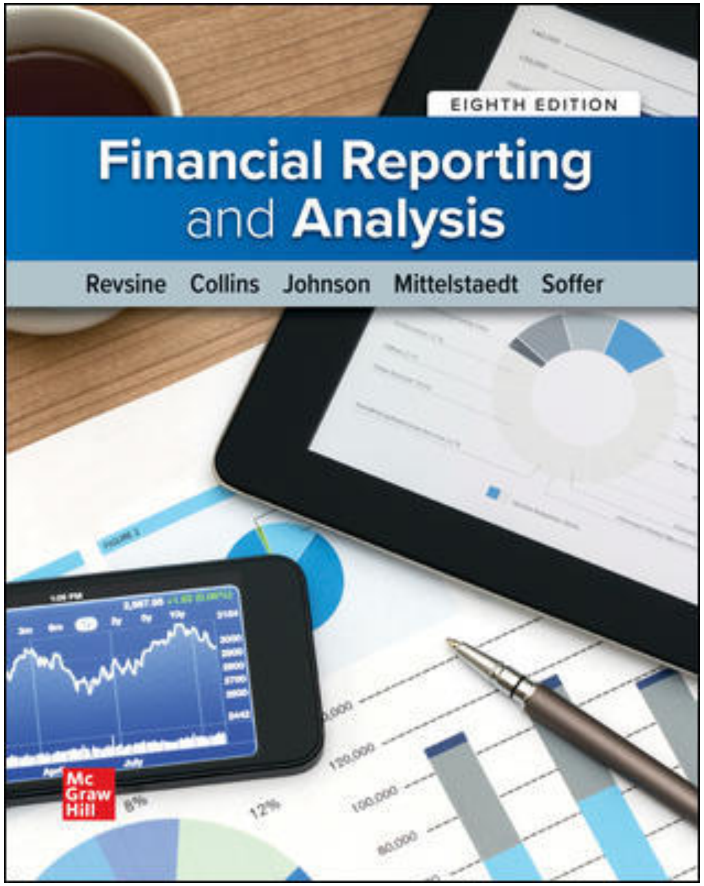
Financial Reporting for Owners' Equity



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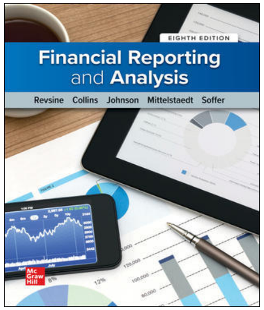
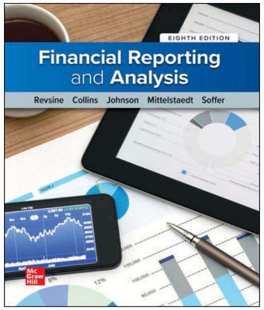


Learning Objectives

After studying this chapter, you will understand:

1. How to account for transactions with shareholders.
2. Why companies buy back their stock, and how they do it.
3. How preferred stock balance sheet classification affects equity-based debt covenants.
4. How retained earnings limits a company's distributions to common stockholders.
5. How to interpret the balance sheet items that constitute shareholders' equity.
6. What generally accepted accounting principles (GAAP) say about employee stock options, and why the accounting treatment has been controversial.
7. How GAAP accounts for tax benefits associated with employee stock options.
8. How GAAP and IFRS account for convertible debt.
9. How to calculate and interpret basic earnings per share (EPS) and diluted EPS.



Overview

Assets 100%

owners

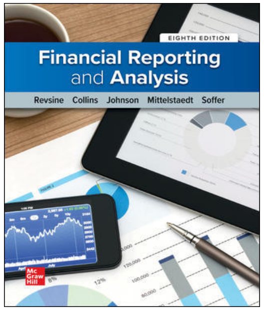
50

50

Why statement readers must understand the accounting and reporting conventions for owners' equity:

Appropriate income measurement	Why are bond interest payments an expense, while dividend payments are not an expense?
Compliance with contract terms and restrictions	How should "hybrid" securities be classified—as debt or equity?
Legality of corporate distributions to owners	How much cash can be legally distributed to owners as dividends?
Linkage to equity valuation	How does a company's stock options, warrants, and convertible instruments affect EPS?

EPS



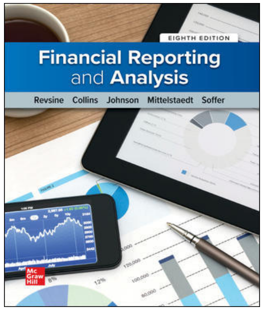
What Constitutes the "Firm"?

Under the GAAP view, the firm is the net capital deployed.

Ownership perspective of the firm:

Assets – Liabilities	=	Owners' equity
Net capital deployed		Owners' capital

- Owners are the "insiders" who provide that net capital.
  - No income or loss can arise from transactions between the firm and its owners because owners are not outsiders.
    - Banks and bondholders are outsiders—hence, interest costs are expenses.
    - Shareholders are not outsiders—thus, dividends are a distribution of earnings to owners, not an expense of the company.
  - As a result, some increases (decreases) in owners' equity are considered to be income (loss), while other increases (decreases) are not income (loss).



Accounting for Share Issuances and Repurchases

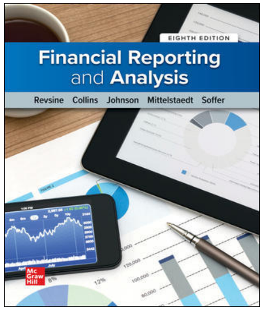
- Terminology:
  - Shares of common stock are the equity shares that provide the opportunity for purchasers to participate in the company's future profitability
  - Par value refers to the nominal value or face value of a security—a dollar amount printed on the face of each stock certificate.
  - Limited liability makes investing in common stock attractive because although potential gains from ownership are unlimited, the risk of loss is limited to the share purchase price.

100
f/s

- Nahigian Corp. issues 5,000 shares of $1 par common stock at $50 per share. The company records the stock issuance as:

DR	Cash	$250,000	
CR	Common stock—$1 par value		$ 5,000
CR	Paid-in capital in excess of par		245,000

Difference between issue price and par value



Accounting for Treasury Stock

- When a corporation buys back its own shares, the repurchased shares are called treasury stock if the shares are to be held in the corporate treasury for later use.
- Later, Nahigian reacquires 200 of these shares at a cost of $48 each.

