

Transaction 7. Provided Services for Customers

On December 6, DataForce performed services for several customers and in exchange was paid \$13,510 cash. This transaction increased Cash by \$13,510 and increased Fee Revenue by the same amount. Because this transaction affects revenue, we now extend the horizontal worksheet to include the income statement. This income statement shows that revenues minus expenses equal net income. In addition, we add retained earnings to the balance sheet as a component of stockholders' equity, because net income affects retained earnings.

Trans.	Balance Sheet										Income Statement			
	Assets				=	Liabilities			+ Stockholders' Equity			Rev.	- Exp.	Net Income
	Cash	Office Supp.	Ppd. Rent	Equip-ment	=	Accts Pay.	Unearn. Rev.	Notes Pay.	Common Stock	Retained Earnings				
Bal.	25,800	2,850	10,800	32,400	=	2,850	3,000	36,000	30,000					
(7)	+13,510				=					+13,510			+13,510	
	39,310	+ 2,850	+ 10,800	+ 32,400	=	2,850	+ 3,000	+ 36,000	+ 30,000	+ 13,510	13,510	-	= 13,510	
	\$85,360					\$85,360								

Transaction 8. Performed Services for Both Cash and on Account

On December 8, DataForce performed \$4,740 of services and received \$1,000 in cash, with the remaining \$3,740 to be paid to DataForce by customers within 90 days. Businesses often extend credit to customers, allowing them to pay for goods or services at a later date. Under accrual accounting, revenue must be recorded when earned, regardless of when payment is received. Consequently, this transaction increased Cash by \$1,000, it increased Accounts Receivable by \$3,740, and it increased Fee Revenue by \$4,740. The accounting equation in the balance sheet remains in balance because both sides of the equation are increased by \$4,740.

A.K.A. Delivering goods or services in advance of payment is referred to as providing goods or services "on account" or "on credit."

Trans.	Balance Sheet										Income Statement			
	Assets				=	Liabilities			+ Stockholders' Equity			Rev.	- Exp.	Net Income
	Cash	Accts. Rec.	Office Supp.	Ppd. Rent	Equip-ment	=	Accts Pay.	Unearn. Rev.	Notes Pay.	Common Stock	Retained Earnings			
Bal.	39,310		2,850	10,800	32,400	=	2,850	3,000	36,000	30,000	13,510	13,510		13,510
(8)	+1,000	+3,740				=					+4,740			+4,740
	40,310	+ 3,740	+ 2,850	+ 10,800	+ 32,400	=	2,850	+ 3,000	+ 36,000	+ 30,000	+ 18,250	18,250	-	= 18,250
	\$90,100					\$90,100								

Non-Accounting Transaction. Hired an Employee

On December 13, DataForce hired an employee to provide administrative help in the office. The employee will be paid \$1,620 every two weeks and begins work Monday, December 16. At the time the employee is hired there is no immediate financial effect on the assets, liabilities, or stockholders' equity of the company. There is only an employment agreement between the employee and the company. The employee has not yet performed any work, nor has the employee received any wages.

Transaction 9. Paid Employee Wages

On December 27, DataForce paid the employee after she completed her first two weeks on the job. This transaction decreased Cash by \$1,620, and it increased Wage Expense by \$1,620. Note that the income statement includes a negative sign in front of expenses. Thus, the increase in expenses, indicated by +\$1,620, is deducted from revenues to compute net income.

dividends, and reduction for the repurchase of common stock. Meridian’s management began a program to repurchase common stock as a mechanism for returning capital to its shareholders. Why would management decide to repurchase shares? While many factors contribute to this decision, one is that the company has made profits that have generated large amounts of cash. If management does not have an immediate use for this cash, they may consider distributing it to shareholders in the form of stock repurchases.

