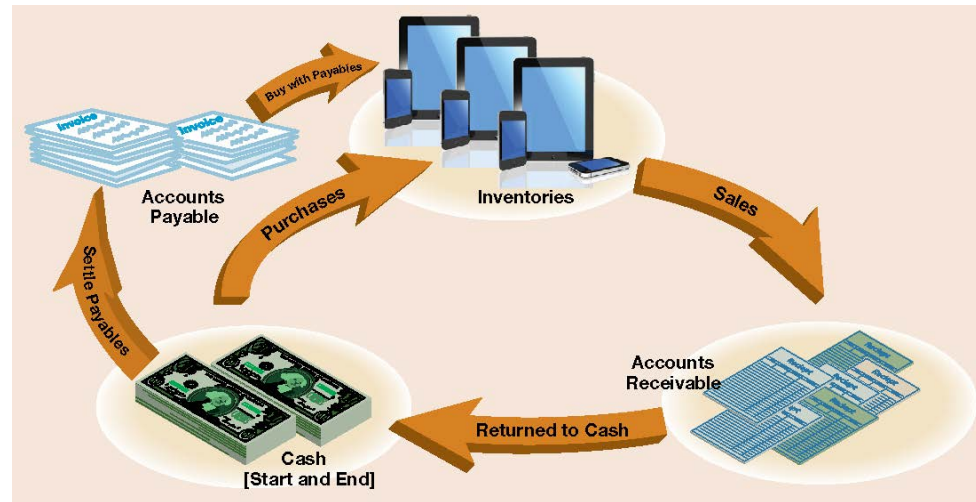
Net Working Capital

- **Net working capital**, or simply working capital, reflects the difference between current assets and current liabilities and is defined as follows.

$$\text{Net working capital} = \text{Current assets} - \text{Current liabilities}$$

- The net working capital required to conduct business depends on the company's **operating (or cash) cycle**, which is the time between paying cash for goods and receiving cash from customers.

Cash Operating Cycle



- Companies use cash and supplier credit to purchase or manufacture inventories held for resale.
- Inventories are sold either for cash or on credit (accounts receivable).
- When receivables are collected, a portion of the cash received is used to repay accounts payable, and the remainder goes to the cash account for the next operating cycle.
- Our goal is to shorten the cash cycle.

Cash Operating Cycle for Apple and 3M

Numbers in Days	Apple Inc.	3M Company
Average Days Sales Outstanding	26.7 days	50.6 days
+ Average Days Inventory Outstanding	5.8 days	85.9 days
– <u>Average Days Payable Outstanding</u>	<u>85.2 days</u>	<u>42.2 days</u>
= Average Cash Conversion Cycle	(52.7) days	94.3 days

- The negative cash cycle for Apple implies that it can invest the cash it receives from sales for 52.7 days before making payment to suppliers.
- 3M is a more typical cash operating cycle.

Noncurrent Liabilities

- **Long-term debt**—amounts borrowed from creditors that are scheduled to be repaid **more than one year** in the future.
 - Long-term debt includes bonds, mortgages, and other long-term loans.
- **Other long-term liabilities**—like pension liabilities and long-term tax liabilities, that will be settled a year or more into the future.

Stockholders' Equity

— Contributed Capital —

- **Common stock**—par value received from the original sale of common stock to investors.
- **Additional paid-in capital**—amounts received from the original sale of stock to investors in excess of the par value of stock.
- **Preferred stock**—value received from the original sale of preferred stock to investors.
- **Treasury stock**—amount the company paid to reacquire its common stock from shareholders.

Stockholders' Equity

— Earned Capital —

- **Retained earnings**—accumulated net income (profit) that has not been distributed to stockholders as dividends.

$$\begin{array}{r} \text{Beginning retained earnings} \\ + \text{Net income (or } - \text{ Net loss)} \\ - \text{Dividends} \\ \hline = \text{Ending retained earnings} \end{array}$$

- **Accumulated other comprehensive income or loss**—accumulated changes in asset and liability fair values that are not reported in the income statement.