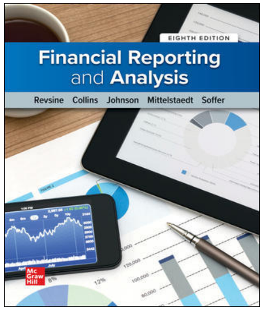
DR	Treasury stock	$ 9,600	
CR	Cash		$ 9,600

Contra-equity account
Treated as a reduction in owners' equity

Nahigian Corporation	
Owners' Equity	
Common stock, $1 par value, 5,000 shares issued	$ 5,000
Paid-in capital in excess of par	245,000
Retained earnings (assumed for illustration)	700,000
Total paid-in capital and retained earnings	950,000
Less: Treasury stock (at cost)	(9,600)
Total owners' equity	$940,400

Cost method
The cost of treasury stock is deducted from the other owners' equity accounts.

- The number of *issued* shares remains at 5,000.
- There are 4,800 *outstanding* shares (5,000 issued less 200 in treasury).



Accounting for Treasury Stock Transactions

Nahigian Corporation

Owners' Equity

Common stock, $1 par value, 5,000 shares issued	$ 5,000
Paid-in capital in excess of par	245,000
Retained earnings (assumed for illustration)	700,000
Total paid-in capital and retained earnings	$950,000
Less: Treasury stock (at cost)	(9,600)
Total owners' equity	$940,400

48

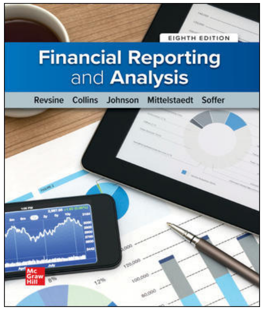
- Several months later, Nahigian decides to resell 100 treasury shares at $53 per share.

x $5

DR	Cash	$5,300	
CR	Treasury stock		$4,800
CR	Paid-in capital from treasury stock		500

100 shares × ($53 − $48)

- The $53 per share selling price is $5 per share higher than the $48 paid to reacquire the shares.
  - No gain is recognized because the transaction is between the firm and its owners.
  - Instead, the difference is credited to Paid-in capital from treasury stock.



Accounting for Treasury Stock Transactions, continued

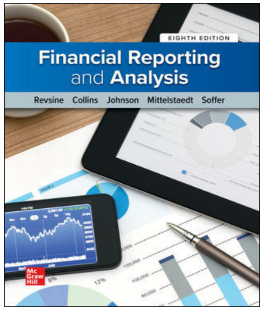
500 | 500

- Later, Nahigian sells the remaining 100 shares of treasury stock for $40 per share.

DR Cash	$4,000	
DR Retained earnings	300	
DR Paid-in capital from treasury stock	500	
CR Treasury stock		$4,800

100 shares × ($48 − $40) = $800

- The $40 per share selling price is $8 per share less than the $48 originally paid to reacquire the treasury shares.
  - The shares were resold at $800 less than their cost.
    - The Paid-in capital from treasury stock has a $500 balance (prior to this transaction).
    - This account cannot carry a negative (debit) balance.
  - Therefore, to account for the $800 difference:
    - Paid-in capital from treasury stock is debited for $500, which reduces the account balance to zero.
    - Retained Earnings is debited for the remaining $300 difference.



Accounting for Treasury Stock Transactions, concluded

What if shares are repurchased and permanently retired?

- Nahigian reacquires 200 shares at a cost of $48 per share. *(Here, the purchase price is less than the original issue price of $50.)*

DR	Common stock—$1 par value	$ 200	
DR	Paid-in capital in excess of par	9,400	
CR	Cash		$9,600

  - Common stock is reduced for the par value of shares retired.
  - Paid-in capital account is reduced for the “excess” purchase price.

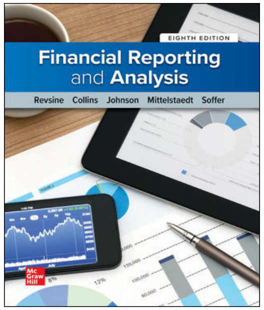
- If, **instead**, Nahigian reacquires the 200 shares at a cost of $56 per share. *(The purchase price exceeds the original issue price of $50.)*

DR	Common stock—$1 par value ($1 × 200)	$ 200	
DR	Paid-in capital in excess of par ($49 × 200)	9,800	
DR	Retained earnings ([$56 – $50] × 200)	1,200	
CR	Cash ($56 × 200)		$11,200

Original issue price of $50 – Par value of $1

Balances entry

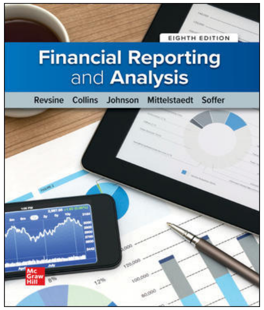
  - Common stock is reduced for the par value of shares retired.
  - Paid-in capital account is reduced by the difference between the original issue price and the par value.
  - Retained earnings is also reduced to balance the entry.



Why Companies Repurchase Their Common Shares

Firms reacquire their own common stock for many reasons:

- **Shares are needed for employee stock option redemptions**
- **Management belief that shares are undervalued at prevailing market price**
- **Avoid hostile takeover using company's own cash surplus to partially finance takeover**
- **Distribute surplus cash to shareholders; taxed to them lower capital gain rates**

