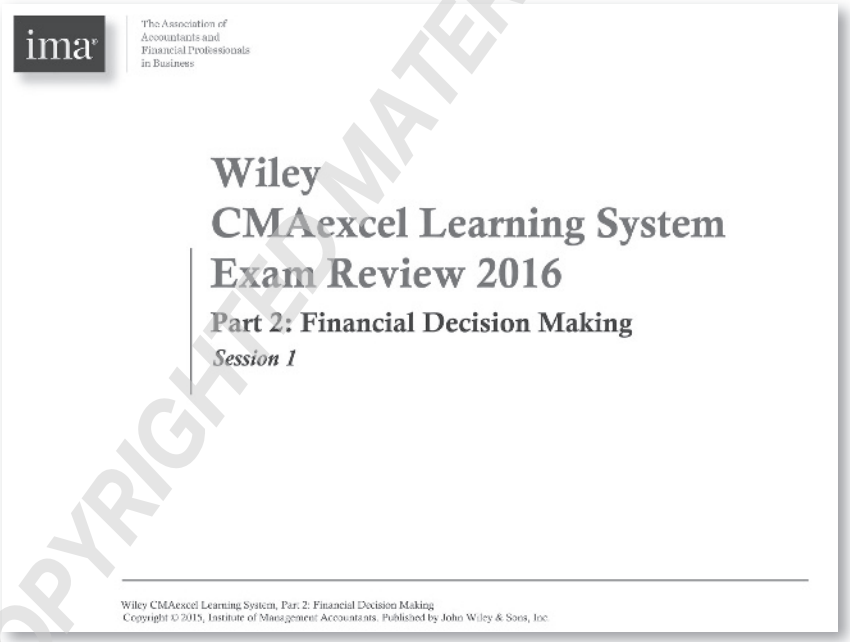
Session 1 (3 hours)

Course Introduction



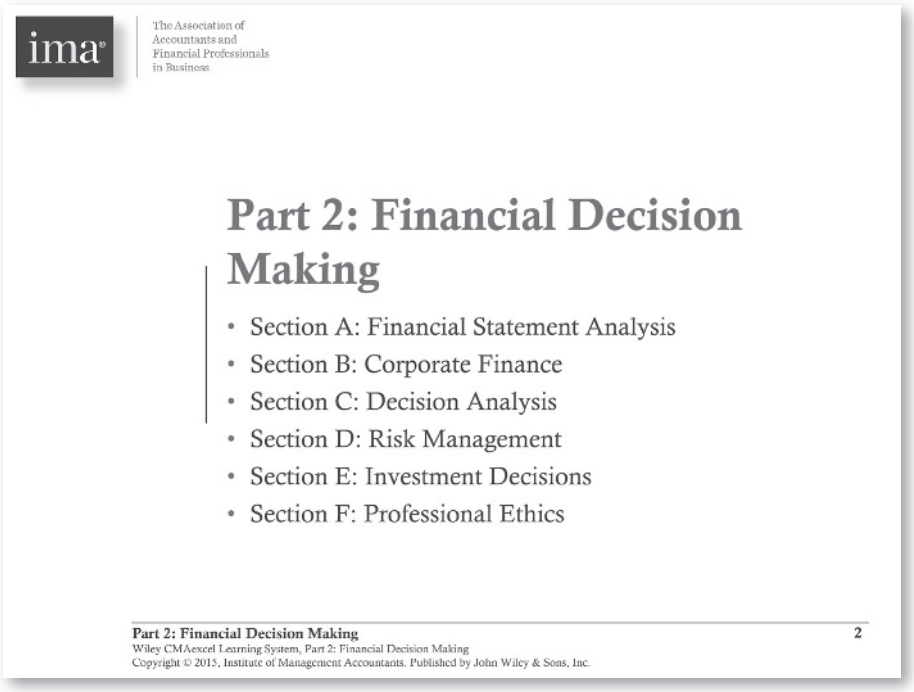
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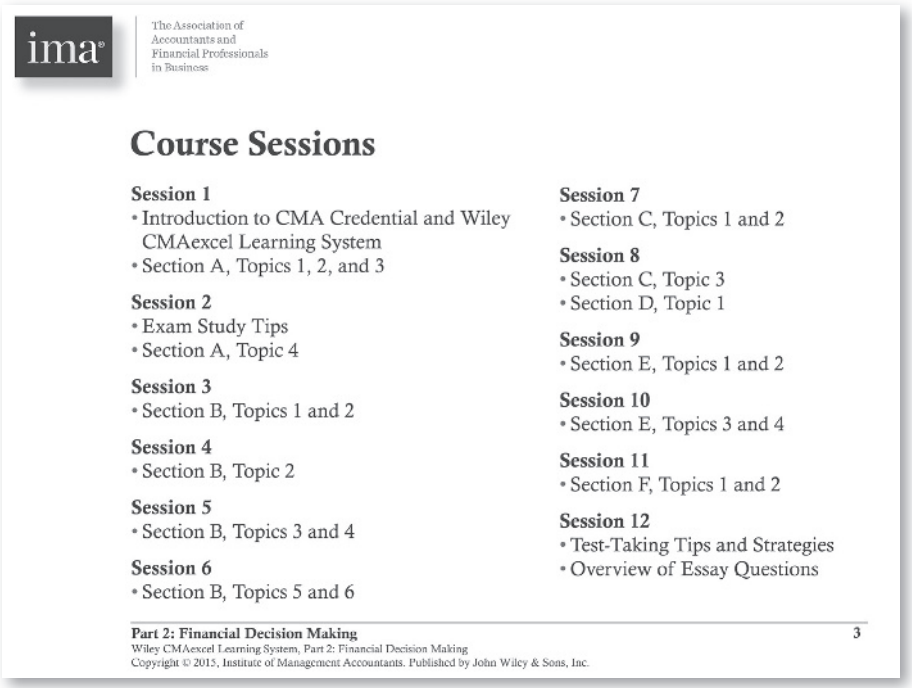
Introduce yourself and welcome participants to the instructor-led course for Wiley's *CMAexcel Learning System, Part 2: Financial Decision Making.*

Explain that while the primary focus of the course is to prepare participants for the CMA Part 2 certification exam, it is also an excellent professional development tool for helping participants advance their careers in accounting, finance, or business management.

Tell participants who are preparing for the CMA Part 2 exam that the course and the materials follow the CMA body of knowledge provided by the Institute of Certified Management Accountants (ICMA) and that the course follows the general order of the WCMALS Part 2 self-study book.



Explain that Part 2: Financial Decision Making, consists of six sections.



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Course Sessions

Session 1
- Introduction to CMA Credential and Wiley CMAexcel Learning System
- Section A, Topics 1, 2, and 3

Session 2
- Exam Study Tips
- Section A, Topic 4

Session 3
- Section B, Topics 1 and 2

Session 4
- Section B, Topic 2

Session 5
- Section B, Topics 3 and 4

Session 6
- Section B, Topics 5 and 6

Session 7
- Section C, Topics 1 and 2

Session 8
- Section C, Topic 3
- Section D, Topic 1

Session 9
- Section E, Topics 1 and 2

Session 10
- Section E, Topics 3 and 4

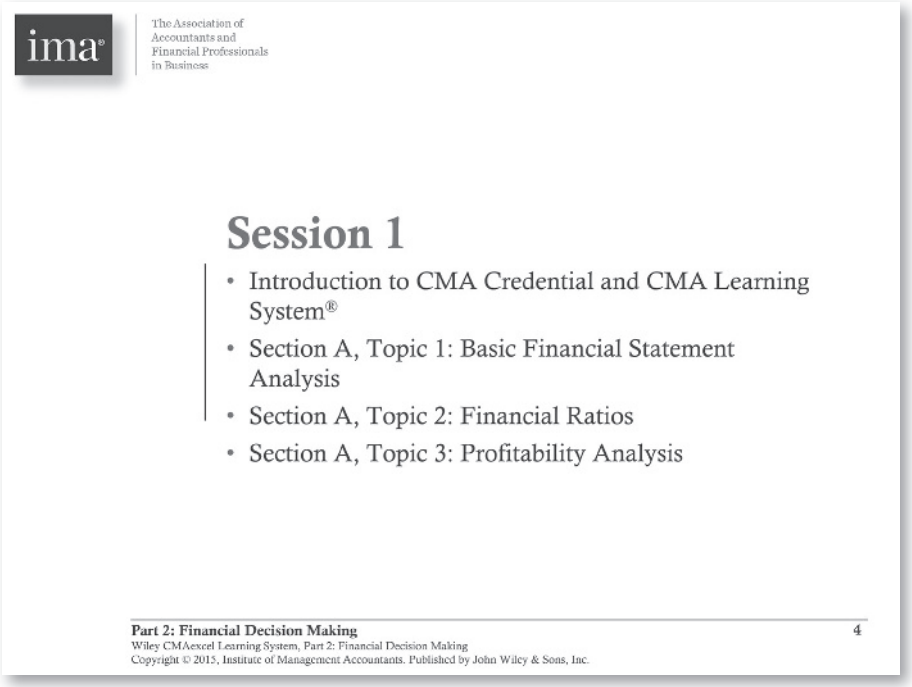
Session 11
- Section F, Topics 1 and 2

Session 12
- Test-Taking Tips and Strategies
- Overview of Essay Questions

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Distribute and review the course syllabus with the session dates and durations for the specific course you are teaching. (Customize the template syllabus that is on your instructor CD.)

Session 1 Overview

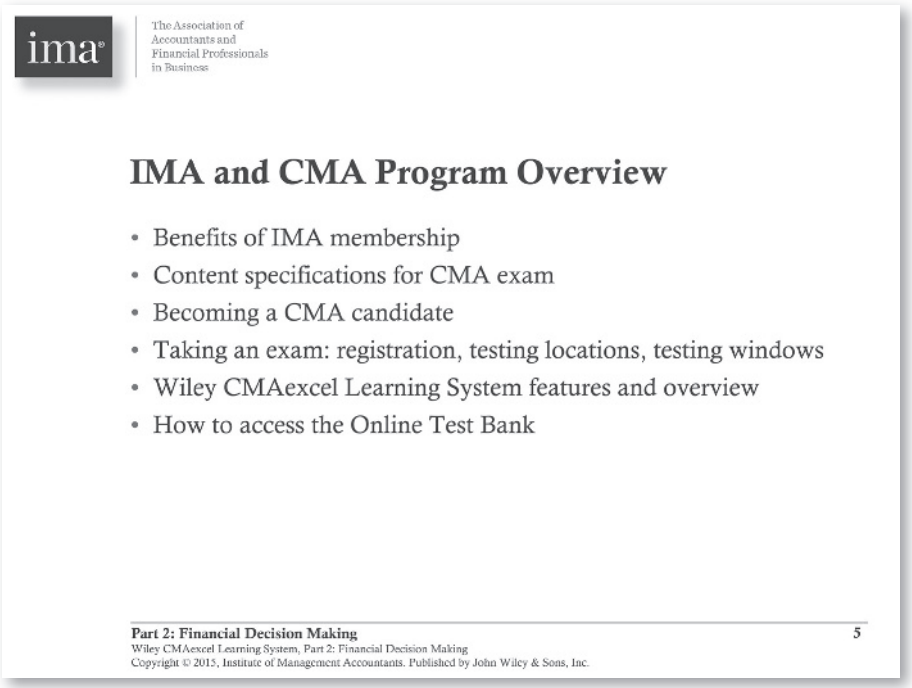


Explain that Session 1 introduces the CMA Learning System and how to use its components, explain some key points about the CMA exam, and discuss the advantages of IMA membership.

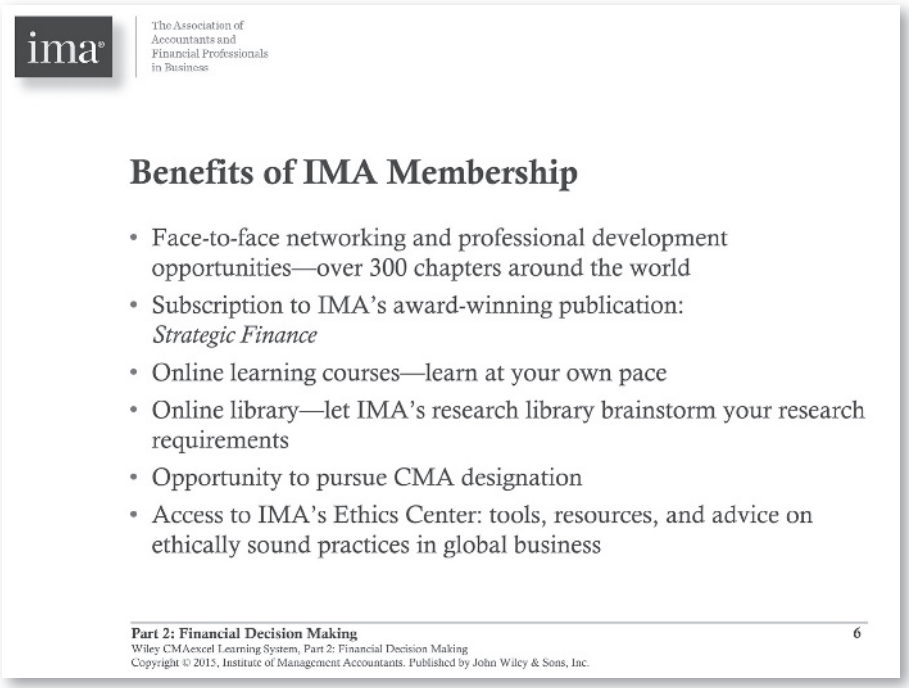
The session also begins the course content with Section A, Topic 1: Basic Financial Statement Analysis, and continues with Topic 2: Financial Ratios, and Topic 3: Profitability Analysis.

As part of the class, participants also will work on some of the practice questions in the Part 2 self-study book.

Let's begin with an overview of the IMA and CMA program.



Begin by talking a bit about the IMA, the benefits of registering early as a CMA candidate and the Wiley CMAexcel Learning System, and how participants should use the tools and features of the system.



Explain to participants that there are six key benefits of joining IMA. When they register as a CMA candidate, they automatically become IMA members; however, even if they are taking this course as continuing education and do not think they will work toward their CMA certification, the benefits of joining IMA are still valuable.

IMA's chapter network is significant both within the United States and around the globe. Chapters are filled with people who are passionate about the accounting and finance profession. The chapters offer a way to connect with these people, their knowledge, insight, and experience, and the job connections they can offer.

Strategic Finance magazine is produced by IMA and is filled each month with timely articles written by those most influential in the profession. It is a must for staying on top of what is happening today and the hot topics emerging for those in the accounting and finance field.

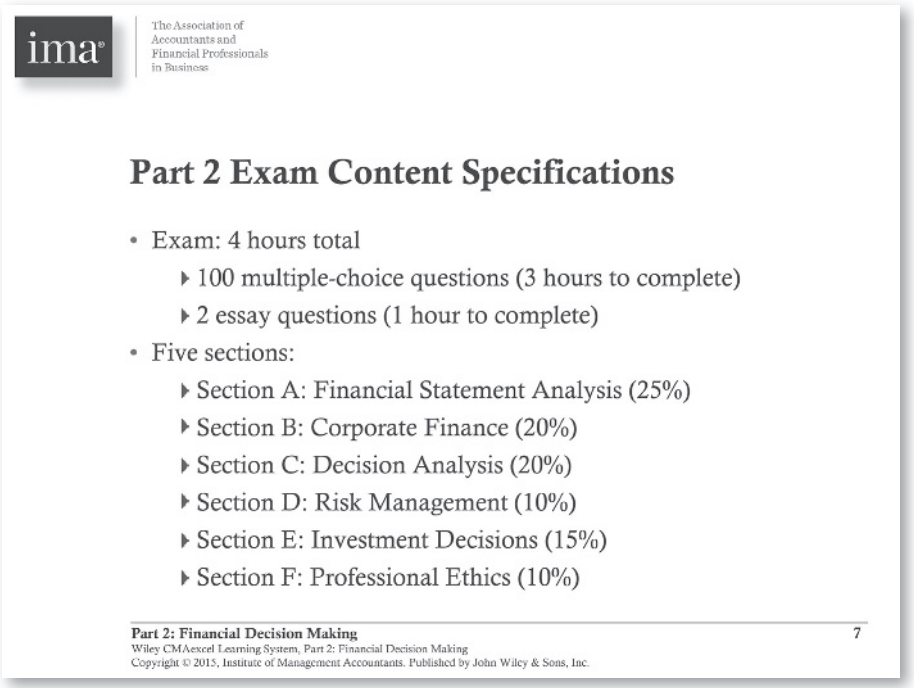
IMA's Professional Development team offers a wide range of online learning programs including a very popular free webinar series.

IMA is constantly investing in new ways to bring relevant content and connections to its members.

IMA also offers a host of research papers and statements of management accounting. Its online librarian is available to help members locate specific research information—an amazing free service.

Obviously, the CMA program itself is a huge benefit—the IMA is filled with many resources and experts who manage the CMA body of knowledge and support the CMA candidates.

Last, IMA has a top-notch ethics resource center, including an advisor. Members can use the center to get support when dealing with professional ethical situations.

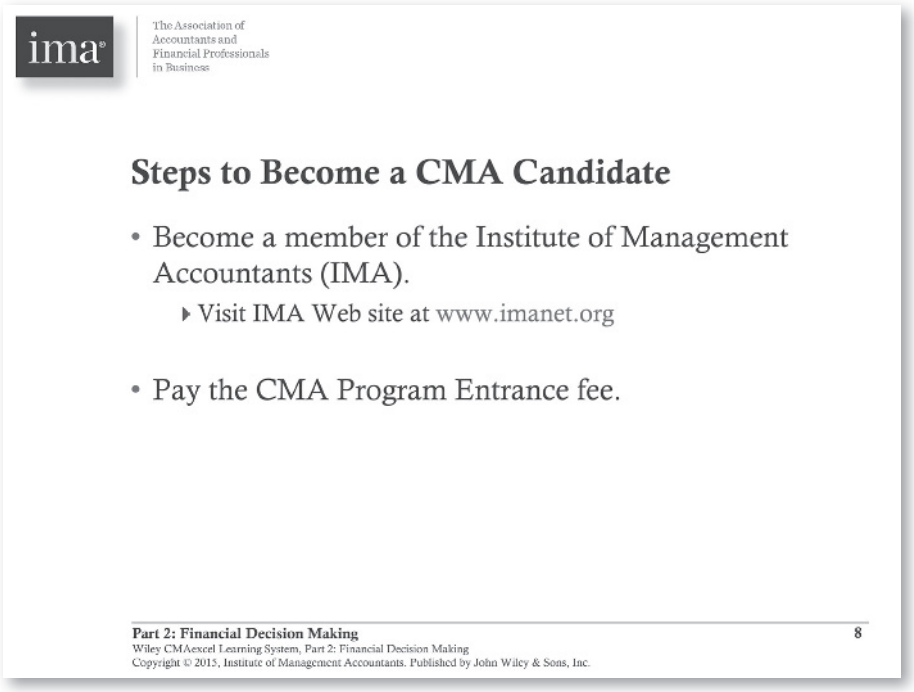


Explain the content specifications for the Part 2 CMA exam.

Ask participants to open their self-study books and look for the Learning Outcome Statements (LOS) at the back of the book. The LOS describe all the knowledge and skills that make up the CMA body of knowledge, broken down by part, section, and topic.

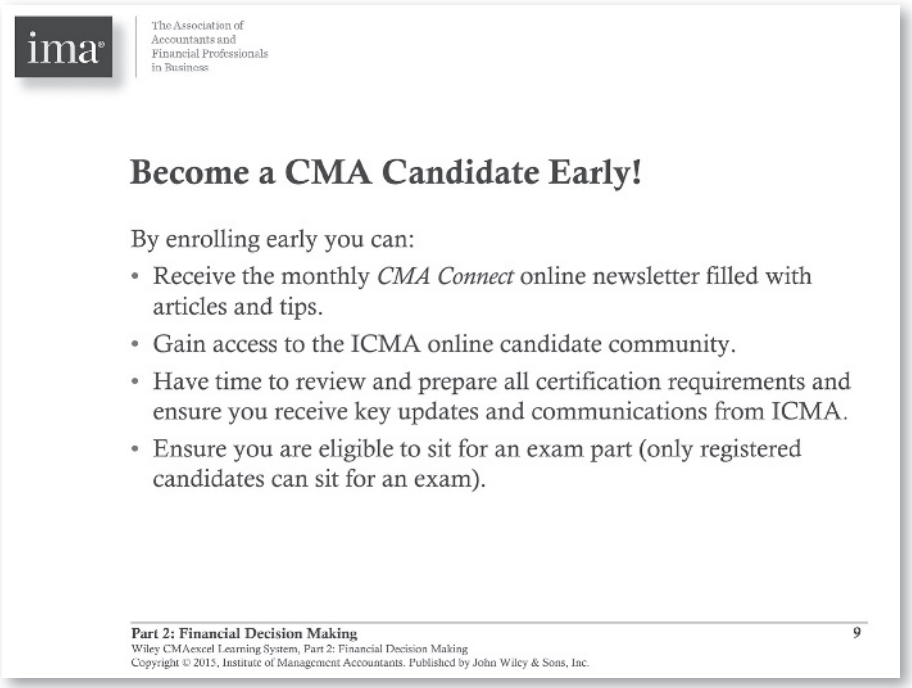
The WCMALS supports and is aligned with the LOS.

Tell participants that the LOS should not be used as proxies for the actual certification exam questions; they should be used as guides for studying and learning the content of the WCMALS.



