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Part Two

Solutions to End-of-Chapter Problems

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Chapter 3
Understanding Financial Statements

3-1. To find net income, we must subtract all relevant expenses from revenues: cost of goods sold, operating expenses, interest expense, and taxes. Following the template from Checkpoint 3.1, we find the following for GMT Transport Company.

			Notes
Sales Revenue		$18,000,000	given
COGS	(10,800,000)		given
Cash Operating Expenses	(4,000,000)		given
Total Expenses	(14,800,000)		computed
Net Operating Income		$3,200,000	computed
Interest Expense		(1,500,000)	given
Earnings before Income Taxes		$1,700,000	computed
Income Tax (Tax Liability)		(595,000)	given
Net Income		$1,105,000	computed

GMT Transport Company was able to generate $1,105,000 in net income from its sales of $18 million. The $1,105,000 is now available to pay out to shareholders (dividends), and/or to reinvest in the business (retained earnings).

3-2. We just learned in Problem 3-1that GMT Transport Company has $1,105,000to allocate to dividends and reinvestment. If it chooses to reinvest $1 million, then it will have ($1,105,000 - $1,000,000) = $105,000 to pay out as dividends (a [$105,000/$1,105,000= 9.5% payout ratio).

3-3. Marifield Steel Fabrication earned net income of $500,000, then paid out a dividend of $300,000. This left ($500,000 – $300,000) = $200,000 to be retained by the firm to finance growth.

However, earnings per share is based on net income, not reinvested earnings. Thus, the firm's EPS is:

$$\text{EPS} = \left(\frac{\text{net income}}{\#\text{common shares}} \right)$$

$$= \left(\frac{\$500,000}{100,000} \right) = \$5/\text{share}.$$

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3-4. Merry Soundtracks, Inc. earned $4 million in taxable income. Using the corporate tax rates given in Section 3.3 of the chapter, we find the following:

bracket	marginal taxable income	cumulative income taxed	marginal tax rate	tax liability	cumulative tax liability	average tax rate
#1	$50,000	$50,000	15%	$7,500	$7,500	15.00%
#2	$25,000	$75,000	25%	$6,250	$13,750	18.33%
#3	$25,000	$100,000	34%	$8,500	$22,250	22.25%
#4	$235,000	$335,000	39%	$91,650	$113,900	34.00%
#5	$3,665,000	$4,000,000	34%	$1,246,100	**$1,360,000**	**34.00%**

Merry Soundtracks, Inc.'s total tax liability is $1,360,000, for an average tax rate of ($1,360,000/$4,000,000) = 34%.

The chart above is very close to that in Section 3.3. However, we will explain the entries, using the calculations for bracket #3 (highlighted in the chart) as an example:

Bracket #3 is shown in the text to apply to taxable income between $75,001 through $100,000. Thus, the bracket applies to $25,000, which is what we have entered in the "marginal taxable income" column. The "cumulative income taxed" column shows $100,000, meaning that when we have moved through this third bracket, we will have taxed our first $100,000 of taxable income.

Since we move all the way through the third bracket, we generate ($25,000 taxable income in bracket) ∗ (34% marginal tax rate) = $8500 in tax liability from that bracket. Added to the tax we owed for the first two brackets, this implies a total liability so far of ($13,750 + $8500) = $22,250. This tax liability is a weighted average of the rates whose brackets we've passed through: 15%, 25%, and 34%. This average tax rate equals [($22,250 tax liability so far)/($100,000 taxed so far)] = 22.25%, a value between 15% and 34%.

Note that the final average tax rate for the firm is 34%. Our average tax rate equals our marginal rate, even though our first dollars were taxed at 15% and 25%! What's going on?

The chart below shows how the fourth bracket's 5% surcharge (to 39%) takes away the benefits of the lower tax rates of the first two brackets. Column D shows how each bracket's taxable income increment would be taxed if exposed to a flat rate of 34%. Column E then shows the difference between this hypothetical flat 34% tax and the actual, progressive rates. The first two brackets save the company $11,750 relative to the flat 34%. However, this is exactly the amount recouped by the 5% surcharge as the company moves all the way though the fourth bracket. Companies that have more than $335,000 in taxable income, but less than $10 million, are indifferent between the actual progressive system and a flat rate of 34%.

	A		B	C = A*B			D = A*(34%)	E = D - C
bracket	marginal taxable income	cumulative income taxed	marginal tax rate	tax liability	cumulative tax liability	average tax rate	tax liability at 34%	$ saved from actual tax rates
#1	$50,000	$50,000	15%	$7,500	$7,500	15.00%	$17,000	$9,500
#2	$25,000	$75,000	25%	$6,250	$13,750	18.33%	$8,500	$2,250
#3	$25,000	$100,000	34%	$8,500	$22,250	22.25%	$8,500	$0
#4	$235,000	$335,000	39%	$91,650	$113,900	34.00%	$79,900	($11,750)
#5	$3,665,000	$4,000,000	34%	$1,246,100	$1,360,000	34.00%	$1,246,100	$0
							SUM =	**$0**

As noted in the text, firms with taxable income greater than $18.33 million, the top of the 7th bracket, are indifferent between the progressive scheme and a flat rate of 35%.

3-5. Sanderson, Inc.'s situation before the dividends is:

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			notes
Sales		$3,000,000	given
Cost of Goods Sold		($2,000,000)	given
Gross Profit		$1,000,000	
Operating Expenses			
Depreciation Expense	($100,000)		given
Other Operating Expenses	($400,000)		given
Total Operating Expenses		($500,000)	given
Operating Income (EBIT)		$500,000	
Interest Expense		($150,000)	given
Earnings Before Taxes (EBT)		$350,000	

However, before we can determine the firm's tax liability, we must consider the tax due on its dividends received. The firm received $50,000 from a company in which it owned less than 20%. Because of the dividends-received deduction, Sanderson only needs to pay taxes on (100% − 70%) = 30% of these dividends. This will add (30%) * ($50,000) = $15,000 to the firm's taxable income. Dividends paid to the firm's own shareholders are made after taxes are paid. They therefore will not affect the firm's tax liability.

Thus, we have:

Earnings Before Taxes (EBT)	$350,000
Dividends Received, after 70% Dividends-Received Deduction	$15,000
Total Taxable Income	$365,000

bracket	marginal taxable income	cumulative income taxed	marginal tax rate	tax liability	cumulative tax liability	average tax rate
#1	$50,000	$50,000	15%	$7,500	$7,500	15.00%
#2	$25,000	$75,000	25%	$6,250	$13,750	18.33%
#3	$25,000	$100,000	34%	$8,500	$22,250	22.25%
#4	$235,000	$335,000	39%	$91,650	$113,900	34.00%
#5	$30,000	$365,000	34%	$10,200	**$124,100**	**34.00%**

Sanderson has $365,000 in taxable income, so it will end up in the 5th tax bracket. Thus, as we saw in Problem 3-4, this means that Sanderson's average tax rate equals its marginal rate of 34%.

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3-6. The statement below outlines the situation of the Robbins Corporation.

			notes
Sales		$1,000,000	given
Cost of Goods Sold		($600,000)	given
Gross Profit		$400,000	
Operating Expenses			
Depreciation Expense	($50,000)		given
Cash Operating Expenses	($100,000)		given
Total Operating Expenses		($150,000)	given
Operating Income (EBIT)		$250,000	
Interest Expense		($200,000)	given
Earnings Before Taxes (EBT)		$50,000	
Earnings Before Taxes (EBT)		$50,000	
Dividends Received, after 75% Dividends-Received Deduction		$10,000	
Total Taxable Income		$60,000	

Because Robbins owns between 20% and 79% of a firm's shares, the dividend it receives from that firm are subject to a 75% dividends-received deduction. Thus, Robbins is only taxed on (100% − 75%) = 25% of its dividends received, or (25%) ∗ ($40,000) = $10,000.

Adding Robbins' $10,000 in taxable dividends to its $50,000 in taxable income from operations gives the firm a total of $60,000 in taxable income. We can now compute its tax liability as follows:

bracket	marginal taxable income	cumulative income taxed	marginal tax rate	tax liability	cumulative tax liability	average tax rate
#1	$50,000	$50,000	15%	$7,500	$7,500	15.00%
#2	$10,000	$60,000	25%	$2,500	**$10,000**	**16.67%**

Robbins finishes in the middle of the second bracket, so its marginal tax rate (the rate on its next dollar of income, which will still be in the second bracket) is 25%. Its average tax rate is the weighted average of the $50,000 taxed in the first bracket at 15%, and the ($60,000 − $50,000) = $10,000 taxed at 25% in the second bracket: [($50,000/$60,000) ∗ (15%)] + [($10,000/$60,000) ∗ (25%)] = [(0.8333) ∗ (15%)] + [(0.1667) ∗ (25%)] = 16.67%.

As for additional action: Robbins made $1 million in sales, but generated only ($50,000 − $10,000 tax liability) = $40,000 in after-tax (net) income (ignoring the dividends it received). It may want to search for operating efficiencies to improve its profit margins. Its interest expense, in particular, seem high.

Note that we did not consider Robbins' dividend payments to its own stockholders here as those payments are made after taxes are paid.

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3-7. For J.P. Hulett, Inc. we have the following statement calculating taxable income:

			notes
Sales		$4,000,000	given
Cost of Goods Sold		($3,000,000)	
Gross Profit		$1,000,000	given
Operating Expenses			
Depreciation Expense	($350,000)		given
Other Operating Expenses	($500,000)		given
Total Operating Expenses		($850,000)	
Operating Income (EBIT)		$150,000	
Interest Expense		$0	(none was mentioned)
Earnings Before Taxes (EBT)		$150,000	
Earnings Before Taxes (EBT)		$150,000	
Dividends Received, after 100% Dividends-Received Deduction		$0	
Total Taxable Income		$150,000	

Since Hulett owns more than 80% of the shares of the firm from which it received dividends, none of the dividends are taxable to Hulett, and we can ignore them.

Given Hulett's taxable income of $150,000, we can find its tax liability as follows:

bracket	marginal taxable income	cumulative income taxed	marginal tax rate	tax liability	cumulative tax liability	average tax rate
#1	$50,000	$50,000	15%	$7,500	$7,500	15.00%
#2	$25,000	$75,000	25%	$6,250	$13,750	18.33%
#3	$25,000	$100,000	34%	$8,500	$22,250	22.25%
#4	$50,000	$150,000	39%	$19,500	**$41,750**	**27.83%**

Hulett's taxable income of $150,000 takes it up to the fourth bracket, where its marginal tax rate (the tax rate on next dollar of income) is 39%. Its average tax rate is a weighted average of the tax rates from the first through fourth bracket: 15%, 25%, 34%, and 39%. For Hulett, this average is ($41,750/$150,000) = 27.83%. If Hulett had made it all the way through the fourth bracket, its average tax rate would have been 34%, as we discussed in Problem 3-4.

3-8. The statement below shows how we can compute the taxable income for G.R. Edwin, Inc.:

		notes
Sales	$6,000,000	given
Cost of Goods Sold	($3,000,000)	given
Gross Profit	$3,000,000	
Operating Expenses	($2,600,000)	given
Operating Income (EBIT)	$400,000	
Interest Expense	($30,000)	given
Earnings Before Taxes (EBT)	$370,000	

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Edwin therefore has taxable income of $370,000. Using the corporate tax tables from the chapter, we can therefore determine the tax liability as:

bracket	marginal taxable income	cumulative income taxed	marginal tax rate	tax liability	cumulative tax liability	average tax rate
#1	$50,000	$50,000	15%	$7,500	$7,500	15.00%
#2	$25,000	$75,000	25%	$6,250	$13,750	18.33%
#3	$25,000	$100,000	34%	$8,500	$22,250	22.25%
#4	$235,000	$335,000	39%	$91,650	$113,900	34.00%
#5	$35,000	$370,000	34%	$11,900	**$125,800**	**34.00%**

Since the firm's taxable income moved it beyond the fourth bracket and into the fifth bracket, Edwin's average tax rate is 34% ($125,800 tax liability/$370,000 taxable income), the same as its marginal tax rate. Remember that the fourth bracket has a surcharge that gradually takes away the benefits of initially moving through the 1st (15%) and 2nd (25%) brackets. Moving all the way through the fourth bracket, as Edwin did, means that all of those low-rate benefits are taken away, and the firm is left as if it had paid a flat rate of 34% from the beginning.

3-9. Meyer, Inc. has taxable income of $300,000, which is in the fourth tax bracket. Since Meyer won't move all the way through this bracket (its upper limit is $335,000, higher than Meyer's EBT), its marginal tax rate will be the 4th bracket's rate, 39%. Also, since Meyer will not have moved all the way through the 4th bracket, it will not have all of the benefits of the low-rate 1st and 2nd brackets taken away; its average tax rate will therefore be less than 34%. We can find its tax liability and average tax rate as follows:

bracket	marginal taxable income	cumulative income taxed	marginal tax rate	tax liability	cumulative tax liability	average tax rate
#1	$50,000	$50,000	15%	$7,500	$7,500	15.00%
#2	$25,000	$75,000	25%	$6,250	$13,750	18.33%
#3	$25,000	$100,000	34%	$8,500	$22,250	22.25%
#4	$200,000	$300,000	39%	$78,000	**$100,250**	**33.42%**

of $300,000. Its average tax rate is therefore $\left(\frac{\$100,250}{\$300,000}\right) = 33.42\%$.

3-10. Kelly and Co., Inc. has $19 million of taxable income. This puts the firm into the very highest tax bracket, the eighth, in which the marginal tax rate is 35%. In earlier problems (e.g., 3-4 and 3-8), we saw that firms whose taxable income fell into the 5th bracket had their low-rate brackets' benefits taken away, leaving them with a flat 34% tax rate. Firms like Kelly and Co., Inc. that make it all the way into the 8th bracket have a similar but more severe situation: They have all of their low-rate benefits taken away, leaving them with a flat 35% rate.