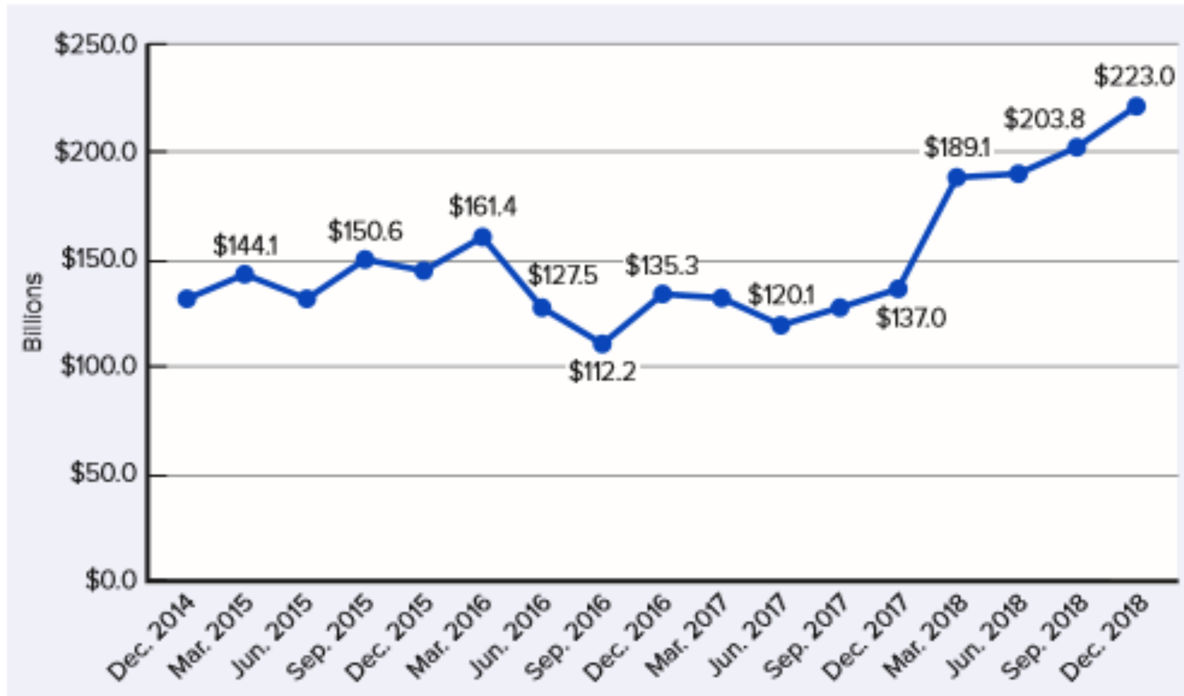


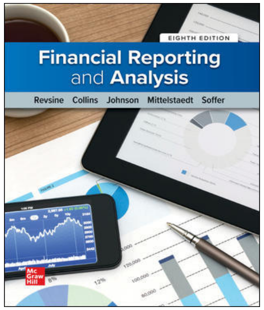
Magnitude of Stock Repurchases in the U.S.

Figure 16.1

THE DOLLAR VALUE OF STOCK REPURCHASED EACH QUARTER 2014–2018 BY U.S. COMPANIES IN THE STANDARD & POOR'S 500 INDEX (IN BILLIONS)

SOURCE: C. McGrath, "S&P 500 Companies Buy Back $806 Billion in 2018," *Pensions & Investments*, March 25, 2019. The Standard & Poor's 500 Index (S&P 500) is one of the most commonly used benchmarks for the overall U.S. stock market. A team of analysts and economists at Standard & Poor's chooses 500 stocks for the index based on market size, liquidity, and industry grouping, among other factors.



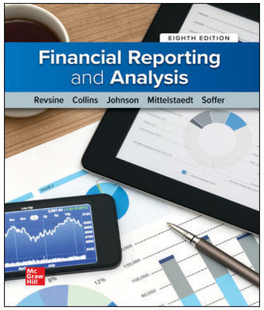


Stock Buybacks Motivated by Desire to Boost EPS

- Some stock buybacks are motivated solely by a desire to boost EPS.
- Rocket Software just completed a successful third quarter with earnings of $220,000 and EPS of $1.00.
  - This was the ninth consecutive quarter that Rocket Software's EPS increased by 10% or more.
  - Fourth quarter earnings are projected to be only $220,000, unchanged from the third quarter.
  - How can Rocket Software keep its EPS record intact for the fourth quarter?
    - Management could increase the EPS numerator by finding ways to grow sales revenues or reduce expenses.
    - *Or* the company could decrease the EPS denominator by buying back some of its common stock as follows:

	Without Buyback	With Buyback
Projected fourth quarter earnings	$220,000	$220,000
Common shares outstanding	220,000	200,000
Projected EPS	$ 1.00	$ 1.10

As long as earnings fall by less (in percentage terms) than the buyback percentage reduction in shares outstanding, EPS will indeed go up!

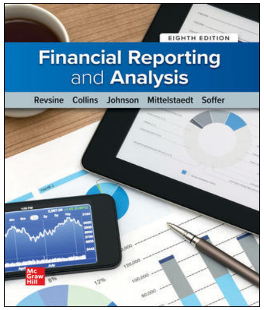


Equity-based Covenants and Preferred Stock

- Owners’ equity is one of the accounting numbers used in many contracts with lenders, suppliers, and others.
  - Lending agreements usually include covenants that restrict maximum allowable debt-to-equity levels, where equity refers to the book value amount disclosed on the company’s balance sheet.

> [A] subsidiary of the Company maintained unsecured revolving credit facilities with banks aggregating $100 million (the “Credit Facilities”). . . . The Credit Facilities requires the subsidiary to maintain certain financial ratios, including debt to net worth and debt to EBITDA (as defined in the Credit Facilities), and contain other restrictions, none of which are expected to have a material effect on our operations or financial position. At April 28, 2018, we were in compliance with all loan covenants.
>
> *Source:* National Beverage Corp. Annual Report, year ended April 28, 2018, p. 19.

  - Firms have incentives to use their financial reporting latitude to circumvent these contractual restrictions.



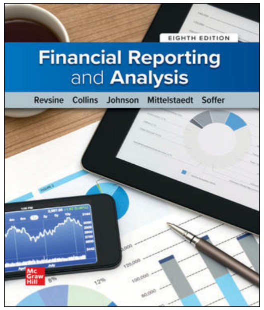
Characteristics of Preferred Stock

- Relative to common stock, preferred stock confers certain preferences:
  - Preferred shareholders must be paid their dividends in full before a cash distribution can be made to common shareholders.
    - *Participating* preferred stock entitles its holders to share in profits above the declared dividend along with common shareholders.
    - Most preferred stock is *nonparticipating*, meaning that holders are entitled to receive only the stipulated dividends.
  - If the company is liquidated, preferred stockholders must receive cash or other assets at least equal to the stated (par) value of their shares before any assets are distributed to common shareholders.
- Preferred stock dividends are not contractual obligations; the board of directors does not have to declare preferred dividends.

$25 stated value, 8% preferred stock

Dividend would be $2 per share ($25 stated value x 8%)

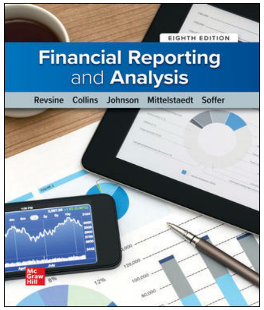
- Preferred shares are usually *cumulative*. If a particular quarter's preferred dividend is not declared, no dividends on common shares can be paid until all unpaid past and current preferred dividends are paid.



Compliance with contract terms:
How preferred stock helps

Why do companies raise capital through preferred stock rather than using debt, which has tax-deductible interest payments?

1. It’s less risky than debt because missing a preferred dividend payment will not trigger bankruptcy (unlike missing an interest payment).
2. Companies with a history of operating losses usually do not pay income taxes and, as a result, debt has no tax advantage.
3. Preferred stock is treated like equity rather than debt on the financial statements.