Market Value vs. Book Value

- **Stockholders' equity** is the “value” of the company determined by generally accepted accounting principles (GAAP) and is commonly referred to as the company's **book value**.
- **Market value** is computed by multiplying the number of outstanding common shares by the company's stock price.
- Book value and market value can differ for several reasons.
 - GAAP generally reports assets and liabilities at **historical costs**, whereas the market attempts to estimate fair market values.
 - GAAP excludes resources that cannot be **reliably measured**.
 - GAAP does not consider **market differences** in which companies operate.
 - GAAP does not usually report **expected future performance**.
- For U.S. companies, median book value is about one-half of market value (yielding a 2.0 market-to-book ratio).

Learning Objective 2

Examine and interpret
an income statement.

Income Statement

- The income statement reports **revenues** earned during a period, the **expenses** incurred to produce those revenues, and the resulting **net income** or loss.
- The general structure of the income statement follows.

	Revenues
—	Cost of goods sold
	Gross profit
—	Operating expenses
	Operating profit
—	Nonoperating expenses (+ Nonoperating revenues)
—	Income tax expense
	Income from continuing operations
+ / —	Discontinued operations, net of tax
=	Net income

Income Statement

— Apple —

APPLE INC. Income Statement For Year Ended September 26, 2015	
Net sales.	\$233,715
Cost of sales.	<u>140,089</u>
Gross margin	93,626
Operating expenses	
Research and development	8,067
Selling, general, and administrative	<u>14,329</u>
Total operating expenses	<u>22,396</u>
Operating income.	71,230
Other income, net.	<u>1,285</u>
Income before provision for income taxes	72,515
Provision for income taxes.	<u>19,121</u>
Net income.	<u><u>\$ 53,394</u></u>

- **Operating expenses** are the usual and customary costs a company incurs to support its operating activities.
- **Nonoperating expenses** relate to the company's financing and investing activities.

Recognizing Revenues and Expenses

- **Revenue recognition principle**—recognize revenues for goods and services provided to customers at an amount expected to be received.
 - Recognizing revenues does not necessarily imply the receipt of cash.
 - Revenue is recognized when the company has done what it is obligated to do under the sales contract.
- **Expense recognition (matching) principle**—recognize expenses when **incurred**.
 - Companies recognize an expense when it is incurred, even if no cash is paid.
- These two principles are the foundation of **accrual accounting**.

Discontinued Operations

- **Discontinued operations** has two components:
 1. The net income (loss) from the segment's business activities prior to sale, and
 2. Any gain or loss on the actual sale of the business.

Sales	
– Cost of goods sold	
Gross profit	
– Operating expenses	
– Nonoperating expenses (+ Nonoperating revenues)	
– Tax expense	← Tax expense applies to income from continuing operations
Income from continuing operations	
± Discontinued operations, net of tax	← Transitory items are those not expected to recur
Net income	

- To be classified as a discontinued operation, the disposal of the business unit must represent a **strategic shift** that has, or will have, a **major effect** on the company's financial results.

Analyzing the Income Statement

- **Gross profit margin** (Gross profit/Sales)
 - The **gross profit margin** is influenced by both the selling price of the company's products and the cost to make or buy those products.
- **Margins for operating expenses** (Operating expense/Sales)
 - Analysis of operating expenses focuses on each expense category reported by the company as a percentage of sales over time and compared with peer companies.

Learning Objective 3

Examine and interpret
a statement of stockholders' equity.

Statement of Stockholders' Equity

- The **statement of stockholders' equity** reconciles the beginning and ending balances of stockholders' equity accounts.
- **Common stock and additional paid-in capital** increase by the proceeds from the sale of stock.
- **Retained earnings** increase by the net income reported in the income statement and decrease by the dividends to shareholders.
- **Accumulated other comprehensive income** increases and decreases by changes in asset and liability fair values that are not reported in the income statement.

Statement of Stockholders' Equity

— Apple —

APPLE INC. Statement of Shareholders' Equity For Year Ended September 26, 2015				
	Common Stock and Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Equity
September 27, 2014.....	\$23,313	\$87,152	\$1,082	\$111,547
Stock issuance, net	3,355			3,355
Net income		53,394		53,394
Dividends		(11,627)		(11,627)
Other	<u>748</u>	<u>(36,635)</u>	<u>(1,427)</u>	<u>(37,314)</u>
September 26, 2015.....	<u>\$27,416</u>	<u>\$92,284</u>	<u>\$ (345)</u>	<u>\$119,355</u>

Learning Objective 4

Describe a statement of cash flows.

Statement of Cash Flows

- The **income statement** provides information about the economic viability of the company's products and services.
- The **statement of cash flows** provides information about the company's ability to generate cash from those same transactions.