EXHIBIT 4-9 Statement of Stockholders' Equity				
MERIDIAN, INC. Statement of Stockholders' Equity				
(\$ in millions)	Common Stock	Retained Earnings	Other Equity	Total Equity
December 31, prior year	\$65,064	\$ 4,487	\$1,185	\$70,736
Issuance of common stock	793			793
Net income		19,175		19,175
Dividends		(9,845)		(9,845)
Repurchase of common stock	(1,786)	(10,850)		(12,636)
Other adjustments	3,244		(784)	2,460
Balance as of December 31, current year . . .	<u>\$67,315</u>	<u>\$ 2,967</u>	<u>\$ 401</u>	<u>\$70,683</u>

ENVIRONMENTAL, SOCIAL, AND GOVERNANCE

Investing with a Social Conscience A segment of the investing community believes that companies that follow sustainable practices will see improved financial performance. **Socially responsible investing (SRI)**, also known as sustainable investing, considers a firm’s environmental stewardship, consumer protection, human rights and diversity, along with its financial performance. SRI funds incorporate Environmental, Social, and Governance (ESG) measures in developing investment strategies. Investments in SRI funds totaled \$17.1 trillion in assets in the United States at the start of 2020, amounting to 1 in 3 dollars in professionally managed investments according to the U.S. SIF Foundation’s 2020 “Report on US Sustainable and Impact Investing Trends.”



REVIEW 4.6

You have been asked to assist with the preparation of a statement of stockholders’ equity for Palatin Company for the current year ended December 31. You determine the following balances:

Beginning-of-year common stock	\$45,000
Beginning-of-year retained earning	17,500
Net income	22,500
Dividends	9,250
Issuance of common stock	4,000

REQUIRED
Prepare a statement of stockholders’ equity for Palatin Company for the current year.

The solution is on page 141.



Working with the Statement of Cash Flows

A common refrain heard from business people is that we do not pay bills with net income, we pay bills with cash! While net income is eventually converted into cash, it is the cash available that a company uses to run its business and pay its bills. Where can we find information about a company’s cash resources? The answer is the statement of cash flows, which provides information on a company’s sources and uses of cash.

The statement of cash flows aids us in understanding the change in cash reported by a company over a period of time, telling us how the cash is generated, and how it is being spent. The statement explains the change in cash over the accounting period, classifying all of the company’s

LO8 Explain the purpose of the statement of cash flows.



Solution 4.7

MEGACORP, INC.
Income Statement
For Year Ended December 31 (in millions)

Net sales		\$2,750
Less cost of goods sold		1,731
Gross profit on sales		1,019
Operating expenses		794
Income from operations		225
Other income		8
Income before income taxes		233
Income tax expenses		14
Net income		<u>\$ 219</u>

MEGACORP, INC.
Balance Sheet
December 31 (in millions)

Assets		
Current assets		
Cash	\$ 620	
Accounts receivable	383	
Inventory	293	
Other current assets	69	
Total current assets		\$1,365
Property, plant, and equipment		79
Intangible assets		463
Other long-term assets		132
Total assets		<u>\$2,039</u>
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	\$ 299	
Other current liabilities	434	
Total current liabilities		\$ 733
Long-term liabilities		130
Total liabilities		863
Stockholders' equity		
Common stock	87	
Retained earnings	1,120	
Other stockholders' equity	(31)	
Total stockholders' equity		1,176
Total liabilities and stockholders' equity		<u>\$2,039</u>

MEGACORP, INC.
Statement of Cash Flows
For Year Ended December 31 (in millions)

Cash flow provided by operations		\$305
Cash flow used by investing activities		(173)
Cash flow from financing activities		(169)
Net increase (decrease) in cash		(37)
Cash at beginning of the year		657
Cash at end of the year		<u>\$620</u>

divided by the number of interest payments ($\$808 = \$6,463/8$). Column C lists the total interest expense for each period, which equals the sum of the coupon interest payment (Column A) plus the discount amortization (Column B). Column D lists the balance of the unamortized discount at the end of each period, and Column E lists the book value of the bond at the end of each period, which equals the face value of the bond minus the ending balance of the discount.