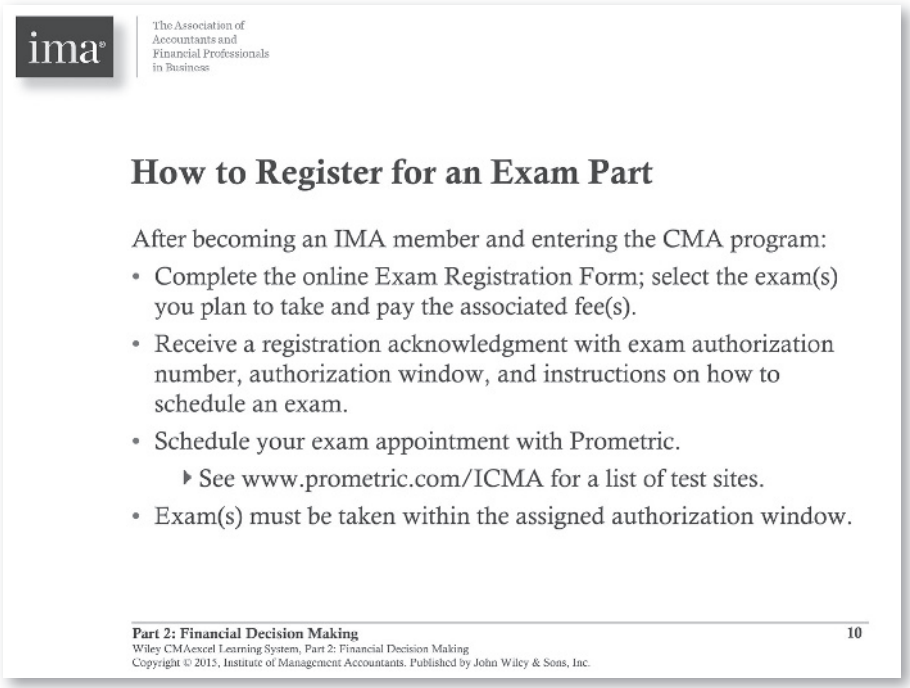
Explain: Registering as a CMA candidate is easy—follow these two steps:

1. Become an IMA member.
2. Pay the CMA Program Entrance fee.



Explain the key benefits of registering as a CMA candidate early in the exam preparation process.

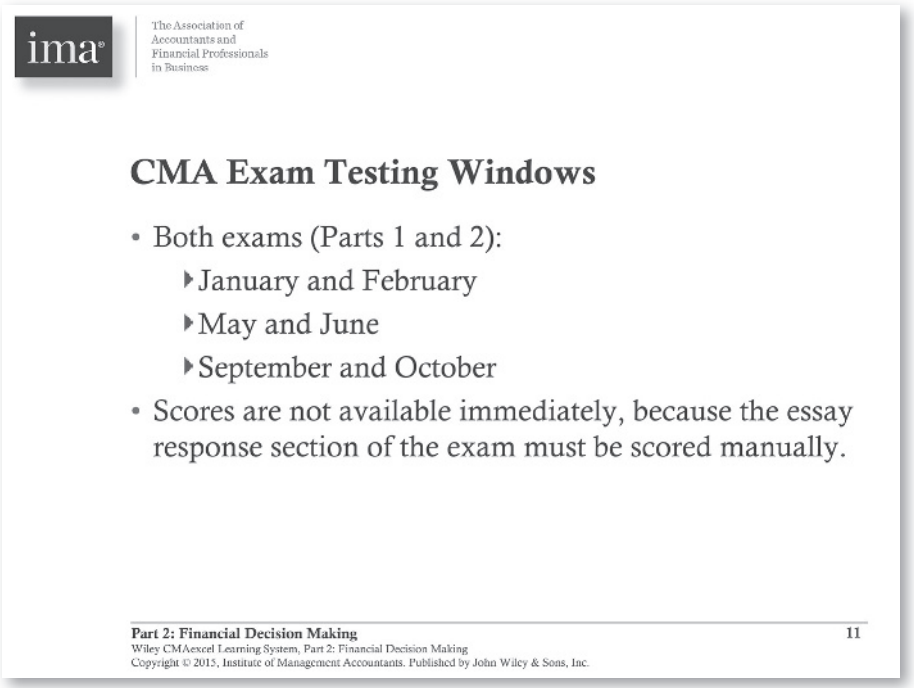
- Reinforce that becoming recognized as part of the CMA candidate community provides a support system to ensure a candidate's success.



Tell participants that you will discuss study tips and techniques during Session 2.

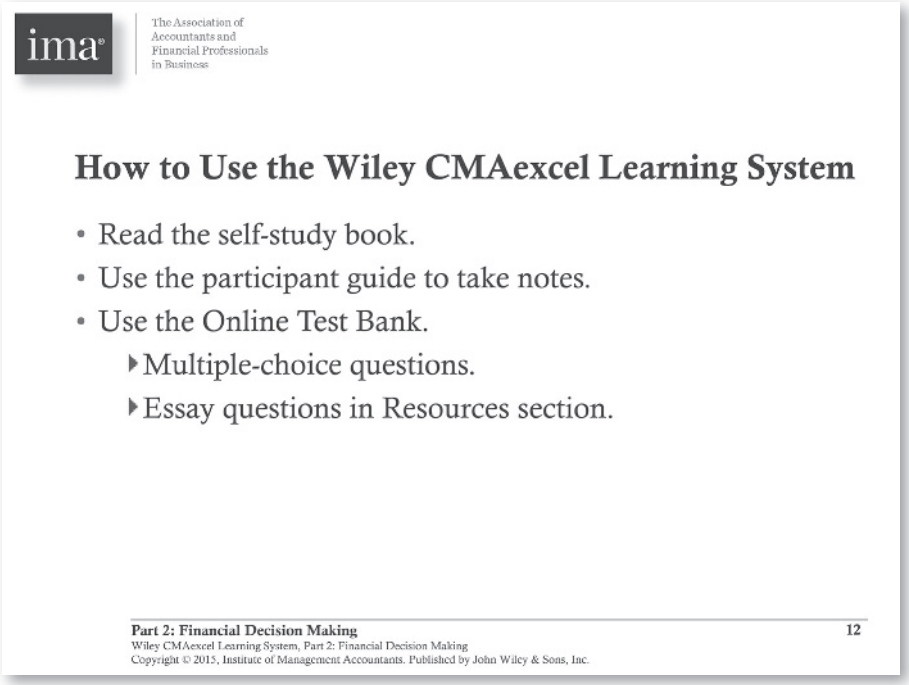
Note that one action that is key to their success is setting a clear goal as to when they will sit for the exam.

Registering for an exam provides a target. Sitting for the exam soon after they complete the course and their individual studies allows them to have the content fresh in their mind and be more confident in their knowledge of it.



Inform participants that ICMA offers the Part 1 and 2 exams during specific windows each year.

It is important that they set a goal—as soon as their studies are complete, they should complete the exam in the next testing window.



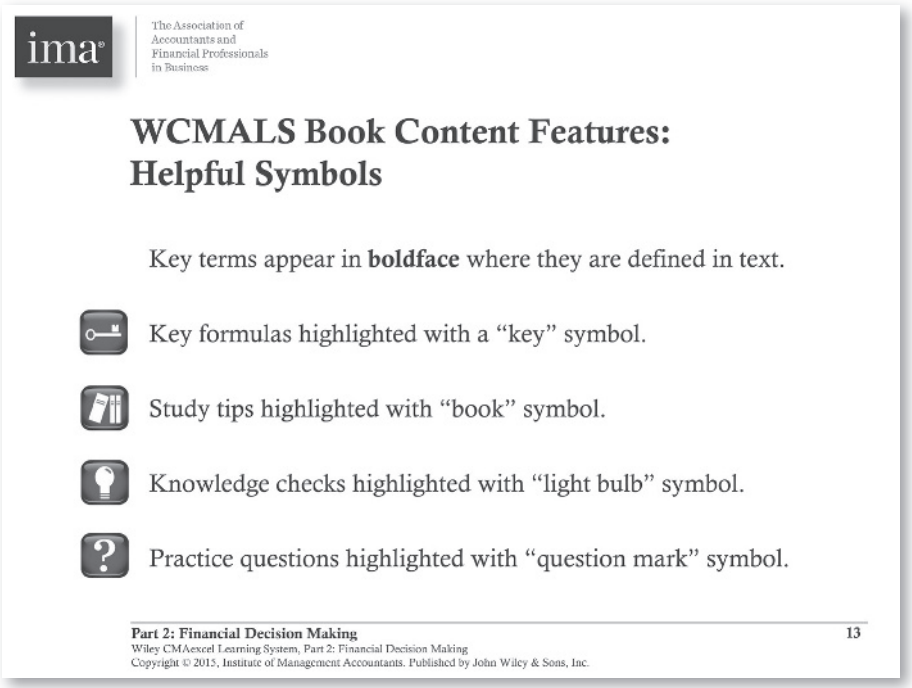
Explain the components of the Wiley CMAexcel Learning System and how participants can use them to ensure their studies are successful.

In the self-study book, review "How to Use the Wiley CMAexcel Learning System." ***Explain*** that the book is broken down by section and topic. ***Ask*** participants to turn to the end of Topic 1, and point out the knowledge checks. ***Explain*** that these are not exam questions; rather, they are short questions they can use to check that they understood the content covered in each topic.

Ask them to turn to the end of Section A, and point out the practice questions. ***Explain*** that these questions are samples of exam questions, which will not only reinforce their learning but also give them more experience with the style of the exam. ***Explain*** that the print book contains a selection of practice questions. As part of the WCMALS, they also receive access to the Online Test Bank with more than 600 multiple-choice practice questions. More details on this online portion of the system are provided shortly.

Another important part of the system is the "Essay Exam Support Materials" section at the end of the self-study book that shows how essay questions are graded, provides tips for writing an essay answer, and includes some 20 sample essay questions that participants can practice. ***Explain*** that this course reviews this material in the last session.

Finally, ***ask*** participants to turn to the "Suggested Study Process Map" in the self-study book "How to Use the Wiley CMAexcel Learning System" section. ***Tell*** them that their *Participant Guide* contains images of all the slides you will present and that they can take additional notes in their *Participant Guide* as you discuss topics in class. However, you strongly ***recommend*** that they follow the study process presented in the self-study book—they should come to class having read the content you are going to cover. The classes are meant to supplement the self-study book, not take the place of reading and using it.



Explain that the WCMALS books use a number of features to draw attention to certain types of content:

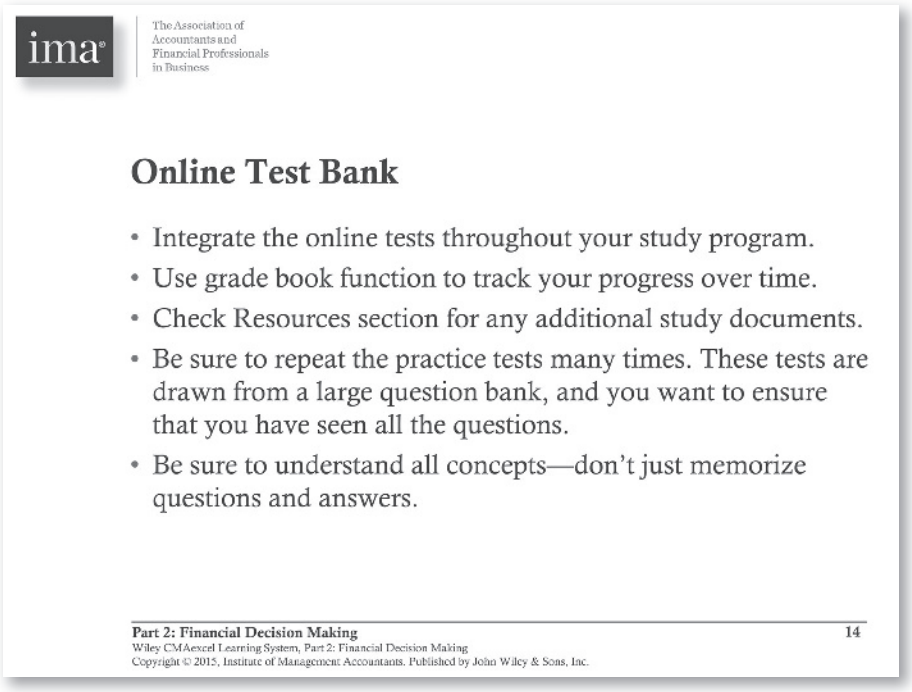
Key terms are bolded where they appear in the text with their definition, to allow users to scan through quickly and study theme.

Key formulas are indicated with a "key" symbol. Be sure you understand these formulas and practice applying them.

Study tips offer ideas and strategies for studying and preparing for the exam and are indicated with a "book" symbol.

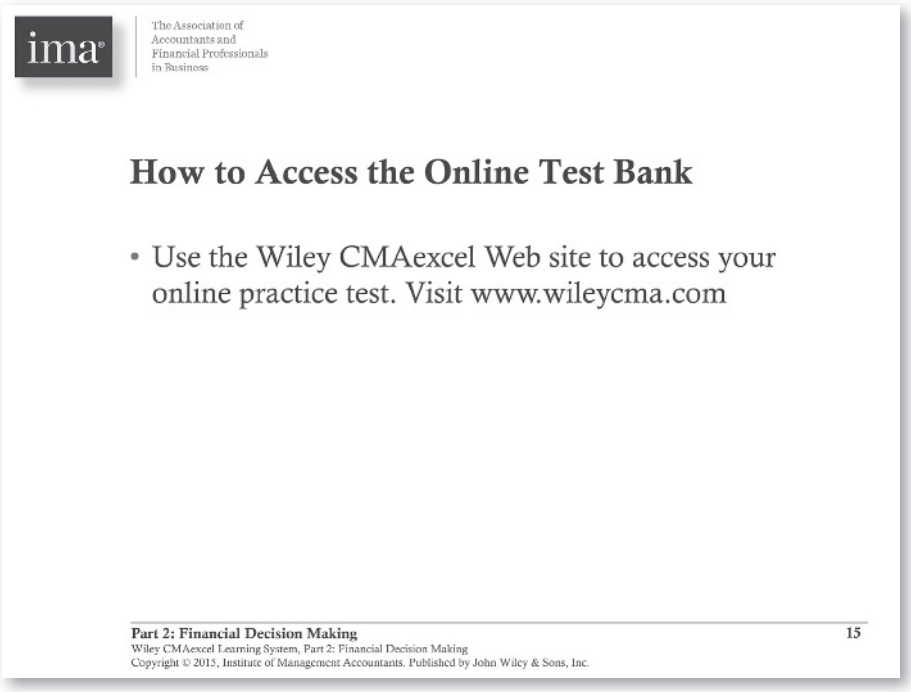
Knowledge checks are indicated with a "light bulb" symbol—note that the answers are provided after all the questions. These appear at the end of each topic.

Practice questions are indicated with a "question mark" symbol. These are presented at the end of each section.



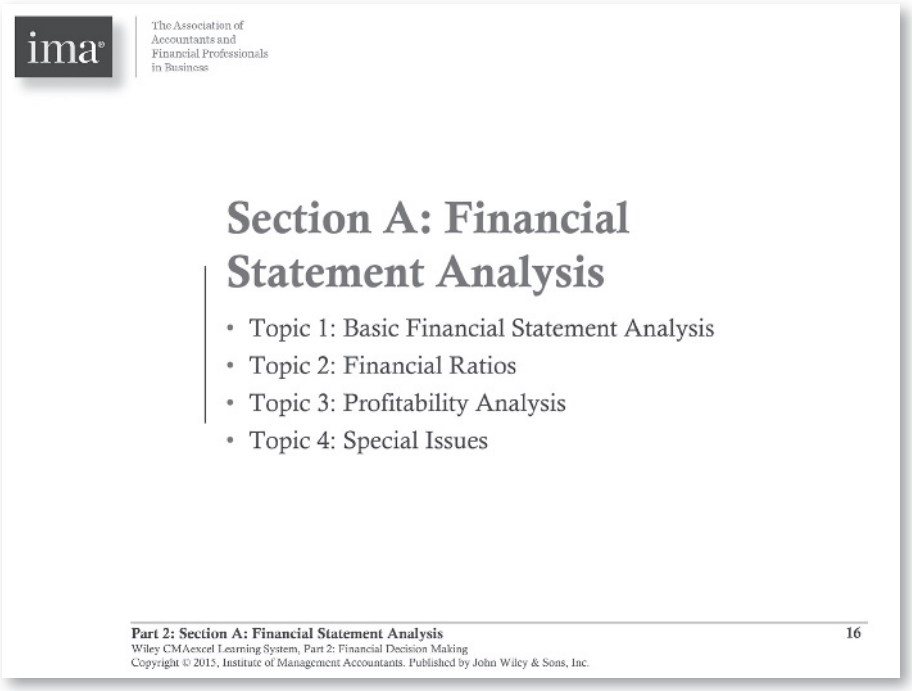
Explain the importance of using the Online Test Bank during the course.

The section-specific tests provide questions related to the section content. Participants should read and learn a section and then practice the online questions related to the section. Doing this also helps indicate whether participants should study the section content further before moving to the next section.



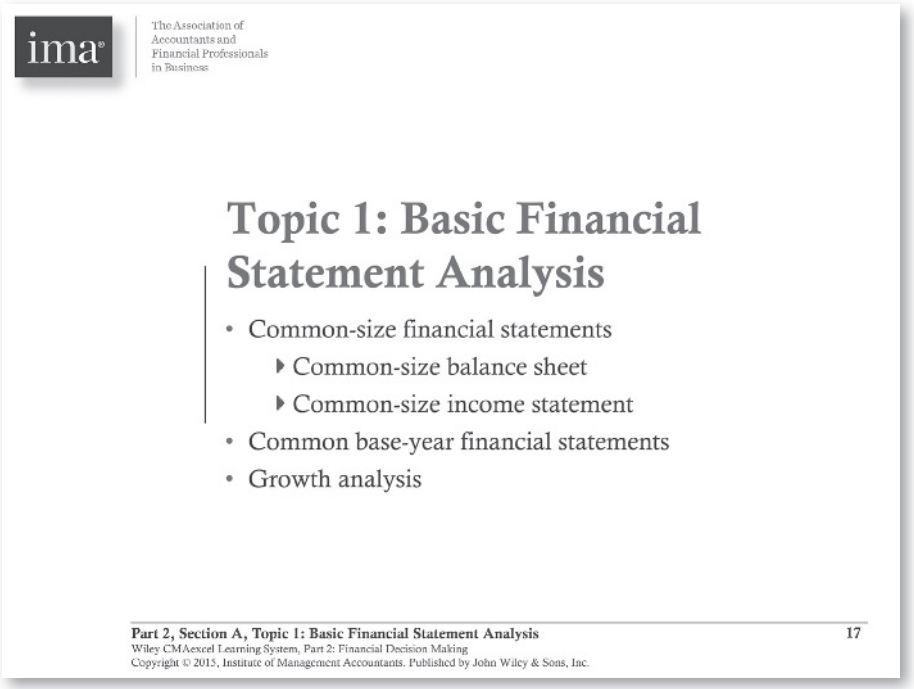
Point out that participants can access the Learning Center from www.wileycma.com.

Section A: Financial Statement Analysis

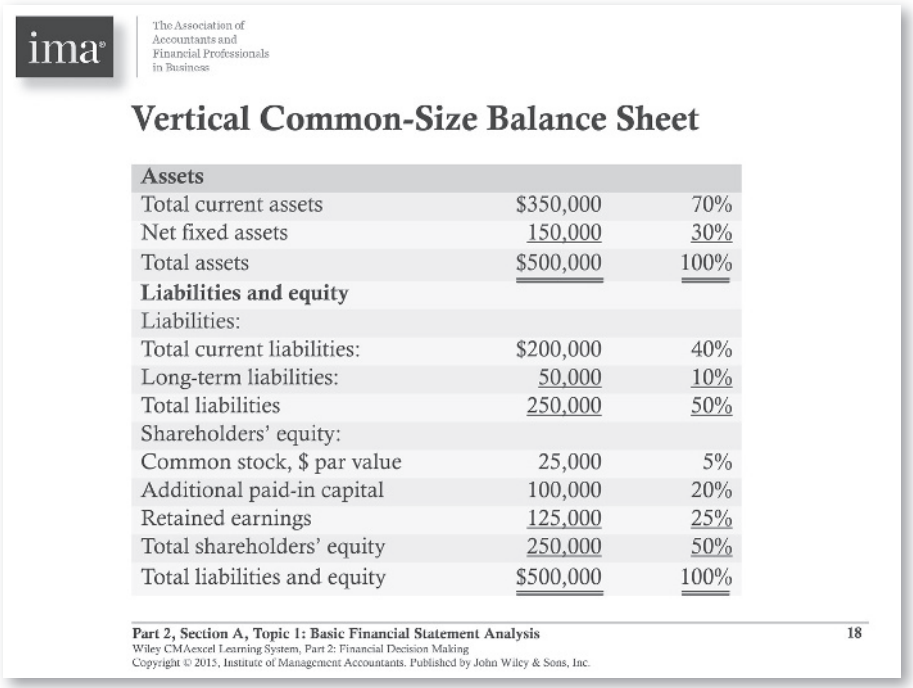


Explain that Section A covers financial statement analysis. It starts out with fundamental financial statement analysis and then focuses on two critical elements: liquidity and profitability. Financial ratios are calculated using the formulas that are tested on the CMA exam. The section concludes with coverage of some contemporary accounting issues, such as International Financial Reporting Standard (IFRS) and generally accepted accounting principles (GAAP) convergence and fair value accounting.

Section A, Topic 1: Basic Financial Statement Analysis



Explain that Topic 1 outlines some basic financial statement analysis concepts. We'll be looking at how common-size statements can be used to perform analysis and gain an understanding of how to analyze a company's growth over time.



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Vertical Common-Size Balance Sheet

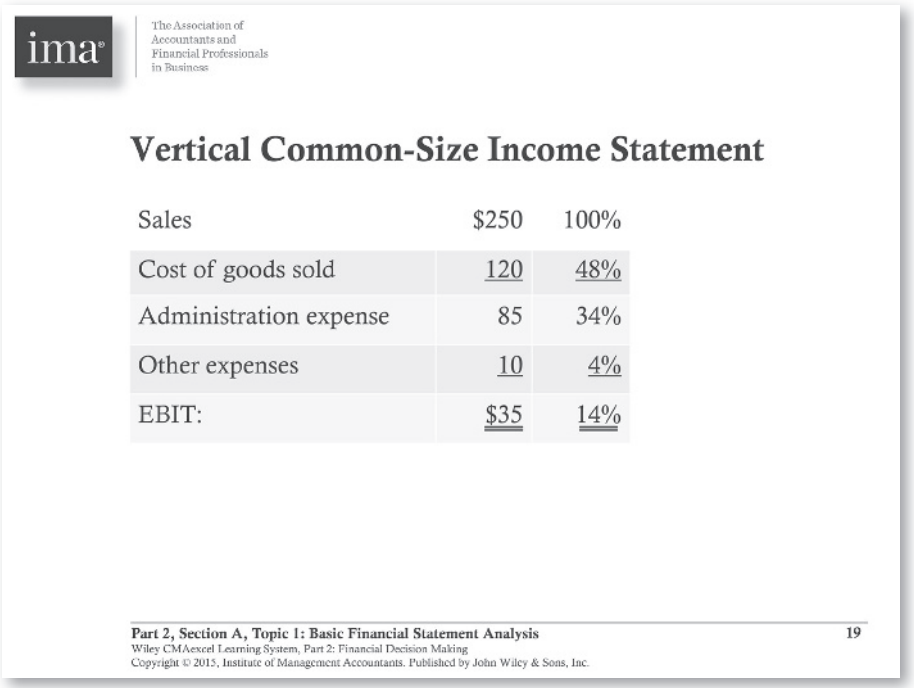
Assets		
Total current assets	$350,000	70%
Net fixed assets	150,000	30%
Total assets	$500,000	100%
Liabilities and equity		
Liabilities:		
Total current liabilities:	$200,000	40%
Long-term liabilities:	50,000	10%
Total liabilities	250,000	50%
Shareholders' equity:		
Common stock, $ par value	25,000	5%
Additional paid-in capital	100,000	20%
Retained earnings	125,000	25%
Total shareholders' equity	250,000	50%
Total liabilities and equity	$500,000	100%

Part 2, Section A, Topic 1: Basic Financial Statement Analysis 18
Wiley CMAexcel Learning System, Part 2: Financial Decision Making
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Explain that this is a vertical common-size balance sheet.