Statement of Cash Flows Format

- **Cash flows from operating activities**
 - Cash flows from the company's transactions and events that relate to its operations.
- **Cash flows from investing activities**
 - Cash flows from acquisitions and divestitures of investments and long-term assets.
- **Cash flows from financing activities**
 - Cash flows from issuances of and payments toward borrowings and equity.

Statement of Cash Flows

— Apple —

APPLE INC.
Statement of Cash Flows
For Year Ended September 26, 2015

Cash generated by operating activities	\$81,266
Cash used in investing activities	(56,274)
Cash used in financing activities	<u>(17,716)</u>
Net change in cash.	7,276
Cash balance, September 27, 2014.	<u>13,844</u>
Cash balance, September 26, 2015.	<u><u>\$21,120</u></u>

Learning Objective 5

Apply linkages among
the four financial statements.

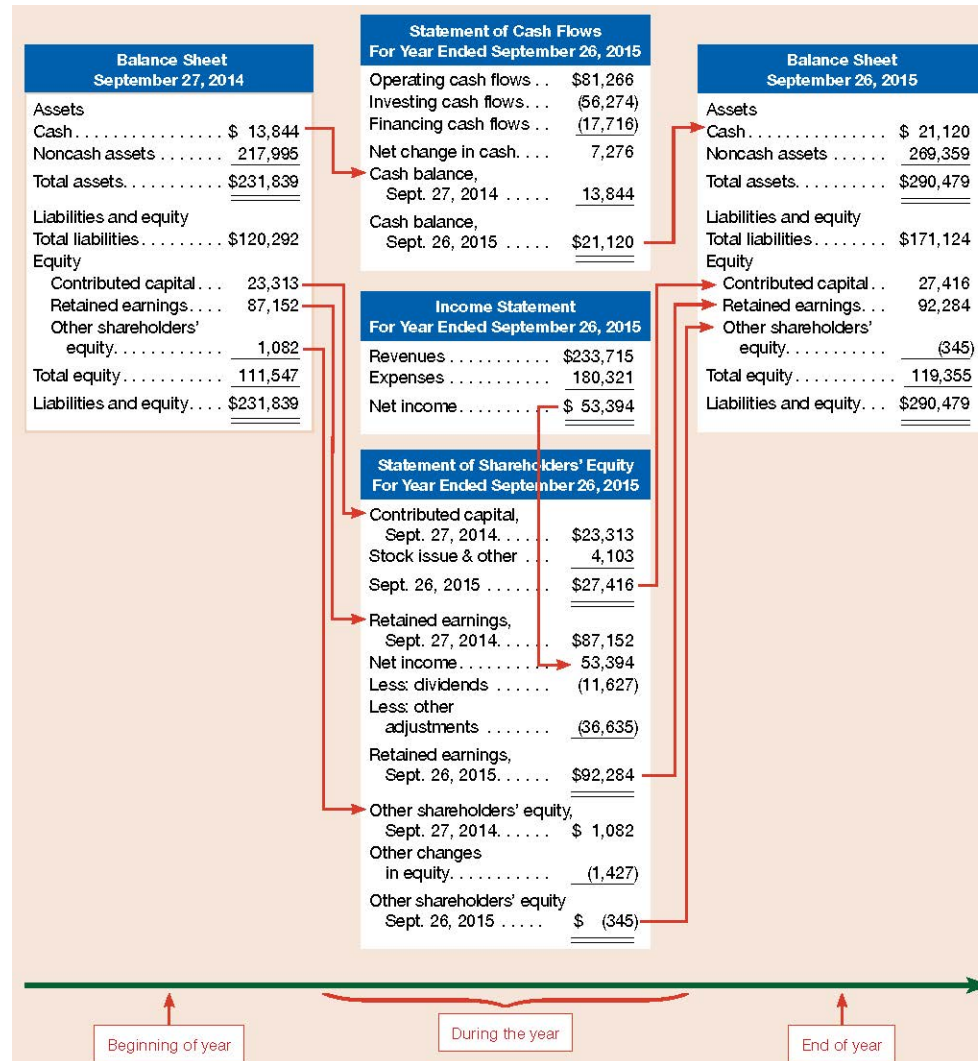
Retained Earnings Reconciliation

Beginning retained earnings
± Net income (loss)
– Dividends
= Ending retained earnings