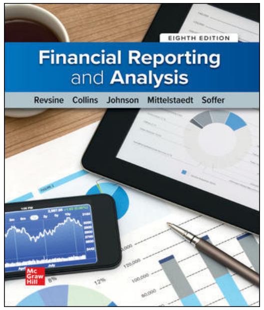
Mandatorily Redeemable Preferred Stock

- A company that issues mandatorily redeemable preferred stock is required to retire it (as with debt) at some future date—usually in 5 or 10 years.
  - Most mandatorily redeemable preferred stock must be reported as a liability (rather than in the owners' equity) section of the balance sheet.
  - Companies are also required to record the related preferred stock dividends as interest expense.

liabilities

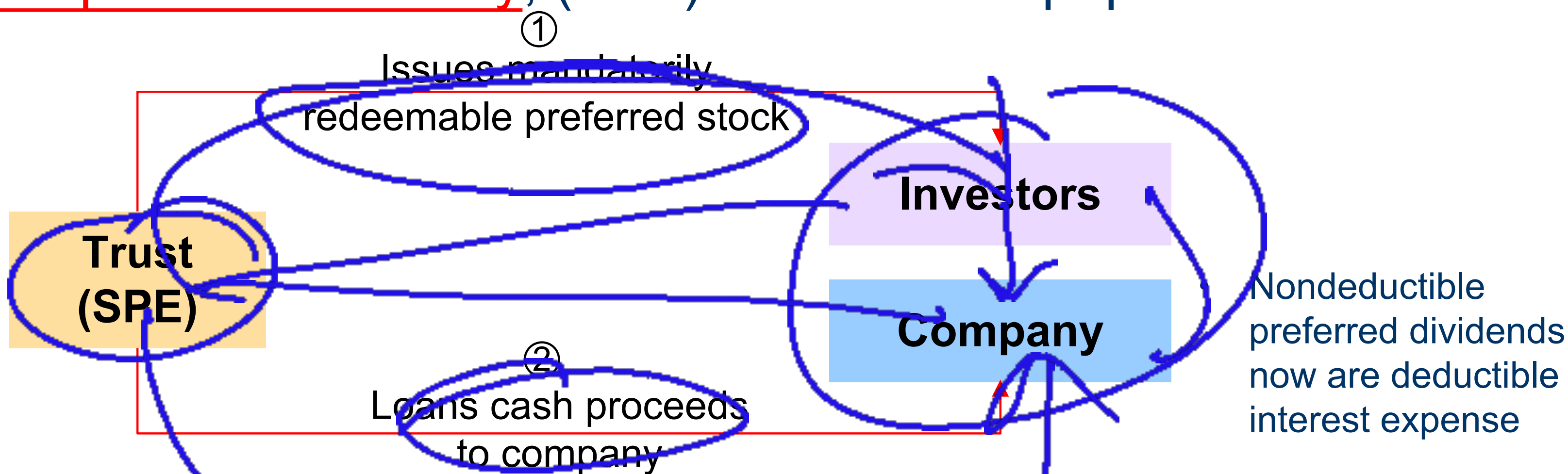
> As of January 1, 2016, 1,000 shares of Series A preferred stock were authorized, of which 40 shares were issued and outstanding. The dividends are recorded as a component of Interest expense as the Series A preferred stock is treated as a liability for accounting purposes.
>
> *Source:* Marriott Vacations Worldwide Corporation, Form 10-K for the fiscal year ended January 1, 2016.

owners Equity

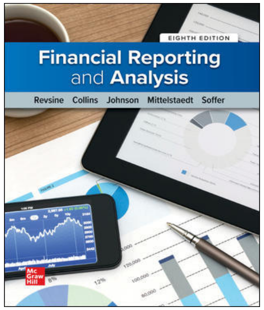


Trust Preferred Security

- A new form of mandatorily redeemable preferred stock, called a trust preferred security, (TPS) has become popular.



- Similar to the mandatorily redeemable preferred stock, most trust preferred securities are shown on the balance sheet as liabilities.



Legality of Corporate Dividend Distributions

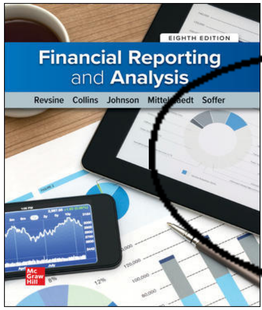
- How large a dividend (cash and/or property) can Delores Corporation distribute to owners?

Common stock, $1 par value	$20,000,000
Paid-in capital in excess of par	35,000,000
Retained earnings	43,000,000
Owners' equity	$98,000,000

- The majority of states have adopted the Revised Model Business Corporation Act as a guide to the legality of dividend distributions.
  - As long as the *fair value of assets* exceeds the *fair value of liabilities* after the distribution, the company is considered to be solvent.
  - In extreme cases, this means that an asset distribution would be legal even if the *book value of net assets is negative* after the distribution.

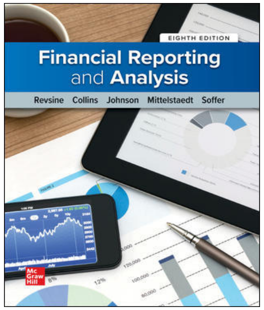
100%

100



Stock Dividends and Stock Splits

- What happens when a company distributes stock?
- Under current U.S. GAAP, stock dividends reduce retained earnings, but stock *splits* may not.
  - Small stock distributions (less than 25% of shares outstanding) are required to be recorded as stock dividends.
    - The market value of the distributed shares is transferred from retained earnings to the par value and paid-in capital accounts.
  - Distributions that equal or exceed 25% of shares outstanding—commonly called *stock splits*—can be treated in either of two ways:
    1. Like a true split, which reduces the per share par value and increases the number of shares proportionately
    2. Like a stock dividend
- Stock dividends and stock splits recorded as stock dividends reduce the company's future cash dividend-paying ability in states where cash dividends are limited by retained earnings.



Shareholders’ Equity: Financial Statement Presentation

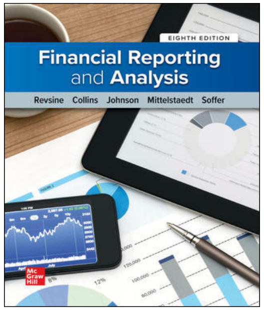
EXHIBIT 16.2 **Marriott Vacations Worldwide Shareholders’ Equity Excerpts**

(in millions except share and per share data)	2018	2017
Preferred stock—$.01 par value; 2,000,000 shares authorized; none issued or outstanding	$ —	$ —
Common stock—$.01 par value; 100,000,000 shares authorized; 57,626,462 and 36,861,843 shares issued, respectively	1	—
Treasury stock—at cost; 11,633,731 and 10,400,547 shares, respectively	(790)	(694)
Additional paid-in capital	3,721	1,189
Accumulated other comprehensive income	6	17
Retained earnings	523	529
Total MVW Shareholders’ Equity	$3,461	$1,041
Total Liabilities and Equity	$9,018	$2,845

Source: Marriott Vacations Worldwide Corporation, Form 10-K, December 31, 2018.