In vertical common-size statements, a base amount (generally total assets on the balance sheet and net sales on the income statement) is valued at 100%, and the elements within that statement are expressed as a percentage of the total (total assets or net sales).

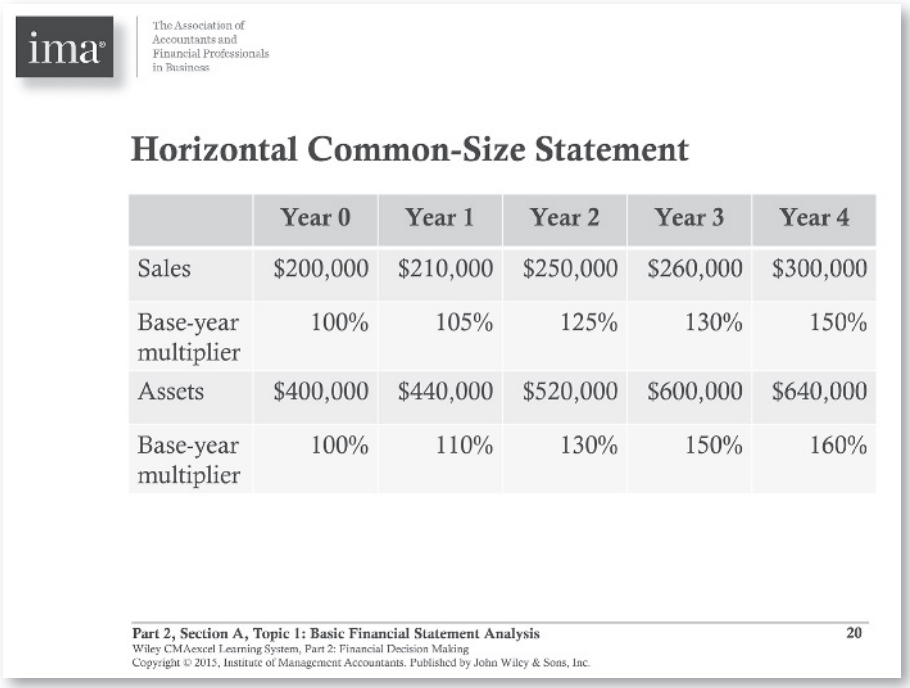
A vertical common-size balance sheet is used to understand the relationship between total assets and other items included on the balance sheet of a company.



Explain that this is a vertical common-size income statement. Note that all elements in the income statement are divided by total sales, which is the base amount.

This is a simplified income statement. Typically, there are many other categories of expenses.

A vertical common-size income statement is used to understand the relationship between sales and other items included on the income statement of a company.



The Association of Accountants and Financial Professionals in Business

Horizontal Common-Size Statement

	Year 0	Year 1	Year 2	Year 3	Year 4
Sales	$200,000	$210,000	$250,000	$260,000	$300,000
Base-year multiplier	100%	105%	125%	130%	150%
Assets	$400,000	$440,000	$520,000	$600,000	$640,000
Base-year multiplier	100%	110%	130%	150%	160%

Part 2, Section A, Topic 1: Basic Financial Statement Analysis 20
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Explain that a horizontal common-size statement, also called a variation analysis or trend analysis, compares key financial statement values/relationships for the same company over a period of years. Such an analysis sets the base year at a value of 100% and shows subsequent years in relation to increases or decreases over the base year.

Ask participants to refer to the table shown and determine which item is growing faster: assets or sales.

Answer: Assets are growing faster than sales.

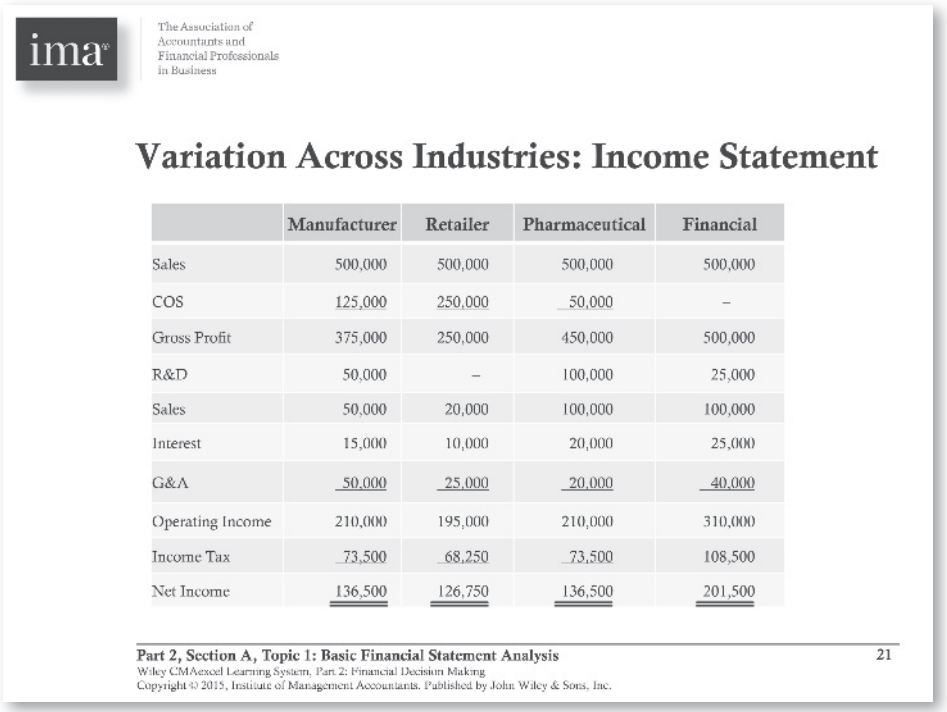
Horizontal/trend analysis is used to help analysts examine relationships of key financial numbers to detect strengths and weaknesses. In this example, managers need to better control asset purchases and use.

This analysis can reveal trends that help shed light on the direction, speed, and volume of change. Further analysis also can examine trends in related areas, such as a disparity between an increase in sales and a proportionately greater increase in receivables.

Analysts must use caution in interpreting results using horizontal common-size statements. Because items are expressed as percentages, analysts must keep in mind the size of the basis for comparison. For example, a 400% increase in net income might sound remarkable until analysts learn that last year's income was $100.

Explain that common-size statements are useful when comparing businesses of different sizes because the financial statements of a variety of companies can be recast into the uniform common-size format regardless of the size of individual elements. Analysts must use judgment to resolve the issue of actual comparability between individual companies in situations in which common-size statements do not reflect the relative sizes of the individual companies.

Comparing common-size statements of companies within an industry or with common-size composite statistics of that industry can bring to light variations in account structure or distribution that require analysts to explore and explain the reasons for differences.

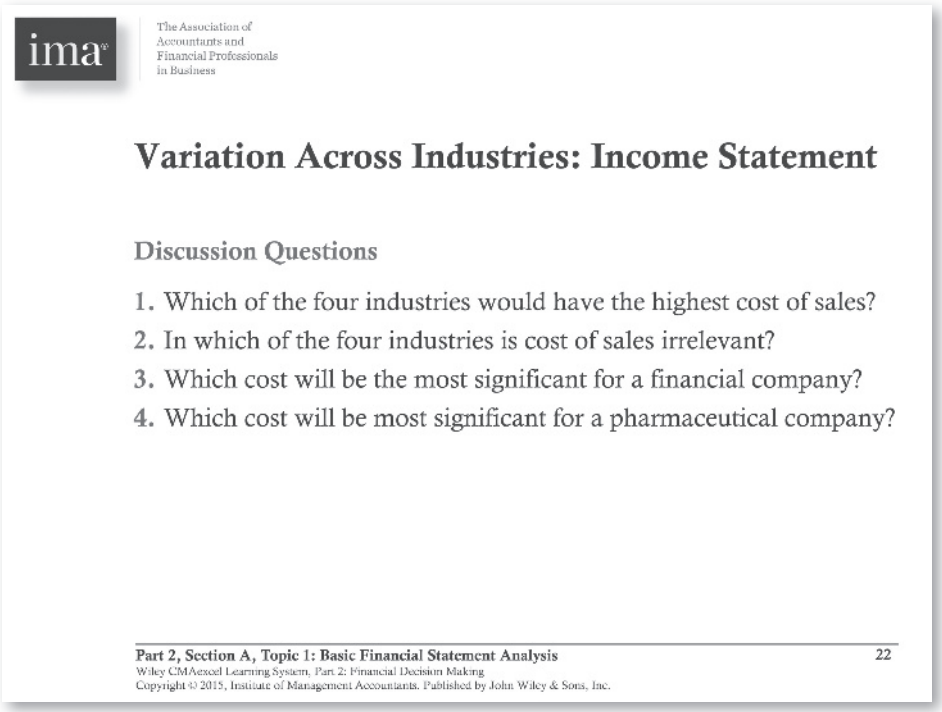


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Variation Across Industries: Income Statement

	Manufacturer	Retailer	Pharmaceutical	Financial
Sales	500,000	500,000	500,000	500,000
COS	125,000	250,000	50,000	–
Gross Profit	375,000	250,000	450,000	500,000
R&D	50,000	–	100,000	25,000
Sales	50,000	20,000	100,000	100,000
Interest	15,000	10,000	20,000	25,000
G&A	50,000	25,000	20,000	40,000
Operating Income	210,000	195,000	210,000	310,000
Income Tax	73,500	68,250	73,500	108,500
Net Income	136,500	126,750	136,500	201,500

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Remind participants that the four industries listed on the slide are: manufacturer, retailer, pharmaceutical, and financial.

Discuss each of the four questions listed on this slide.

- The *retailer* would have the highest cost of sales as its margins are the lowest.

  Click to display question 2.

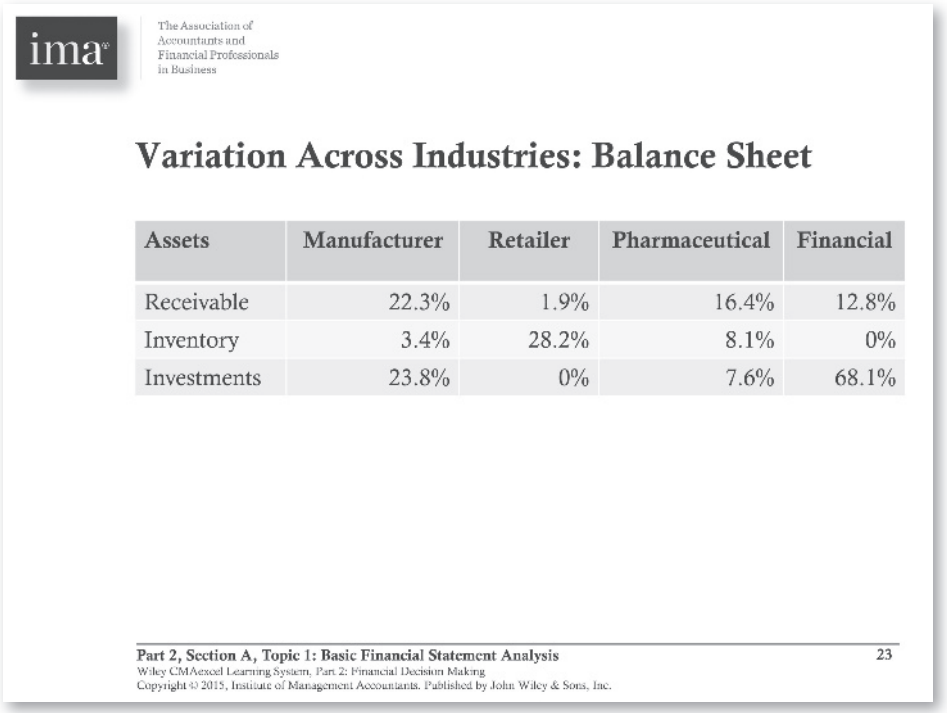
- Cost of sales is irrelevant for the *financial industry*. Banks and brokerage firms do not specifically sell any products.

  Click to display question 3.

- *Interest costs* will be most significant for a financial company.

  Click to display question 4.

- *Research and development (R&D) costs* will be most significant for a pharmaceutical company.



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Variation Across Industries: Balance Sheet

Assets	Manufacturer	Retailer	Pharmaceutical	Financial
Receivable	22.3%	1.9%	16.4%	12.8%
Inventory	3.4%	28.2%	8.1%	0%
Investments	23.8%	0%	7.6%	68.1%

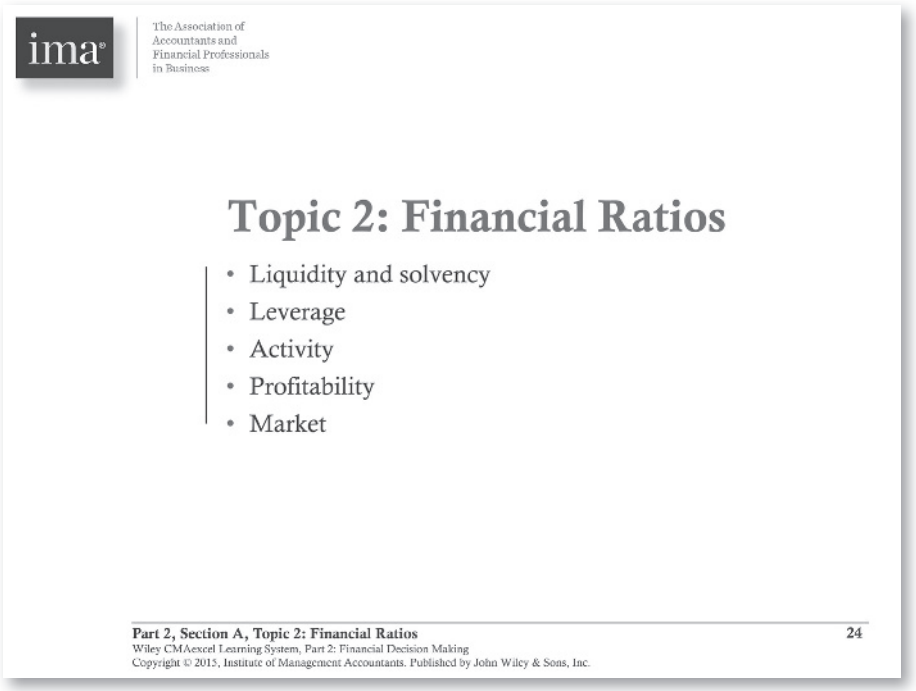
Part 2, Section A, Topic 1: Basic Financial Statement Analysis 23
Wiley CMAexcel Learning System, Part 2: Financial Decision Making
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Explain that common-size statement analysis can be done to compare the financial statements of companies operating in different industries.

Discuss the variations in detail and relate it to the nature of the industry. Give examples of commonly known companies to encourage discussion. Some examples would be companies that are major employers or have major presence in the area with which participants are familiar. As a default, use Dell, Wal-Mart, Pfizer, and Morgan Stanley.

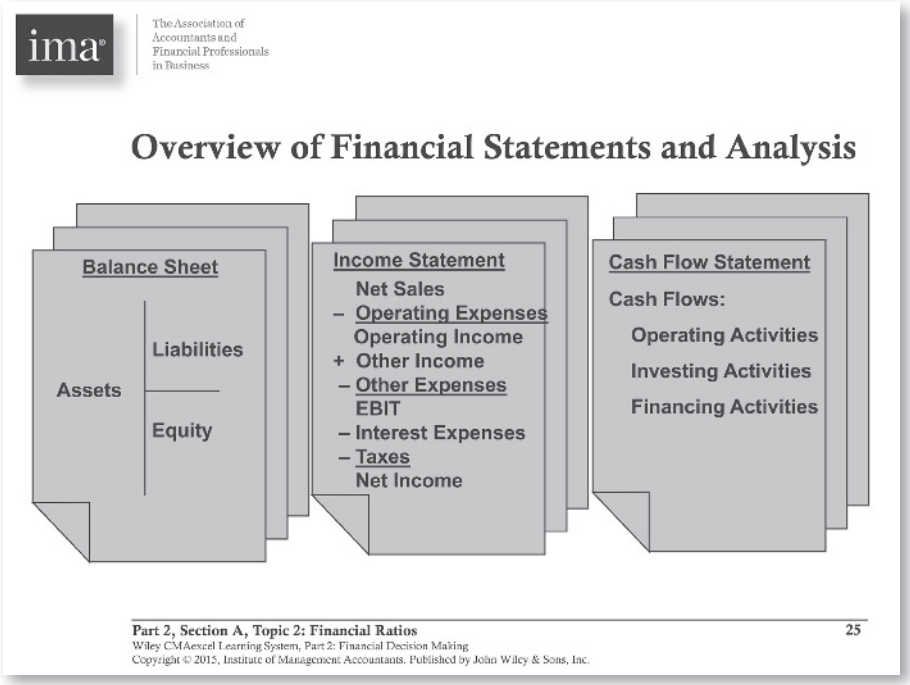
Discuss why a retailer would have low receivables (cash business) and high inventory (merchandise on shelf) and a bank would have no inventory and high investments.

Section A, Topic 2: Financial Ratios



Explain that Topic 2 of this section covers financial ratios, which are grouped into the categories listed on the slide.

Ask participants to refer to the financial statements for ABC Company in their *Participant Guide*. These statements are used to calculate ratios throughout this section.



Review the characteristics of financial statements.
Explain:

- The **balance sheet** is a snapshot of the company's financial condition at a specific moment, calculated "as of" rather than "year to date."
- It is called a balance sheet because the three major categories balance. The balance sheet equation is:

  Assets − Liabilities = Equity

  or

  Assets = Liabilities + Equity

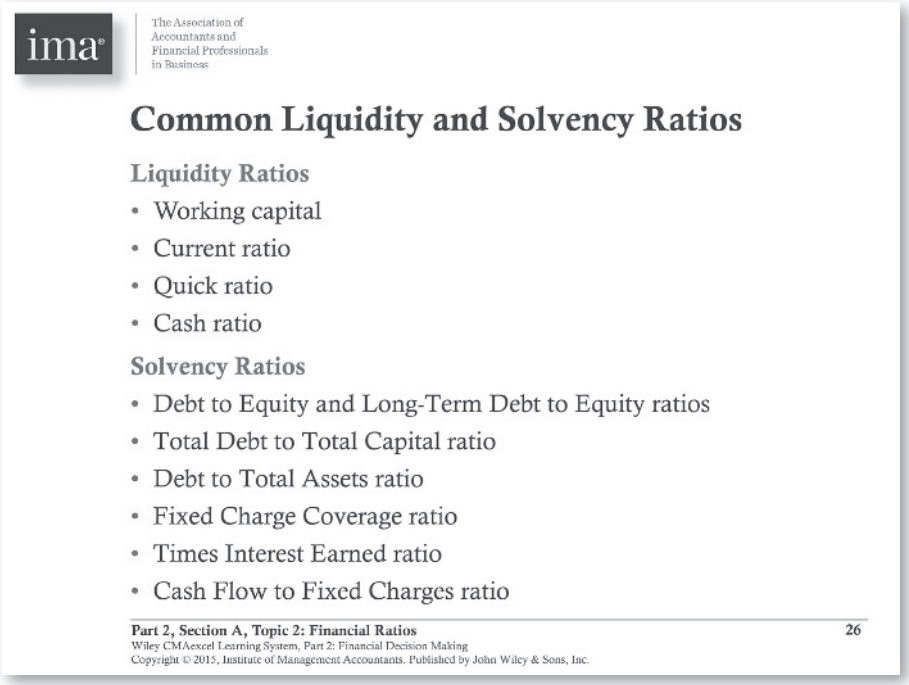
- The income statement shows the revenues and expenses of the company over a period of time, whether it is a month, a quarter, or a year.
- FASB ASC Topic 230, *Statement of Cash Flows* (formerly FASB Statement No. 95), states that a statement of cash flows reports on a company's "cash inflows, cash outflows, and net change in cash from its operating, financing, and investing activities during an accounting period, in a manner that reconciles the beginning and ending cash balances."