APPLE INC. Retained Earnings Reconciliation For Year Ended September 26, 2015

Retained earnings, September 27, 2014	\$87,152
Add: Net income	53,394
Less: Dividends	(11,627)
Other adjustments	<u>(36,635)</u>
Retained earnings, September 26, 2015	<u><u>\$92,284</u></u>

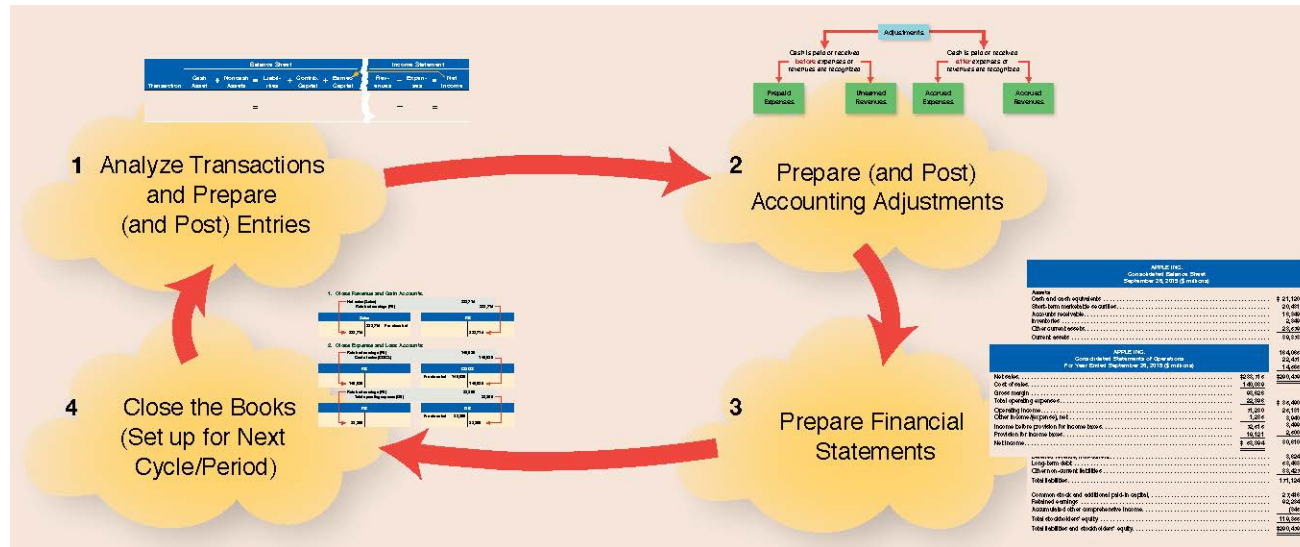
Apple's Financial Statement Linkages



Learning Objective 6

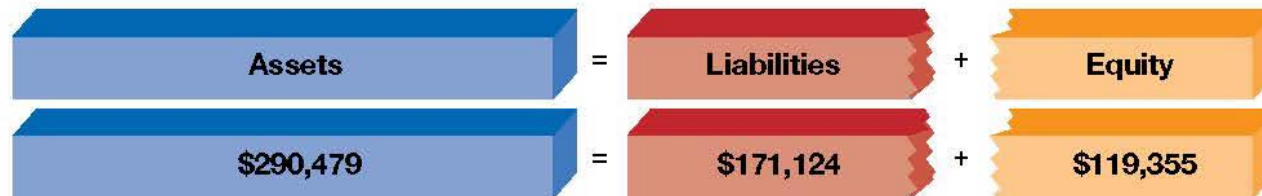
Explain the accounting cycle and apply the financial statement effects template to analyze accounting transactions.

Accounting Cycle



- **Step 1** Record transactions in the accounting records.
- **Step 2** Prepare accounting adjustments.
- **Step 3** Prepare financial statements.
- **Step 4** Close the books in anticipation of the start of a new accounting cycle.

Financial Statement Effects Template



Balance Sheet						Income Statement		
Transaction	Cash Asset	+	Noncash Assets	=	Liabilities + Contrib. Capital + Earned Capital	Revenues	-	Expenses = Net Income
				=			-	=

- The **template** captures the transaction and its effects on the four financial statements:
 - Balance sheet
 - Income statement
 - Statement of stockholders' equity
 - Statement of cash flows

T-Accounts

Assets		=	Liabilities		+	Equity	
+	–		–	+		–	+
Increases	Decreases		Decreases	Increases		Decreases	Increases
Normal bal.				Normal bal.			Normal bal.