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taxable income = **$19,000,000**

bracket	A marginal taxable income	B cumulative income taxed	C marginal tax rate	D = A*C tax liability	E cumulative tax liability	F = E/B average tax rate
#1	$50,000	$50,000	15%	$7,500	$7,500	15.00%
#2	$25,000	$75,000	25%	$6,250	$13,750	18.33%
#3	$25,000	$100,000	34%	$8,500	$22,250	22.25%
#4	$235,000	$335,000	39%	$91,650	$113,900	34.00%
#5	$9,665,000	$10,000,000	34%	$3,286,100	$3,400,000	34.00%
#6	$5,000,000	$15,000,000	35%	$1,750,000	$5,150,000	34.33%
#7	$3,333,333	$18,333,333	38%	$1,266,667	$6,416,667	35.00%
#8	$666,667	**$19,000,000**	35%	$233,333	**$6,650,000**	**35.00%**

How does this happen? We can track the benefits from the lower-rate brackets and the costs of the higher-rate brackets as shown below:

bracket	A marginal taxable income	cumulative income taxed	B marginal tax rate	C = A*B tax liability	cumulative tax liability	average tax rate	D = (A*35%) tax liability at 35%	E = D - C $ saved from actual tax rates	cumulative savings
#1	$50,000	$50,000	15%	$7,500	$7,500	15.00%	$17,500	$10,000	$10,000
#2	$25,000	$75,000	25%	$6,250	$13,750	18.33%	$8,750	$2,500	$12,500
#3	$25,000	$100,000	34%	$8,500	$22,250	22.25%	$8,750	$250	$12,750
#4	$235,000	$335,000	39%	$91,650	$113,900	34.00%	$82,250	($9,400)	$3,350
#5	$9,665,000	$10,000,000	34%	$3,286,100	$3,400,000	34.00%	$3,382,750	$96,650	$100,000
#6	$5,000,000	$15,000,000	35%	$1,750,000	$5,150,000	34.33%	$1,750,000	$0	$100,000
#7	$3,333,333	$18,333,333	38%	$1,266,667	$6,416,667	35.00%	$1,166,667	($100,000)	$0
#8	$666,667	**$19,000,000**	35%	$233,333	$6,650,000	35.00%	$233,333	$0	$0
							SUM =	$0	

Column D in the chart above calculates the tax liability for a bracket, assuming that the rate for that bracket is 35%. Column E then compares that hypothetical 35% tax liability with the actual liability for the bracket. For brackets whose rates are less than 35%, column E therefore shows a savings—a benefit from paying the actual, lower rate rather than 35%. However, in brackets #4 and #7, column E is negative. In these brackets, the marginal rates are greater than 35%. These brackets are taking back the benefits of the lower-rate brackets. If a taxpayer passes all the way through the 7th bracket, as Kelly and Co., Inc., does, then all of the low-rate benefits are taken away. The taxpayer whose taxable income is greater than $18.33 million pays a flat 35%.

3-11. Caraway Seed Co.'s balance sheet is shown below:

ASSETS		**LIABILITIES**	
Current Assets	$50,000	Current Liabilities	$30,000
Net Fixed Assets	$250,000	Long-Term Debt	$100,000
		TOTAL LIABILITIES	$130,000
		OWNERS' EQUITY	
		STOCKHOLDERS' EQUITY	**$170,000** (plug)
TOTAL ASSETS	$300,000	TOTAL L & OE	$300,000

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a. Caraway's total assets are the sum of its current (short-term) assets of $50,000 and its fixed (long-term) assets of $250,000, i.e., $300,000. Since this is what Caraway has, this is the amount for which it has received funding. Caraway uses two types of funding: debt and equity. It therefore must be true that its debt funding plus its equity funding equals the total, $300,000. We are told that Caraway has $30,000 in current (short-term) debt, plus $100,000 in long-term debt. It therefore has received a total of ($30,000 + $100,000) = $130,000 in debt funding. Since it has $300,000 in assets, it must be that ($300,000 – $130,000) = $170,000 in funding has come from equity. (Once we know total assets and total liabilities, then, total equity is just a plug figure.)

b. If we focus on current assets and liabilities, we can find net working capital, which is defined in equation 3-5 as:

$$\text{net working capital} = \text{current assets} - \text{current liabilities}$$
$$= \$50{,}000 - \$30{,}000 = \$20{,}000.$$

This is the amount of liquid assets that Caraway has, above and beyond what it needs to make payments over the next year. Given that its current liabilities are $30,000, a cushion of $20,000 seems to imply that Caraway is very liquid.

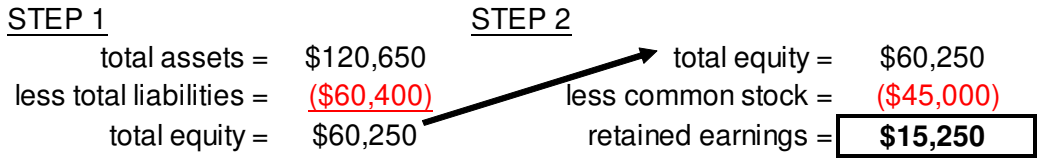
c. Knowing that the firm's $30,000 in current liabilities is comprised of $20,000 in accounts payable and $10,000 in notes payable does not affect working capital, which is based on total current liabilities and assets. (See Figure 3.1, where working capital is defined graphically; current liabilities there include A/P and N/P.)

3-12. First, let's categorize the accounts we were given:

		TYPE OF ACCOUNT							STATEMENT	
account	amount	current asset	fixed asset	current liability	long-term debt	equity	revenue	expense	balance sheet	income statement
inventory	$6,500	X							X	
common stock	$45,000					X			X	
cash	$16,550	X							X	
operating expenses	$1,350							X		X
short-term notes payable	$600			X					X	
interest expense	$900							X		X
depreciation expense	$500							X		X
sales	$12,800						X			X
accounts receivable	$9,600	X							X	
accounts payable	$4,800			X					X	
long-term debt	$55,000				X				X	
cost of goods sold	$5,750							X		X
buildings & equipment	$122,000		X						X	
accumulated depreciation	$34,000		contra-asset						X	
taxes	$1,440							X		X
general & administrative expense	$850							X		X
retained earnings	**PLUG**					X			X	

Note that expenses and revenues go on the income statement, while assets, liabilities, and equity go on the balance sheet.

As shown on the next page, we will find retained earnings as the plug figure that will equate total assets with total liabilities and owners' equity. We use the following 2-step process:



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a. Now that we know which accounts belong to which statement, we can create the statements as follows:

BELMOND, INC.
INCOME STATEMENT (for year ended mm/dd/yy)

Sales		$12,800
Cost of Goods Sold		($5,750)
Gross Profit		$7,050
Operating Expenses		
Depreciation Expense	($500)	
Operating Expenses	($1,350)	
General and Administrative Expenses	($850)	
Total Operating Expenses		($2,700)
Operating Income (EBIT)		$4,350
Interest Expense		($900)
Earnings Before Taxes (EBT)		$3,450
Taxes		($1,440)
Net Income		$2,010

BELMOND, INC.
BALANCE SHEET (as of mm/dd/yy)

ASSETS		**LIABILITIES**		
Current Assets		Current Liabilities		
Cash	$16,550	Accounts Payable	$4,800	
Accounts Receivable	$9,600	Short-term Notes Payable	$600	
Inventory	$6,500	Total Current Liabilities	$5,400	
Total Current Assets	$32,650			
Buildings & Equipment	$122,000	Long-Term Debt	$55,000	
Less: Acc. Depreciation	($34,000)	Total Liabilities	$60,400	
Net Fixed Assets	$88,000			
		OWNERS' EQUITY		
		Common Stock	$45,000	
		Retained Earnings	**$15,250**	(plug)
		Total Common Stockholders' Equity	$60,250	
TOTAL ASSETS	$120,650	TOTAL L & OE	$120,650	

b. Now that we've identified Belmond's current assets and current liabilities, we can find the firm's net working capital as the difference between them:

current assets	= $32,650
current liabilities	= ($5,400)
net working capital	= $27,250

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c. If I were asked to assess Belmond's financial position, I'd say:

- It has adequate liquidity, given that its current assets are $32,650 while current liabilities are only $5,400—resulting in a strong net working capital position of $27,250.
- It is managing its costs well: COGS is only 45% of sales; operating expenses are 21% of sales; interest expense is 7% of sales; net income is almost 16% of sales.
- Its retained earnings seem relatively low, which is odd, given the rest of the results. However, this could occur if Belmond is a relatively new company or if a significant amount of dividends had been paid in previous years.
- Its cash seems extremely high, given its sales (annual sales < cash!).

Overall, Belmond seems to be well-managed and in good financial shape.

3-13. We first classify TNT, Inc.'s accounts as follows:

		TYPE OF ACCOUNT							STATEMENT	
account	amount	current asset	fixed asset	current liability	long-term debt	equity	revenue	expense	balance sheet	income statement
depreciation expense	$99,000							X		X
cash	$337,500	X							X	
long-term debt	$501,000				X				X	
sales	$859,500						X			X
accounts payable	$153,000			X					X	
general & administration expense	$118,500							X		X
buildings & equipment	$1,342,500		X						X	
notes payable	$112,500			X					X	
accounts receivable	$251,250	X							X	
interest expense	$7,125							X		X
accrued expenses	$11,850			X					X	
common stock	$433,500					X			X	
cost of goods sold	$445,500							X		X
inventory	$148,950	X							X	
taxes	$75,750							X		X
accumulated depreciation	$394,500		contra-asset						X	
taxes payable	$79,500			X					X	
retained earnings	$394,350					X			X	

Expenses and revenues belong on the income statement; assets, debt, and equity belong on the balance sheet. Note that accrued expenses are a current liability—this represents the accumulation of expenses taken on the periodic income statements, and are the amount the firm must pay (thus, a liability). The same situation applies to taxes payable as well.

a. and b. Given these assignments, we can create the firm's balance sheet and income statement as shown on the next page.

b.

TNT, Inc.	
Income Statement	
Sales Revenue	$859,500.00
Cost of Goods Sold	$445,500.00
Gross Profit	$414,000.00
Expenses	
General & Administrative Expense	$118,500.00
Depreciation Expense	$99,000.00
Total Expenses	$217,500.00
Net Operating Income / Profit	$196,500.00
Interest Expense	$7,125.00
Earnings Before Taxes	$189,375.00
Taxes	$75,750.00
Net Income	$113,625.00

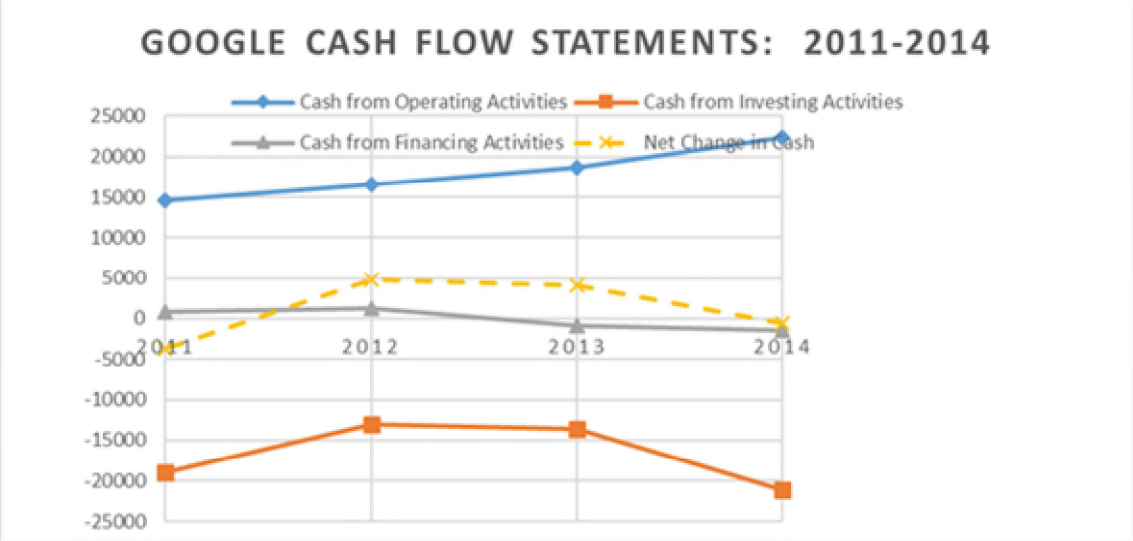
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c. TNT, Inc.'s financials reveal no glaring, severe problems. The firm seems to be doing well managing its expenses. Its COGS is about 52% of sales; operating expenses are 25% of sales; net income is 13% of sales. It is adequately liquid: Its net working capital is $380,850 (current assets of $737,700 are over 2 times current liabilities of $356,850

d. In fact, the firm may be too liquid: Cash is 20%of total assets, which seems high, especially since *all* of the current liabilities total just over 21% of total assets. The firm is running lean on inventory (9% of assets), which is positive. Long-term debt is only 3% of assets and interest expense is less than 1% of sales. Given that the firm's tax bill was almost 9% of sales, it could probably benefit from more leverage.