ABC Company Balance Sheet and Income Statement

ABC Company Balance Sheet		
	December 31, Y2	**December 31, Y1**
ASSETS		
Current assets:		
Cash	$3,000	$3,628
Cash equivalents	88,100	9,000
Short-term investments	193,230	12,000
Trade receivables, net of $30K allowance	485,000	529,949
Other receivables	12,325	18,941
Note receivable—related party		80,532
Inventory	212,515	252,567
Prepaid insurance	7,500	7,500
Total current assets	**1,001,670**	**914,117**
Fixed assets:		
Property and equipment	209,330	209,330
Less accumulated depreciation	(87,260)	(75,332)
Net fixed assets	**122,070**	**133,998**
TOTAL ASSETS	**$1,123,740**	**$1,048,115**
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable	$148,000	$154,021
Accrued expenses	2,025	2,500
Notes payable	22,325	$21,300
Current portion of long-term debt	36,000	36,000
Line of credit	123,000	145,000
Total current liabilities	**331,350**	**358,821**
Long-term debt:	114,686	117,343
Total current and long-term liabilities	**446,036**	**476,164**
Shareholders' equity:		
Common stock, $1 par value	100,000	100,000
Additional paid-in capital	50,000	50,000
Retained earnings	527,704	421,951
Total shareholders' equity	**677,704**	**571,951**
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	**$1,123,740**	**$1,048,115**

Note: *Y1 and Y2 dividends per share $1 paid $.25 per quarter; 100,000 shares of common stock outstanding.*

ABC Income Statement		
		YTD Actual
	December 31, Y2	**December 31, Y1**
INCOME		
SALES, NET	$2,013,225	$1,986,456
Less:		
Cost of goods sold	1,201,000	1,187,652
GROSS PROFIT	**812,225**	**798,804**
Operating expenses:		
Operating expenses, combined	562,705	556,732
Total operating expenses	**562,705**	**556,732**
Operating income (loss)	**249,520**	**242,072**
Other income (expense):		
Interest expense	(16,383)	(16,453)
Other income (expense)	(4,884)	(2,600)
Income taxes	(22,500)	(22,300)
Total other income (expense):	**(43,767)**	**(41,353)**
NET INCOME (LOSS)	**$205,753**	**$200,719**

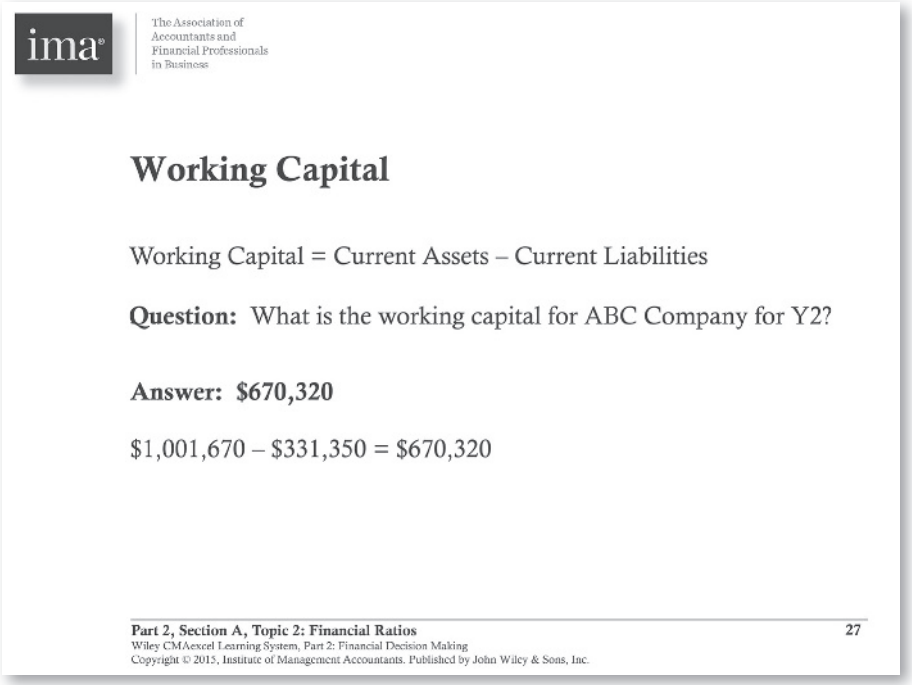


Explain that liquidity ratios measure a firm's ability to convert current assets into cash and to pay current liabilities. Liquidity is a relative measure of the proximity of current assets and current liabilities to cash, and is an indication of a company's ability to meet its short-term obligations. Because management of current assets affects liquidity, we will look at several closely related ratios and discuss how they affect liquidity.

Explain that liquidity is measured by comparing current assets and current liabilities in different ways.

- *Current assets* are defined as cash or other highly liquid investments, such as inventory and accounts receivable that can be converted to cash within a year.
- *Current liabilities* are obligations that will be paid within a year, such as accounts payable and notes and interest payable.
- *Solvency* is the ability of a company to meet its long-term obligations, or the company's ability to meet its long-term fixed expenses and to meet long-term expansion and growth.

  Several ratios can be calculated to analyze a company's solvency.

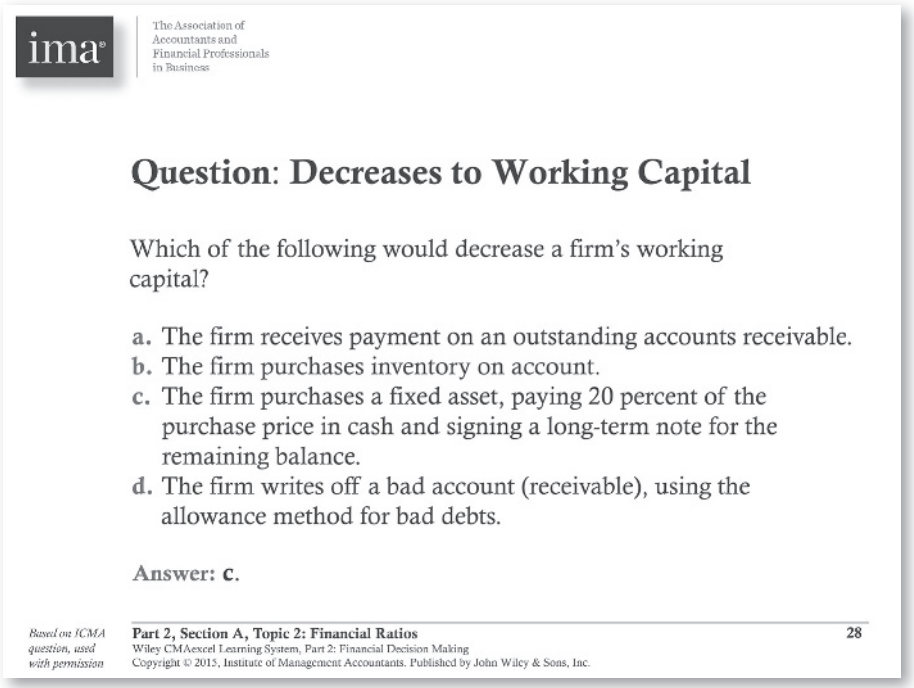


Review the formula for working capital.

Allow participants time to calculate working capital from the ABC Company balance sheet.

Click to review the answer.

Click again to show calculation.



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Question: Decreases to Working Capital

Which of the following would decrease a firm's working capital?

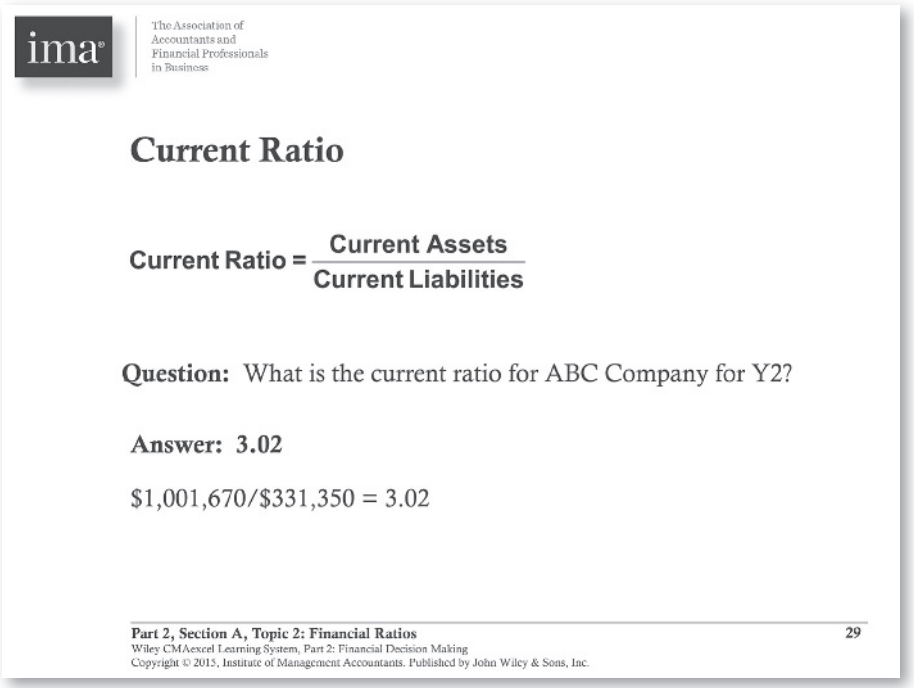
a. The firm receives payment on an outstanding accounts receivable.
b. The firm purchases inventory on account.
c. The firm purchases a fixed asset, paying 20 percent of the purchase price in cash and signing a long-term note for the remaining balance.
d. The firm writes off a bad account (receivable), using the allowance method for bad debts.

Answer: c.

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Ask participants to answer the question.
Click to reveal the answer.
Explain the right and wrong answers.

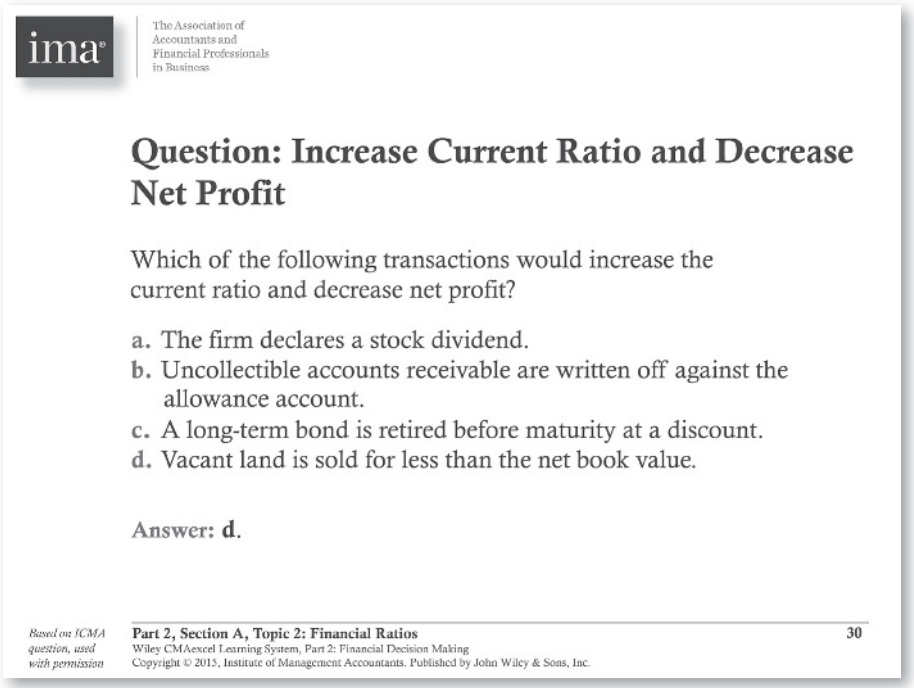


Review the formula for the current ratio.

Explain that the current ratio is an indication of how many times the entity has current liabilities covered with current assets. The higher the ratio, the better able the company is to meet current obligations.

Allow participants time to calculate the current ratio from the ABC balance sheet, then ***click*** to reveal the answer.

Discuss why relatively low and relatively high current ratios could be problematic.



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Question: Increase Current Ratio and Decrease Net Profit

Which of the following transactions would increase the current ratio and decrease net profit?

a. The firm declares a stock dividend.
b. Uncollectible accounts receivable are written off against the allowance account.
c. A long-term bond is retired before maturity at a discount.
d. Vacant land is sold for less than the net book value.

Answer: **d**.

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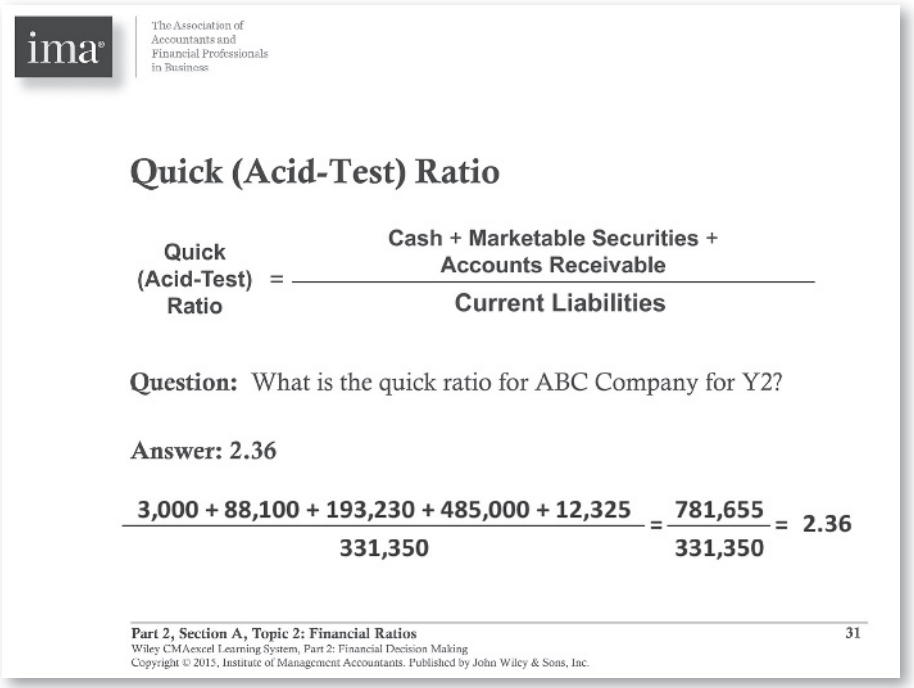
Part 2, Section A, Topic 2: Financial Ratios 30
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Ask participants to answer the question and to explain their answers.

Ask if other participants agree or disagree.

Click to reveal the answer and explain the correct and incorrect answers.

Explain that next you cover the acid-test ratio, cash ratio, and the cash to current liabilities ratio. Each of these ratios takes a more stringent measurement of current assets available to pay current obligations.



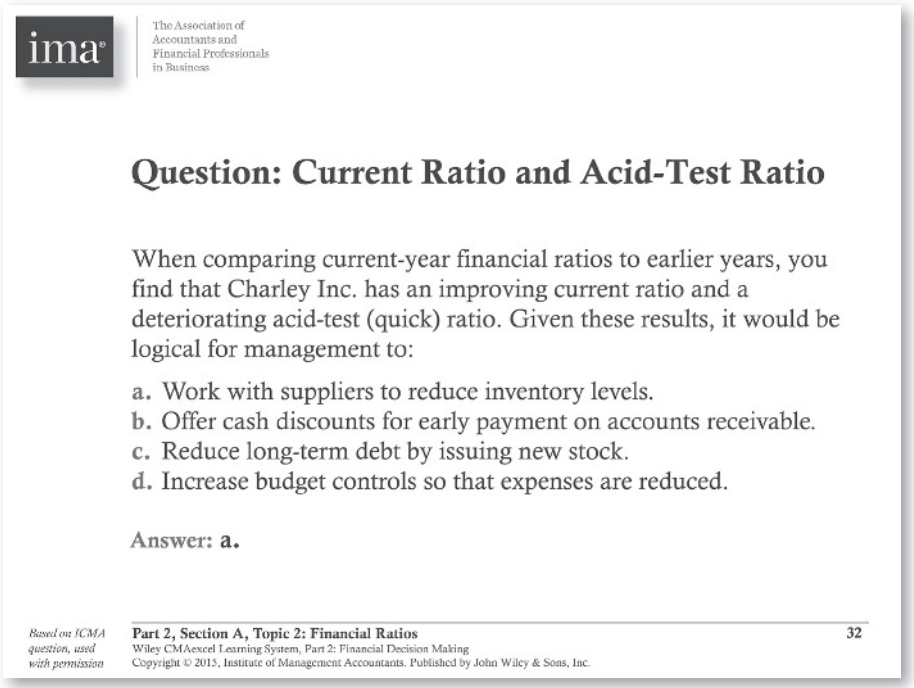
Explain the formula for the quick, or acid-test, ratio.

Remind participants that the ratio used is a function of the information given.

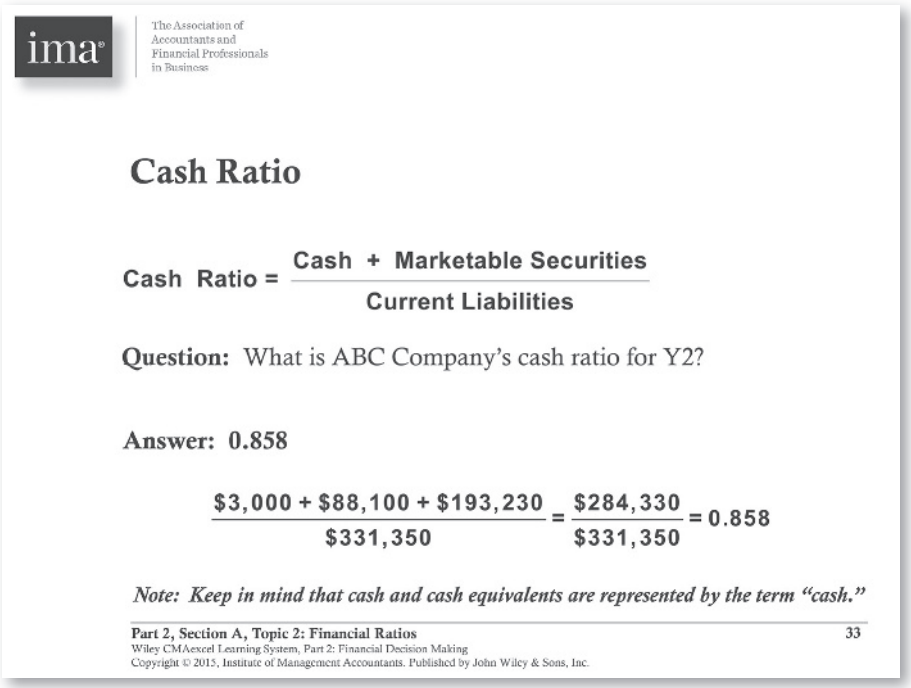
Allow participants a moment to calculate the quick ratio for ABC Company.

Click to reveal the answer.

Explain that since this ratio uses only the more liquid assets the ratio results are lower than the current ratio.



Ask participants to answer the question and then explain their answers.
Ask if other participants agree or disagree.
Click to reveal the answer.



Review the cash ratio. Marketable securities are highly liquid short-term investments that generally can become cash in a very short time (several minutes).

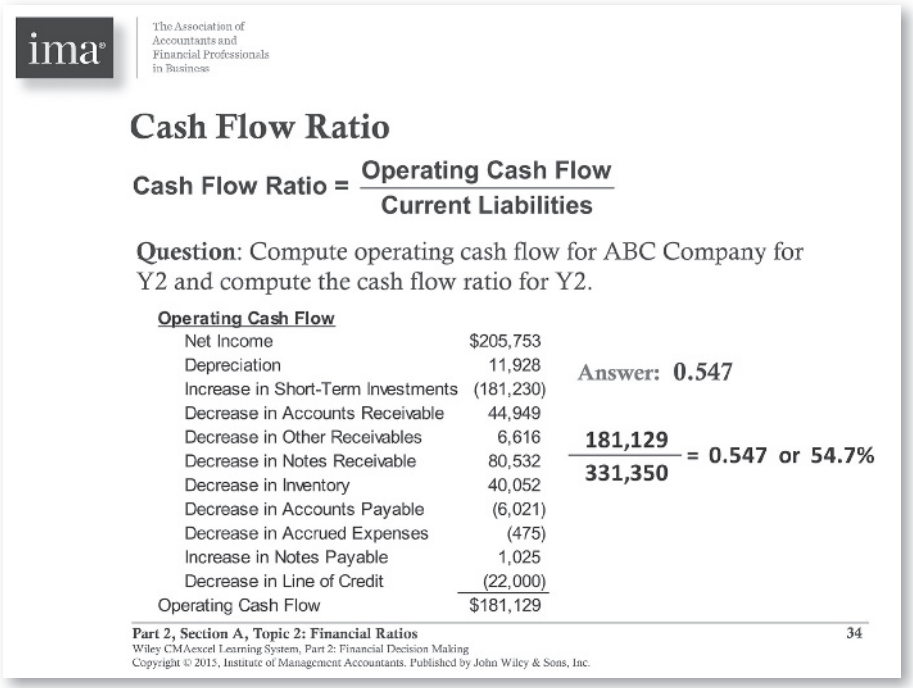
Explain that a firm generally is not expected to have enough marketable securities to cover current liabilities. Although this limits the usefulness of the cash ratio, the ratio is helpful for companies that have slow inventory turnover or slow collection of receivables.

A cash ratio that is too high may indicate that a company is not using its cash to generate additional income. A cash ratio that is too low, however, could indicate a problem with meeting current liabilities.

Allow participants a moment to calculate ABC Company's cash ratio for Y2.

Then ***click*** to reveal the answer.

Click again to review calculation.



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Cash Flow Ratio

$$\text{Cash Flow Ratio} = \frac{\text{Operating Cash Flow}}{\text{Current Liabilities}}$$

Question: Compute operating cash flow for ABC Company for Y2 and compute the cash flow ratio for Y2.

Operating Cash Flow	
Net Income	$205,753
Depreciation	11,928
Increase in Short-Term Investments	(181,230)
Decrease in Accounts Receivable	44,949
Decrease in Other Receivables	6,616
Decrease in Notes Receivable	80,532
Decrease in Inventory	40,052
Decrease in Accounts Payable	(6,021)
Decrease in Accrued Expenses	(475)
Increase in Notes Payable	1,025
Decrease in Line of Credit	(22,000)
Operating Cash Flow	$181,129

Answer: **0.547**

$$\frac{181{,}129}{331{,}350} = 0.547 \text{ or } 54.7\%$$

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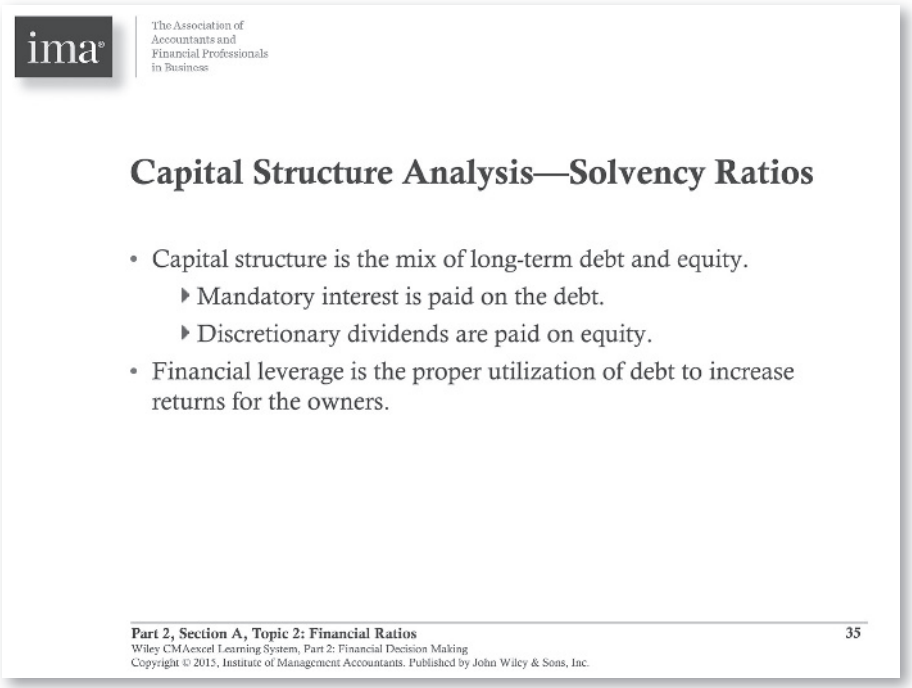
Explain that the cash flow ratio measures a firm's ability to meet its debt obligations with cash generated in the normal course of business. Calculating cash flow requires a balance sheet (to obtain current liabilities) and a cash flow statement (to obtain operating cash flow).