Number of outstanding shares = Number of issued shares – Number of treasury shares

Total equity is also called the book value of the firm.
Book value per share = *Common* equity ÷ Number of common shares outstanding



Statement of Shareholders’ Equity

Other comprehensive income (OCI) is the change in AOCI.

EXHIBIT 16.3 **Marriott Vacations Worldwide Statement of Consolidated Shareholders’ Equity Excerpts**

Common Stock Issued	*($ and share amounts in millions)*	Common Stock	Treasury Stock	Additional Paid-in Capital	Accumulated Other Comprehensive Income	Retained Earnings	Total MVW Shareholders’ Equity
36.9	**BALANCE AT YEAR-END 2017**	$—	$(694)	$1,189	$17	$529	$1,041
—	Net income	—	—	—	—	55	55
20.5	ILG Acquisition	1	—	2,408	—	—	2,409
	Disposition of subsidiary shares to noncontrolling interest holder	—	—	72	—	—	72
—	Foreign currency translation adjustments	—	—	—	(5)	—	(5)
—	Derivative instrument adjustment	—	—	—	(6)	—	(6)
0.2	Amounts related to share-based compensation	—	—	52	—	—	52
—	Repurchase of common stock	—	(96)	—	—	—	(96)
—	Dividends	—	—	—	—	(61)	(61)
57.6	**BALANCE AT YEAR-END 2018**	$1	$(790)	$3,721	$ 6	$523	$3,461

Source: Marriott Vacations Worldwide Corporation, Form 10-K, December 31, 2018.

Comprehensive income equals net income plus OCI.

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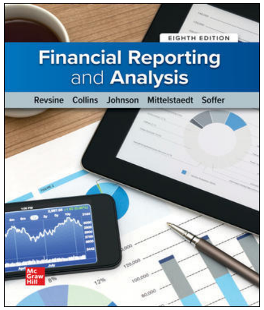
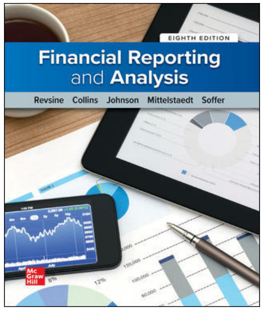


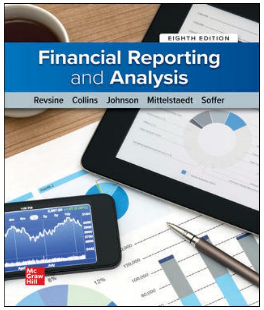
Global Vantage Point: Equity Presentation

	GAAP	IFRS
Negative balance in retained earnings	Called “retained earnings deficit”	Called “accumulated losses”
Called up share value *(on IFRS balance sheet)*	Somewhat akin to the Capital stock–par value account	Used when investors pay less than the nominal par value (company can later ask for remaining amount by “calling up” shares)
Liabilities	Liabilities presented before shareholders’ equity	Shareholders’ equity often presented before liabilities
Redeemable preferred stock	Reported as equity unless mandatorily redeemable	Most redeemable preferred stock reported as debt even when redemption is not mandatory, as is some preferred stock that is not redeemable



Accounting For Share-based Compensation

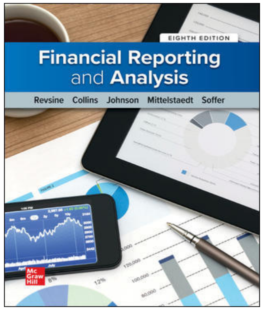
- Companies use stock options to augment cash compensation for several reasons:
  - Options help align employees' interests with the interests of owners (stockholders).
  - Many "start-up" high-growth companies are "cash starved" and cannot afford to pay competitive cash salaries.
  - Stock options can provide tax savings to the employer or the employee.
- A typical employee stock option gives the employee the right to purchase a specified number of common shares at a specified price (called the exercise price) within some specified time period.



Accounting For Share-based Compensation: Current GAAP Requirements

The key provisions of the current authoritative guidance are:

1. Companies must record the cost of employee services received in exchange for a stock option award.
2. This compensation cost is determined by the award's grant-date fair value measured using option-pricing models adjusted for the unique characteristics of employee stock options.
3. This grant-date compensation cost is recognized as an expense on a straight-line basis over the vesting period.
4. Incremental compensation cost arising from modifications to the original award terms is also recognized during the vesting period; however, changes in the fair value of the original options award itself are not recognized.



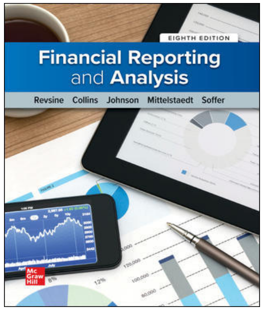
Accounting For Share-based Compensation: Illustrated

EXAMPLE

Guyton Corporation (a fictional company) grants 6,000 common stock options to each of its top five managers on January 1, 20X1. At that date, both the exercise price of the options and the market price of Guyton's stock are $30. To provide managers an incentive to remain at Guyton, the options cannot be exercised before January 1, 20X4. This time span between the grant date and the first available exercise date is called the **vesting period.** Guyton's options do not expire until January 1, 20Y1, giving the options a 10-year legal life. But GAAP requires that we estimate the **expected life of the options**—meaning we must forecast when employees are likely to exercise the options. Factors to consider in estimating the expected life include the average length of time similar grants have remained outstanding in the past and the expected volatility of the company's common stock price. Guyton's options have an expected life of five years.

- The fair value of stock options is measured at the grant date—the date when both the grant's terms are set and the stock options are awarded to individual employees.
  - Assuming that each option has a fair value of $10.05 at the grant date, the total compensation cost of all employee stock option awards is $301,500 ($10.05 × 30,000 options). Guyton would recognize $100,500 ($301,500/3) as compensation expense in each of the years 20X1 through 20X3.

DR	Compensation expense	$100,500	
CR	Paid-in capital—stock options		$100,500

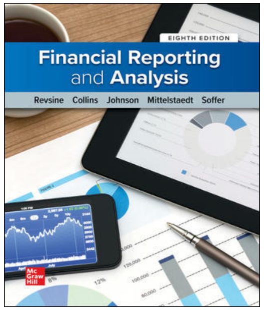


Accounting at Date of Exercise

Let's say that Guyton's share price rises to $42 by December 31, 20X5, and all the managers exercise their options on that date.