3-14. The values from Google's cash flow statement are graphed below:



a. Yes. Google's operating cash flow was between $14.6 billion and $22.4 billion each year between 2011 and 2014. The sum of operating cash flows for all four years is $72.2 billion.

b. The sum of new capital expenditures over these four years is ($3,438 + $3,273 + $7,358 + $10,959) million = $25,028 million, or $25.0 billion.

c. Google did not issue any stock between 2011 and 2014. It issued a relatively small amount of debt in 2011 and 2012 ($726 million and $1.3 billion, respectively) and retired a modest amount of debt in 2013 and 2014. Operating cash flow was very strong and more than sufficient to finance all capital expenditures, resulting in limited financing from financial markets in recent years.

d. Google generated significant net income over the four years from 2011 to 2014, reporting a total of $47.8 billion in net income for these years. Depreciation and non-cash items also contributed to a strong positive cash flow from operations. Operating cash flow was more than sufficient to finance all capital expenditures during this period. As a result, the firm did not issue any additional equity during this period. The company also moved from being a net issuer of debt in 2011 to retiring some existing debt in 2013 and 2014. The strong cash flow from operations also enabled Google to make significant investments in marketable securities. Over these four years, Google purchased a total of $196.8 billion of marketable securities, nearly 8 times the amount invested in capital expenditures over this period. The company appears to have transitioned from a start-up company to a cash cow relatively quickly.

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3-15. BigBox's cash flows are graphed below:



a. BigBox has generated positive cash flows from operations in each of the past four years. Cash flow from operations grew from $15.0 billion in 2013 to $20.7 billion in 2016.

b. The company has made significant capital investments during each of the four years, increasing the amount every year. The total over the full period is $56,800 million.

c. Big Box financed its capital expenditures from its strong cash flow from operations, resulting in minimal need for accessing capital in the financial markets. There was a modest amount of debt issued during these four years providing a net cash inflow of $9,500 million. This is in contrast to the $74,700 million provided from operations over the four-year period. The strong operating cash flow allowed Big Box to pay a large dividend each year (with a four-year total of $11,100 million) and repurchase a significant amount of equity ($17,600 million) over the four-year period.

d. Thus it appears that over the last four years, the firm has:
   - Generated steady growth in net income, and some growth in depreciation cash flow
   - Received positive cash flow from reductions in working capital investments
   - Made significant and growing expenditures on capital assets between 123% and 127% of net income each year
   - Paid steadily growing dividends between 22% and 28% of net income
   - Retired stock each year, with the largest retirement in the most recent year, while issuing modest amounts of debt (the debt amounts issued were less than the stock amounts retired)

This firm appears to be in a mature, steady state.

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3-16. a. The quality of earnings ratio for Mitchell Electric Company is as follows:

Quality of earnings ratio = (cash flow from operations / net income)

= $575,000 / $750,000 = .7667 = 76.67%

Without further detail, as given in the Boswell example of the text, we can only say that the firm received approximately 77% of its cash flow from its operating income stream and about 23% from non-operating sources.

Capital acquisitions ratio =
3-yr avg. cash flow from operations / 3-yr avg. cash paid for capital expenditures =

[($478 + $403 + $470) thousand/ 3] / [($459 + $447 + $456) thousand/ 3] = 0.9919 = 99.19%

This means that for the last 3 years, Mitchell Electric Company, on average, was able to finance 99.19% of its capital expenditures with its operating cash flow.

3-17. Using the link to Yahoo Finance http://finance.yahoo.com/ the following statement of cash flows were found for Home Depot and Lowe's:

The Home Depot, Inc. (HD) - NYQ

Add to Portfolio

79.22 ↑ **0.93 (1.19%)** 4:00PM EDT | After Hours : **79.22** 0.00 (0.00%) 5:19PM EDT

Cash Flow

Get Cash Flow for: GO

View: **Annual Data** | Quarterly Data

All numbers in thousands

Period Ending	Feb 2, 2013	Jan 28, 2012	Jan 29, 2011
Net Income	**4,535,000**	**3,883,000**	**3,338,000**
Operating Activities, Cash Flows Provided By or Used In			
Depreciation	1,684,000	1,682,000	1,718,000
Adjustments To Net Income	315,000	215,000	214,000
Changes In Accounts Receivables	(143,000)	(170,000)	(102,000)
Changes In Liabilities	726,000	405,000	(269,000)
Changes In Inventories	(350,000)	256,000	(355,000)
Changes In Other Operating Activities	208,000	380,000	41,000
Total Cash Flow From Operating Activities	**6,975,000**	**6,651,000**	**4,585,000**
Investing Activities, Cash Flows Provided By or Used In			
Capital Expenditures	(1,312,000)	(1,221,000)	(1,096,000)
Investments	-	-	-
Other Cash flows from Investing Activities	(120,000)	92,000	84,000
Total Cash Flows From Investing Activities	**(1,432,000)**	**(1,129,000)**	**(1,012,000)**
Financing Activities, Cash Flows Provided By or Used In			
Dividends Paid	(1,743,000)	(1,632,000)	(1,569,000)
Sale Purchase of Stock	(3,200,000)	(3,164,000)	(2,504,000)
Net Borrowings	(32,000)	966,000	(31,000)
Other Cash Flows from Financing Activities	(59,000)	(218,000)	(347,000)
Total Cash Flows From Financing Activities	**(5,034,000)**	**(4,048,000)**	**(4,451,000)**
Effect Of Exchange Rate Changes	(2,000)	(32,000)	2,000
Change In Cash and Cash Equivalents	**509,000**	**1,474,000**	**(878,000)**

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Lowe's Companies Inc. (LOW) - NYQ

Add to Portfolio

43.50 ↑0.72(1.68%) 4:00PM EDT | After Hours : **43.50** 0.00 (0.00%) 5:19PM EDT

Cash Flow

Get Cash Flow for: GO

View: **Annual Data** | Quarterly Data

All numbers in thousands

Period Ending	Jan 31, 2013	Feb 2, 2012	Jan 27, 2011
Net Income	**1,959,000**	**1,839,000**	**2,010,000**
Operating Activities, Cash Flows Provided By or Used In			
Depreciation	1,623,000	1,579,000	1,684,000
Adjustments To Net Income	91,000	629,000	89,000
Changes In Accounts Receivables	-	-	-
Changes In Liabilities	420,000	210,000	279,000
Changes In Inventories	(244,000)	(33,000)	(64,000)
Changes In Other Operating Activities	(87,000)	125,000	(146,000)
Total Cash Flow From Operating Activities	**3,762,000**	**4,349,000**	**3,852,000**
Investing Activities, Cash Flows Provided By or Used In			
Capital Expenditures	(1,211,000)	(1,829,000)	(1,329,000)
Investments	174,000	455,000	(866,000)
Other Cash flows from Investing Activities	134,000	(63,000)	11,000
Total Cash Flows From Investing Activities	**(903,000)**	**(1,437,000)**	**(2,184,000)**
Financing Activities, Cash Flows Provided By or Used In			
Dividends Paid	(704,000)	(647,000)	(571,000)
Sale Purchase of Stock	(4,044,000)	(2,837,000)	(2,514,000)
Net Borrowings	1,393,000	956,000	1,433,000
Other Cash Flows from Financing Activities	22,000	(21,000)	1,000
Total Cash Flows From Financing Activities	**(3,333,000)**	**(2,549,000)**	**(1,651,000)**
Effect Of Exchange Rate Changes	1,000	(1,000)	3,000
Change In Cash and Cash Equivalents	**(473,000)**	**362,000**	**20,000**

Home Depot	2013	2012	2011
Net Income	4,535,000	3,883,000	3,338,000
CF from Operating Activities	6,975,000	6,651,000	4,585,000
CAPEX	1,312,000	1,221,000	1,096,000
Quality of Earnings Ratio = CF from Oper/Net Income	153.80%	171.29%	137.36%
Capital Acquisitions Ratio = CF From Oper/Cash Paid for CAPEX	531.63%	544.72%	418.34%

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Lowe's	2013	2012	2011
Net Income	1,959,000	1,839,000	2,010,000
CF from Operating Activities	3,762,000	4,349,000	3,852,000
CAPEX	1,211,000	1,829,000	1,329,000
Quality of Earnings Ratio = CF from Oper/Net Income	192.04%	236.49%	191.64%
Capital Acquisitions Ratio = CF From Oper/Cash Paid for CAPEX	310.65%	237.78%	289.84%

a. As calculated above, the quality of earnings ratio for both Home Depot and Lowe's is high and above 100%. For Home Depot, the values are 153.80%, 171.29%, and 137.26%, respectively. For Lowe's the values are 192.04%, 236.49%, and 191.64%, respectively. These numbers suggest that the quality of earnings for both firms is very high.

b. Home Depot has a much larger amount for the entry "adjustments to net income," as well as a positive and large entry for "changes in other operating activities." While either of these adjustments may be innocuous, a serious investor would need to understand both of the items. Checking both firms' annual reports or 10-K statements filed with the SEC will provide more details than the summaries posted to Yahoo Finance.

c. As calculated above, the capital acquisitions ratio for both Home Depot and Lowe's is high and above 100%. For Home Depot, the values are 531.63%, 544.72%, and 418.34%, respectively. For Lowe's the values are 310.65%, 237.78%, and 289.84%, respectively. This indicates that both firms can finance capital expenditures internally without accessing the financial markets.

d. Home Depot is able to cover its CAPEX through its operating cash flow a greater number of times, but both firms have the means to expand their CAPEX significantly. Lowe's issued debt in 2013 (some of which was used to finance the repurchase of a significant amount of stock) and would therefore have been more active in the capital markets than Home Depot.

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Chapter 2
Firms and the Financial Market

■ Chapter Overview

This chapter provides an overview of U.S. financial markets. Financial markets consist of the institutions that facilitate the transfer of money from investors to companies and individuals. The three principal players in the financial markets are borrowers, savers (i.e., investors), and financial institutions (i.e., intermediaries). There is a wide variety of financial institutions that make up our financial markets including: commercial banks, financial services corporations, insurance companies, investment banks, investment companies, mutual funds and exchange traded funds, hedge funds, and private equity firms.

The purpose of each of these institutions is to bring borrowers and investors together. Borrowers and investors are linked together through the buying and selling of a variety of securities that are traded on financial markets. While there are innumerable types of financial instruments traded on financial markets, most are some form of debt or equity security.

■ Chapter Outline

2.1. The Basic Structure of U.S. Financial Markets

A. A financial market is any place where money and credit is exchanged.

B. The three principal sets of players in financial markets are borrowers, savers (investors), and financial institutions (intermediaries).

2.2. The Financial Marketplace—Financial Institutions

A. The financial institutions that make up the financial marketplace facilitate the movement of money from savers to borrowers.
   1. The money market refers to transactions in short-term debt instruments.
   2. Capital markets are markets for long-term financial instruments.

B. Non-Bank financial intermediaries provide financial services to businesses. There are a variety of non-bank financial intermediaries.
   1. Financial services corporations are in the lending or financing business, but they are not commercial banks.
   2. Insurance companies are in the business of selling insurance to individuals businesses to protect their investments.
   3. Investment banks are specialized financial intermediaries that help companies and governments raise money and provide advisory services to client firms.
   4. Investment companies are financial institutions that pool the savings of individual savers and invest the money in the securities issued by other companies purely for investment purposes.

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5. Mutual funds and exchange traded funds (ETFs) are special types of intermediaries through which individuals can invest in virtually all of the securities offered in the financial markets.
6. Hedge funds are like mutual funds, but are less regulated and tend to take on greater risk.
7. Private equity firms include venture capital firms and leveraged buyout funds.

2.3. The Financial Marketplace—Securities Markets

A. A security is a negotiable instrument that represents a financial claim and can take the form of ownership (stocks) or a debt agreement.

B. A primary market is a market in which new securities are bought and sold for the first time.

C. A secondary market is where all subsequent trading of previously issued securities takes place.

D. Firms borrow money by issuing debt securities. These can be either short-term (i.e., notes) or long-term securities (i.e., bonds).

E. Equity securities represent ownership of the corporation.
   1. Common stock is a security that represents equity ownership, provides voting rights, and entitles the holder to a share of the company's earnings in the form of dividends or capital appreciation.
   2. Preferred stock is an equity security without voting rights but with a defined dividend payment. Preferred stock dividends must be paid before common stock dividends can be distributed.

F. Stock markets consist of both physical trading areas (i.e., organized security exchanges) and electronic trading areas (i.e., over-the-counter markets).

G. While many factors contributed to the financial crisis of 2008, one large factor was the collapse of the real estate market and the resulting defaults on subprime mortgages.

■ Learning Objectives

1. Describe the structure and functions of financial markets
2. Distinguish between commercial banks and other financial institutions in the financial marketplace.
3. Describe the different securities markets for bonds and stock.

■ End-of-Chapter Problem Complexity Rating and Spreadsheet Solutions

Simple	Average	Complex

There are no problems in this chapter.

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■ Lecture Tips

1. Bring in a copy of the *Wall Street Journal* and have the students look at the various tables relevant to the security markets. Discuss the meaning of the information and how the numbers and terms relate to the chapter.

2. Simulate the start-up of a corporation with various class members playing the role of creditors and shareholders of the firm.