Explain that higher ratios of operating cash flow to debt indicate a higher likelihood that the firm will be able to meet its long-term debt obligations with cash generated from day-to-day business activities.

Allow participants a moment to calculate ABC Company's cash flow ratio.

Click to reveal the answer.

Click again to review calculation.



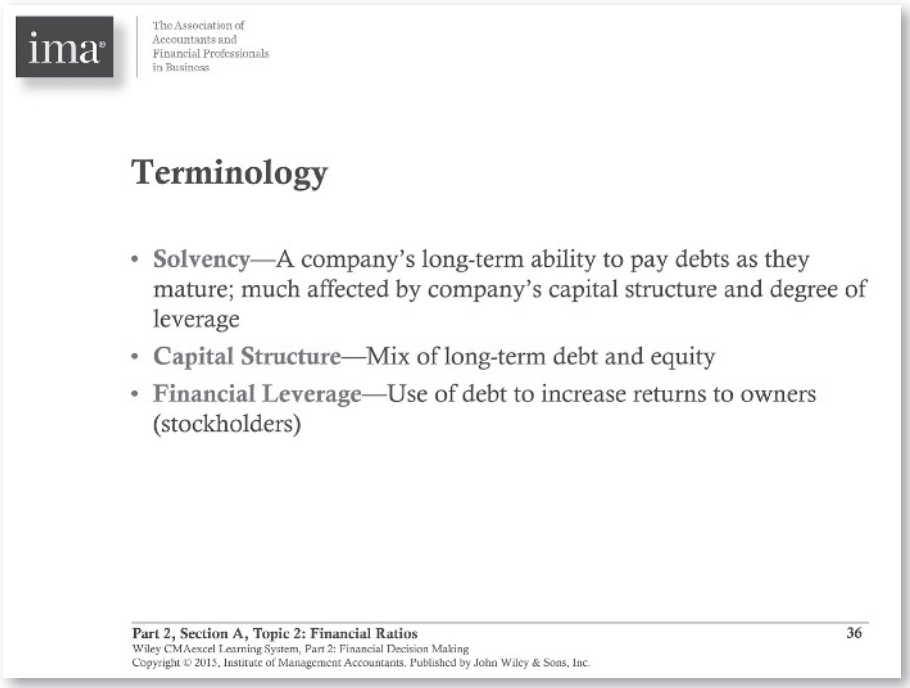
Explain the meaning of capital structure to participants.

Stress the point that interest on debt is *mandatory* while paying dividends on equity is *discretionary*. When a company earns a higher return than the interest rate, it can increase the returns to the owners by utilizing debt effectively. However, when the company earns less than the interest rate, use of debt reduces the return to the owner. Also, it increases the risk of bankruptcy.

The various stakeholders in a corporation take different views of capital structure:

- Lenders want low debt ratios (less debt, more equity).
- Stockholders and managers want optimal debt levels, with as much use of debt as the company can manage effectively. Optimal ratios vary by industry.

Explain that equity shareholders value the use of debt to fund the firm's projects because the firm has to pay out only interest and scheduled principal payments; any other returns on the project belong to the equity shareholders. More important, the interest paid is tax deductible to the business, which reduces the cash outlay for debt by the amount of the tax savings. Dividends, however, are paid to shareholders after taxes have been paid on company earnings. Whether it means to do so or not, the U.S. government, which is a stakeholder in all U.S. corporations, favors debt over equity by having different tax treatments for the two options.

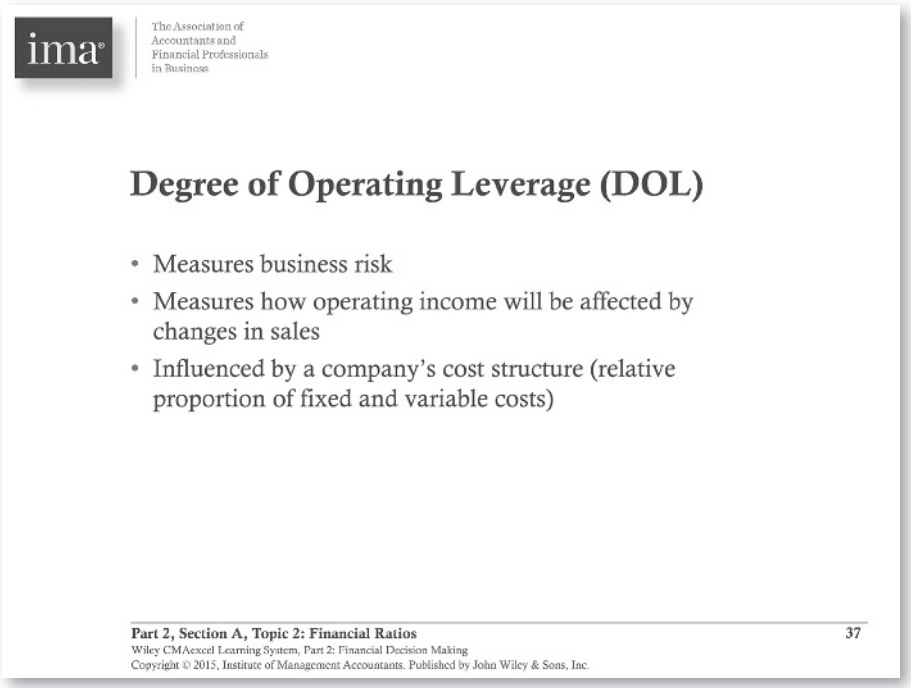


Discuss the terms and definitions on the slide.

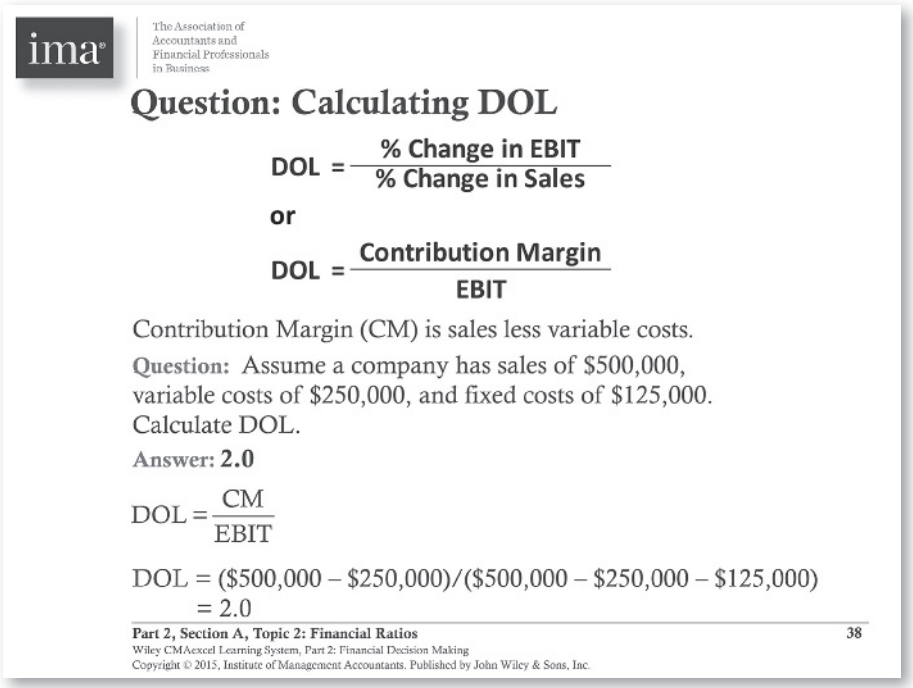
Explain that a company's solvency is greatly affected by its capital structure and its degree of financial leverage. Compare solvency with liquidity, pointing out that liquidity is the firm's ability to pay short-term obligations whereas solvency is the firm's ability to meet its long-term debt obligations.

Explain that:

- *Capital structure* affects both the risk and the returns of the firm and is directly related to financial leverage.
- *Financial leverage* is the use of debt (fixed cost funds) to increase returns to owners (stockholders). Debt that is too low may result in the company's not being able to take full advantage of a source of low-cost capital. Debt that is too high may affect the company's ability to weather difficult economic times and continue to pay its obligations as debt or interest payments come due. There is no standard guideline or optimal leverage number; this varies by industry and firm.



Explain that the degree of operating leverage (DOL) is a measure of how a percentage change in sales volume will affect profits. DOL is a function of a company's cost structure, meaning that a company's proportion of fixed and variable costs will influence its DOL.


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Question: Calculating DOL

$$\text{DOL} = \frac{\text{\% Change in EBIT}}{\text{\% Change in Sales}}$$

or

$$\text{DOL} = \frac{\text{Contribution Margin}}{\text{EBIT}}$$

Contribution Margin (CM) is sales less variable costs.

Question: Assume a company has sales of $500,000, variable costs of $250,000, and fixed costs of $125,000. Calculate DOL.

Answer: 2.0

$$\text{DOL} = \frac{\text{CM}}{\text{EBIT}}$$

DOL = ($500,000 – $250,000)/($500,000 – $250,000 – $125,000)
= 2.0

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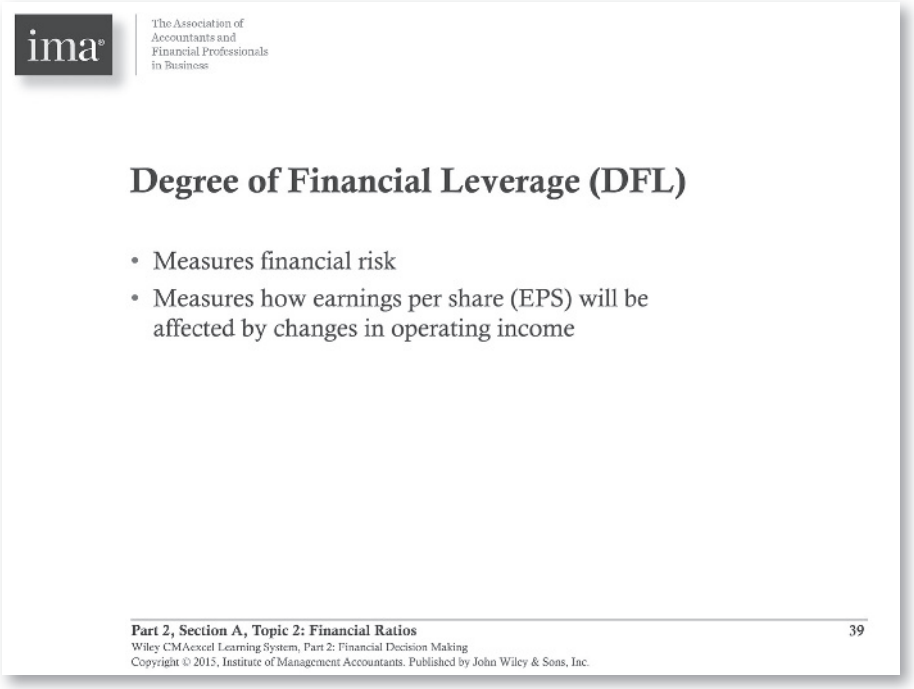
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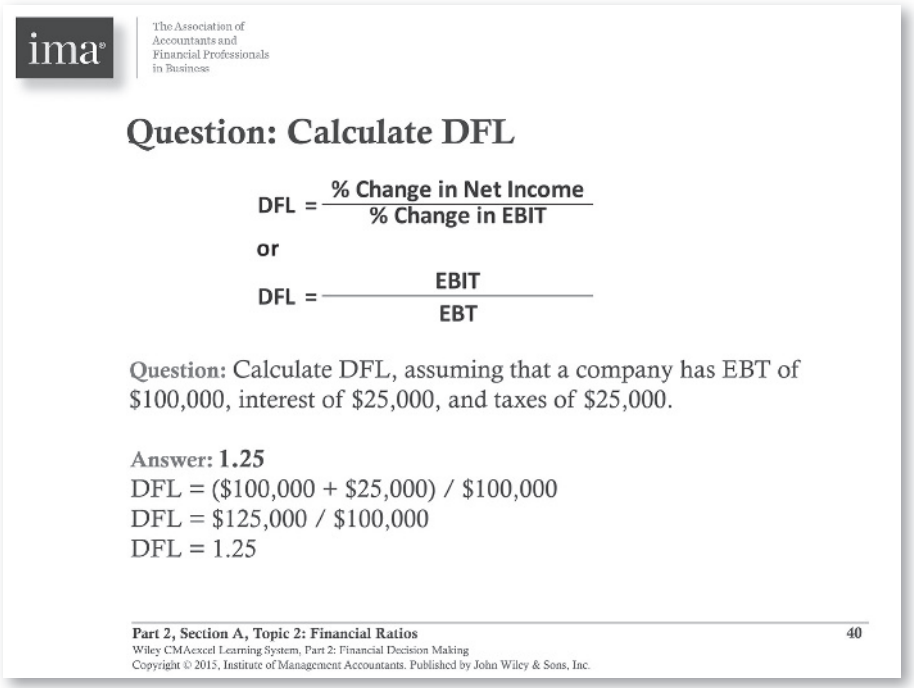
Ask participants to calculate DOL with the information provided, then ***click*** to reveal the answer.

Discuss the answer as well as what the answer implies.

A DOL of 2 implies that every 1% increase in sales will result in a 2% (2 × 1%) increase in operating income. Also, every 1% decrease in sales will result in a 2% (2 × 1%) decrease in operating income.

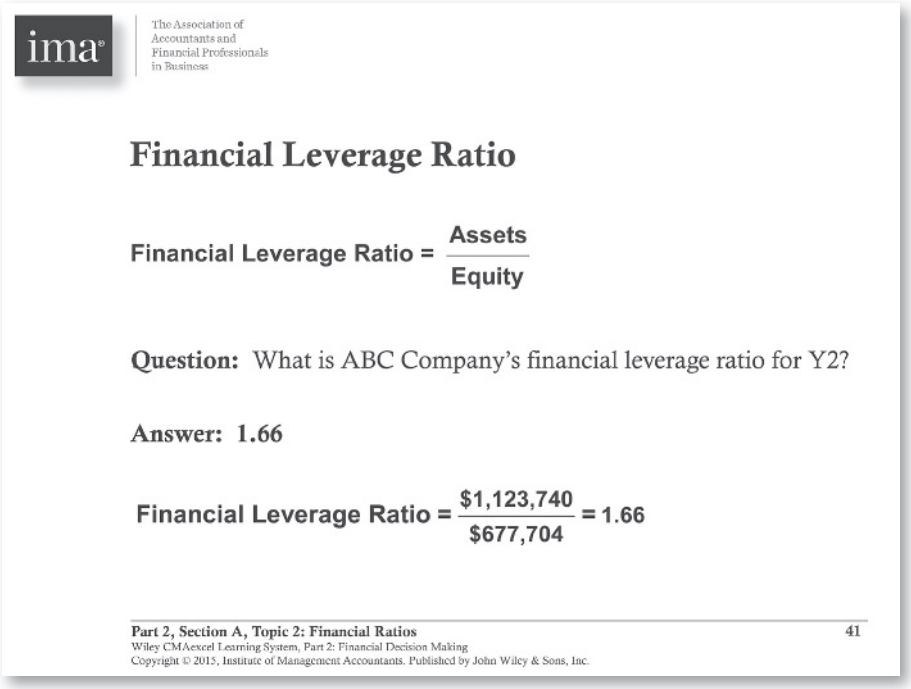


Explain that financial risk is often measured by the degree of financial leverage (DFL). DFL is defined as the percentage change in EPS given a percentage change in operating income.



Ask participants to calculate DFL with the information provided, then ***click*** to reveal the answer.

Discuss the answer as well as what the answer implies.


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Financial Leverage Ratio

$$\text{Financial Leverage Ratio} = \frac{\text{Assets}}{\text{Equity}}$$

Question: What is ABC Company's financial leverage ratio for Y2?

Answer: 1.66

$$\text{Financial Leverage Ratio} = \frac{\$1{,}123{,}740}{\$677{,}704} = 1.66$$

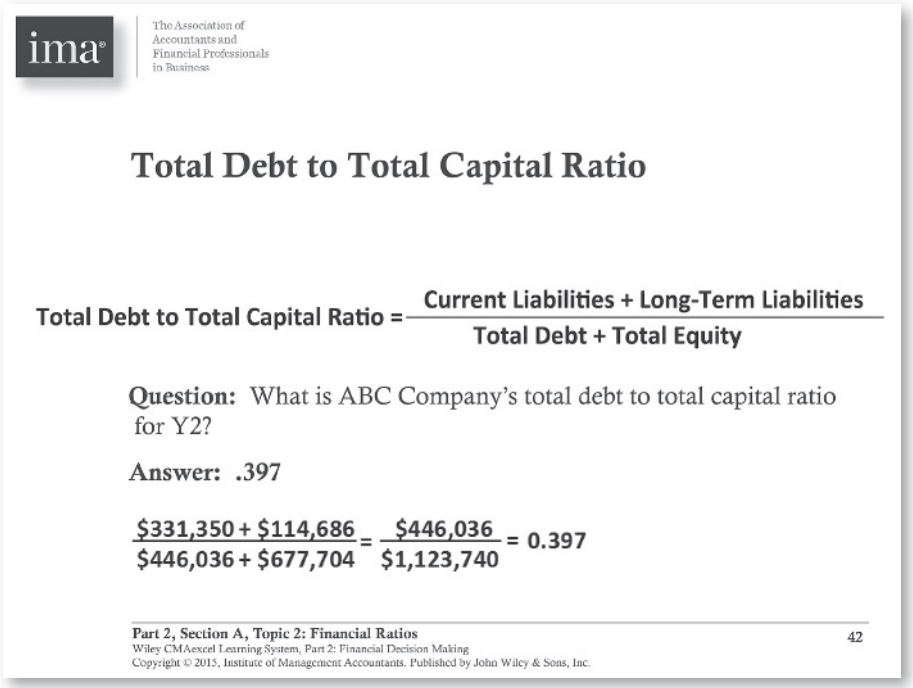
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Explain that leverage is a company's use of debt and/or fixed operating costs to increase returns. The two methods for analyzing leverage are shown next.

1. *Operating leverage* is the existence of fixed operating costs.
2. *Financial leverage* is the use of debt to increase returns on investment.

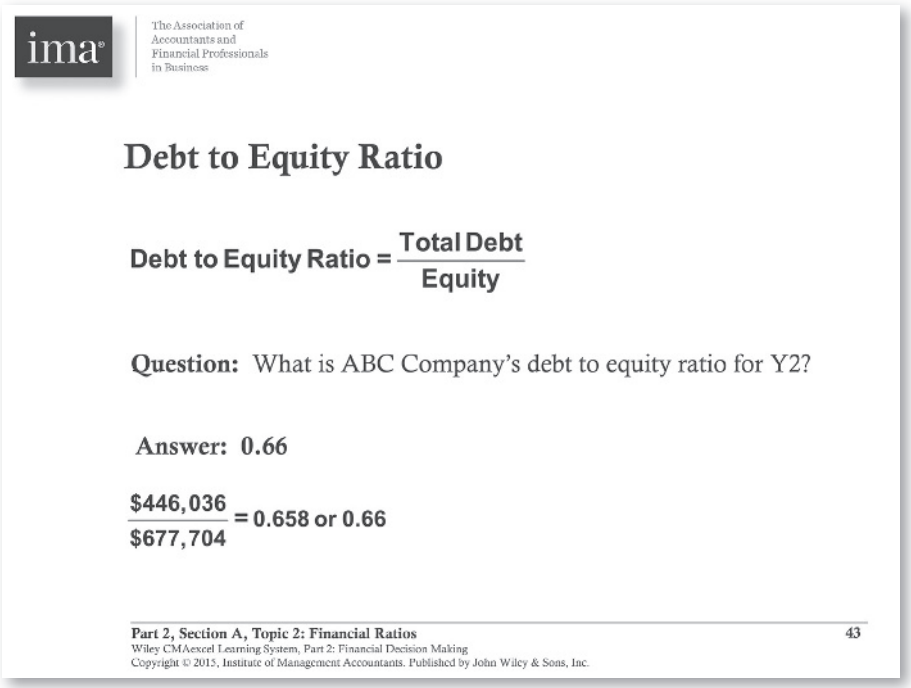
Point out that the focus here is on financial leverage.
Allow participants time to calculate the answer to the question.
Click to reveal the answer.
Click again to review calculation.
Explain that the financial leverage ratio shown on the slide is the one that is used on the CMA exam. This ratio measures the relative relationship between assets and equity. A higher ratio implies that the assets of the company are financed primarily through debt. A financial leverage ratio of 2.0 reflects that the liabilities of the company are equal to the equity. A ratio of greater than 2.0 implies that liabilities are larger than equity, and a ratio of less than 2.0 implies higher equity than the liabilities of the company.

Financial leverage has a magnifying effect on earnings. When the earnings are positive, a marginal percentage change in revenue translates to a greater percentage change on earnings per share or on return on equity measures. Correspondingly, however, as debt represents fixed costs, leverage also has a magnifying effect on losses.



Explain that this ratio shows the comparison of the total debt of an organization compared to the amount of contributed capital to the company, which includes debt and equity.

Click to show the answer.