- The **T-account** is used to reflect increases and decreases to individual accounts.
- A T-account provides a simple illustration of the financial effects of each transaction.
 - The left side of an **asset** T-account records increases in the asset and the right side records decreases.
 - The right side of a **liability** and an equity T-account records increases and the left side records decreases.

Journal Entries

- **Journal entries** also capture the effects of transactions.
- Journal entries reflect increases and decreases to accounts using the language of debits and credits.
- **Debits** and **credits** simply refer to the left or right side of a T-account, respectively.

Account Title	
Debit (Left side)	Credit (Right side)

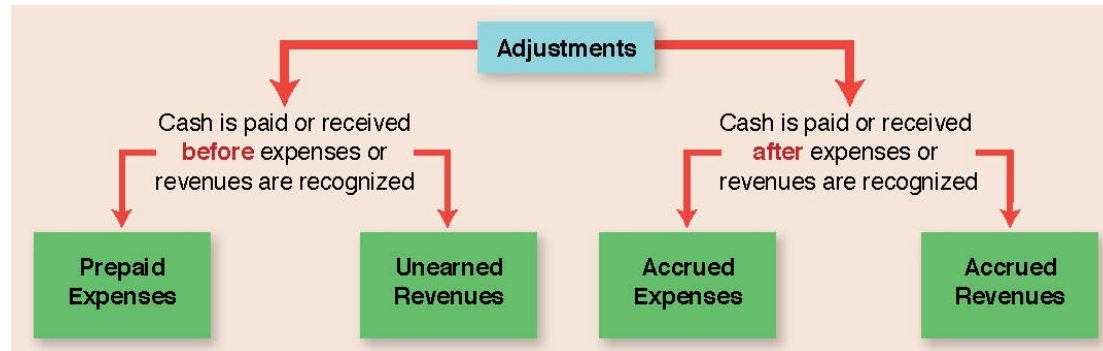
Learning Objective 7

Prepare and explain
accounting adjustments and
their financial statement effects.

Accounting Adjustments

- Companies make **adjustments** to more accurately report their financial performance and condition.
 - For example, employees might not have been paid for **wages** earned at the end of an accounting period.
 - Failure to recognize this labor cost would understate the company's total liabilities (because wages payable would be too low) and would overstate net income for the period (because wages expense would be too low).
 - Thus, neither the balance sheet nor the income statement would be accurate without accounting adjustments.

Four Types of Accounting Adjustments



- **Prepaid expenses**—Reflect advance cash payments that will ultimately become expenses.
- **Unearned revenues**—Reflect cash received from customers before any services or goods are provided.
- **Accrued expenses**—Expenses incurred and recognized on the income statement even though they are not yet paid in cash.
- **Accrued revenues**—Revenues earned and recognized on the income statement even though cash is not yet received.

Prepaid Expenses

Transaction	Balance Sheet						Income Statement							
	Cash Asset	+	Noncash Assets	=	Liabilities	+	Contrib. Capital	+	Earned Capital	Revenues	-	Expenses	=	Net Income
Pay \$200 cash in advance for ad time	-200 Cash		+200 Prepaid Advertising	=							-		=	
Record \$50 cost of ad air time			-50 Prepaid Advertising	=					-50 Retained Earnings			+50 Advertising Expense	=	-50

Unearned Revenues

	Balance Sheet						Income Statement							
Transaction	Cash Asset	+	Noncash Assets	=	Liabilities	+	Contrib. Capital	+	Earned Capital	Rev- enues	-	Expen- ses	=	Net Income
Receive \$400 cash in advance for iPod sale	+400 Cash			=	+400 Unearned Revenue						-		=	

Transaction	Balance Sheet						Income Statement							
	Cash Asset	+	Noncash Assets	=	Liabilities	+	Contrib. Capital	+	Earned Capital	Revenues	–	Expenses	=	Net Income
Deliver \$400 of iPods paid in advance				=	–400 Unearned Revenues				+400 Retained Earnings	+400 Sales	–		=	+400
Record \$150 cost of \$400 iPod sale			–150 Inventory	=					–150 Retained Earnings		–	+150 Cost of Goods Sold	=	–150