■ Further Questions for Class Discussion

1. Why is it important to distinguish between depository and non-depository financial institutions?

2. Why are secondary markets important?

■ Internet Resources

http://www.sec.gov/answers/mutfund.htm

www.sec.gov/investor/tools/mfcc/mfcc-int.htm

http://www.mckensey.com/mgi/reports/pdfs/Mapping_Global/MGI_Global_full_Report.pdf

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Chapter 2

Solutions to Study Questions

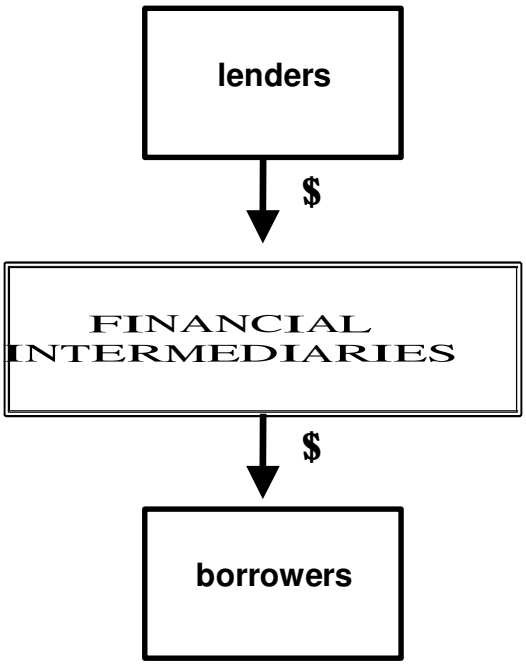
2-1. The "Regardless of Your Major" box describes two types of retirement plans: ***defined contribution*** and ***defined benefit***. The "defined" part of each name means that benefits are specified, or defined; the difference between the two plans is in *when* those benefits are defined. Defined benefit (DB) plans specify the amounts to be paid in retirement—that is, the benefits the retiree will receive are specified. Thus, the sponsor of the plan promises to make specific payments to the retiree, and then the sponsor accepts the responsibility for investing a pool of assets *now* (or at least, before the covered person retires) to ensure that those benefits in fact can be paid in the future. Managing pension assets to ensure future payments is complicated, and companies these days prefer to offer defined contribution plans, like 401(k) plans, instead of defined benefit plans. Defined contribution (DC) plans specify the contributions that will be made to the plan (now), not the benefits that will be paid at retirement. It's a lot easier to specify an amount to be paid today than it is to ensure that one will be made in the future. With defined contribution plans, employees accept the responsibility of investing their funds to ensure adequate resources in retirement, removing that burden from employers. It's therefore not surprising that employers prefer defined contribution plans, while employees who have defined benefit plans count themselves lucky.

2-2. The three players who interact in the financial markets are ***borrowers***, ***savers***, and ***financial intermediaries***.

Borrowers need money to help finance some specific purpose—a student loan to help pay for college, an auto loan for a car, or a mortgage for a house. ***Savers*** have money that they don't need for consumption today, so they set this money aside to use in the future. ***Financial intermediaries*** bring the two together, channeling the savers' "extra" money to the borrowers for their immediate use. If the borrowers and savers could get together themselves somehow, they could "cut out the middleman" and save the intermediation costs. This might sound good—but is it feasible? Financial intermediaries specialize in evaluating the creditworthiness of borrowers, so they help ensure that savers' money is channeled to borrowers who will repay. They also allow efficient aggregation of small amounts of individual savings into blocks of loanable funds large enough to be useful to borrowers.

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2-3. As outlined in section 2.2 of the text, a financial intermediary is a firm that collects money from savers, bundles it into attractive sizes with attractive terms, and lends it to borrowers. The principal types of financial intermediaries in the United States are:

COMMERCIAL BANKS

Commercial banks are depository institutions that take deposits (such as checking or savings deposits) and make loans (such as mortgage loans or auto loans). Commercial banks are also integral parts of our national payment system. Their importance to the functioning of our economy has led to their being heavily regulated and subject to extensive oversight (for example, by the FDIC, which insures their deposits, and by the Fed, which mandates their reserve requirements).

NONBANK FINANCIAL INTERMEDIARIES

While these businesses channel money from those who have it to those who need it, they do not both take deposits and make loans, as a depository institution does.

financial services corporations: Financial services corporations, like GE Capital, provide loans and credit to businesses and individuals (including credit card services). Some of these companies are charged with ensuring financing for the expensive products of large manufacturing companies (for example, Ford Motor Credit). These institutions do not take deposits, so they are missing one of the two elements of a depository institution's job description.

insurance companies: Insurance companies insure individuals and businesses against certain types of risks (for example, the risk that your automobile will be damaged in a collision, and/or cause damage or injury to someone else; the risk that your house will burn down; the risk that you will die unexpectedly, leaving your heirs without their major breadwinner). Insurance companies are major players in the financial markets, because they must invest the

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premiums they collect until the money is needed to pay claims. The type of insurance a firm provides tends to determine the type of market in which they invest most frequently. For example, life insurers often have decades between premium collection and claim payments, so they are large players in the capital markets. On the other hand, property and casualty companies (like auto and home insurers) must stay closer to their money, since their claims may come much sooner; they are larger players in the money markets.

investment banks: Investment banks like Goldman Sachs and Morgan Stanley advise firms about their financing needs and act as intermediaries when the firms float new securities. For example, an investment banker may advise a client about the most favorable terms for a new bond issue (e.g., covenants, term, options, coupon), then underwrite the issuance of the bonds (buying the bonds from the issuer, then selling them to investors, taking inventory risk in return for a spread).

INVESTMENT COMPANIES

These companies take savings and invest them in other companies' securities. As the text puts it, they are "financial institutions that pool the savings of individual savers and invest the money, purely for investment purposes, in the securities issued by other companies." Perhaps the most familiar type of investment company is the mutual fund.

mutual funds: Mutual funds collect money from investors, then invest that money into specific types of financial assets. Each mutual fund has a prospectus that describes the particular type of assets that the fund may buy: for example, the fund may buy bonds, or stocks, or money market assets, or some combination. Mutual fund investors own shares of the fund that entitle them to a proportional share of the assets held by the fund.

Be careful to distinguish *mutual fund* shares from the shares of *stock* that a mutual fund may own. Say an equity mutual fund has 10 investors who each put $1,000 into the fund. The fund's size is therefore $10,000, and each investor owns $1/10^{th}$ of the fund. Let's assume that the fund issues 1,000 mutual fund shares—100 to each investor. Now, say the fund takes its $10,000 and buys 1 share of stock (a very expensive, $10,000/share stock!). Each investor has 100 mutual fund shares, representing a $1/10^{th}$ interest in a single share of the fund's chosen (very expensive) stock.

exchange-traded funds (ETFs): ETFs are like mutual funds that trade on exchanges, as stocks do. Investors trade mutual funds shares with the fund itself—they send money to the fund, receiving mutual fund shares in return; they submit sell requests to the mutual fund, receiving cash in return. In contrast, investors who wish to divest themselves of their ETF shares can simply enter a sell order with their brokers. They can also do the other types of things that one can do with shares of stock: for example, buy ETF shares on margin, or sell ETF shares short. Nonetheless, investors who wish to make small, periodic contributions to a diversified fund may want to stick with mutual funds, since ETFs require brokerage commissions with every trade.

hedge funds: Hedge funds are intermediaries like mutual funds, gathering money from investors, then using those pooled funds to buy assets. However, hedge funds are *less* regulated than mutual funds, and therefore may engage in various strategies that are not allowed to mutual funds. For example, short positions are important parts of many hedge fund strategies.

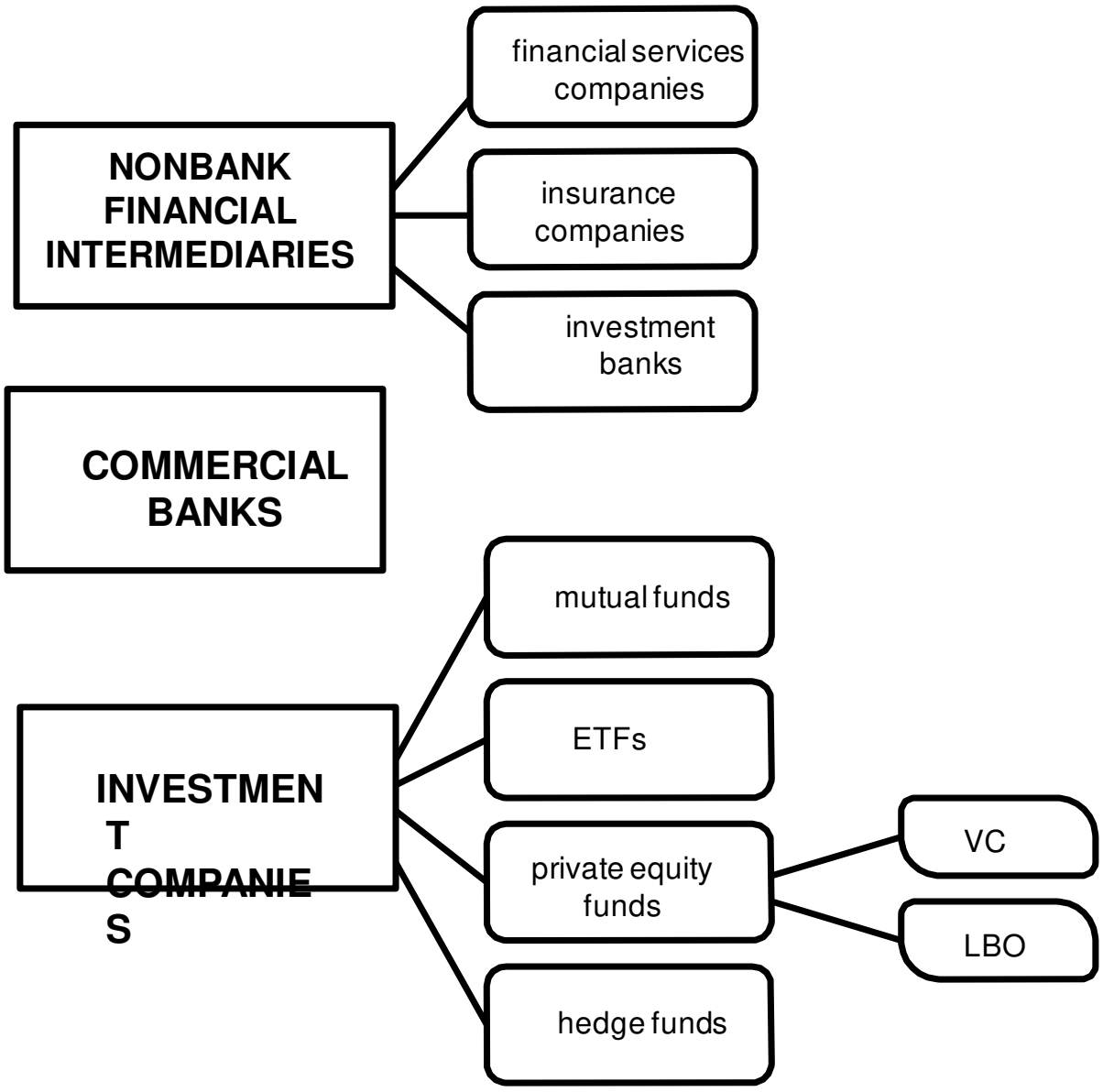
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There are many types of hedge fund strategies; for example, funds following merger arbitrage strategies might short stock in acquiring firms and buy stock in targets; equity market neutral funds would match their long positions with shorts, ending up "neutral" to the direction of the market.

private equity funds: These funds collect money from investors, then deploy it into equity that is not publicly traded. The two most important types of private equity funds are venture capital (VC) funds, which finance start-up firms, and leveraged buyout (LBO) funds, which use debt (leverage) to buy up the public stock of poorly performing firms, taking them private.

Here's a schematic laying out these various types of companies:



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2-4. Investment bankers advise clients on raising money (for example, what type of securities to issue, and what the features of those securities should be). They also perform underwriting services (buying the securities from the issuer, then selling them to investors). Investments bankers also provide merger and acquisition advice.

2-5. The primary market is the market for newly issued securities. In this market, the issuer (for example, a corporation like General Electric) creates a new financial asset and sells it to an investor. GE does this to raise money to finance a new project. The asset it creates can be either a debt security (like a bond), or an equity security (like a new share of stock). Every asset must trade in the primary market once (and only once), because every asset must be "born." The primary market transaction is the only point at which the issuer receives cash for the security. Note that this is Step 1 in Figure 2.2 from the text.

(The investment bankers we considered in problem 2-4 above may play a role in this primary market transaction. They often underwrite a firm's securities, meaning that they are the ones who actually buy the securities from the issuer [so that the issuer receives cash from the investment bankers, not the investors], then sell those securities to the initial public investors. The underwriters therefore bear the risk of inventory, and will be on the hook if they cannot sell the securities. Investment bankers typically charge about 7% of the value of the issue for performing the underwriting function.)

The secondary market is the market for investor-to-investor trading (step 4 from Figure 2.2). The markets that we hear about every day—the New York Stock Exchange, the American Stock Exchange, the Nasdaq—are all secondary markets. Secondary markets allow investors to trade out of securities that they have purchased (or to buy new ones); that is, they provide liquidity. Investors are more willing to buy securities in the first place if they know they can sell them easily. Thus, securities are more attractive to investors—and therefore are less costly to issuers—if they are backed by a large, liquid secondary market.

Assets may trade many times in the secondary market (think of the number of times a Google share could change hands on the Nasdaq), or they may never trade there at all (for example, a bond may be held to maturity by its initial investor).

2-6. A mutual fund provides intermediated investing. Investors pool their investments together, then hire a manager to deploy those funds into an approved asset class or classes. For example, investors might pool their funds to buy equity, to buy debt, or to buy some combination of the two. Pooling their investments allows investors to achieve diversification simply, and with a minimum investment. (For example, it would be virtually impossible to create a meaningfully diversified portfolio of equity with the $3,000 it might take to open a mutual fund account, and the fees associated with any such attempt would be prohibitive.)

Some of the benefits of mutual fund investing include:

- ease of diversification (as just discussed)
- access to asset classes (some are more easily, or only, accessible to institutional investors, requiring retail investors to use an intermediary like a mutual fund)
- ability to establish ongoing, automated investment programs (taking money from each month's paycheck, for example, and having it automatically invested in your funds).