The amounts recorded for each interest payment can be read directly from the amortization schedule. Interest expense and the amortization of the discount will be the same for each interest period. The financial statement effect of the first interest payment follows:

Transaction: *Semiannual interest payment and amortization of bond discount.*

Balance Sheet					Income Statement			
Assets	=	Liabilities	+	Stockholders' Equity				
				Contrib. Capital	+	Retained Earnings	Revenues	- Expenses = Net Income
-4,000 Cash	=	+808 Discount on bonds payable	+	-4,808			-	+4,808 = -4,808 Bond interest expense

Amortizing the bond discount over the four-year life of the bonds leaves a zero balance in the Discount on Bonds Payable account on the maturity date of the bonds. The retirement of the bonds at maturity then is recorded by reducing Bonds Payable and Cash by \$100,000, the amount of their face value.

Straight-line Method of Premium Amortization

The straight-line method for amortizing a bond premium is handled the same way as bond discount amortization. **Exhibit 9-3** shows the amortization schedule for Reid, Inc., when the bonds are issued at a premium, using the straight-line amortization method. Column A lists the coupon interest payment for each six-month period ($\$4,000 = 8\% \times 6/12 \times \$100,000$), and Column B lists the amount of the premium that is amortized each six-month period ($\$878 = \$7,020/8$). Column C lists the total interest expense for each period. In the case of a premium, the amortization of the premium (Column B) is deducted from the coupon interest payment (Column A) to compute the total interest expense for the period (Column C). Column D lists the balance of the unamortized premium at the end of each period, and Column E lists the book value of the bond at the end of each period, which equals the face value of the bond plus the ending balance of the premium.

EXHIBIT 9-3 Bonds Sold at a Premium: Straight-line Method

\$100,000 of 8%, four-year bonds with interest payable semiannually issued on December 31, Year 1, at \$107,020 to yield 6%

Year	Interest Period	A Interest Paid ($8\% \times 1/2 \times$ face value)	B Straight-line Amortization (\$7,020/8)	C Interest Expense (A - B)	D Balance of Unamortized Premium (D - B)	E Book Value of Bonds—End of Period (\$100,000 + D)
At issue . . .					\$7,020	\$107,020
2	1	\$4,000	\$878	\$3,122	6,142	106,142
	2	4,000	878	3,122	5,264	105,264
3	3	4,000	878	3,122	4,386	104,386
	4	4,000	878	3,122	3,508	103,508
4	5	4,000	878	3,122	2,630	102,630
	6	4,000	878	3,122	1,752	101,752
5	7	4,000	878	3,122	874	100,874
	8	4,000	874*	3,126	—	100,000

*Adjusted for cumulative rounding error of \$4

Note that the periodic interest expense is less than the semiannual interest payment when bonds are issued at a premium. The financial statement effect of the first interest payment follows.

If Los Altos, Inc., subsequently resells 500 shares of its treasury stock at \$14 per share (the market value at the time of the reissuance), the Treasury Stock account is reduced by the original cost of the treasury stock (500 × \$12 per share = \$6,000) and the excess [(500 × (\$14 – \$12) = \$1,000] increases paid-in capital in excess of par value. This is shown in the transaction analysis template and the stockholders' equity section of Los Altos, Inc.'s balance sheet after recording this transaction.

Transaction: Sale of 500 shares of treasury stock for \$14 per share. The original cost of the treasury shares was \$12.

Balance Sheet						Income Statement				
Assets	=	Liabilities	+	Stockholders' Equity		Revenues	–	Expenses	=	Net Income
				Contrib. Capital	+ Retained Earnings	– Treasury Stock				
+7,000 Cash	=		+	+1,000 Additional paid-in capital— Treasury stock	+	–6,000 Treasury stock		–	=	

LOS ALTOS, INC. Stockholders' Equity After Resale of Treasury Stock	
Contributed Capital	
Common stock, \$10 par value, authorized and issued 20,000 shares; 500 shares in treasury, 19,500 shares outstanding	\$200,000
Paid-in capital in excess of par value (\$20,000 + \$1,000 treasury)	21,000
Total Contributed Capital	221,000
Retained earnings	40,000
	261,000
Less: Treasury stock (500 shares) at cost (\$12,000 – (500 × \$12))	6,000
Total Stockholders' Equity	<u>\$255,000</u>

Note that the additional \$1,000 received on the resale of the treasury stock is accounted for as an increase in contributed capital and not as net income. This is because the treasury stock is reissued at its market price, and, thus, does not result in a gain for the existing shareholders.