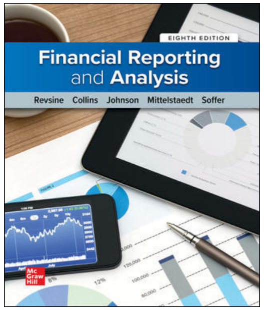
- For financial reporting purposes, the $42 is irrelevant; the $301,500 related to the option fair value at the date of grant was fully accrued by December 31, 20X3.
- Therefore, the entry to record the exercise of employee stock options is:

DR	Cash (30,000 × $30)	$900,000	
DR	Paid-in capital—stock options ($100,500 × 3 years)	301,500	
CR	Common stock—par ($20 × 30,000)		$600,000
CR	Paid-in capital in excess of par		601,500



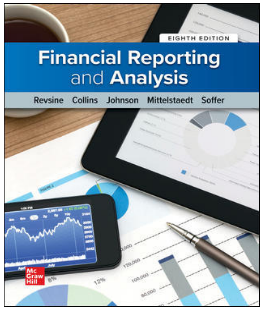
Taxation of Share-Based Compensation

- Under an Incentive Stock Options (ISOs) employees are not taxed until they sell the stock.
  - To qualify as an ISO, an option must meet many criteria, including:
    - The option is granted within 10 years from the date that the plan is adopted.
    - The option cannot be exercised after 10 years from the date of the grant.
    - The exercise price cannot be less than the fair value of the stock at the grant date.
    - The option is nontransferable.
    - At the time of the grant, the employee does not own more than 10% of the voting stock of the employer.
- A nonqualified plan is any plan that does not qualify as an ISO plan.
  - For nonqualified plans, employees owe tax on the intrinsic value at the date of exercise.



How Does Tax Accounting Interact with Financial Reporting?

- Stock compensation expense is based on the fair value of the stock options at the date of grant.
  - As the firm recognizes compensation expense on the income statement, it recognizes an expected tax benefit based on that compensation expense.
- For an ISO, the employer does not receive a tax deduction, and no tax benefit is recognized despite having to recognize the expense for GAAP purposes.
  - This represents a permanent difference in that the compensation will be deducted in determining GAAP pretax income, but it will not be deducted in determining taxable income.
- The accounting for nonqualified options is more complicated in that the employer expects to receive a tax deduction in a future period.
  - The difference between GAAP pretax income and tax return taxable income is a temporary difference in that the difference relates to the timing of expense recognition, not the amount of the expense.

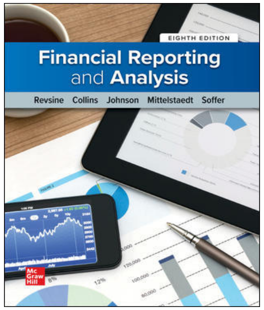


Convertible Debt

- Another instrument with characteristics of both debt and equity is **convertible debt**. These bond contracts allow the investor to exchange the debt for stock.

EXAMPLE

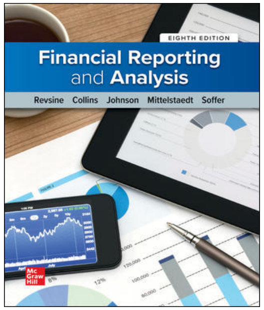
Hooker, Inc. (a fictional company), issues $400 million of convertible notes at par at a time when its common shares were trading at $20.00 per share. These notes pay a stated interest rate of 4% annually, mature in five years, and can be exchanged at any time for Hooker, Inc., stock at a conversion price of $22.68 per common share. Upon conversion, Hooker must issue shares and cannot exchange the notes for cash. Because the notes are issued in units of $1,000 face value, the conversion price means that investors can exchange each note for slightly more than 44 shares of stock ($1,000 face value/$22.68 per share conversion price = 44.092 shares). Hooker's nonconvertible debt borrowing rate is 10% per year. Consequently, the discounted present value of the note is $772.55 ($1,000 face value × pv 5, 10% of 0.62092 + $40.00 interest payment × pvoa 5, 10% of 3.79079. ***Investors were willing to pay $227.45 more than the present value of each Hooker note because of the conversion feature attached to the debt.***



Convertible Debt: Financial Reporting Issues

- The conversion price—the dollar value at which the debt can be converted into common stock—is typically higher than the prevailing market price of the company’s common shares when the debt is issued.
- Convertible notes and bonds are also usually callable, or redeemable, by the issuer at a specified price before maturity.
- Convertible debt is a common form of borrowing; GAAP specifies that convertible bonds must be recorded as debt only, with no value assigned to the option privilege.
  - So, Hookers’s entries would be:

DR	Cash	$400,000,000	
CR	Convertible subordinated debentures		$400,000,000
DR	Interest expense	$16,000,000	
CR	Cash		$16,000,000



Convertible Debt: Accounting Issues Upon Conversion

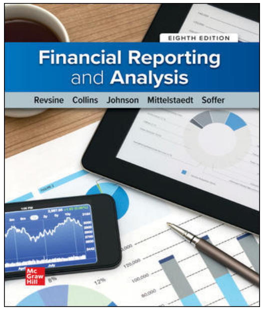
GAAP permits companies to record debt conversions in either of two ways:

- The book value method records the newly issued stock at the book value of debt retired.

DR	Convertible subordinated debentures	$100,000,000	
CR	Common stock ($1 par)		$ 4,400,000
CR	Paid-in capital in excess of par		95,600,000

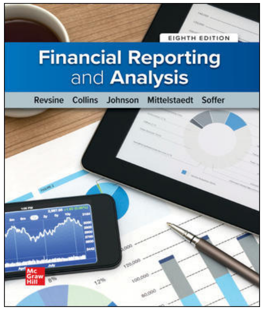
- The market value method records the newly issued shares at their current market value. Any difference between that $25 market value and the $22.68 conversion price is recognized as a loss (or gain) on conversion.

DR	Convertible subordinated debentures	$100,000,000	
DR	Loss on debt conversion	10,000,000	
CR	Common stock ($1 par)		4,400,000
CR	Paid-in capital in excess of par		$105,600,000



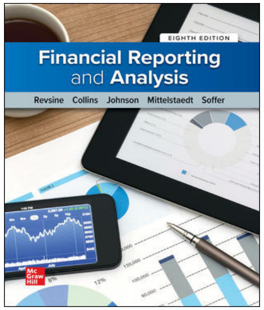
Convertible Debt: Analytical Insights

- Estimating the future cash flow implications of convertible debt is difficult.
- Recorded interest expense may seriously understate the true cost of debt financing for companies that issue convertible bonds or notes.
  - The appearance of "zero-coupon, zero yield" convertible debt underscores the inherent deficiencies of GAAP.
  - The lesson for corporate managers is clear:
    - Current GAAP allows you to avoid interest expense as long as you issue zero-coupon convertible debt and structure the conversion features so that the debt sells for par (face) value.
  - The lesson for analysts is equally clear:
    - Interest expense sometimes can seriously understate a company's true cost of debt.