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(Many people believe that access to professional management is another benefit to intermediated investing. However, there is disagreement about the efficacy of paying higher fees for *active* management, as noted in the text's "Business of Life" box.)

An ETF also allows investors access to a basket of assets. However, ETF shares trade on an exchange. They therefore can be traded multiple times per day, while mutual fund shares can be traded only once. (Investors who wish to trade mutual fund shares place orders with the fund directly, which then performs the trades once, at the end of the day.) Since ETFs trade like stocks, they can be sold short and bought on margin. There may also be certain tax advantages to ETFs over mutual funds. However, each transaction incurs a brokerage commission, so that investors desiring to set up an automatic investment program would be better off using mutual funds for those programs.

2-7. The primary difference between debt and equity is that debt has a contract: the amounts and the timing of its cash flows are contractually specified. For example, with a bond, you know that you will receive coupon payments equal to [coupon rate*par/2] twice a year, on specific dates, plus $1,000 (the par value) at maturity (another specified date). Failure to make a promised payment on time and in full constitutes default, for which there are ramifications for the issuer (of varying severity, depending upon the severity of the default). However, cash flows to equity may not be specified at all (for example, a company makes no assertions about the dividends it may or may not pay to common stock, and certainly cannot specify the price an investor will receive when she sells the stock), or, if they are specified, do not trigger default when not made (for example, preferred dividends may be skipped if the firm so chooses[1]). Equity funding provides much more flexibility for the issuer, and is therefore less risky for it. However, this comes at the cost of higher required returns to investors. Debt investors are willing to accept a lower return in exchange for contractual cash flows. However, less risk for investors means more risk for the issuer, which introduces leverage—risk—into its capital structure when issuing debt.

2-8. Preferred stock is "preferred" over common because:

- it has priority in liquidation—preferred shareholders must be paid in full before common shareholders can receive any of the proceeds from the liquidated assets of the firm.
- it has priority in dividend payment—common dividends cannot be paid before preferred dividends are paid. If the preferred is cumulative, then there can be no common dividends before all accrued preferred dividends are paid.

Thus, the preferences relate to priority of payment. However, preferred stock does not dominate common. For example, common shares come with voting rights, while preferred shares usually do not. In addition, preferred shares are not residual claims, and will not enjoy the unlimited upside that common shareholders prize. (Some preferred shares have a feature that lets them participate in any upside potential, but they still are not residual claimants.)

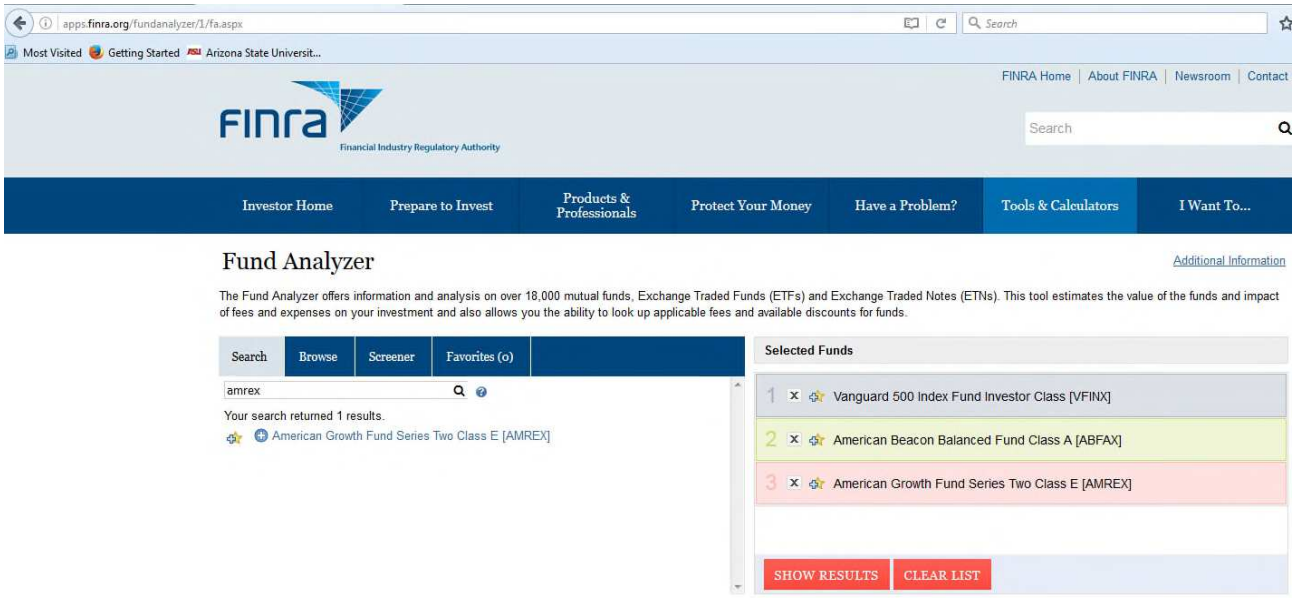
[1] Of course, skipping a dividend may not be the end of the story, since the skipped dividends may accrue if the preferred is cumulative, as noted in the text. And, of course, no dividends may be paid to common if there are preferred dividends in arrears.

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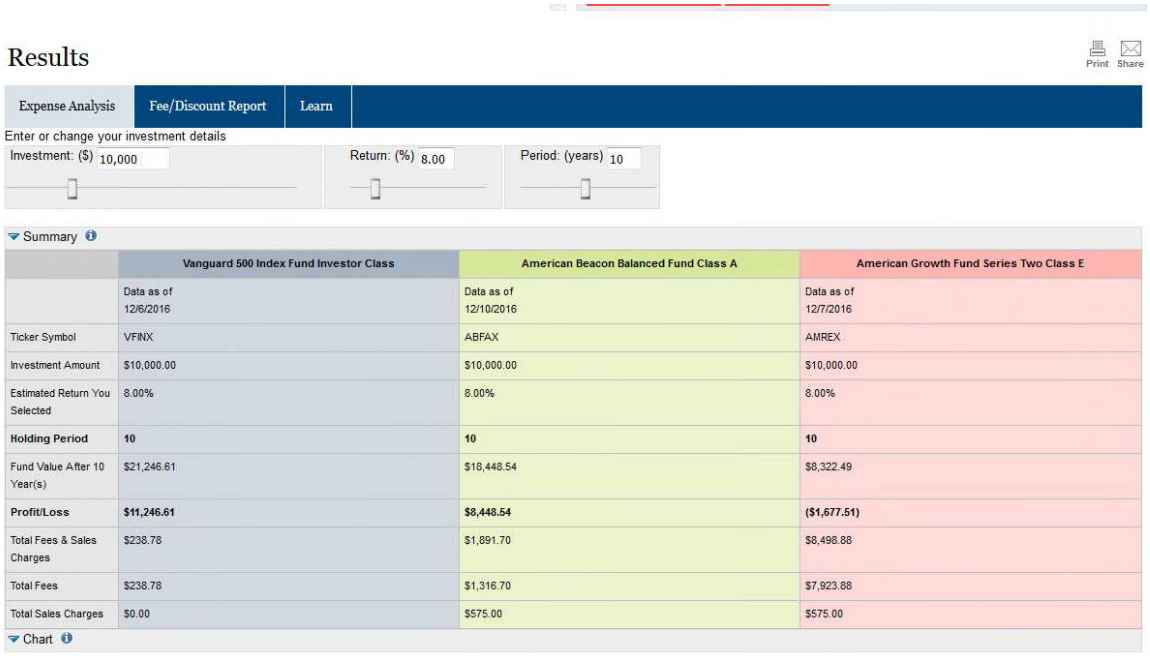
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2-9. Using the web address http://apps.finra.org/fundanalyzer/1/fa.aspx, led us to the comparable fund analyzer. Comparing this funds prescribed by the text, we get the following results:

Here is the initial screen, where we specify the funds we'd like to compare:



The first results screen allows us to enter the initial amount (whose default is our $10,000), the annual return (whose default is 5%, so we need to change that to 8%), and the investment horizon (whose default is our ten years).



	Vanguard 500 Index Fund Investor Class	American Beacon Balanced Fund Class A	American Growth Fund Series Two Class E
	Data as of 12/6/2016	Data as of 12/10/2016	Data as of 12/7/2016
Ticker Symbol	VFINX	ABFAX	AMREX
Investment Amount	$10,000.00	$10,000.00	$10,000.00
Estimated Return You Selected	8.00%	8.00%	8.00%
Holding Period	**10**	**10**	**10**
Fund Value After 10 Year(s)	$21,246.61	$18,448.54	$8,322.49
Profit/Loss	**$11,246.61**	**$8,448.54**	**($1,677.51)**
Total Fees & Sales Charges	$238.78	$1,891.70	$8,498.88
Total Fees	$238.78	$1,316.70	$7,923.88
Total Sales Charges	$0.00	$575.00	$575.00

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We can see from the results page that the Vanguard fund, which costs us $238.78, leaves us with a profit of $11,246.61. This beats the American Beacon fund (which costs us $1,891.70, with profit of $8,448.54) and the American Growth fund (cost = $8,498.88; loss = $1,677.51). We can also see Vanguard's domination in the chart below, where the blue bars, representing the value in the Vanguard fund, tower over the yellow and red bars.



	Vanguard 500 Index Fund Investor Class			Hillman Advantage Equity Fund Class A			FIMCO Select Fund		
Year	Redeemed Value	Profit/Loss	Fees & Expenses	Redeemed Value	Profit/Loss	Fees & Expenses	Redeemed Value	Profit/Loss	Fees & Expenses
1	$10,780.58	$780.58	$18.69	$9,801.43	($198.57)	$938.35	$10,636.03	$636.03	$157.82

On the next two pages are the rest of the results from this search. The first picture shows the data underlying the chart above, and gives comparable results for numerous investment horizons. It makes it clear that Vanguard's outperformance is not only at the 10-year mark, but at *any* horizon. The next picture describes the funds' fee structures, and defines their asset-class mandate using the standard Morningstar 9-box style/size taxonomy. The final picture summarizes recent returns.

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Chart Details

	Vanguard 500 Index Fund Investor Class			American Beacon Balanced Fund Class A			American Growth Fund Series Two Class E		
Year	**Redeemed Value**	**Profit/Loss**	**Fees & Expenses**	**Redeemed Value**	**Profit/Loss**	**Fees & Expenses**	**Redeemed Value**	**Profit/Loss**	**Fees & Expenses**
1	$10,782.74	$782.74	$16.62	$10,079.74	$79.74	$670.54	$9,308.47	($691.53)	$1,412.48
2	$11,626.74	$1,626.74	$34.54	$10,779.97	$779.97	$772.71	$9,193.39	($806.61)	$2,239.60
3	$12,536.80	$2,536.80	$53.86	$11,528.84	$1,528.84	$881.99	$9,079.73	($920.27)	$3,056.50
4	$13,518.11	$3,518.11	$74.69	$12,329.73	$2,329.73	$998.85	$8,967.47	($1,032.53)	$3,863.30
5	$14,576.22	$4,576.22	$97.16	$13,186.26	$3,186.26	$1,123.84	$8,856.60	($1,143.40)	$4,660.12
6	$15,717.15	$5,717.15	$121.38	$14,102.29	$4,102.29	$1,257.50	$8,747.11	($1,252.89)	$5,447.09
7	$16,947.38	$6,947.38	$147.50	$15,081.96	$5,081.96	$1,400.45	$8,638.96	($1,361.04)	$6,224.34
8	$18,273.92	$8,273.92	$175.66	$16,129.68	$6,129.68	$1,553.33	$8,532.15	($1,467.85)	$6,991.97
9	$19,704.28	$9,704.28	$206.03	$17,250.19	$7,250.19	$1,716.84	$8,426.67	($1,573.33)	$7,750.11
10 Year(s)	**$21,246.61**	**$11,246.61**	**$238.78**	**$18,448.54**	**$8,448.54**	**$1,891.70**	**$8,322.49**	**($1,677.51)**	**$8,498.88**
11	$22,909.65	$12,909.65	$274.09	$19,730.13	$9,730.13	$2,078.70	$8,219.59	($1,780.41)	$9,238.39
12	$24,702.87	$14,702.87	$312.16	$21,100.76	$11,100.76	$2,278.70	$8,117.97	($1,882.03)	$9,968.76
13	$26,636.46	$16,636.46	$353.21	$22,566.60	$12,566.60	$2,492.60	$8,017.60	($1,982.40)	$10,690.10
14	$28,721.39	$18,721.39	$397.48	$24,134.27	$14,134.27	$2,721.35	$7,918.48	($2,081.52)	$11,402.52
15	$30,969.51	$20,969.51	$445.21	$25,810.85	$15,810.85	$2,965.99	$7,820.58	($2,179.42)	$12,106.13
16	$33,393.60	$23,393.60	$496.67	$27,603.89	$17,603.89	$3,227.63	$7,723.89	($2,276.11)	$12,801.05
17	$36,007.44	$26,007.44	$552.17	$29,521.50	$19,521.50	$3,507.44	$7,628.40	($2,371.60)	$13,487.37
18	$38,825.87	$28,825.87	$612.01	$31,572.32	$21,572.32	$3,806.69	$7,534.08	($2,465.92)	$14,165.21
19	$41,864.91	$31,864.91	$676.53	$33,765.60	$23,765.60	$4,126.73	$7,440.94	($2,559.06)	$14,834.66
20	$45,141.83	$35,141.83	$746.10	$36,111.25	$26,111.25	$4,469.00	$7,348.94	($2,651.06)	$15,495.84