Accrued Expenses

Transaction	Balance Sheet					Income Statement			
	Cash Asset	+ Noncash Assets	=	Liabilities	+ Contrib. Capital	+ Earned Capital	Revenues	– Expenses	= Net Income
Current period: Incur \$100 of wages not yet paid			=	+100 Wages Payable		–100 Retained Earnings		+100 Wages Expense	= –100
Next period: Pay \$100 cash for accrued wages	–100 Cash		=	–100 Wages Payable					

Accrued Revenues

Transaction	Balance Sheet						Income Statement							
	Cash Asset	+	Noncash Assets	=	Liabilities	+	Contrib. Capital	+	Earned Capital	Revenues	−	Expenses	=	Net Income
Sell \$500 of iPods on credit			+500 Accounts Receivable	=					+500 Retained Earnings	+500 Sales	−		=	+500
Record \$400 cost of \$500 iPod sale			−400 Inventory	=					−400 Retained Earnings		−	+400 Cost of Goods Sold	=	−400

Learning Objective 8

Construct financial statements
from the accounting records.

Preparation of Financial Statements

- Once we enter all of the transactions and adjustments into the financial statement effects template, we sum each column to obtain ending balances for the accounts.
- With the accounts totaled, we can prepare the financial statements.
- There is an order to financial statement preparation.
 1. A company prepares its income statement using the income statement accounts. It then uses the net income number and dividend information to update the retained earnings account.
 2. It prepares the balance sheet using the updated retained earnings account along with the remaining balance sheet accounts.
 3. It prepares the statement of stockholders' equity.
 4. It prepares the statement of cash flows.

Income Statement

— Apple —

- **Apple's income statement** accounts are in the last three columns of the financial statement effects template.
- We use the data from those columns to prepare the income statement.

APPLE INC. Consolidated Statements of Operations For Year Ended September 26, 2015 (\$ millions)	
Net sales.	\$233,715
Cost of sales.	140,089
Gross margin	93,626
Total operating expenses	22,396
Operating income.	71,230
Other income/(expense), net	1,285
Income before provision for income taxes.	72,515
Provision for income taxes.	19,121
Net income.	\$ 53,394

Retained Earnings Statement

— Apple —

- Once the income statement is prepared, companies update the **retained earnings** balance by adding net income and subtracting dividends.

APPLE INC. Retained Earnings Statement For Year Ended September 26, 2015 (\$ millions)	
Retained earnings, September 27, 2014	\$87,152
Add: Net income	53,394
Deduct: Dividends	(11,627)
Miscellaneous adjustments ¹	<u>(36,635)</u>
Retained earnings, September 26, 2015	<u>\$92,284</u>

¹ Miscellaneous adjustments include many items explained in later modules. These include the revaluation of financial derivative instruments and the repurchase and retirement of common stock.

Balance Sheet

— Apple —

- Balance sheet accounts are called **permanent accounts** because their respective balances carry over from one period to the next.
- To prepare the balance sheet, we use the **ending balances** from the last row in the financial statement effects spreadsheet.

APPLE INC. Consolidated Balance Sheet September 26, 2015 (\$ millions)			
Assets		Liabilities and equity	
Cash and cash equivalents	\$ 21,120	Accounts payable	\$ 35,490
Short-term marketable securities	20,481	Accrued expenses	25,181
Accounts receivable	16,849	Deferred revenue	8,940
Inventories	2,349	Commercial paper	8,499
Other current assets	28,579	Current portion of long-term debt	2,500
Current assets	89,378	Current liabilities	80,610
Long-term marketable securities	164,065	Deferred revenue, non-current	3,624
Property, plant, and equipment, net	22,471	Long-term debt	53,463
Other assets	14,565	Other non-current liabilities	33,427
Total assets	\$290,479	Total liabilities	171,124
		Common stock and additional paid-in capital,	27,416
		Retained earnings	92,284
		Accumulated other comprehensive income	(345)
		Total shareholders' equity	119,355
		Total liabilities and shareholders' equity	\$290,479

Statement of Stockholder's Equity

— Apple —

- We use the information from the financial statement effects template pertaining to contributed capital and earned capital to prepare the **statement of stockholders' equity**.