Accounting for Repurchase and Retirement of Stock

When a corporation acquires its own outstanding shares and retires them, the Common Stock account is reduced by the amount of the par value. The excess of the repurchase price over the par value is allocated to Additional Paid-In Capital and/or Retained Earnings. While management has some discretion in this allocation, companies typically reduce Additional Paid-In Capital by the amount related to the original issue price, and any remaining amount to Retained Earnings. Note, however, that the net effect on total stockholders' equity is the same as with the acquisition of Treasury Stock.

To illustrate, assume Los Altos, Inc., repurchased the 1,000 shares at \$12 as discussed above, but retired them instead of holding them in the Treasury. The financial statement effect is a reduction to Common Stock of \$10,000 (1,000 shares × \$10 par), a reduction to Additional Paid-in Capital of \$1,000 ((original issue price of \$11 – \$10 par) × 1,000 shares) and a reduction to Retained Earnings of \$1,000 (\$12,000 – \$10,000 – \$1,000). Note that the original issue price of \$11 is calculated as total contributed capital divided by the number of issued shares (\$220,000/20,000 shares). As with the treasury stock transaction, Cash is reduced by \$12,000.

- Nov. 21 Issued 5,000 shares of common stock at \$11 cash per share.
- Dec. 28 Sold 1,200 treasury shares at \$9 per share.
- 31 Closed net income of \$83,000 to the Retained Earnings account.

Required

- a. Set up a horizontal worksheet for the stockholders' equity accounts as of the beginning of the year and enter the January 1 balances. Add columns for Treasury Stock and Paid-in capital from Treasury stock.
- b. Determine the ending balances for the stockholders' equity accounts after accounting for the above transactions.
- c. Prepare the stockholders' equity section of the balance sheet at December 31.

P10-5. Stockholders' Equity: Analyze Information from Comparative Data Comparative stockholders' equity sections from two successive years of balance sheets from Smiley, Inc., are as follows:

LO4, 6



	Dec. 31, Current Year	Dec. 31, Prior Year
Contributed Capital		
8 Percent preferred stock, \$50 par value, authorized 20,000 shares; issued and outstanding, prior year: 8,000 shares; current year: 12,000 shares	\$ 600,000	\$ 400,000
Common stock, no-par value, \$20 stated value, authorized 80,000 shares; issued, prior year: 32,000 shares; current year: 40,000 shares	800,000	640,000
Additional Paid-in Capital		
In excess of par value—Preferred stock	224,000	144,000
In excess of stated value—Common stock	232,000	160,000
From treasury stock	21,000	
Retained earnings	300,000	229,000
		<u>\$1,573,000</u>
Less: Treasury stock (7,000 shares common) at cost	0	196,000
Total Stockholders' Equity	<u>\$2,177,000</u>	<u>\$1,377,000</u>

No dividends were declared or paid during the current year.

Required

Using the TAT, analyze the transactions affecting stockholders' equity that occurred during the current year. Do not prepare the entry for closing net income to retained earnings. Assume that any share transactions were for cash.

P10-6. Stockholders' Equity Transactions The stockholders' equity of Fremantle Corporation at January 1 follows:

LO4, 5, 6



8 Percent preferred stock, \$100 par value, 20,000 shares authorized; 4,000 shares issued and outstanding	\$ 400,000
Common stock, \$1 par value, 100,000 shares authorized; 40,000 shares issued and outstanding	40,000
Paid-in capital in excess of par value—Preferred stock	200,000
Paid-in capital in excess of par value—Common stock	800,000
Retained earnings	550,000
Total Stockholders' Equity	<u>\$1,990,000</u>

The following transactions, among others, occurred during the year:

- Jan. 1 Announced a 2-for-1 common stock split, reducing the par value of the common stock to \$0.50 per share.
- Mar. 31 Converted \$80,000 face value of convertible bonds payable (the book value of the bonds was \$83,000) to common stock. Each \$1,000 bond converted to 125 shares of common stock.
- June 1 Acquired equipment with a fair market value of \$45,000 in exchange for 300 shares of preferred stock.
- Sept. 1 Acquired 10,000 shares of common stock for cash at \$20 per share.
- Nov. 21 Issued 5,000 shares of common stock at \$22 cash per share.
- Dec. 28 Sold 1,000 treasury shares at \$23 per share.
- 31 Closed net income of \$103,000, to the Retained Earnings account.