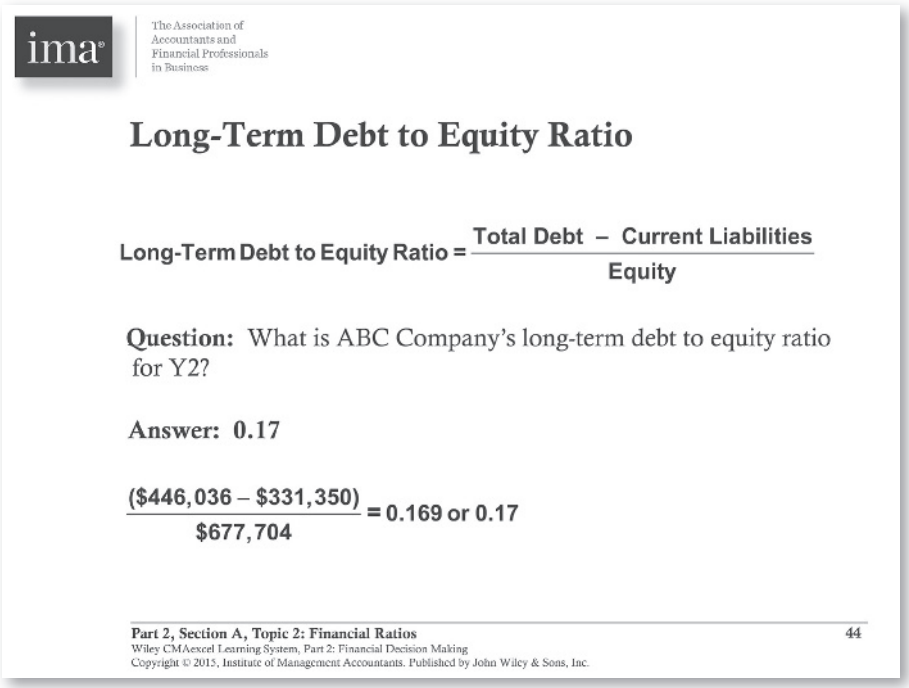
Explain that the debt to equity ratio also measures the firm's ability to pay long-term debt and how well long-term creditors are protected.

The lower the ratio, the stronger the company's solvency. An unusually low debt to equity ratio also can be troublesome. The ratio can be compared with previous years' records for the same company as well as with competitors' and industry averages.

Allow participants time to calculate the answer to the question.

Click to reveal the answer.

Click again to review calculation.

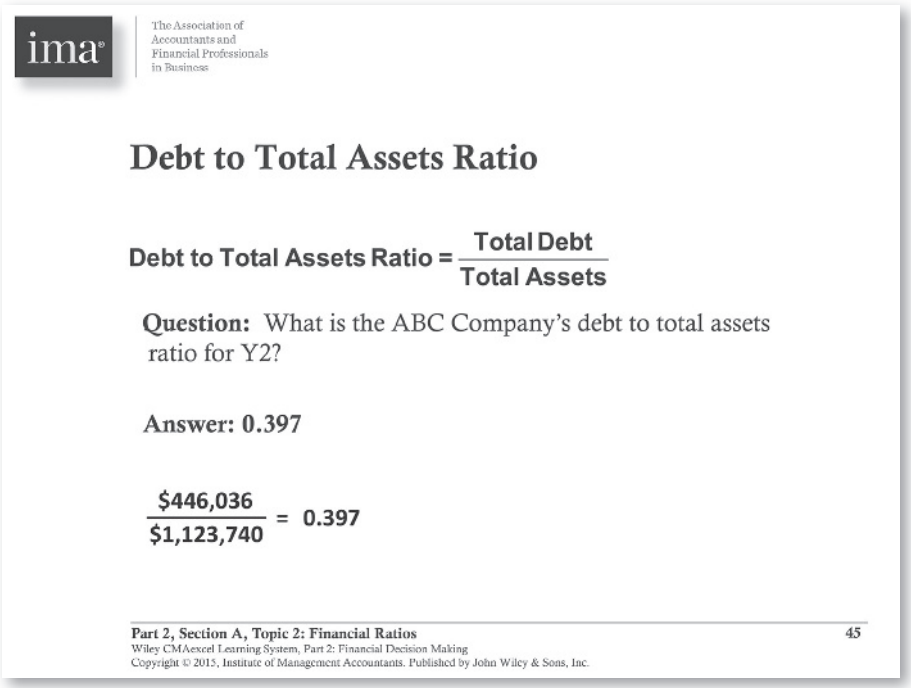


Explain that the long-term debt to equity ratio compares long-term debt (which is calculated by taking total debt less current liabilities) with shareholders' equity. A company with a low long-term debt to equity ratio probably has the capacity to raise debt capital if it is needed. Fixed expenses tend to be lower for a low long-term debt to equity company because there are few or no interest payments, but the return on capital probably will be lower. Debt creates financial leverage, which can magnify returns.

Allow participants time to calculate the answer to the question.

Click to reveal the answer.

Click again to review calculation.

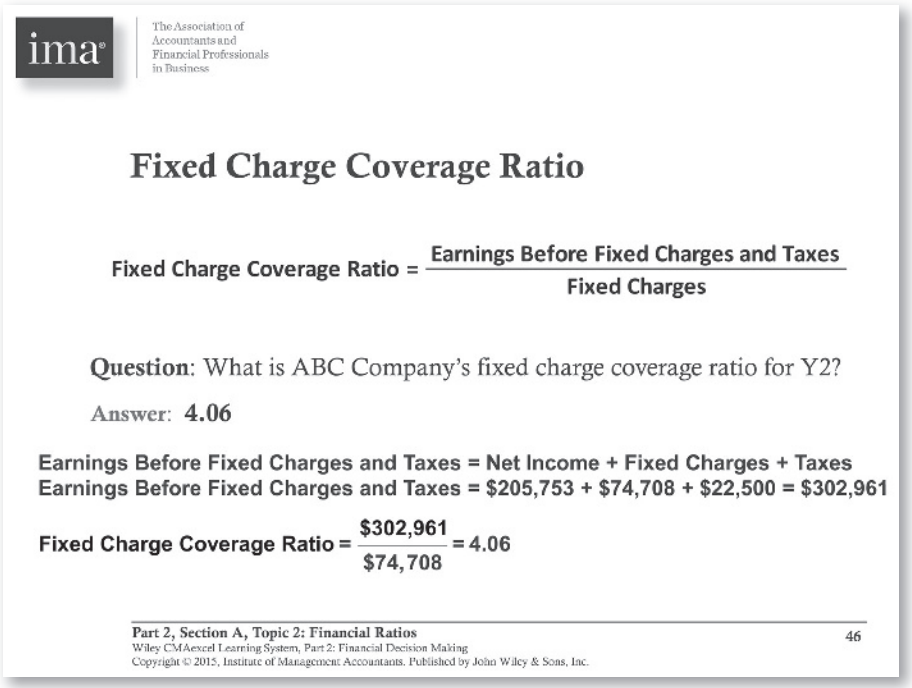


Explain that the debt to total assets ratio measures the proportion of assets financed through debt. This ratio shows the percentage of assets financed by creditors and indicates how well creditors are protected in case the company becomes insolvent.

A lower debt to total assets ratio indicates a better position for creditors, because the company has enough assets to cover long-term debt obligations. A higher ratio, which indicates that creditors are not well protected, may make it more difficult and expensive for the company to issue additional debt securities.

Allow participants time to calculate the answer to the question, then ***click*** to reveal the slide.

Click again to review calculation.


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Fixed Charge Coverage Ratio

$$\text{Fixed Charge Coverage Ratio} = \frac{\text{Earnings Before Fixed Charges and Taxes}}{\text{Fixed Charges}}$$

Question: What is ABC Company's fixed charge coverage ratio for Y2?

Answer: **4.06**

Earnings Before Fixed Charges and Taxes = Net Income + Fixed Charges + Taxes
Earnings Before Fixed Charges and Taxes = $205,753 + $74,708 + $22,500 = $302,961

$$\text{Fixed Charge Coverage Ratio} = \frac{\$302,961}{\$74,708} = 4.06$$

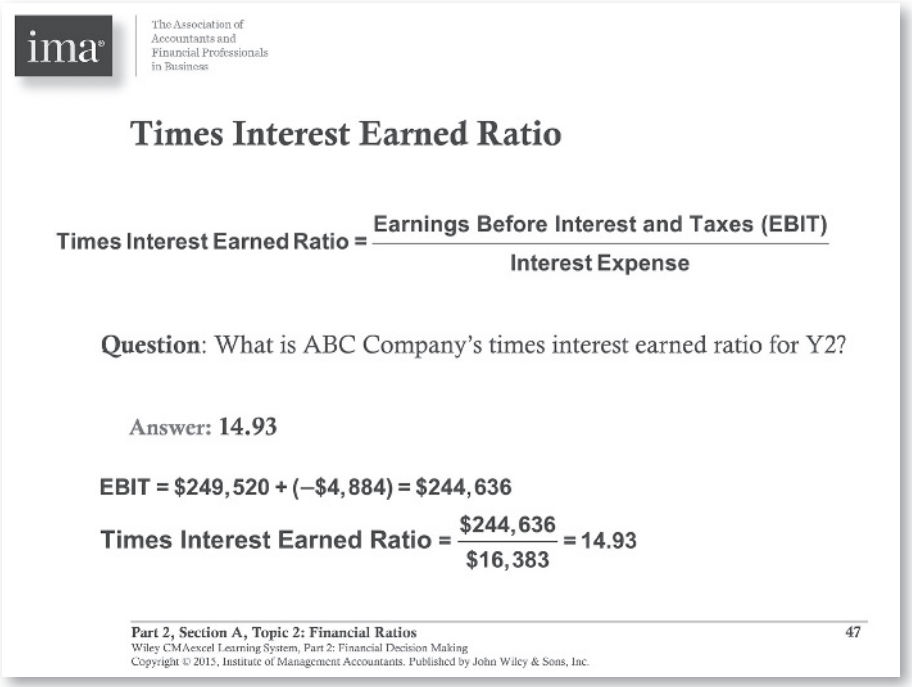
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Explain that this ratio compares the earnings before fixed charges and taxes to the fixed charges of the company. Fixed charges are those charges that occur on a month-to-month basis and support the operations of the business. Fixed charges include interest, required principal repayment, and leases.

Click to reveal the answer.

Click again to review calculation.

ABC Company Financial Data	
Operating Income (Loss)	**249,520**
Other Income (Expense)	
Interest expense	**(16,383)**
Other income (expense)	**(4,884)**
Income taxes	**(22,500)**
Total other income (expense)	**(43,767)**
NET INCOME (LOSS)	**205,753**
Fixed Charges	
Notes payable	**22,325**
Current portion of long-term debt	**36,000**
Interest expense	**16,383**
	74,708



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Times Interest Earned Ratio

$$\text{Times Interest Earned Ratio} = \frac{\text{Earnings Before Interest and Taxes (EBIT)}}{\text{Interest Expense}}$$

Question: What is ABC Company's times interest earned ratio for Y2?

Answer: **14.93**

$$\text{EBIT} = \$249,520 + (-\$4,884) = \$244,636$$

$$\text{Times Interest Earned Ratio} = \frac{\$244,636}{\$16,383} = 14.93$$

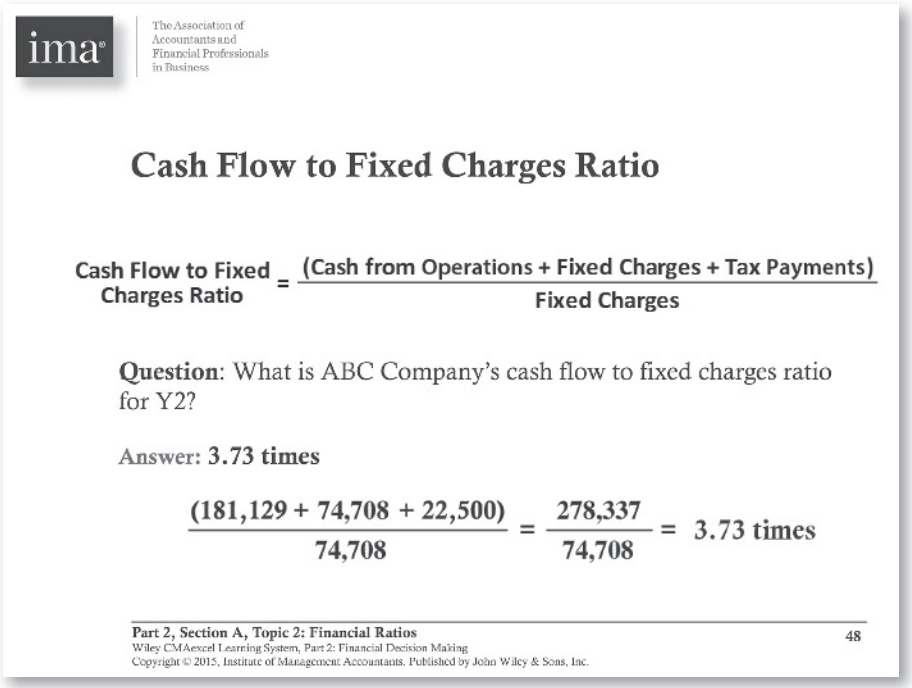
Part 2, Section A, Topic 2: Financial Ratios 47
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Explain that the times interest earned ratio (also called interest coverage) measures a firm's ability to manage long-term debt by indicating how many times the annual interest obligation is earned. If the ratio is sufficient, the firm should be able to meet its interest obligation. And, with a healthy times interest earned ratio, the firm should be able to expand its debt, thereby increasing leverage.

Allow participants time to calculate the answer to the question, then ***click*** to reveal the answer.

Click again to review calculation.

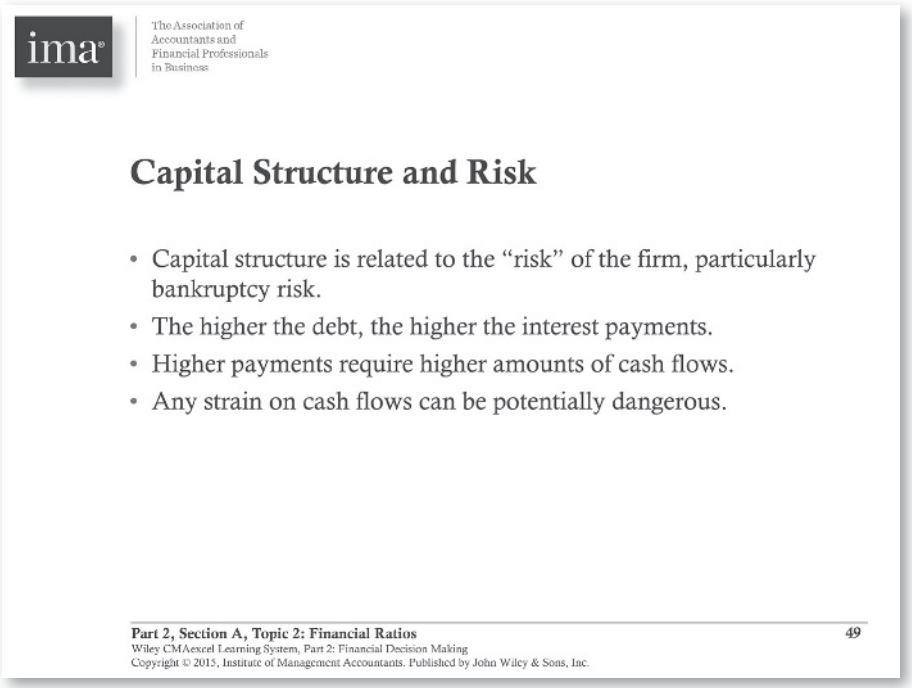
Explain that earnings before interest and taxes (EBIT) is calculated here as operating income (loss) plus other income (expenses): $249,520 + (−$4,884) = $244,636.



Explain that this ratio compares the cash generated from operations and fixed charges and taxes to the fixed charges of the company. Fixed charges are those charges that occur on a month-to-month basis and support the operations of the business. This ratio maps to the *CMA Exam Ratio Definitions*.

Note: Cash from Operations of $181,129 is available on slide 34.

Click to reveal the answer.



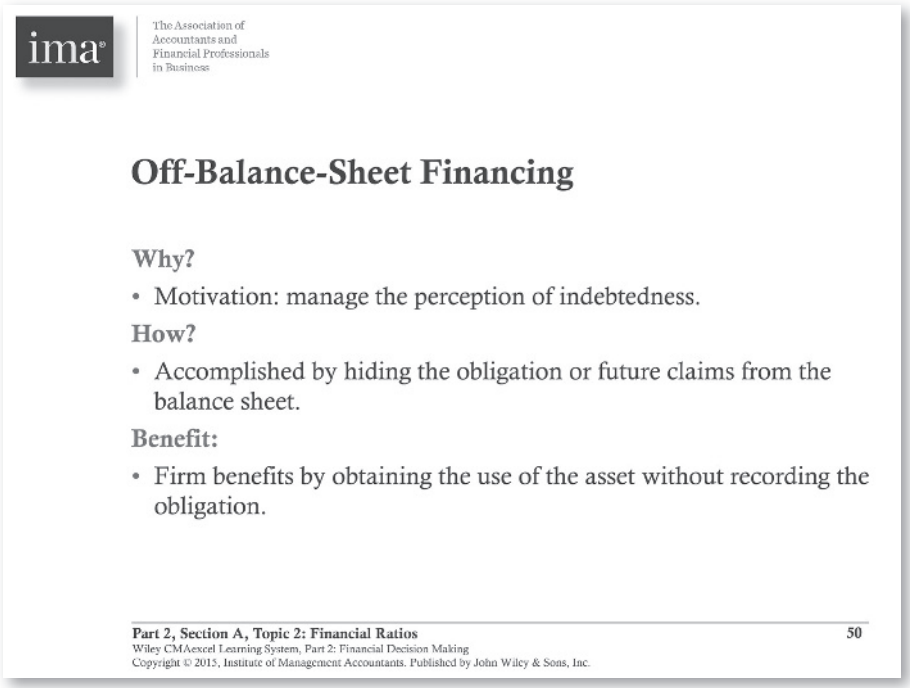
Discuss the link between debt and interest payments.

Click to reveal each of the four bullet points.

Discuss the fact that many business activities have certain levels of uncertainty. There can be fluctuations in cash flows in the short term as expectations or projections are not met.

Explain that interest payment obligations are easier to meet when there is a lower amount of debt. As debt payment obligations increase, there also is an increase in the probability that payments will not be met.

Stress the point that interest costs are *fixed costs*.



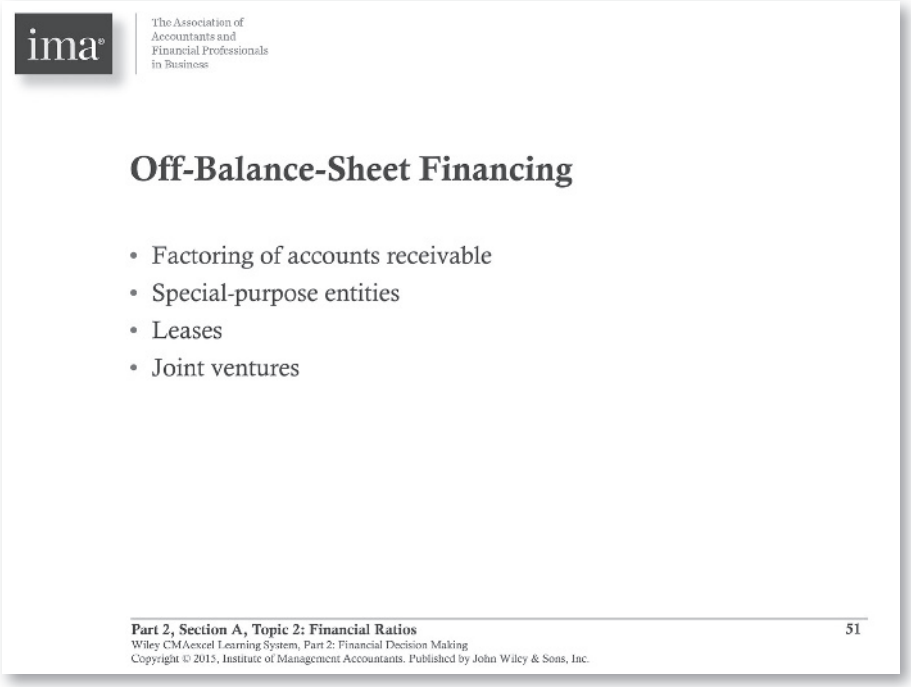
Explain the points listed on the slide.

Ask participants: Why do firms want to report less debt? What effect will less debt have on financial ratios? Why do managers want to hide debt?

Answers: Reporting less debt on the balance sheet will improve the appearance of the balance sheet to external stakeholders, such as lenders and stockholders.

Having less debt on the balance sheet will improve the debt to equity ratio as well as any other financial ratio that includes debt in its formula.

Having less debt will improve stakeholders' perception of a company and also will make the company appear to be less risky from a financial perspective.



Explain that four common techniques employed to achieve off-balance-sheet financing are listed:

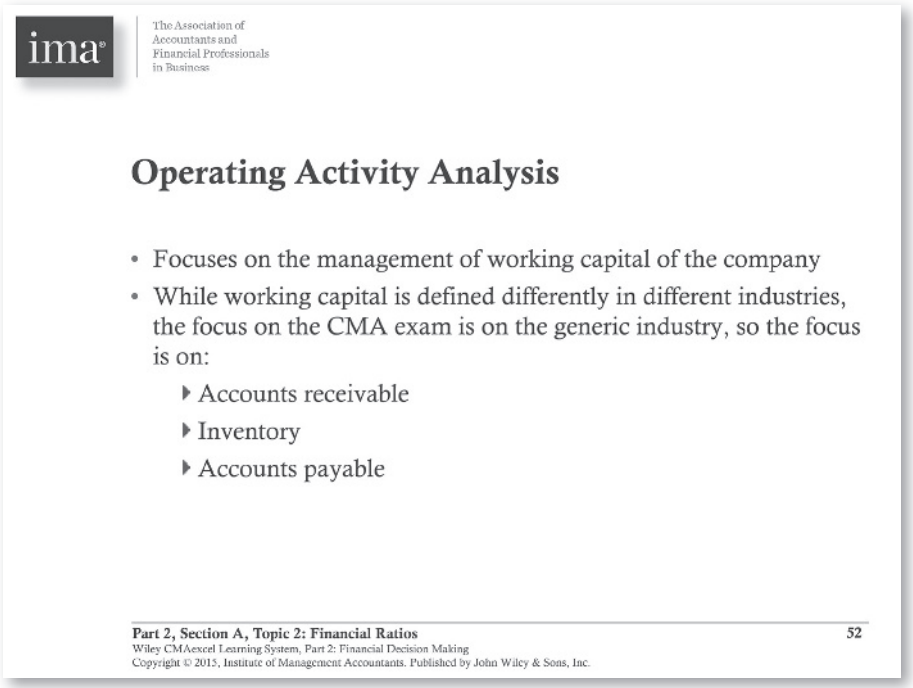
1. **Factoring of accounts receivables.** In an attempt to raise cash, a company will borrow using accounts receivable as collateral. This is also done to avoid recording a payable or a liability.
2. **Special-purpose entities.** (Think Enron.) Firms create special-purpose entities (SPEs) for a special, sometimes undisclosed business purpose. For example, SPEs may be created to facilitate leasing activities, loan securitizations, research and development activities, or trading in financial derivatives.
3. **Leases.** Firms usually use a lease as a means of getting use of an asset without having to show it on the balance sheet as an asset and a corresponding liability.
4. **Joint ventures.** Sometimes a corporation is a partner in a venture, allowing it to be active in management, involved in decision making, but not report the venture on the financial statement of the corporation.

