



ANALYZING FINANCIAL STATEMENTS

(AFS4)

KAPLAN



Program Topics

- Unit 1 – Overview
- Unit 2 – Financial Reporting and Financial Statements
- Unit 3 – A Closer Look at Financial Statements
- Unit 4 – Financial Statement Analysis – Part 1
- Unit 5 – Financial Statement Analysis – Part 2
- Case Solutions

Unit 1: Overview



Unit 1 – Learning Objectives

After completing this unit, participants will be able to:

- Describe different financial statement users and their information needs.
- For each financial statement, balance sheet, income statement, and cash flow statement, identify characteristics, alternatives, and risks associated with specific financial statement elements.
- Describe the importance of developing expectations prior to performing financial statement analysis.



Objective of Financial Reporting

- Objective of financial reporting is to provide useful measures and disclosures about an entity's financial performance and financial condition
- Secondary purpose is to enable financial statement users to understand content and limitations of accounting and financial information used in performing financial analysis



Objective of Financial Reporting

Themes of Financial Statement Analysis

1. Types and uses of financial analysis depend on user and decisions user is making
2. In most cases, financial statement analysis involves using historical data to assess past performance and to make judgments about future potential performance
3. Financial analysis incorporates broad sources of financial and non-financial information about entity



Objective of Financial Reporting

Themes of Financial Statement Analysis (cont.)

4. GAAP-(accrual)-based analysis is prone to distortion or manipulation due to uncertainty of estimates and judgments (bias) made by management, or changes in accounting standards
5. Cash-flow-based analysis is better suited for evaluating an entity's earnings quality, financial flexibility in dealing with changing business, competitive, and economic conditions, or with pursuing new opportunities



Objective of Financial Reporting

Financial Statement Users' Decisions

1. Operating
2. Investing
3. Financing



Financial Statement Analysis

- Financial statement analysis is a method of using analytical techniques applied to an entity's f/s – balance sheet, income statement, cash flow statement, and note disclosures
- Analytical techniques include selecting, evaluating, predicting, and interpreting f/s data to form conclusion concerning entity's current and future status and performance



Financial Statement Analysis

Analytical Techniques

- Perform overall risk assessment (external and internal) of industry and entity
- Common size analysis (horizontal and vertical)
- Trend analysis
- Comparative or benchmarking analysis (entities and industry)
- Ratio analysis (accrual and cash flow)
- Forecasting results
- Valuation



Financial Statement Analysis

Analysis Process Steps

1. Develop understanding of industry by reviewing industry analysis report from brokerage firm.
2. Read recent articles in business publications concerning industry or entities operating in industry.
3. Identify entity you are interested in analyzing.
4. If public company, read Management's Discussion and Analysis section of 10-K where management provides explanation of company's financial performance, financial condition, and future expectations or strategies.
5. Perform common size analysis, trend analysis, comparative analysis, and ratio analysis.



Financial Statement Analysis

Analysis Process Steps (cont.)

6. Focus on quality of entity's financial statements, profitability, and risk.
7. Reach conclusions based on financial statement analysis performed.
8. Prepare forecasted financial statements for at least one year.
9. Perform valuation of entity.



Financial Statement Analysis

Challenges

1. No established methodologies exist that prescribe which ratios, figures, trend length of time, industry or peer comparisons, or benchmarks to use in performing f/s analysis.
2. Comparability between companies being analyzed (with benchmarks) can be muddled because many entities are conglomerates that operate unrelated businesses.



Financial Statement Analysis

Challenges (cont.)

3. Companies clearly in same industry and using same accounting framework may adopt different GAAP accounting principles within that framework.
4. Globalization produces other challenges – IFRS.



Users

- Creditors
- Investors
- Employees
- Supply chain
- Competitors
- General public
- Governments
- Outside accountants



Users

Expectations

- When comparing two entities (companies) in same industry, analysts develop **expectations** for financial results and operational outcomes since they are operating in same economic environment with similar customer bases.
- Expectations allow analyst to more clearly identify differences between companies and ask appropriate questions concerning unusual or unexpected results.
- **Caution – expectations may be incorrect.**



Users

Expectations – Caution

- Coca-Cola – beverage company
 - Pepsi – beverage and snack food company
- => Are the two companies comparable?