Annual Expense Comparison by Product and Share Class

	Vanguard 500 Index Fund Investor Class	American Beacon Balanced Fund Class A	American Growth Fund Series Two Class E
Annual Operating Expenses	0.16%	0.98%	8.94%
Prospectus Objective	< Less than Average of Similar Growth Mutual Funds: 1.29% (303 Mutual Funds)	< Less than Average of Similar Balanced Mutual Funds: 1.17% (83 Mutual Funds)	> Greater than Average of Similar Growth Mutual Funds: 1.08% (649 Mutual Funds)
Morningstar Category	< Less than Average of Similar Large Blend Mutual Funds: 0.99% (62 Mutual Funds)	< Less than Average of Similar Allocation--50% to 70% Equity Mutual Funds: 1.18% (121 Mutual Funds)	> Greater than Average of Similar Large Growth Mutual Funds: 1.01% (145 Mutual Funds)
Morningstar Rating (3-year)	< Less than Average of Similar Morningstar 4 Star-Rated (3-year) Mutual Funds: 0.91% (173 Mutual Funds)	< Less than Average of Similar Morningstar 4 Star-Rated (3-year) Mutual Funds: 1.13% (736 Mutual Funds)	> Greater than Average of Similar Morningstar 1 Star-Rated (3-year) Mutual Funds: 1.27% (167 Mutual Funds)

Fund Details

	Vanguard 500 Index Fund Investor Class	American Beacon Balanced Fund Class A	American Growth Fund Series Two Class E
Investment Objective	Growth	Balanced	Growth
Ticker Symbol	VFINX	ABFAX	AMREX
Class	Inv	A	Other
Fund Classification	Open-End Mutual Fund	Open-End Mutual Fund	Open-End Mutual Fund
Morningstar Rating (3-year)	★★★★	★★★★	★
Morningstar Style Box (Equities)	Morningstar Style Box™ Value Blend Growth / Large Mid Small	Morningstar Style Box™ Value Blend Growth / Large Mid Small	Morningstar Style Box™ Value Blend Growth / Large Mid Small
Morningstar Style Box (Bonds)	n/a	Morningstar Style Box™ Short Int Long / High Med Low	n/a

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Fund Phone Number	800-662-7447	800-658-5811	800-525-2406
Fund Web Site	www.vanguard.com	www.americanbeaconfunds.com	www.americangrowthfund.com
Fund Documents	View Prospectus	View Prospectus	View Prospectus
Minimum Initial Purchase	$3,000.00	$2,500.00	$0.00
Average Annual Return: 1 Year	7.92%	7.53%	-14.15%
Average Annual Return: 5 Year	14.28%	9.81%	3.44%
Average Annual Return: 10 Year	6.76%	5.15%	n/a
Average Annual Return: Since Inception	10.84%	8.60%	0.09%
Convertible Share Class	No - Fund does not convert	No - Fund does not convert	No - Fund does not convert
Annual Operating Expenses	0.16%	0.98%	8.94%
Sales Charge Schedule (Front-End Load) or (Breakpoints)	This fund does not have front-end sales charges	Investments Between / And Less Than / Sales Charge $0.00 / $50,000.00 / 5.75% $50,000.00 / $100,000.00 / 4.75% $100,000.00 / $250,000.00 / 3.75% $250,000.00 / $500,000.00 / 2.75% $500,000.00 / $1,000,000.00 / 2% $1,000,000.00 / $999,999,999.00 / 0%	Investments Between / And Less Than / Sales Charge $0.00 / $50,000.00 / 5.75% $50,000.00 / $100,000.00 / 4.5% $100,000.00 / $250,000.00 / 3.5% $250,000.00 / $500,000.00 / 2.5% $500,000.00 / $1,000,000.00 / 2% $1,000,000.00 / $999,999,999.00 / 0%
Contingent Deferred Sales Charges: (CDSC or Back-End Load)	This fund does not have CDSC or back-end sales charges	This fund does not have CDSC or back-end sales charges	This fund does not have CDSC or back-end sales charges
Redemption Fee Schedule	This fund does not have redemption fees	This fund does not have redemption fees	This fund does not have redemption fees

2-10. According to the data presented in the "Finance in a Flat World" box, in 2010 the U.S. financial markets incorporated $64 trillion of the world's financial assets; the European market held about $28.4 trillion; Asia had $26.3 trillion; and the U.K. had $21 trillion. Investors should consider this when confronting the tendency for "home country bias," the predilection of investors for assets from their own countries. For example, it's not uncommon for U.S. investors to hold all of their equity assets in stocks from the U.S. Given that the U.S. market is far less than 100% of the total global equity market, this introduces a source of bias (and loss of potentially useful diversification) into such targeted portfolios.

2-11. A hedge fund is a pool of assets, like a mutual fund. However, hedge funds are much less regulated than are mutual funds, which allows hedge fund managers to use many strategies forbidden to mutual fund managers. For example, hedge fund managers often employ significant leverage, invest in illiquid assets (and restrict investors' ability to access their funds, sometimes for years), and utilize short strategies and derivatives. Hedge funds are not open to all investors; they are targeted at wealthy, sophisticated, "accredited" investors (whom the SEC deems able to take care of themselves). The fee structures of hedge funds are also different from mutual funds', often involving both an annual fee of 2% of assets, plus 20% of profits (a "2-and-20" scheme).

2-12. The two types of private equity funds discussed in the text are venture capital (VC) funds and leveraged buyout (LBO) funds. VC funds collect money from investors, then use it to finance start-up businesses. Thus, these funds invest very early in a business's life, perhaps funding research and/or product development. (For example, VCs are very important in the funding of drug R&D.) LBO firms target underperforming businesses, using leverage (debt) to finance the buyout of the firm's public shareholders—taking the firm private. The idea

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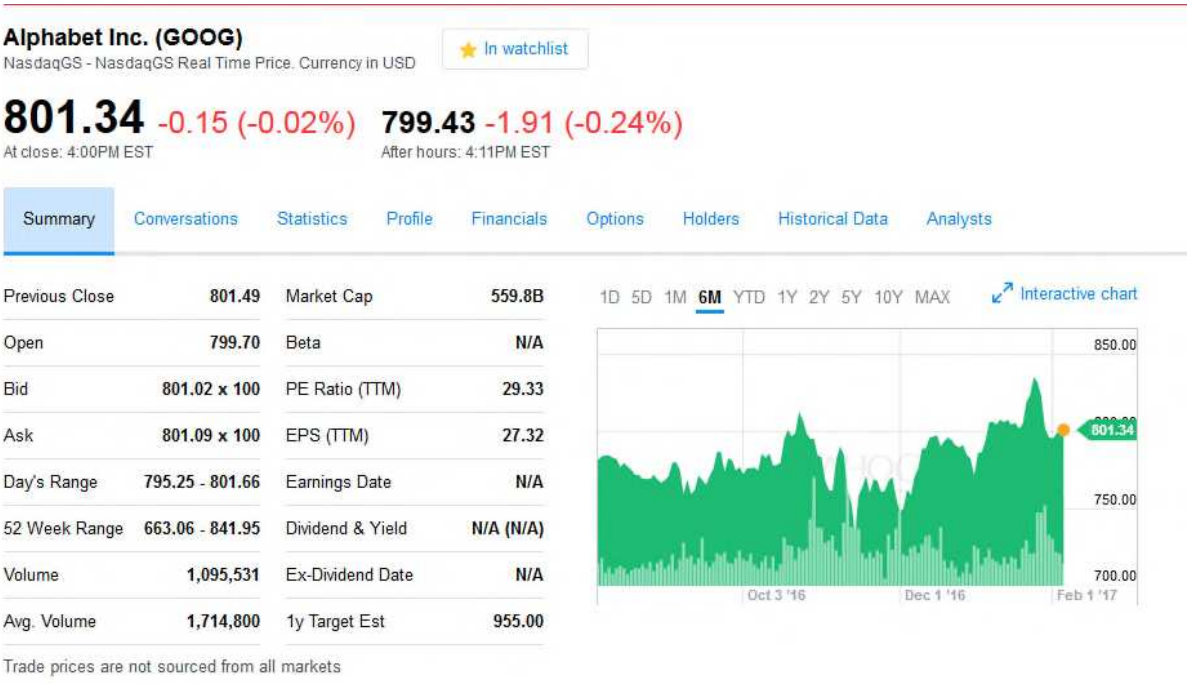
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is to restructure the business without the distraction of public oversight, then take the firm public again. Investors in private equity make money when their incubated firms are bought out or have their IPO (VC funds), or when the firms are taken public again (LBO funds).

2-13. According to Yahoo! Finance (http://finance.yahoo.com/q?s=goog, accessed 2/6/17), we have the following results for Alphabet:

price of last trade:	$80.334 last trade time: 4:00 PDT
length of time since last trade:	(trade was at close; data accessed after close)
day's price range:	$795.25-$801.66 closing change in dollars:down
$0.15 closing change in percent:	down 0.02%
52-week price range:	$663.06-$841.95

Here's what the screen looked like:



At the top of the page, there are numerous links to more data about Alphabet: Summary:

	summary, real-time, options, historical prices
Statistics:	profile, key statistics, SEC filings, competitors, industry, components
Profile:	key executives
Financials:	income statement, balance sheet, cash flow
Holders:	major holders, insider transactions, insider roster:
Historical data:	interactive, basic charts, basic technical analysis
Analyst:	analyst opinion, analyst estimates, research, star analysis

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2-14. The Market Watch website has many interesting personal finance articles, and a student should have no trouble finding at least one that will interest her. On 5/26/10, there was an "Ask the Expert" article titled "Dirty Tricks Financial Advisors Play," written by Walter Updegrave. He was responding to a question regarding the efficacy of a strategy of using an interest-only mortgage to buy a house, then combining the payment savings from that loan (versus a fixed-rate mortgage), plus the proceeds of a home equity line of credit, to invest in an equity-indexed universal life insurance policy. The author does not like this strategy, for these reasons:

- there is a cap on the earnings that are possible from the policy, despite its link to equity index returns
- borrowing from such policies, while tax-free as long as the policy is in force, leads to taxable earnings if the policy lapses (which can be inconvenient if the policyholder is close to retirement)
- the strategy is very risky
- the advisor may be motivated by his own desire for commissions

The author suggests to sticking with tax-advantaged retirement plans such as 401(k)s, and with traditional investments for deployment of any funds remaining after these retirement vehicles are maxed out.

2-15. The Motley Fool retirement site has sections for "13 Retirement Steps," IRAs, "401(k)s etc," and asset allocation. The main page has a selection of relevant articles (e.g., "How to Salvage Your Retirement Plan Now"), retirement calculators (e.g., "Should I Convert My IRA to a Roth IRA?"), and some related links (e.g., "Discuss: Retirement Investing"). The IRA page has discussions about the basics of IRAs, the differences between Roth and traditional IRAs, and the best way to open an IRA ("follow these three simple steps!"). Their thirteen retirement steps are these:

1. change your life with one calculation
2. trade wisdom for foolishness
3. treat every dollar as an investment
4. open and fund your accounts
5. avoid the biggest mistake investors make
6. discover great businesses
7. buy your first stock
8. cover your assets
9. invest like the masters
10. don't sell too soon
11. retire in style
12. pay it forward
13. make friends and influence fools

Students should enjoy reading the details of these accessibly named topics.

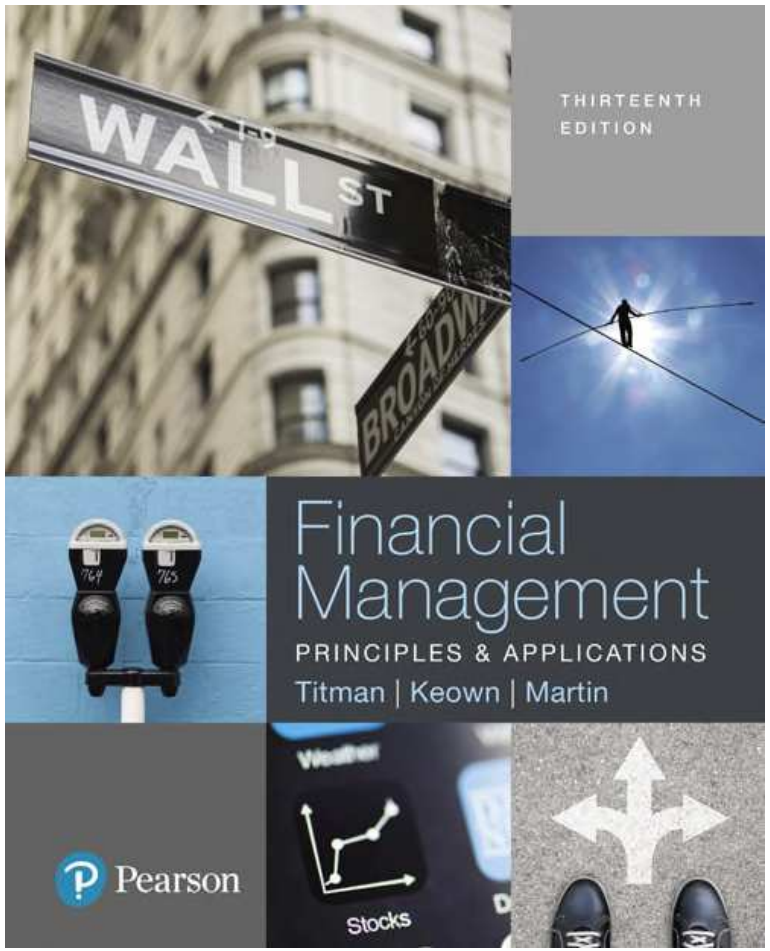
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Financial Management:

Principles & Applications

Thirteenth Edition



Chapter 2

Firms and the Financial Market

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Learning Objectives

1. Describe the structure and functions of financial markets.
2. Distinguish between commercial banks and other financial institutions in the financial marketplace.
3. Describe the different securities markets for bonds and stocks.