- Compare the median values obtained in part 12 to the average values listed in PivotTable 1 and answer the following question: What caused the differences between the mean and median values in your calculations?

DA12-2. Critically Analyzing a Visualization in Excel

The financial information in the Excel file associated with this exercise was obtained from 10-K reports for **Costco Wholesale Corporation**. In this exercise, we examine how changing the starting point (baseline) of the y-axis from 0.0 impacts the chart that is created. The chart that is created for Costco examines return on equity over a five-year period. The return on equity ratio measures the return of the stockholders' investment in the company. An increase in the ratio generally means that the company is more efficiently using its equity to generate profits.



REQUIRED

- Download Excel file DA12-2 found in myBusinessCourse.
- Calculate the return on equity for Costco for Year 2 through Year 6 in Excel. Carry your answers to three decimal places.
- Create a line chart showing the return on equity for Year 2 through Year 6. Note that when you use the default setting, the y-axis starts at point 0.0. *Hint:* Highlight data; click Insert, Line. You may need to edit the data selections. Right-click inside the chart, Select Data. The Series (y-axis) should be the ROE; the Category (x-axis) should be Years 2–6.
- Create a second line chart showing the return on equity for Year 2 through Year 6. For this second chart, change the scale of the y-axis to start at 0.17 and to end at 0.27. *Hint:* Right-click inside the y-axis scale and select Format Axis. Set Minimum bound as 0.17 and Maximum bound as 0.27 on the column chart icon tab.
- Indicate which of the following descriptions best depicts the trends in Chart 1 and the description that best depicts the trends in Chart 2:
 - Return on equity increased sharply from Year 2 to Year 4, stabilized for a year and dropped more rapidly in Year 5.
 - Return on equity gradually increased from Year 2 to Year 4, and remained fairly stable through Year 6.
- Compute the percentage change in ROE from Year 2 to Year 3, Year 3 to Year 4, Year 4 to Year 5, and Year 5 to Year 6 in Excel.
- Compare Chart 1 to Chart 2.

$$\text{Return on equity} = \frac{\text{Net income}}{\text{Average stockholders' equity}}$$

DA12-3. Preparing Tableau Visualizations to Analyze the Use of Assets Through Asset Turnover


Refer to PF-26 in Appendix F. This problem uses Tableau to analyze asset utilization of S&P 500 companies in certain segments through the asset turnover ratio.



DA12-4. Preparing Tableau Visualizations to Decompose Return on Equity Using the DuPont Method: Part I, Part II, Part III

Refer to PF-29, PF-30, and PF-31 in Appendix F. This three-part problem uses Tableau to decompose the return on equity ratio of S&P 500 companies using the DuPont method. The final part of the problem includes the creation of an interactive dashboard.



Assignments with the  logo in the margin are available in **myBusinessCourse**. See the Preface of the book for details.

SHORT EXERCISES

Use the following financial data for Hi-Tech Instruments to answer Short Exercises 12-1 through 12-10, compute ratios for the *current* year.

For the Year Ended December 31 (Thousands of Dollars, except Earnings per Share)	
Sales revenue	\$210,000
Cost of goods sold	125,000
Net income	8,300
Dividends	2,600
Earnings per share	4.15

Transaction 2: Paid rent in advance.

On December 1, DataForce prepaid rent for the office covering the next six months, December of the current year through May of the following year. Monthly rent is \$1,800; the total amount prepaid was \$10,800 cash.