- McDonald's

⇒What type of company is McDonald's based on balance sheet?

⇒Real estate company that happens to serve fast food!!



Case 1 – Workshop

Industry Ratios/Operating Characteristics



Case 2

Lowe's and Home Depot



Case 2 Lowe's and Home Depot

- 40% of HD's sales to professional contractors; Lowe's 30%. Professional contractors greater income source than DIYers.
- HD / Lowe's cater to different customers – HD overwhelmingly male / Lowe's majority female.
- HD opened stores in China; Lowe's has not.
- HD is much larger than Lowe's – better market penetration.
- HD does much better job managing its inventory than Lowe's.
- Investment in online operations – HD sales online about twice as Lowe's.



Engagement Question

External (owners and creditors) and internal (management) f/s users generally make which type of decisions from financial analysis:

- a. Operating
- b. Investing
- c. Financing
- d. All of the above



Engagement Question Answer

External (owners and creditors) and internal (management) financial statement users generally make which type of decisions from financial analysis:

- a. Operating
- b. Investing
- c. Financing
- d. All of the above**

Unit 2: Financial Reporting and Financial Statements



Unit 2 – Learning Objectives

- *After completing this Unit, participants will be able to:*
 - Use example financial statements as best practice.
 - Use example critical accounting policies to improve your company disclosures.
 - Describe reporting differences between public company and non-public company financial reporting processes.
 - Explain f/s regulators' and users' biggest preferences for financial reporting and disclosure improvements so that you can improve your company's financial reporting and disclosures.



Introduction

Unit 2 topics

- Financial Reporting and Financial Statements
- Public Company Reporting Including MD&A
- Non-Public Company Reporting
- Critical Accounting Policies
- Note Disclosures
- SEC Disclosure Comment Letters



Financial Reporting and Financial Statements

Public Company Communications

- Annual and quarterly reports to shareholders, including Management's Discussion and Analysis (MD&A)
- Press releases, including 8-K filings
- Management conference calls to interested parties
- Non-GAAP performance measurements and key performance indicators (KPIs)



Financial Reporting and Financial Statements

Public Company Communications (cont.)

- Reports to regulatory agencies such as DOL or SEC
- Reports to third parties such as banks or NFP funding organizations such as United Way
- Financial information placed on company's website
- F/S, including balance sheet, income statement, cash flow statement, statement of stockholders' equity



Ford Motor Company 2020 Financial Statements



Public Company Reporting Including MD&A

Periodic Reporting Requirements

- 8-K – Current Report – Unscheduled material event or change at company important to shareholders and SEC
- 10-K – Annual Report – Annual financial report to shareholders and SEC
- 10-Q – Quarterly Report – Quarterly financial reports to shareholders and SEC



Non-Public Company Reporting

Bases of Accounting

- GAAP
- Income tax basis
- Cash basis
- Contractual basis
- FRF for SMEs
- IFRS for SMEs



Critical Accounting Policies

Topic 235

- Selection from existing GAAP alternatives (LIFO/FIFO for example)
- Principles and methods particular to industry in which reporting entity operates
- Unusual or innovative applications of GAAP
- ASCs' additional policy note requirements – Over 120



Critical Accounting Policies

Significant Accounting Policies

- Principles of Consolidation and Basis of Presentation
- Acquisitions or Dispositions
- Estimates and Assumptions
- Businesses and Assets Held for Sale
- Revenue Recognition
- Costs of Revenue
- Financing Receivables



Critical Accounting Policies

Significant Accounting Policies (cont.)

- Stock-Based Compensation
- Income Taxes
- Fair Value Measurements
- Financial Instruments
- Cash and Cash Equivalents
- Inventories
- Property and Equipment



Critical Accounting Policies

Significant Accounting Policies (cont.)