Discuss each of the methods.

Ask participants: What is the asset, and how does the company use it?

Discuss what the corresponding liability would have been and how that is being hidden due to special contractual arrangements.

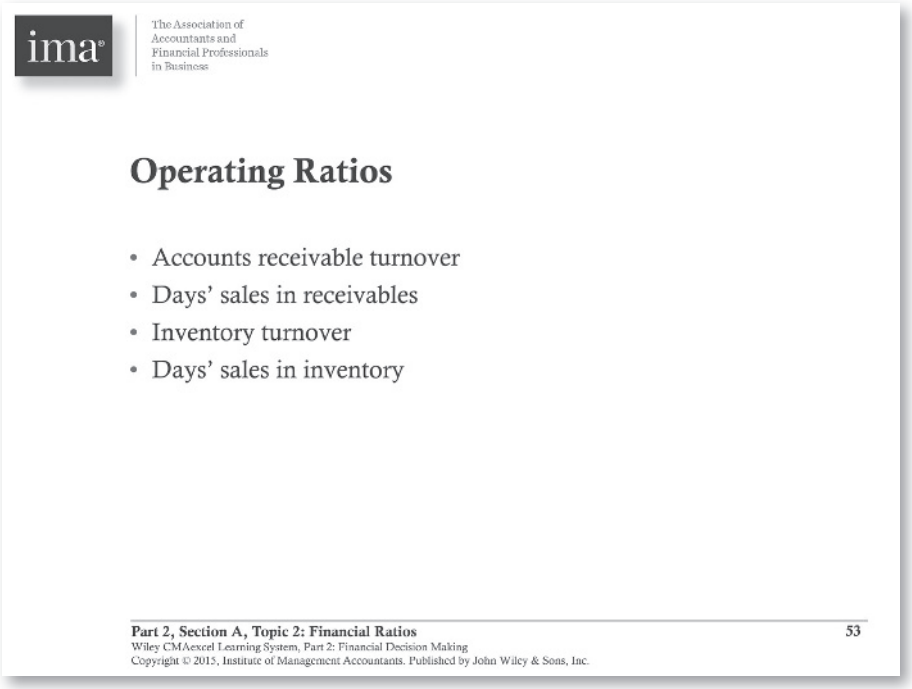
Discuss what the effect on the balance sheet would have been if accounting methods required recording of the corresponding liability.



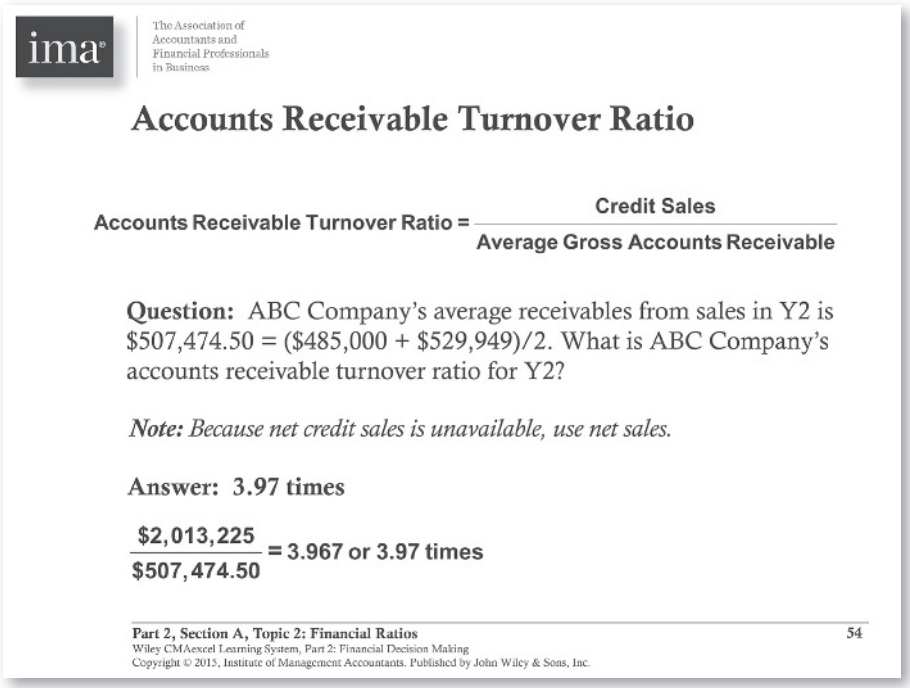
Explain that operating activity analysis is done over a period of an operating cycle—the time elapsed between when goods are acquired and when cash is received from the sale of the goods.

The term *generic industry* means retailing or manufacturing.

Discuss the fact that working capital would be different in other industries, such as airlines or financial services (no inventory and no accounts receivable). Note that for these other industries, the ratios in the next slides may not be relevant.



Explain that these ratios are covered in the next few slides.



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Accounts Receivable Turnover Ratio

$$\text{Accounts Receivable Turnover Ratio} = \frac{\text{Credit Sales}}{\text{Average Gross Accounts Receivable}}$$

Question: ABC Company's average receivables from sales in Y2 is $507,474.50 = ($485,000 + $529,949)/2. What is ABC Company's accounts receivable turnover ratio for Y2?

Note: *Because net credit sales is unavailable, use net sales.*

Answer: 3.97 times

$$\frac{\$2,013,225}{\$507,474.50} = 3.967 \text{ or } 3.97 \text{ times}$$

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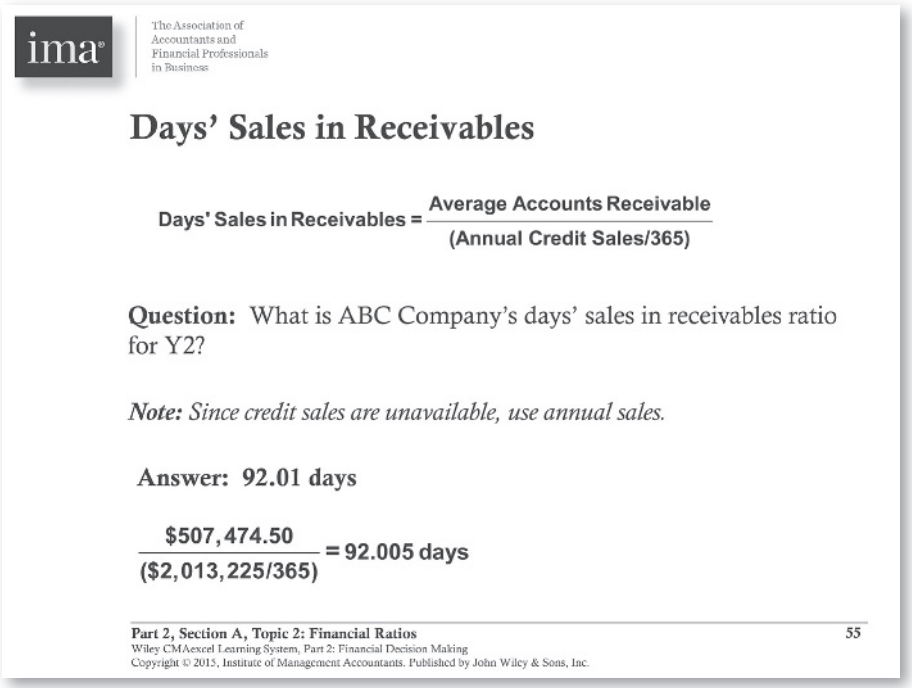
Review the formula for the accounts receivable turnover ratio.

Explain that this ratio measures the number of times that receivables from net credit sales are collected during an accounting period. Because net credit sales are often unavailable to an outside analyst, the calculation can use net sales as the numerator.

Explain that an analyst must be careful to compare accounts receivable turnover ratios between companies with similar seasonal sales and fiscal years.

Allow participants time to calculate the answer to the question, then ***click*** to reveal the answer.

Click again to review calculation.



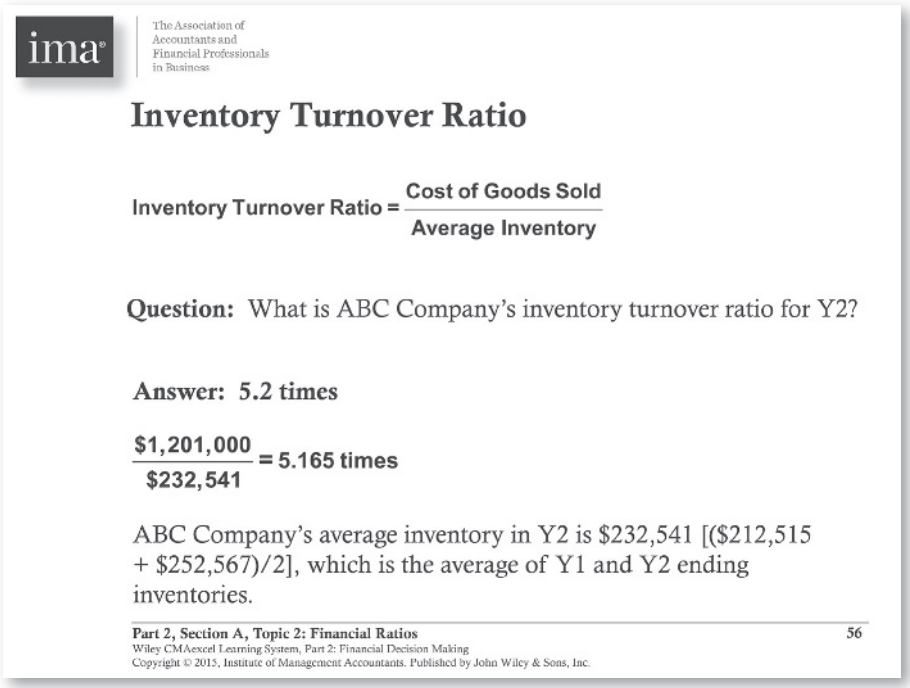
Review the days' sales in receivables ratio, also known as the average collection period.

Explain that measuring accounts receivable turnover in days measures the liquidity of receivables. An internal analyst compares days' sales in receivables with the company's credit terms as an indication of how efficiently the company manages its receivables. If a company's credit term is 30 days, days' sales in receivables should not be substantially over 30 days.

Discuss: Ratio analysis is not an exact science, and people may use different methods, so sometimes days' sales in receivables is calculated using average accounts receivable, as shown. Other times it is calculated using ending values. The formula shown is the one that is used on the CMA exam. Because credit sales are often unavailable to an outside analyst, the calculation in the slide uses (net) sales.

Allow participants time to calculate the answer to the question, then ***click*** to reveal the answer.

Click again to review calculation.



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Inventory Turnover Ratio

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

Question: What is ABC Company's inventory turnover ratio for Y2?

Answer: 5.2 times

$$\frac{\$1,201,000}{\$232,541} = 5.165 \text{ times}$$

ABC Company's average inventory in Y2 is $232,541 [($212,515 + $252,567)/2], which is the average of Y1 and Y2 ending inventories.

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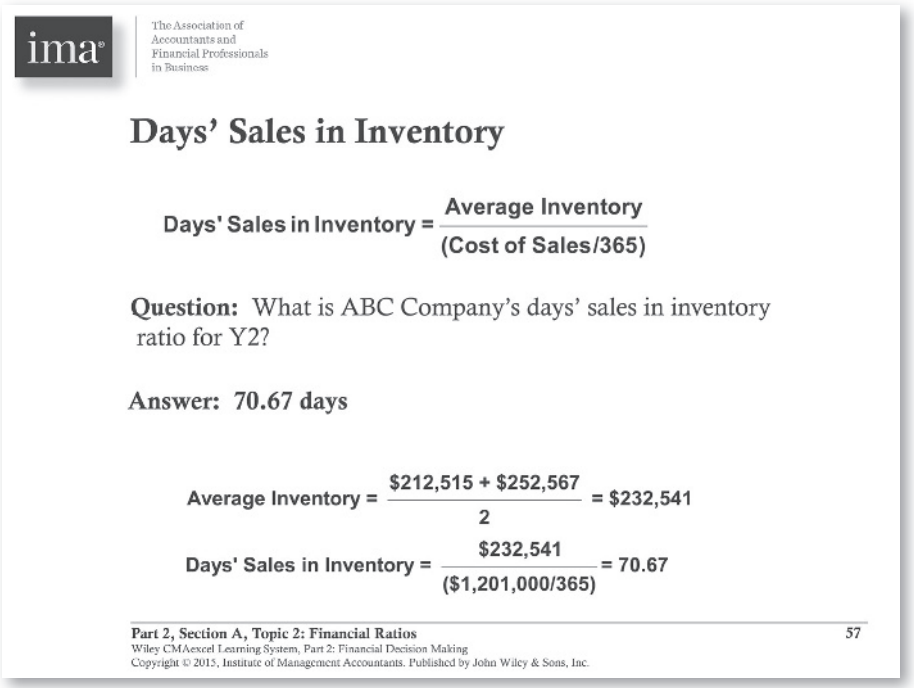
Explain that the inventory turnover ratio measures the average number of times that the inventory was sold during the accounting period. Inventory is one of the most significant assets in determining liquidity. The inventory account often represents more than half of a company's total current assets.

Explain that a retailer's inventory is often the merchandise available for sale. In a manufacturing environment, inventory is divided among raw materials, work in process, and finished goods.

Explain that cost of goods sold is from the income statement.

Allow participants time to calculate the answer to the question, then ***click*** to reveal the answer.

Click again to review calculation.

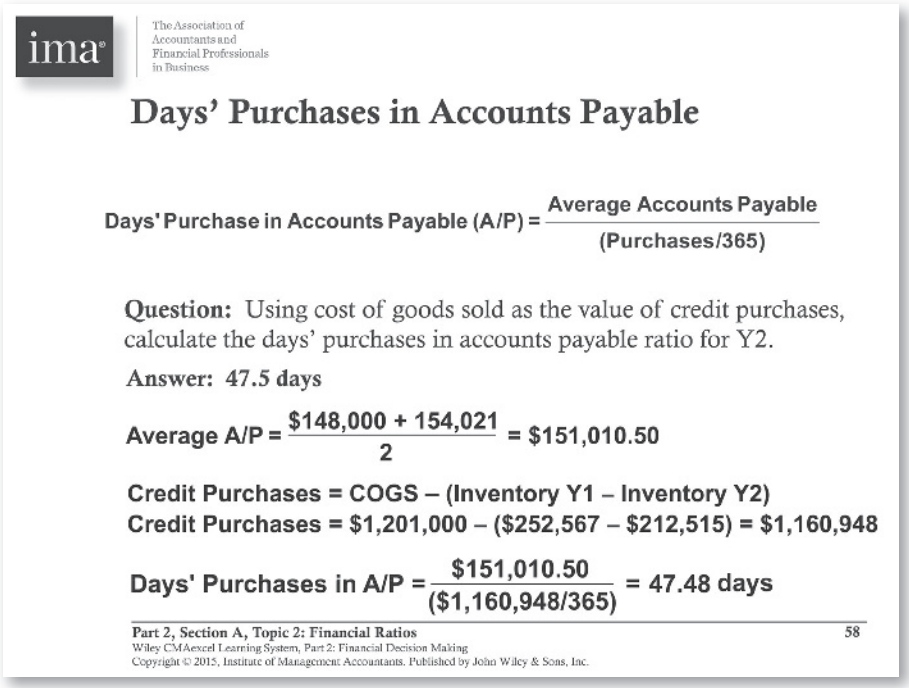


Review the days' sales in inventory ratio. If sales are fairly constant, a lower number of days or a greater number of times of turnover of inventory indicates better inventory control. Successful companies are able to keep their inventory low with high turnovers while still meeting customer orders on a timely basis.

Allow participants time to calculate the answer to the question, then ***click*** to reveal the answer.

Click again to review calculation.

Explain that cost of goods sold is from the income statement.



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Days' Purchases in Accounts Payable

$$\text{Days' Purchase in Accounts Payable (A/P)} = \frac{\text{Average Accounts Payable}}{\text{(Purchases/365)}}$$

Question: Using cost of goods sold as the value of credit purchases, calculate the days' purchases in accounts payable ratio for Y2.

Answer: 47.5 days

$$\text{Average A/P} = \frac{\$148{,}000 + 154{,}021}{2} = \$151{,}010.50$$

Credit Purchases = COGS – (Inventory Y1 – Inventory Y2)
Credit Purchases = $1,201,000 – ($252,567 – $212,515) = $1,160,948

$$\text{Days' Purchases in A/P} = \frac{\$151{,}010.50}{(\$1{,}160{,}948/365)} = 47.48 \text{ days}$$

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Review the days' purchases in the accounts payable formula. Current liabilities to suppliers who depend on and value the firm's business are less urgent than taxes or other debts. Postponement and renegotiation of vendor liabilities do occur. Judgment regarding current liabilities should be in light of the degree of urgency of payment.

Explain that measurement of days' purchases in accounts payable indicates the degree to which accounts payable are current or overdue. It is difficult for an outside analyst to determine credit purchases. For the formula on the slide, the analyst can use cost of goods sold (COGS) instead of credit purchases for a close approximation. Using cost of goods sold does not account for changes in inventory balances or cash purchases. If this formula results in a number that is larger than the firm's credit terms, that would indicate that accounts payable obligations are past due.

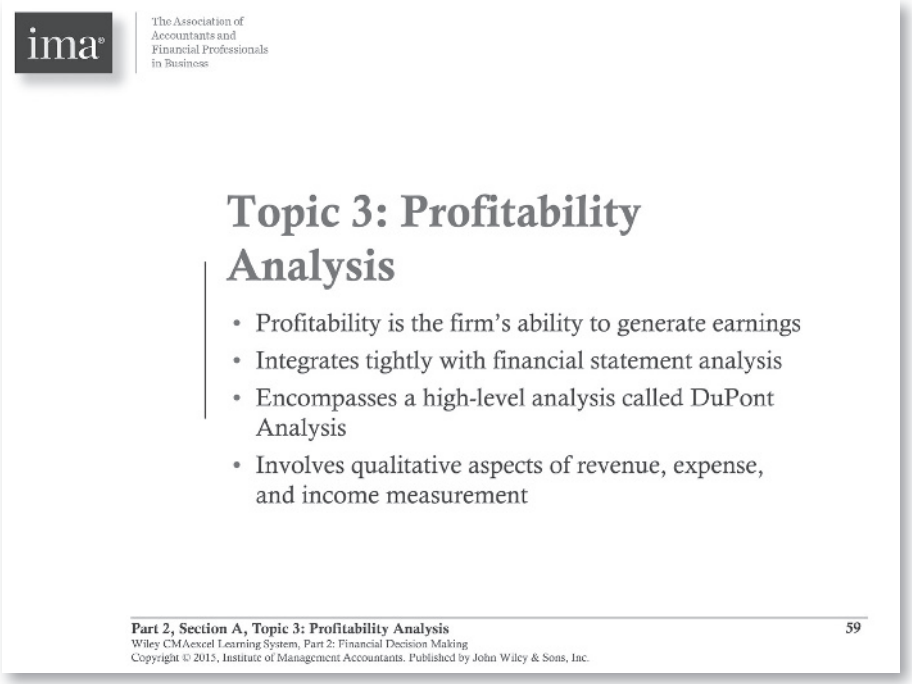
Allow participants a moment to calculate the answer to the question using cost of goods sold, then ***click*** to reveal the answer.

Click again to review calculation.

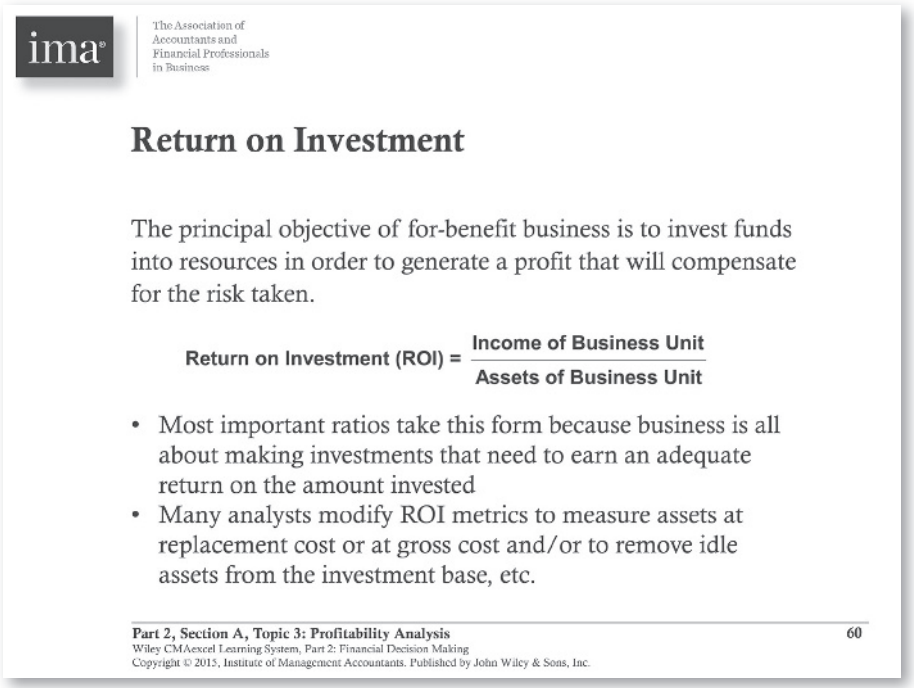
Explain that the answer is calculated using average accounts payable: ($148,000 + $154,021) / 2 = $151,010.50. Note that this average assumes that purchasing patterns occur evenly throughout the year. Sometimes this equation is calculated using ending accounts payable, but the CMA exam uses the average accounts payable amount, as shown on the slide.