Convertible Debt That May Be Settled in Cash

- There is a GAAP exception for convertible debt where the borrower has the right, upon conversion, to pay some or all of the conversion value in cash rather in shares of stock.
- In this special case, GAAP requires separate recognition of the debt and equity components.
  - The initial carrying value of the debt component is measured as the fair value of a similar liability that does not possess the conversion feature.
  - The carrying value of the equity component is measured by deducting this liability fair value from the proceeds received when the convertible debt was issued.
  - In subsequent years, accounting for the convertible notes adheres to the effective interest method.



Global Vantage Point

- Unlike U.S. GAAP, the IFRS guidelines for convertible debt require the liability and equity components to be separated.
- This approach recognizes that when a company issues convertible debt, it is really issuing two distinct types of securities:

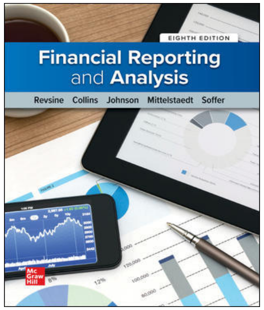
Debt that may be in the form of a bond or a note

An option to convert that debt into shares of stock

Represents a balance sheet liability

Shareholders' equity

Even though investors pay just one price for the combined financial instrument



Assets | Liab + OE

Earnings Per Share

- The amount of income and cash flow that a company is expected to generate is a major determinant of that company's value.
- **Earnings per share** shows how much of the company's total earnings accrue to each individual share of stock.
- EPS is straightforward when the company has a simple capital structure.
- A simple capital structure exists when a company has no convertible securities and no stock options or warrants outstanding.

20 1/21

$$\text{Basic EPS} = \frac{\text{Net income} - \text{Preferred dividends}}{\text{Weighted average number of common shares outstanding}}$$

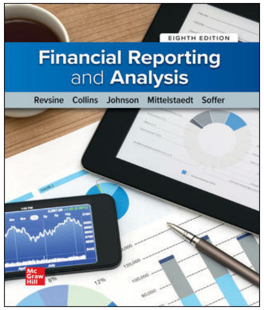


Illustration of Earnings Per Share: Simple Capital Structure

EXAMPLE

	January 1	December 31
Preferred stock, $100 par value, 7%,		
10,000 shares issued and outstanding	$ 1,000,000	$ 1,000,000
Common stock, $1 par value		
160,000 shares issued and outstanding	160,000	
200,000 shares issued and outstanding		200,000
Paid-in capital in excess of par	12,000,000	16,000,000
Retained earnings	1,100,000	1,800,000
Total stockholders' equity	$14,260,000	$19,000,000

The 40,000 additional common shares were issued on September 1 and thus were outstanding for the last third of the year.

The change in Retained earnings during 20X1 is:

Retained earnings, January 1	$ 1,100,000
Net income for the year	1,257,331
Preferred stock dividends	(70,000)
Common stock dividends	(487,331)
Retained earnings, December 31	$1,800,000

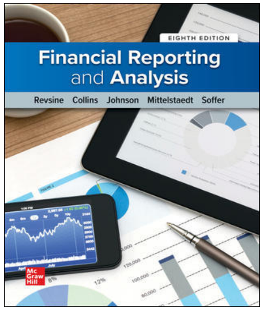


Illustration of Earnings Per Share: Simple Capital Structure, continued

Recall the 40,000 additional common shares were issued on September 1 and thus were outstanding for the last 1/3 of the year.

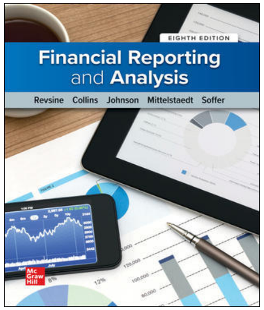
- The specific calculation of the weighted average number of outstanding shares is:

Time Span	(a) Shares Outstanding	(b) Portion of Year	(c) Weighted Shares ([a] × [b])
January 1–August 31	160,000	2/3 11/12	106,667
September 1–December 31	200,000	1/3 1/12	66,667
			173,334

- Solomon Corporation’s basic EPS for the year 20X1 is

$$\text{Basic EPS} = \frac{\text{Net income} - \text{Preferred dividends}}{\text{Weighted average number of common shares outstanding}}$$

$$= \frac{\$1{,}257{,}331 - \$70{,}000}{173{,}334 \text{ shares}} = \frac{\$1{,}187{,}331}{173{,}334 \text{ shares}} = \$6.85 \text{ per share}$$



Complex Capital Structure

- A firm has a complex capital structure when its financing includes either securities that are convertible into common stock or options and warrants that entitle holders to obtain common stock under specified conditions.
  - This possible increase in the number of shares is called potential dilution.

$$\text{Diluted EPS} = \frac{\text{Basic numerator} + \text{Income adjustments due to dilutive financial instruments}}{\text{Basic number of common shares outstanding} + \text{Newly issuable shares due to dilutive financial instruments}}$$

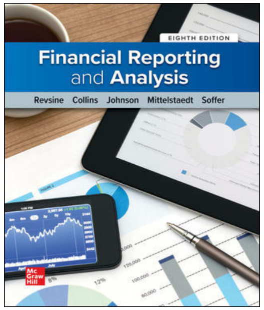
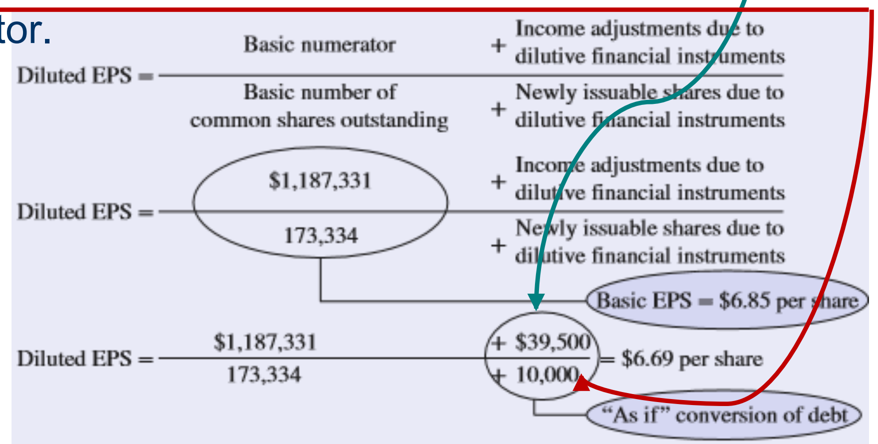


Illustration of Earnings Per Share: Complex Capital Structure

- At January 1, 20X1, Solomon also had the following financial instrument outstanding. Assume that the tax rate is 21%.
  - $1,000,000 of 5% convertible debenture bonds due in 15 years, which were sold at par ($1,000 per bond). Each $1,000 bond pays interest of $50 per year and is convertible into 10 shares of common stock.
  - Using the "if-converted" method, the convertible debentures are included in diluted EPS by assuming conversion on the first day of the reporting period.
    - The after-tax effect of interest payments on the debt is added back in the EPS numerator.
    - The additional shares that would be issued on conversion are added to the denominator.