APPLE INC. Statement of Shareholders' Equity For Year Ended September 26, 2015				
\$ millions	Common Stock and Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income	Total Shareholders' Equity
Balance, September 27, 2014	\$23,313	\$87,152	\$1,082	\$111,547
Stock issuance	4,103			4,103
Net income		53,394		53,394
Dividends		(11,627)		(11,627)
Other		(36,635)	(1,427)	(38,062)
Balance, September 26, 2015	<u>\$27,416</u>	<u>\$92,284</u>	<u>\$ (345)</u>	<u>\$119,355</u>

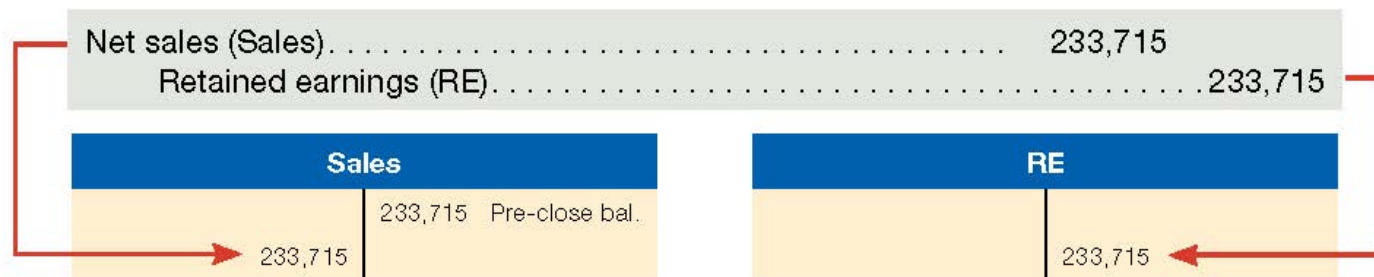
Learning Objective 9

Explain and apply
the closing process.