Conclude the discussion of this topic by asking participants if they have any questions on Topic 2: Financial Ratios.

Section A, Topic 3: Profitability Analysis

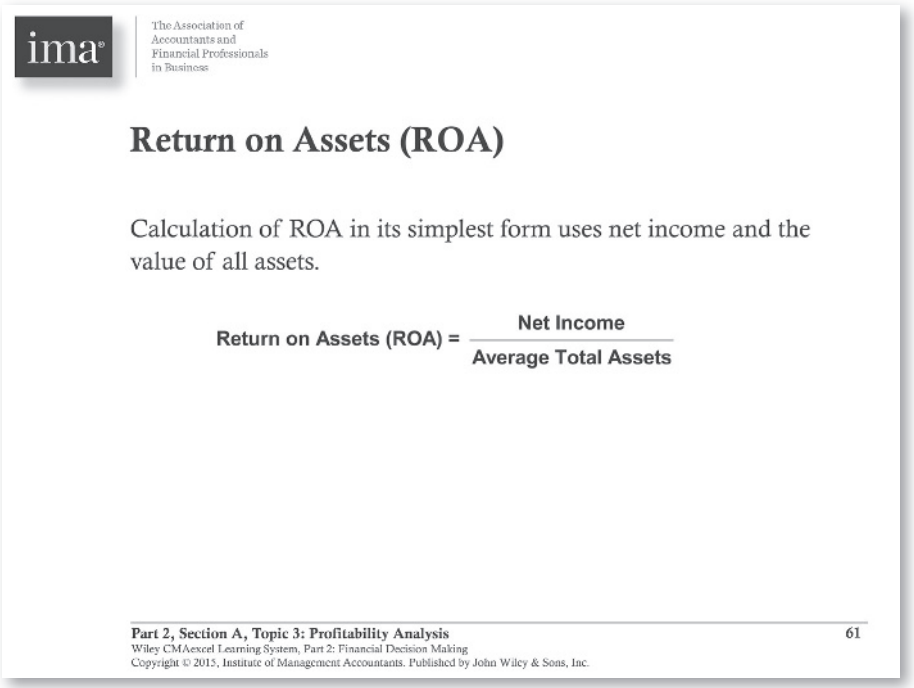


Explain that in this section we demonstrate integration between ratios in this topic and ratios in Topic 2. We will review the qualitative aspects of revenue, expense and income measurement.

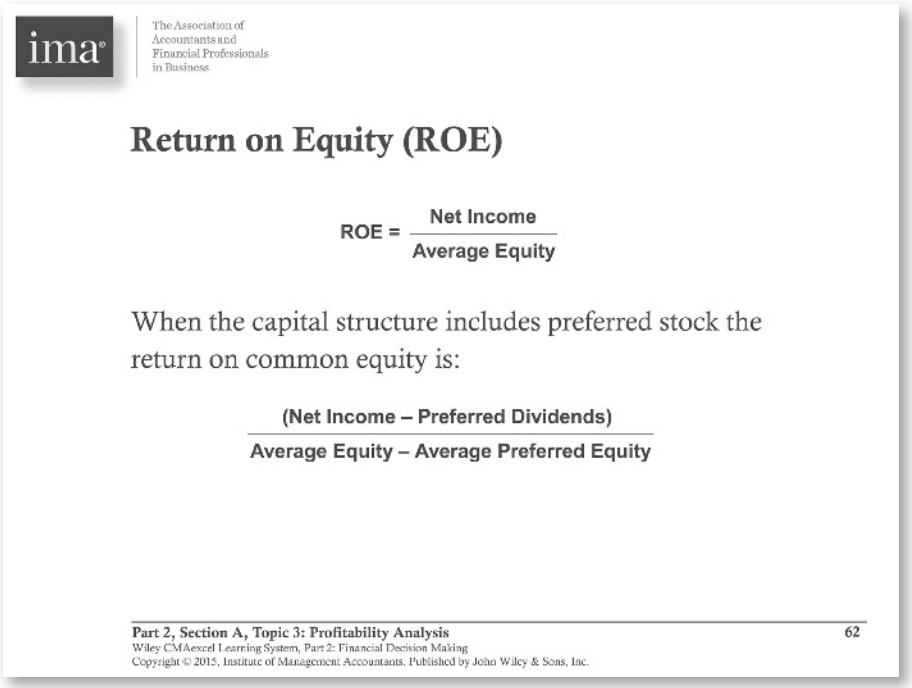


Explain: Business involves making investments and those investments must have the promise of earning a return adequate to justify making the investments

The two very specific types of return on investments are Return on Assets (ROA) and Return on Equity (ROE). We will cover those next.

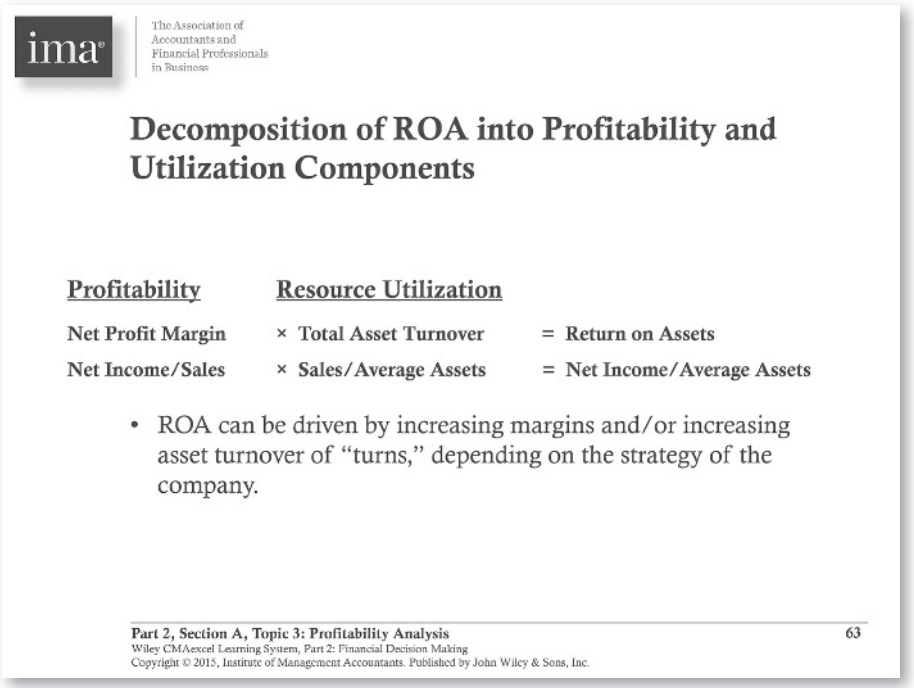


Explain: Many analysts offer variations on the above definitions. Some advocate omitting investments in assets that are not being used in the business. Some advocate using original cost of plants, property, and equipment rather than book value. Some may even advocate using replacement values.



Explain: Users of financial statements must be aware of the definition being used by the reports author in order to understand the significance of a non-GAAP measure or a modified ratio.

Note: Return on Equity is more complex when there is preferred stock within the capital structure.



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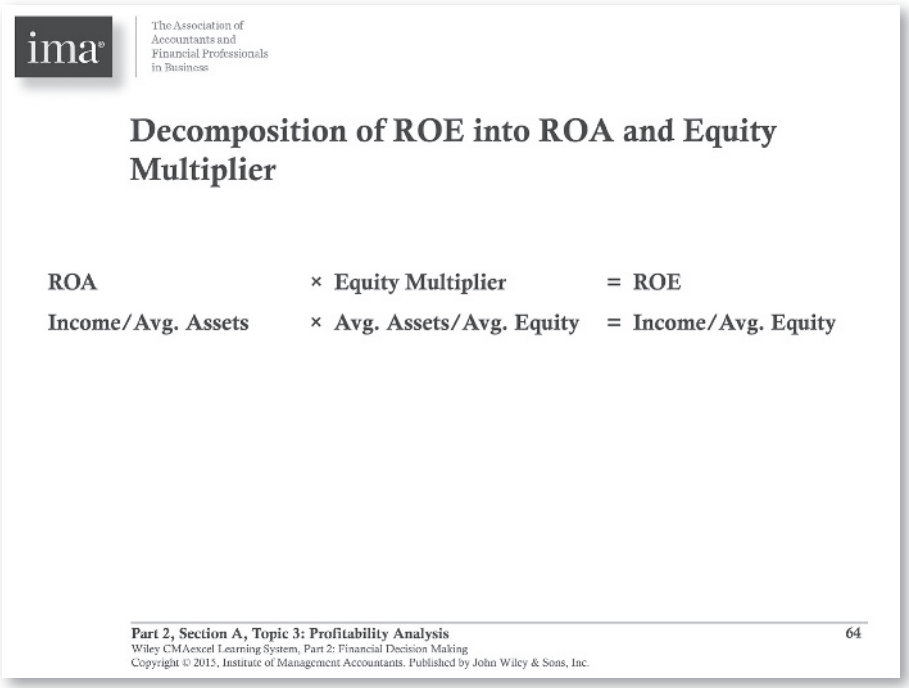
Decomposition of ROA into Profitability and Utilization Components

Profitability	Resource Utilization	
Net Profit Margin	× Total Asset Turnover	= Return on Assets
Net Income/Sales	× Sales/Average Assets	= Net Income/Average Assets

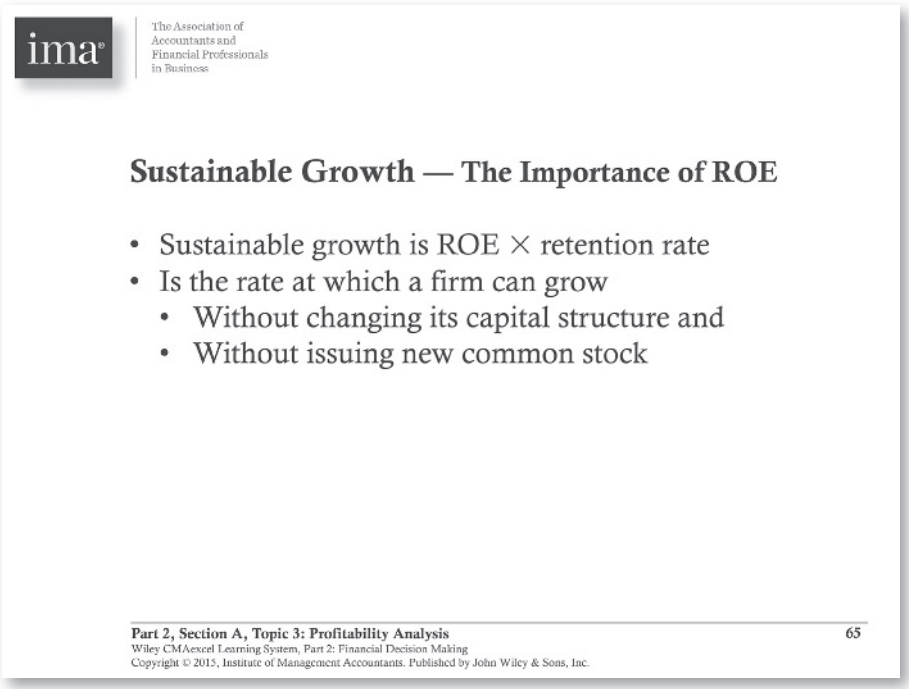
- ROA can be driven by increasing margins and/or increasing asset turnover of "turns," depending on the strategy of the company.

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Explain: The genius of DuPont analysis is the concept that an adequate ROA can be earned through the combination of a good profitability result and a fair resource utilization result or vice versa. Or, presented more positively, the ROA can be improved by a focus on profitability improvement or a focus on improving the utilization of resources.

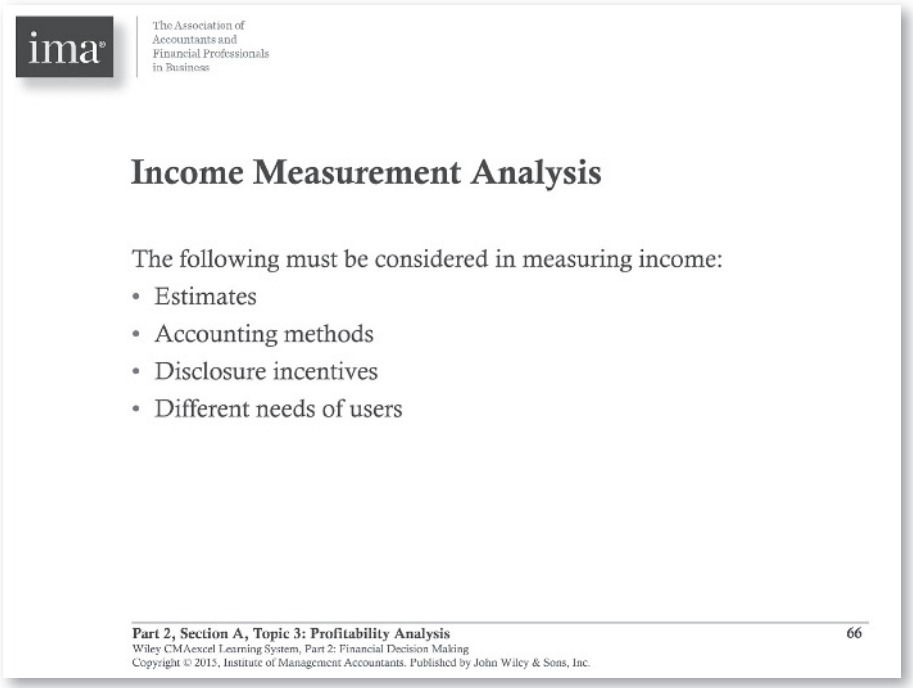


Note: This decomposition explains the multiplier effect of leverage in the capital structure.



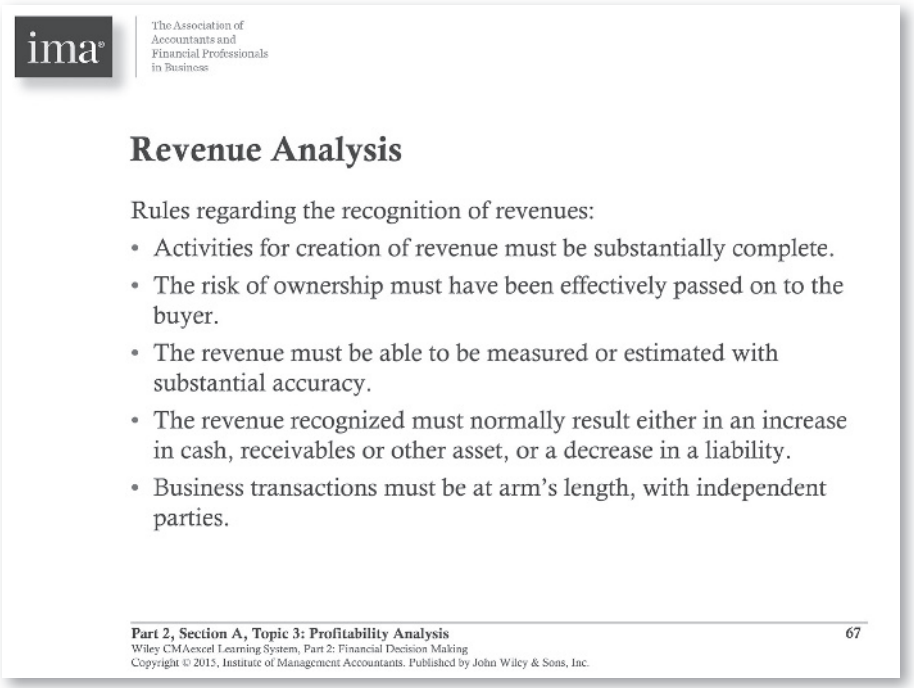
If the firm were to change its capital structure (increase its leverage), it would change (probably increase) its Weighted Average Cost of Capital. In turn, that would likely result in the creation of less value.

Many firms are reluctant to issue additional common shares. Some firms' management simply feels it is too expensive. Yet other firms may feel that it sends a negative signal to the capital markets—that future prospects are not as good as they have been previously.



Review the considerations for income measurement analysis:

- *Estimates***.** The determination of income depends on estimates regarding future events and their outcomes.
- *Accounting methods***.** Analysts must understand and assess the implications that the use of one accounting principle as opposed to another has on the business's measurement of income and how it compares to other businesses.
- *Disclosure incentives***.** The degree of informative disclosure about the results of operations and the asset base of segments of a business can vary widely.
- *Different needs of users.* Users of the financial statement analysis approach the analysis with different needs. The investing public is interested in analysis of the financial position of the business and its ability to earn future profits. Investors use an analysis of past trends and the current position to project the future prospects of the business.


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Revenue Analysis

Rules regarding the recognition of revenues:

- Activities for creation of revenue must be substantially complete.
- The risk of ownership must have been effectively passed on to the buyer.
- The revenue must be able to be measured or estimated with substantial accuracy.
- The revenue recognized must normally result either in an increase in cash, receivables or other asset, or a decrease in a liability.
- Business transactions must be at arm's length, with independent parties.

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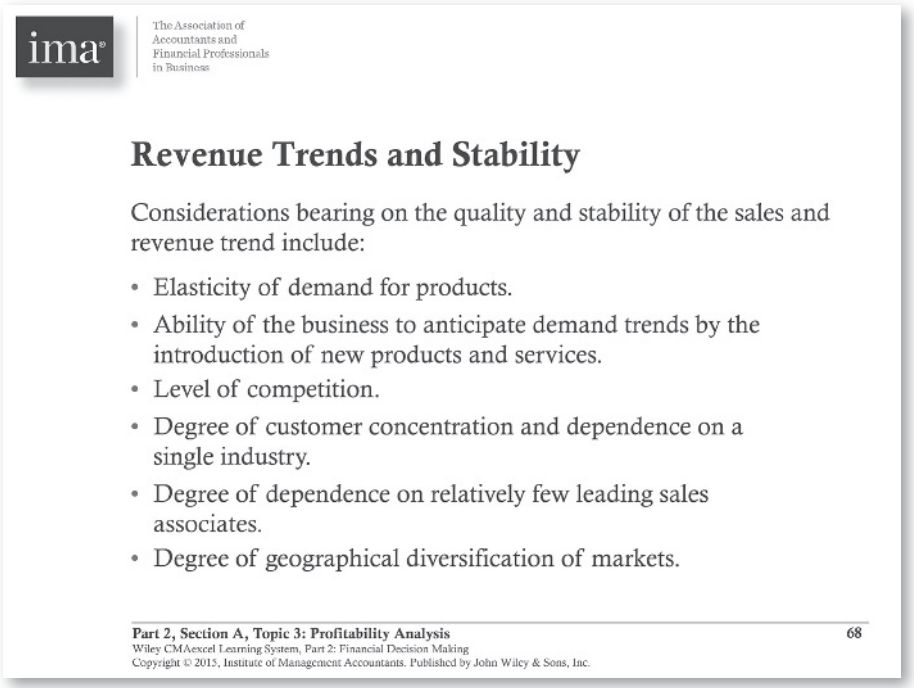
Revenue Analysis

Explain that revenue is earned by a company for the sale of its products or services. Accountants must be careful to recognize revenues in a way that fairly represents the appropriate information in the financial statements.

Tell participants to read the slide and ask questions about the rules on the slide. ***Discuss*** the amount of discretion in assessing and recognizing revenue. ***Emphasize*** that there is leeway available in the use of the terms *substantial* and *reliable*.

Explain that the rules are subject to interpretation and exceptions, such as the recognition of revenues from installment sales.

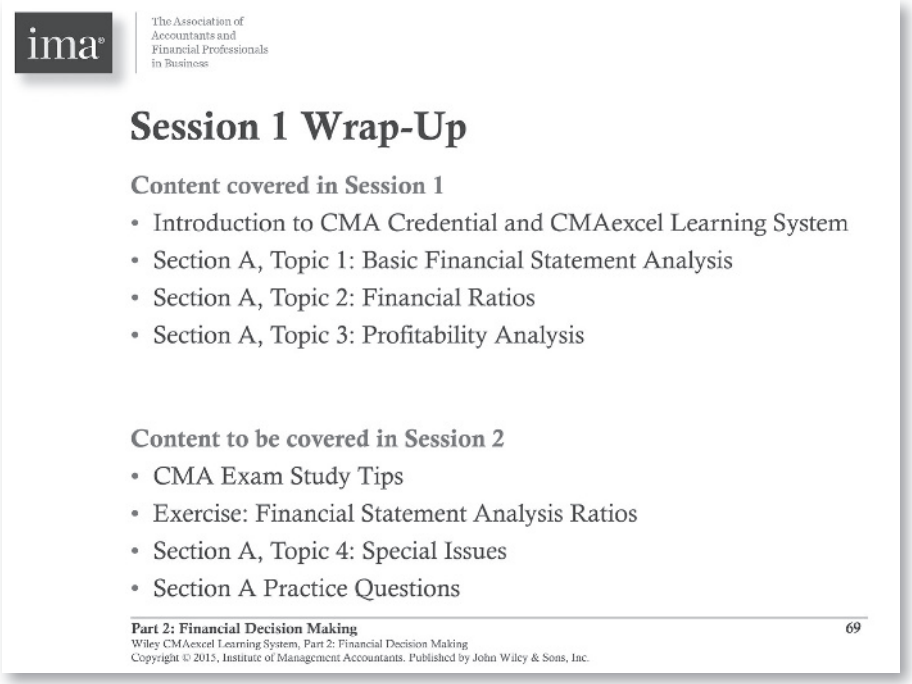
Similarly, stress the arm's-length transaction with the special-purpose entities discussed earlier.



Review the considerations bearing on the quality and stability of the sales and revenue trend.

Explain that analysts, investors, and creditors also need to determine whether revenue represents the stable trend of a growing business or a nonrecurring item.

Session 1 Wrap-Up



Ask participants if they have questions on Session 1.

Remind participants that Session 2 includes an exercise on financial statement analysis ratios, introduces Topic 4, Special Issues, and discusses the Practice Questions for Section A.

The session begins with a discussion of study tips and ways to prepare for taking the CMA exam.

Remind participants that they should bring their self-study text to class. It will be needed for Session 2.