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Principles Applied in this Chapter

- Principle 2: There is a Risk-Return Tradeoff
- Principle 4: Market Prices Reflect Information
- Principle 5: Individual Respond to Incentives

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2.1 THE BASIC STRUCTURE OF THE U.S. FINANCIAL MARKETS

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Three Sets of Players in the Financial Markets

Within the financial markets, there are three principal sets of players that interact:

- Borrowers (individuals and businesses)
- Savers (mostly individual investors)
- Financial Institutions (Intermediaries) (ex. Commercial banks)

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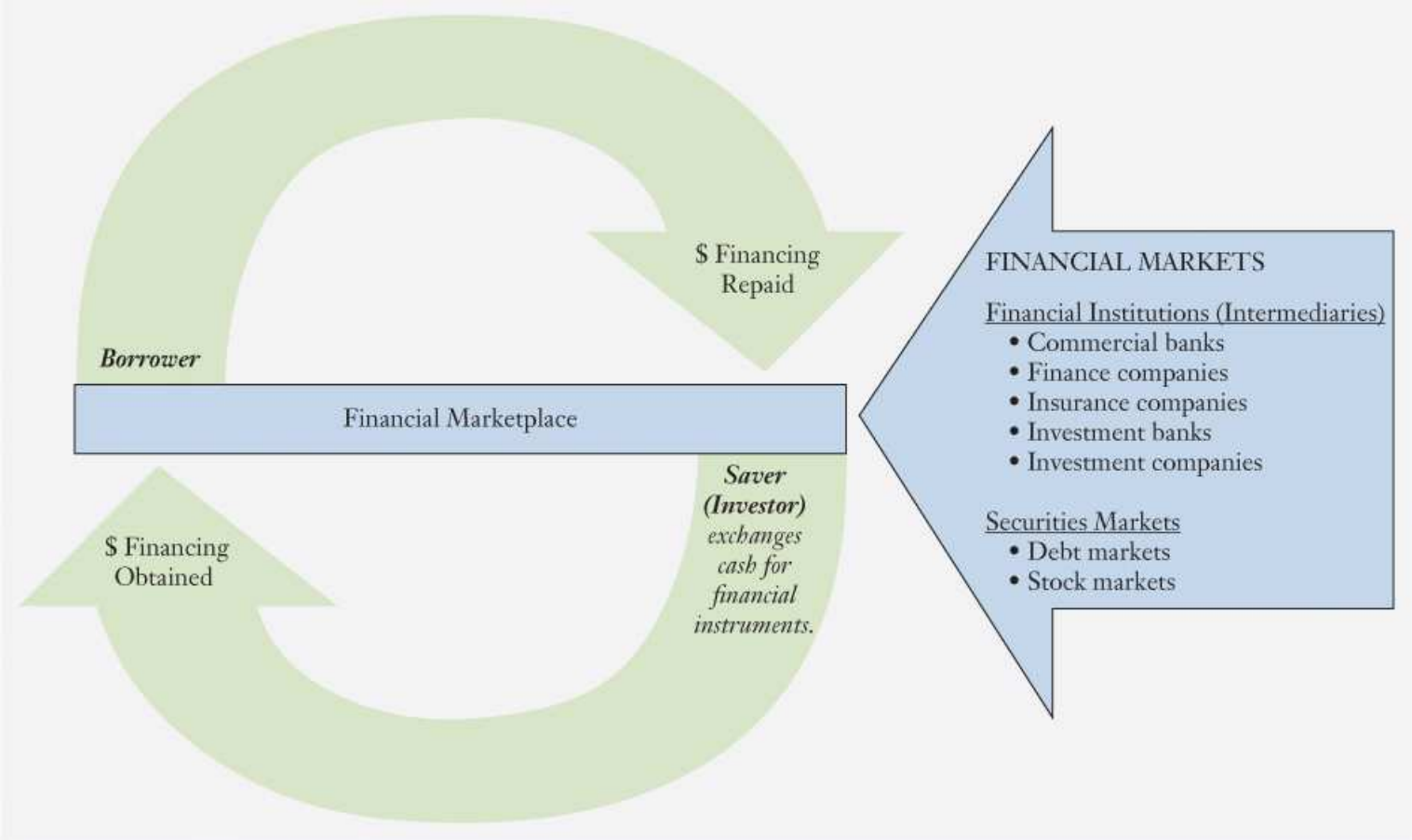
2.2 THE FINANCIAL MARKETPLACE: FINANCIAL INSTITUTIONS

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Figure 2-1 Financial Markets, Institutions, and the Circle of Money



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Financial Intermediaries

Financial institutions like commercial banks, finance companies, insurance companies, investment banks, and investment companies are called **financial intermediaries** as they help bring together those who have money (savers) and those who need money (borrowers).

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Money Market versus Capital Market

- **Money market** - markets for short-term debt instruments, with maturities of one year or less (such as Treasury bills, Commercial paper).
- **Capital market** - markets for long-term debt and equity instruments (such as Common stock, Preferred stock, Corporate bond, U.S. Treasury bond).

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Commercial Banks: Everyone's Financial Marketplace

- **Commercial banks** collect the savings of individuals as well as businesses and then lend those pooled savings to other individuals and businesses. They earn money by charging a rate of interest to borrowers that exceeds the rate they pay to savers.
- The 4 largest commercial banks in the US are JPMorgan Chase & Co., Bank of America Corp., Wells Fargo Bank, and Citigroup, Inc.

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Non—Bank Financial Intermediaries

- These include:
  - financial services corporations, such as GE Capital Division;
  - insurance companies, such as Prudential;
  - investment banks, such as Goldman Sachs;
  - investment companies, including mutual funds, hedge funds, and private equity firms.

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Financial Services Corporations

- **Financial services corporation** are in the lending or financing business, but they are not commercial banks.
  - For example: GE capital – it provides commercial loans, financing programs, commercial insurance, equipment leasing, and other services in over 35 countries. It also provides credit services to more than 130 million customers. In 2015, GE announced that it will be selling off most of GE capital over the following two years.

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Insurance Companies

- **Insurance companies** sell insurance to individuals and businesses to protect their investments. They collect premium and hold the premium in reserves until there is an insured loss and then pay out claims to the holders of the insurance contracts.
- The reserves are deployed in various types of investments, including loans to individuals and businesses.

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Investment Banks

Investment banks are specialized financial intermediaries that help companies and governments raise money and that provide advisory services to client firms when they enter into major transactions such as buying or merging with other firms.

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Investment Companies: Mutual Funds

- **Mutual funds** are professionally managed according to a stated investment objective. Through mutual funds individuals can invest in virtually all of the securities offered in the financial market.
- Individuals can invest in mutual funds by buying shares in the mutual fund at the **net asset value** (NAV). Mutual funds can either be **load or no-load funds**. Load refers to sales commission.

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Investment Companies: Exchange Traded Funds (ETFs)

- An **exchange-traded fund** (ETF) is similar to a mutual fund except that the ownership shares in the ETF can be bought and sold on the stock exchange throughout the day. Most ETFs track an index, such as S&P 500.
- Mutual funds and ETFs provide a cost-effective way to diversify, which reduces risk – a great benefit for the small investor.

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Investment Companies: Hedge Funds

Hedge funds are similar to mutual funds but are less regulated, take more risk, and are generally open only to high net worth investors (typically $1 million and above). Management fees are higher for hedge funds; they typically run at about 2 percent of the assets and include an incentive fee (typically 20% of profits) based on the fund's overall performance.

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Investment Companies: Private Equity Firms

Private equity firms is a financial intermediary that invests in equities that are not traded on the public capital markets. Two types of private equity firms dominate this group:

Venture capital (VC) firms; and
Leveraged buyout (LBO) firms.

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Private Equity Firms: Venture Capital Firms

Venture capital firms raise money from investors (wealthy people and other financial institutions), which they then use to provide the initial financing for private start-up companies. For example, initial financing of Google was provided by a venture capital firm called Kleiner Perkins Caufield & Byers (KPCB).

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Private Equity Firms: Leveraged Buyout

Leveraged buyout (LBO) firms acquire established firms that typically have not been performing well with the objective of making them profitable again and then selling them. An LBO typically uses debt to fund the purchase of a firm.

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2.3 THE FINANCIAL MARKETPLACE: SECURITIES MARKETS

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Security

- A **security** is a negotiable instrument that represents a financial claim. It can take the form of ownership (stock) or a debt agreement (bond).
- The public securities markets allow businesses and individual investors to trade the securities issued by public corporations.

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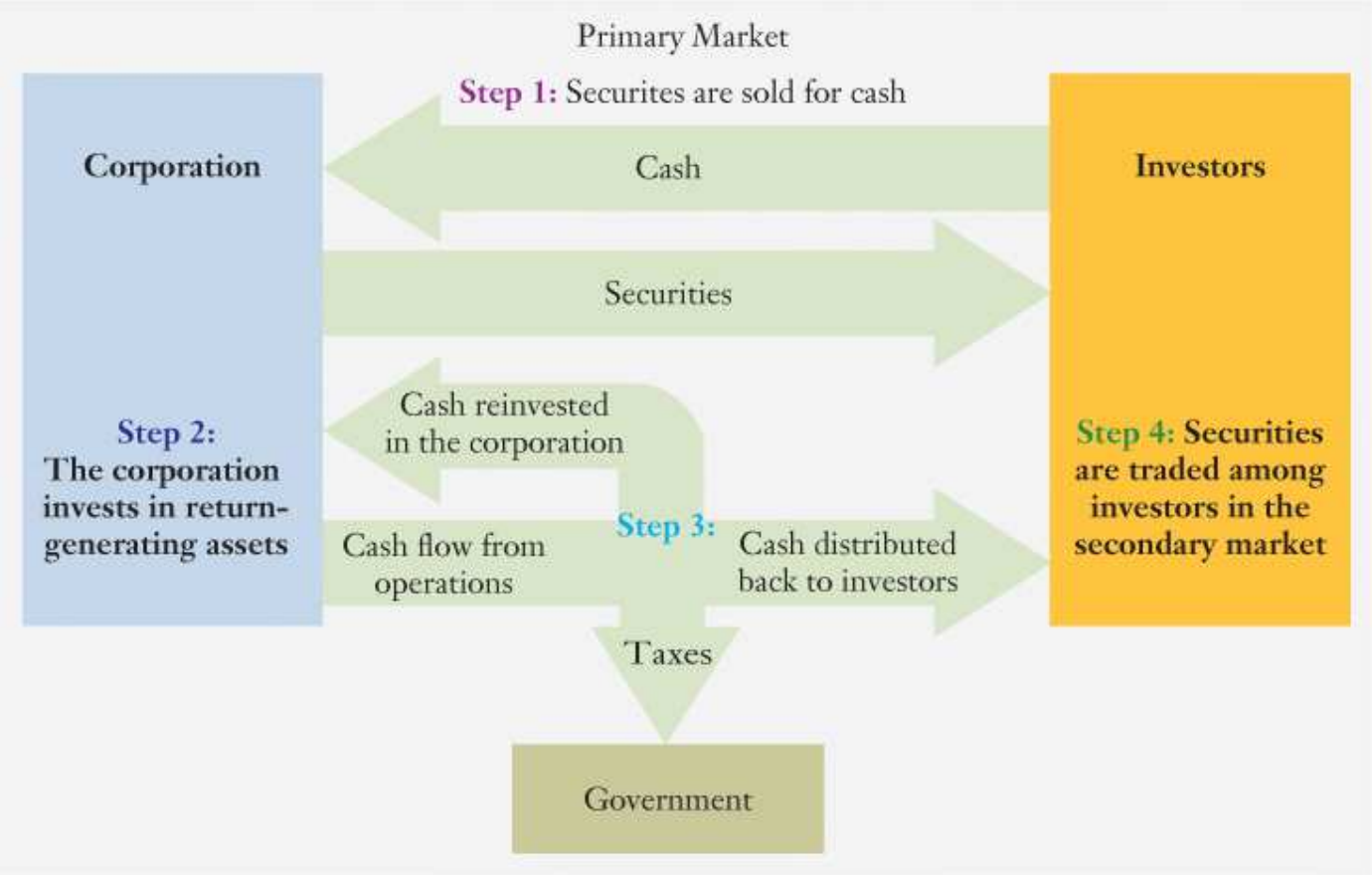
Primary versus Secondary Market

- **Primary market** – a market in which securities are bought and sold for the first time. The firm selling securities receives the money raised that they can then use to finance their businesses.
- **Secondary market** – a market for subsequent trading of previously issued securities. The issuing firm does not receive any new money, as the securities are simply being transferred from one investor to another.

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Figure 2.2 Security Markets Provide a Link between the Corporation and Investors



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Types of Securities: Debt Securities

Debt Securities: Firms borrow money by selling debt securities in the debt market.

Debt is classified based on maturity period: Less than one year (issued in money market), one to ten years (called Note, issued in capital market), more than 10 years (called bond, issued in capital market)

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Types of Securities: Equity Securities

Equity securities represent ownership of the corporation. There are two major types of equity securities: common stock and preferred stock. When you buy equity securities, you are making an investment that you expect will generate a return.

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Types of Securities: Common Stock

- **Common stock** is a security that represents equity ownership in a corporation, provides voting rights, and entitles the holder to a share of the company's success in the form of dividends and any capital appreciation in the value of the security.
- Investors who purchase common stock are the residual owners of the firm.