Balance Sheet					Income Statement		
Trans	Assets	=	Liabilities	+ Stockholders' Equity	Revenues	- Expenses	= Net Income
				Contrib. Capital + Retained Earnings			
2	-10,800 Cash +10,800 Prepaid Rent	=		+			

Dec. 1	Prepaid rent	10,800	
	Cash		10,800
To record advance payment of six months' rent.			

Prepaid Rent		Cash	
(2)	10,800	(1)	30,000 10,800 (2)

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Transaction 3: Purchased office supplies on account.

On December 1, DataForce purchased \$2,850 of office supplies on account.

Balance Sheet					Income Statement		
Trans	Assets	=	Liabilities	+ Stockholders' Equity	Revenues	- Expenses	= Net Income
				Contrib. Capital + Retained Earnings			
3	+2,850 Office Supplies	=	+2,850 Accounts Payable	+			

Dec. 1	Office supplies	2,850	
	Accounts payable		2,850
To record purchase of office supplies.			

Office Supplies		Cash	
(3)	2,850	(1)	2,850 (3)

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Transaction 4: Signed bank note in exchange for cash.

On December 1, DataForce obtained a two-year bank loan for \$36,000, signing a note payable. Annual interest of 10 percent is due each November 30.

Balance Sheet					Income Statement		
Trans	Assets	=	Liabilities	+ Stockholders' Equity	Revenues	- Expenses	= Net Income
				Contrib. Capital + Retained Earnings			
4	+36,000 Cash	=	+36,000 Notes Payable	+			

Dec. 1	Cash	36,000	
	Notes payable		36,000
To record borrowing of funds.			

Cash		Notes Payable	
(1)	30,000 10,800 (2)	(4)	36,000 (4)

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Recognizing Accrued Revenue

Accrued Revenues

Transaction: *Accrue fee revenue earned in December.*

Balance Sheet					Income Statement		
Trans	Assets	=	Liabilities	+ Stockholders' Equity	Revenues	- Expenses	= Net Income
				Contrib. Capital + Retained Earnings			
(e)	+150 Accounts receivable	=		+ +150	+150 Fee revenue	-	= +150

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Dec. 31 Accounts receivable 150
 Fee revenue 150
To record accrued fee revenue earned in December.

Accounts Receivable		Fee Revenue	
Unadjusted	1,340	18,250	Unadjusted
(e)	150	750	(a)
Adjusted	1,490	19,150	Adjusted

Recognizing Accrued Expenses

Accrued Expenses

Transaction: *Accrue wages for the last two days of December.*

Balance Sheet					Income Statement		
Trans	Assets	=	Liabilities	+ Stockholders' Equity	Revenues	- Expenses	= Net Income
				Contrib. Capital + Retained Earnings			
(f)		=	+324 Wages payable	+ -324		+324 Wage expense	= -324

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Dec. 31 Wage expense 324
 Wages payable 324
To record accrued wages for the final two days of December.

Wage Expense		Wages Payable	
Unadjusted	1,620	0	Unadjusted
(f)	324	324	(f)
Adjusted	1,944	324	Adjusted

Transaction: *Accrue interest expense for* December.

Balance Sheet					Income Statement		
Trans	Assets	=	Liabilities	+ Stockholders' Equity	Revenues	- Expenses	= Net Income
				Contrib. Capital + Retained Earnings			
(g)		=	+300 Interest payable	+ -300		- +300 Interest expense	= -300

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Dec. 31	Interest expense	300	
	Interest payable		300
	<i>To record accrued interest expense for December.</i>		

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Interest Expense		Interest Payable	
Unadjusted	0	0	Unadjusted
(g)	300	300	(g)
Adjusted	300	300	Adjusted

Summary of Accounting Adjustments

Exhibit C-6 summarizes the adjusting entries for DataForce as recorded in its general journal. These adjustments would be posted to the company’s general ledger.

Exhibit C-7 lists the four types of accounting adjustments and also shows (1) examples of how each type of adjustment arises, (2) the generic adjusting entry for each type of adjustment, and (3) what accounts are overstated or understated *prior to* any adjustment. As we explained, each adjustment affects at least one balance sheet (asset or liability) account and at least one income statement account (expense or revenue).