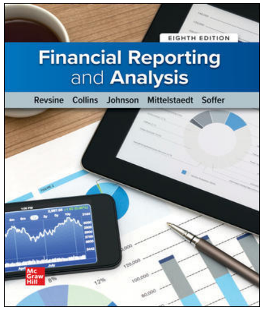
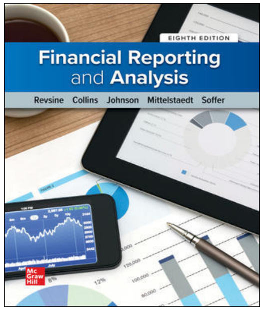


Illustration of Earnings Per Share: Complex Capital Structure

- In addition, at January 1, 20X1, Solomon had the following financial instrument outstanding.
  - Options to buy 20,000 shares of common stock at \$100 per share. These options were issued to former owners of an acquired company on February 9, 20X0, and expire on February 9, 20X2.
    - Stock options are dilutive when they are “in-the-money”—that is, when the average market price (here, \$114) exceeds the option exercise price (\$100).
    - Using the treasury stock method, we assume that the \$2,000,000 proceeds to the company from the presumptive exercise of the options (20,000 shares at \$100 per share) are used to repurchase previously issued common shares at the \$114 average market price (that existed during the year). The cash from the options is sufficient to acquire 17,544 shares (\$2,000,000/\$114 per share).
    - Because 20,000 shares are presumed issued and 17,544 are presumed acquired, the difference of 2,456 net new common shares is added to the prior diluted denominator as follows:

$$\text{Diluted EPS} = \frac{\$1{,}187{,}331 + \$39{,}500}{173{,}334 + 10{,}000 + \underbrace{2{,}456}_{\text{Treasury stock conversion of options}}} = \$6.60 \text{ per share}$$

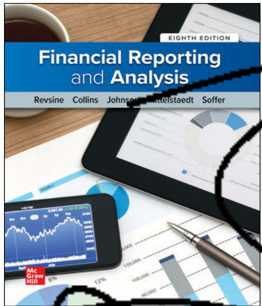


Treasury Stock Method and Stock Compensation

The current stock option accounting also impacts the denominator in the diluted calculation in that the average unamortized stock compensation expense associated with the stock options is viewed as proceeds under the treasury stock method.

- To illustrate, assume that the average stock price in 20X2 is $36. The presumed shares to be added to the diluted denominator under the treasury stock method would be computed as follows:

Number of options outstanding		30,000
Proceeds from exercise of options (30,000 × $30)	$ 900,000	
Average unamortized stock compensation for 20X2 (average of $201,000 beginning amount and $100,500 ending amount)	150,750	
Total proceeds	$1,050,750	
Divide by average share price	$ 36	
Less: Treasury shares presumed to be purchased		29,188
Presumed new shares issued		812



Is Earnings per Share a Meaningful Number?

EPS ignores the amount of capital required to generate the reported earnings.

NI

	Company A	Company B
Net income available to common shareholders	$ 1,000,000	$ 1,000,000
Weighted average common shares outstanding	100,000	100,000
Basic earnings per share	$10	$10
Gross assets	$20,000,000	$30,000,000
Liabilities	10,000,000	10,000,000
Equity capital (Assets – Liabilities)	10,000,000	20,000,000
Return on equity (ROE)	10%	5%

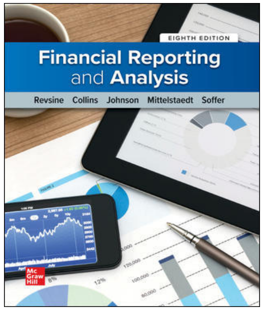
IS

A ↑

Which firm performed the best?

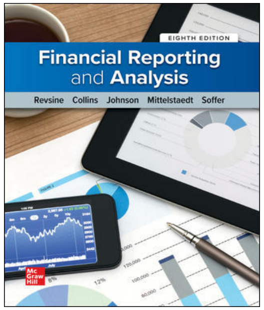
- Company A and Company B report identical basic EPS of $10, but Company B needed twice as much equity capital and 50% more gross assets to attain the $1,000,000 net income.
- Even though both A and B report the same level of net income and EPS, B has a return on equity of only 5%, while A's figure is 10%.
- Company A generates more earnings from existing resources—that is, from its equity capital.

BS



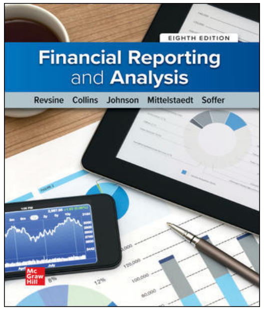
Summary

- Many aspects of financial reporting for owners' equity transactions are built on technical rules and procedures that have evolved over time.
- Other aspects of owners' equity accounting have not changed despite changing economic and legal environments. Still other aspects of owners' equity accounting involve complicated pronouncements that reflect political compromises.
- Stock buybacks don't produce accounting gains and losses, but they can be used to artificially inflate a company's reported EPS. Buybacks have grown in popularity. S&P 500 firms bought back almost $806 billion of stock in 2018.
- Preferred stock that has a mandatory redemption feature looks a lot like debt, so GAAP requires it to be classified as debt in most cases.



Summary, continued

- Some companies can pay dividends in excess of their retained earnings balance, but their ability to do so depends on state law.
- GAAP requires companies to record compensation expense based on the fair value of stock-based compensation at the date of grant. Fair value calculations require many assumptions, and the accounting is still controversial. The calculation methods and assumptions are disclosed in the notes to financial statements.
- Tax accounting for stock compensation is different than GAAP accounting. These differences in accounting lead to both temporary and permanent differences.



Summary, concluded

- GAAP ignores the option value in traditional convertible debt and can understate interest expense when companies issue traditional convertible debt. IFRS rules do not have this deficiency.
- While some rules for owners' equity accounting may seem arbitrary—and therefore insignificant—these financial statement items have a profound impact on lending agreements, regulation, and the cost of equity capital.
- EPS numbers are adjusted for potential dilution from stock options, warrants, and convertible securities.