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Types of Securities: Preferred Stock

- **Preferred stock** is an equity security. It gives preference, relative to common stockholders, with regard to dividends and claim on assets. Thus preferred shareholders receive their dividends before any dividends are distributed to the common stockholders.

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Stock Markets

A stock market is a public market in which the stock of companies is traded. Stock markets are classified as either organized security exchanges or the over-the-counter (OTC) market.

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Stock Markets: Organized Securities Exchange

- **Organized security exchanges** occupy physical space and financial instruments are traded on their premises. For example, the New York Stock Exchange (NYSE) located in New York. The common stocks of nearly 3,000 listed companies is traded on this exchange.
- Today, the NYSE is a *hybrid market,* allowing for face-to-face trading on the floor of the stock exchange in addition to automated electronic trading. About 80 to 90 percent of all trades are done electronically.

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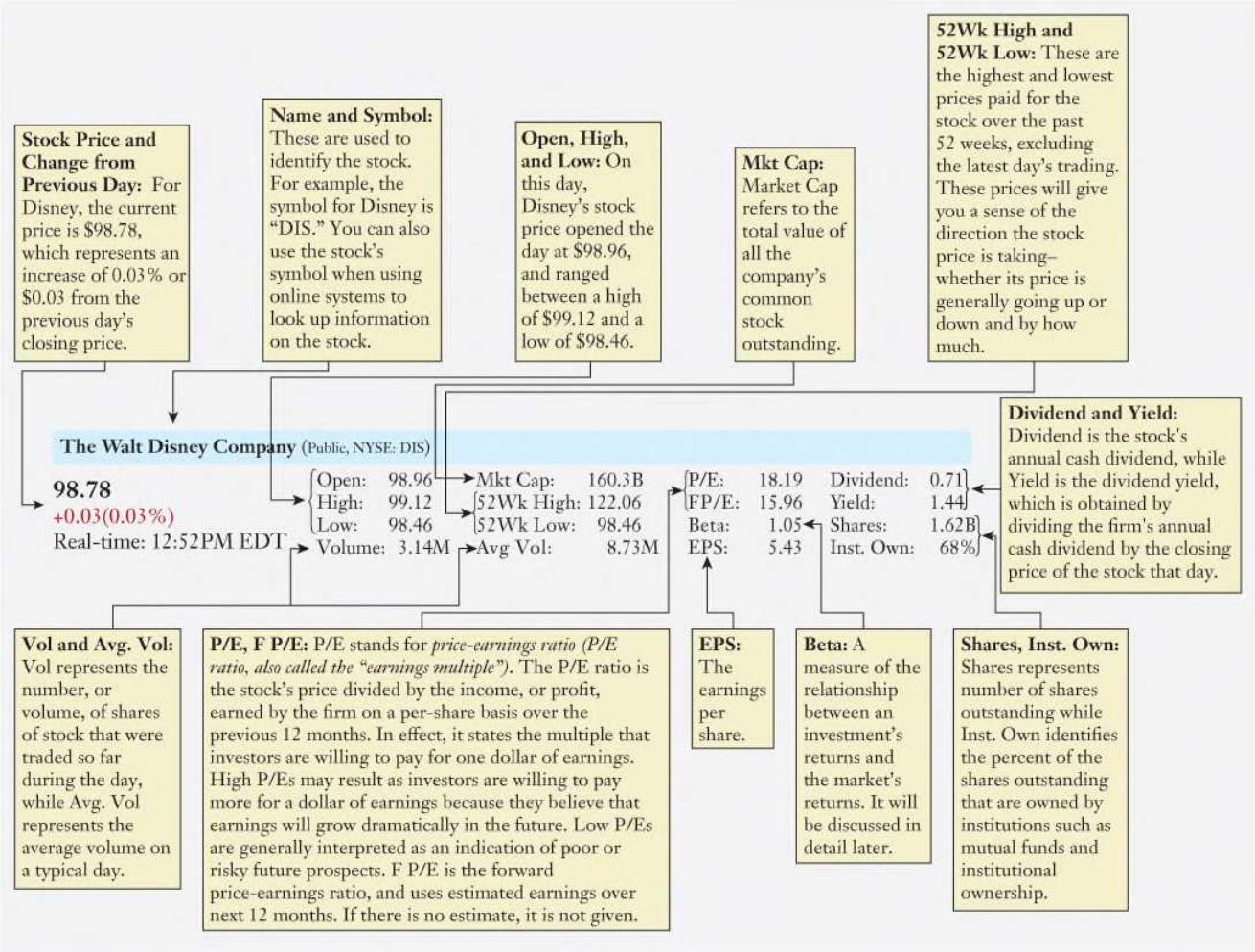
Stock Markets: Over—The—Counter Market

- NASDAQ (National Association of Securities Dealers Automated Quotations) is an **over-the-counter market** and describes itself as a "screen-based, floorless market". In 2013, nearly 3,100 companies were listed on NASDAQ exchange, including Starbucks, Alphabet, Intel and Whole Foods.
- Figure 2.3 illustrates how to read stock price quotes from www.google.com/finance.

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Figure 2-3 Common Stock Price Quotes



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Other Financial Instruments

Table 2.2 provides a list of different financial instruments used by firms to raise money, beginning with the shortest-maturity instruments (U.S. Treasury bills) that are traded in the money market and moving through to the longest-maturity instruments (common stock) that are traded in the capital market.

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Table 2.2 Characteristics of Different Financial Instruments (1 of 11)

Money Market Debt For the Borrower:

- Good way of inexpensively raising money for short periods of time.
- Rates tend to be lower than long-term rates.
- Can borrow money to match short-term needs.
- If interest rates rise, the cost of borrowing will immediately rise accordingly.

For the Investor:

- Very liquid—investors have access to their money when they need it.
- Safe—generally invested in high-quality investments for brief periods.
- Low returns—rates tend to be close to the rate of inflation.

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Table 2.2 Characteristics of Different Financial Instruments
(2 of 11)

Instrument	Market	Major Participants	Riskiness	Original Maturity	Interest Rates*
U.S. Treasury bills	Money—Debt	Issued by the U.S. Treasury	Default-free	4 weeks to 1 year	0.25% to 0.40%
Commercial paper	Money—Debt	Issued by financially secure firms to fund operating expenses or current assets (e.g., inventories and receivables)	Low default risk	Up to 270 days	0.34% to 0.59%
Negotiable certificates of deposit (CDs)	Money—Debt	Issued by major money-center commercial banks with a denomination of at least $100,000 to large Investors	Default risk depends on the strength of the issuing bank	2 weeks to 1 year	National average is 0.50% to 0.85%

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Table 2.2 Characteristics of Different Financial Instruments
(3 of 11)

Instrument	Market	Major Participants	Riskiness	Original Maturity	Interest Rates*
Money market mutual funds	Money—Debt	Issued by mutual funds and invested in debt obligations such as Treasury bills, CDs, and commercial paper; held by individuals and businesses	Low degree of risk	No specific maturity date (can be redeemed at any time)	0.27%
Consumer credit, including credit card debt	Money—Debt	Nonmortgage consumer debt issued by banks, credit unions, and finance Companies	Risk is variable	Varies	Variable, depending on the risk level

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Table 2.2 Characteristics of Different Financial Instruments (4 of 11)

Long-Term Debt and Fixed-Income Securities For the Borrower:

- Interest rates are locked in over the entire life of the debt.
- Has a tax advantage over common stock in that interest payments are tax deductible, whereas dividend payments are not.

For the Investor:

- Can be used to generate dependable current income.
- Some bonds produce tax-free income.
- Long-term debt tends to produce higher returns than short-term debt.
- Less risky than common stock.
- Investors can lock in an interest rate and know the future returns (assuming the issuer does not default on its payments).

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Table 2.2 Characteristics of Different Financial Instruments
(5 of 11)

Instrument	Market	Major Participants	Riskiness	Original Maturity	Interest Rates*
U.S. Treasury notes and bonds	Capital—Debt	Issued by the U.S. government to mutual funds, businesses, individuals, and foreign countries	No default risk but price will decline if interest rates rise	Notes have original maturities of 2, 5, and 10 years; bonds have original maturities greater than 10 years	0.47% to 2.82%

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Table 2.2 Characteristics of Different Financial Instruments
(6 of 11)

Instrument	Market	Major Participants	Riskiness	Original Maturity	Interest Rates*
Federal agency debt	Capital—Debt	Issued by federal agencies (Fannie Mae, Ginnie Mae, and others) to businesses, individuals, and foreign countries	Close to Treasury debt; not obligations of the federal government but still very low risk	Up to 30 years	3.81% on 30-year maturity
Mortgages	Capital—Debt	Borrowings from commercial banks and savings and loans (S&Ls) by Individuals	Risk is variable, with subprime mortgages having a good deal of Risk	Up to 30 years	2.87% (15-year fixed) to 3.71% (30-year fixed)

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Table 2.2 Characteristics of Different Financial Instruments
(7 of 11)

Instrument	Market	Major Participants	Riskiness	Original Maturity	Interest Rates*
Municipal bonds (state and local government bonds)	Capital—Debt	Issued by state and local governments to individuals, institutional investors, and foreign countries	Riskier than U.S. government securities, with the level of risk dependent on the issuer, but exempt from most taxes	Up to 30 years	2.50% (20-year, AAA-rated bonds)
Corporate Bonds	Capital—Debt	Issued by corporations to individuals and institutional Investors	Risk is dependent on the financial strength of the issuer; riskier than U.S. government securities but less risky than preferred and common Stocks	In general, up to 40 years; however, Walt Disney and Coca-Cola have issued 100-year Bonds	2.72% (10-year, AAA-rated bonds) to 3.73% (20-year, AAA-rated bonds)

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Table 2.2 Characteristics of Different Financial Instruments
(8 of 11)

Preferred Stock For the Issuer:

- Dividends can be omitted without the risk of bankruptcy.
- Has the disadvantage that dividends are not tax deductible for the issuer, whereas interest payments from debt are tax deductible.

For the Investor:

- For corporate investors, it has a tax advantage because at a minimum 70 percent of dividends received are tax-free.

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Table 2.2 Characteristics of Different Financial Instruments
(9 of 11)

Instrument	Market	Major Participants	Riskiness	Original Maturity	Interest Rates*
Preferred stocks	Capital—Equity (Preferred Stock)	Issued by corporations to individuals, other corporations, and institutional Investors	Riskier than corporate bonds but less risky than common stock	No maturity date	Dependent on risk; generally ranging from 4.0% to 8.5%

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Table 2.2 Characteristics of Different Financial Instruments (10 of 11)

Common Stock For the Issuer:

- The issuing firm is not legally obligated to make payments.
- Does not have a maturity date.
- Issuance of common stock increases creditworthiness because the firm has more investor money to cushion the firm in the case of a loss.
- Has a tax disadvantage relative to debt; whereas debt interest payments are deductible for tax purposes, common stock dividends are not.

For the Investor:

- Over the long run, common stock has outperformed debt-based financial assets.
- Along with the increased expected return comes increased risk.

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Table 2.2 Characteristics of Different Financial Instruments
(11 of 11)

Instrument	Market	Major Participants	Riskiness	Original Maturity	Interest Rates*
Common stocks	Capital—Equity (Common Stock)	Issued by corporations to individuals, other corporations, and institutional investors	Risky, with dividends paid only when they are Declared	No maturity date	Do not pay interest

*The yields were taken from http://online.wsj.com, http://www.bloomberg.com, http://research.stlouisfed.org, http://finance.yahoo.com, and http://www. bankrate.com, as of January 23, 2016.

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Financial Markets and the Financial Crisis

- Beginning in 2007, US experienced its most severe financial crisis since the Great Depression of the 1930s. As a result, some financial institutions collapsed, while the government bailed others out; unemployment skyrocketed; the stock market plummeted, the country entered into a recession, and it spread world wide.
- Although many factors contributed to the financial crisis, the most immediate cause has been found to be the collapse of the real estate market and the resulting real estate loan (mortgage) defaults.

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Securitization Process (1 of 2)

Securitization Process

1. Homebuyers borrow money by taking out a mortgage loan
2. Lender sells the mortgage to another firm or financial institution.
3. That financial institution pools together and creates a portfolio of mortgages. The purchase of that portfolio is financed through sale of MBS.

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Securitization Process (2 of 2)

4. These MBSs are sold to investors who can hold them as investments or resell them to other investors.

Since the original lender gets the money back quickly and does not have to worry about repayment, it may not adequately screen the loan applicants. Financial crisis began with poor screening and spread worldwide through sale of MBSs.

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Dodd—Frank Wall Street Reform and Consumer Act

In the wake of 2008 financial crisis, the financial industry was again transformed. The major stand-alone investment banks failed or were converted to commercial banks.

In 2010 the Dodd-Frank Wall Street Reform and Consumer Protection Act was passed, which subjects banks and non-bank financial institutions to more oversight and greater transparency. One of the rules, **"Volker" rule**, prohibits banks from proprietary trading.

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Key Terms (1 of 5)

- Accredited investor
- Bond
- Capital market
- Commercial bank
- Common stock
- Coupon rate
- Credit default swap

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Key Terms (2 of 5)

- Debt securities
- Defined benefit plan
- Defined contribution plan
- Equity securities
- Exchange-traded fund (ETF)
- Face value or par value
- Financial intermediaries

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Key Terms (3 of 5)

- Hedge fund
- Investment bank
- Investment company
- Leveraged buyout firm
- Load fund
- Maturity
- Money market

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Key Terms (4 of 5)

- Mutual fund
- Net asset value (NAV)
- Note
- No-load fund
- Organized security exchanges
- Over-the-counter market
- Preferred stock

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Key Terms (5 of 5)

- Primary market
- Private equity firm
- Proprietary trading
- Secondary market
- Security
- Venture capital firm

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