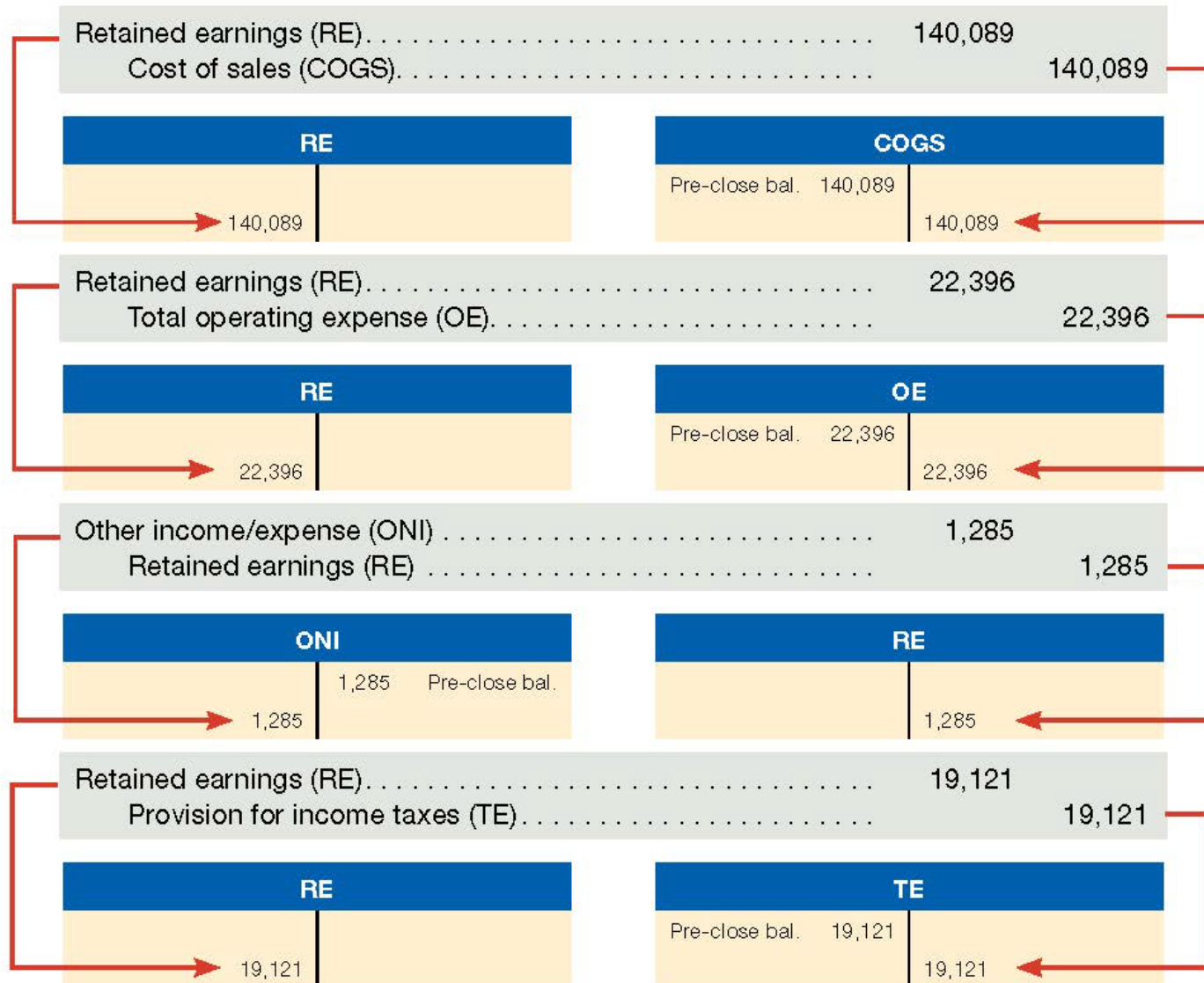
The Closing Process

- **Closing with the Template.** It is important to distinguish our financial statement effects template from companies' accounting systems.
 - The financial statement effects template and T-accounts are **pedagogical tools** that represent transactions' effects on financial statements.
 - The template is highly stylized, but its simplicity is instructive.
- **Closing with Journal Entries.** In practice, managers use journal entries to record transactions and adjustments.
 - The template captures these in summarized fashion. However, in practice, income statement transactions are not automatically transferred to retained earnings, and retained earnings is not continuously updated.
 - Instead, companies have a formal "closing process" at the end of each reporting period

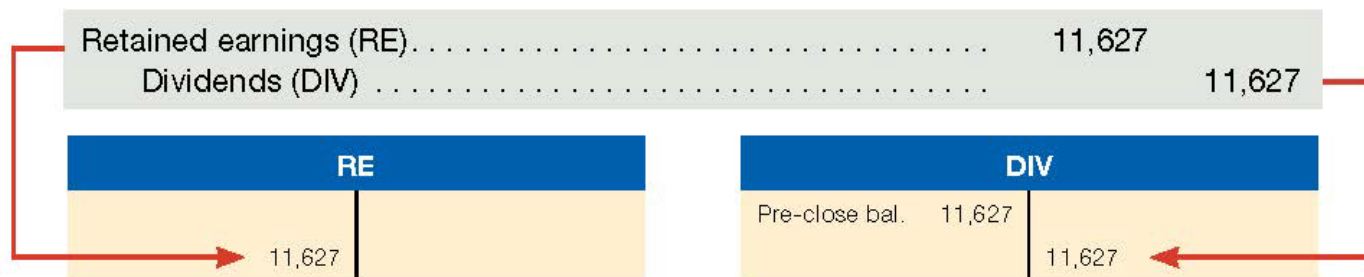
1. Close Revenue and Gain Accounts



2. Close Expense and Loss Accounts



3. Close Dividend Account



Learning Objective 10

Locate and use
additional financial information
from public sources.

Additional Information Sources

- **Form 10-K and Form 10-Q**

- Companies with publicly traded securities must file with the SEC a detailed annual report and discussion of their business activities in their Form 10-K (quarterly reports are filed on Form 10-Q).

- **Form 20-F and Form 40-F**

- If the company uses accounting standards other than GAAP or IFRS, Form 20-F must discuss major differences between the accounting principles used and GAAP and provide a table that reconciles net income as reported to U.S. GAAP net income.

- **Form 8-K**

- Outsiders typically use Form 8-K to monitor for material adverse changes in the company.

continued

Additional Information Sources

■ Analyst Reports

- Sell-side analysts provide their clients with objective analyses of company operating activities.

■ Credit Services

- Several firms provide credit analysis that assists us in evaluating a company's creditworthiness and future financial viability.

■ Data Services

- A number of companies supply financial statement data in easy-to-download spreadsheet formats.

Global Accounting

■ Balance Sheet

- The most visible difference is that many IFRS-based balance sheets are presented in reverse order of liquidity.

■ Income Statement

- The most visible difference is that GAAP requires three years of data on the income statement whereas IFRS requires only two.



The End