- Foreign Currency Transactions and Translations
- Goodwill and Other Intangibles
- Impairments of Long-Lived Assets
- Leases
- Loss Contingencies
- Subsequent Events
- New Accounting Pronouncements



AT&T's 2021 Accounting Policy Note



Significant Accounting Policies Note Non-Public Company



Note Disclosures

FASB Codification

- Topic 100 – General Principles
- Topic 200 – Presentation
- Topic 300 – Assets
- Topic 400 – Liabilities
- Topic 500 – Equity
- Topic 600 – Revenue
- Topic 700 – Expenses
- Topic 800 – Broad Transactions
- Topic 900 – Industry



SEC Disclosure Comment Letters

Overview

- Staff's comments in response to company's disclosure and other public information, based on staff's understanding of company's facts and circumstances.
- Letters set forth staff positions and do not constitute official expression of SEC's views.
- Letters limited to specific facts of filing in question and do not apply to other filings.



SEC Disclosure Comment Letters

Overview (cont.)

- Included to provide participants with information to assist in identifying areas in company disclosures where additional scrutiny may be necessary when performing financial statement analysis.



SEC Disclosure Comment Letters

Specific Focus Areas Based on Big 4 Firm Publications

- Non-GAAP Financial Performance Measurements
- Management's Discussion & Analysis (MD&A)
- Segment Reporting
- Risk Factors-Climate Change Matters
- Revenue Recognition
- Fair Value Measurements
- Form Compliance and Exhibits



SEC Disclosure Comment Letters

Specific Focus Areas (cont.)

- Disclosure Controls and ICFR
- Inventory and Cost of Goods Sold
- Debt, Quasi-Debt, Warrants and Equity



Engagement Question

A non-public or private company's reporting requirements are determined by:

- a. Management
- b. Requirements of a third party
- c. The accounting basis followed by the reporting entity
- d. All of the above



Engagement Question Answer

A non-public or private company's reporting requirements are determined by:

- a. Management
- b. Requirements of a third party
- c. The accounting basis followed by the reporting entity
- d. All of the above

Unit 3: A Closer Look at Financial Statements



Unit 3 – Learning Objectives

After completing this unit, participants will be able to:

- Describe external financial reporting trends and characteristics.
- Explain how management's judgment can have an impact on financial reporting.
- Describe result of applying different bases of accounting on financial reporting outcomes.



Introduction

External Financial Reporting Trends and Characteristics

- Increased balance sheet emphasis
- Increased use of fair value
- Increased consistency with international accounting standards
- Increased financial statement disclosures
- Increased principles-based and decreased rules-based new guidance
- Increased financial accounting and reporting complexity



Management Judgments and Financial Reporting

Management judgment can influence financial reporting through:

- 1) Earnings management
 - Dell
 - “When it rains, it pours”
 - “Cookie jar accounting”
 - “Banking next year’s bonus”



Management Judgments and Financial Reporting

Management judgment can influence financial reporting through:

- 2) Management bias
- 3) Opaque footnote disclosure:
 - Enron – related parties



Accounting Basis

Elements of Financial Statements – FASB Concept No. 8

1. Assets
2. Liabilities
3. Equity
4. Investments by owners
5. Distributions to owners



Accounting Basis

Elements of Financial Statements – FASB Concept No. 8 (cont.)

6. Comprehensive income
7. Revenues
8. Expenses
9. Gains
10. Losses



Special Purpose Frameworks

- Tax basis – foundation is federal tax law
- FRF for SMEs – simplified system jointly developed by AICPA and the Canadian Institute of Chartered Accountants
- Cash and modified cash basis – foundation is cash receipts and cash disbursements
- Contractual basis – foundation is related contract
- Regulatory basis – foundation is related regulation



The Nature of Financial Statements

Balance Sheet – Cumulative as of a Specified Date

- Current assets
- Non-current assets
- Current liabilities
- Non-current liabilities
- Equity



The Nature of Financial Statements

Balance Sheet – Current Assets

- Cash
 1. Restrictions
 2. Prudent management
- Accounts receivable
 - DSO (days sales outstanding)
 - DSO Trends



The Nature of Financial Statements

Balance Sheet – Current Assets

- Inventory
 - DOH (days on hand)
 - DOH Trends
 - Costs
 - Cost flows
- Prepaid expenses
- Short-term investments



The Nature of Financial Statements

Balance Sheet – Current Liabilities

- Trade accounts payable
 - DPO (days payable outstanding)
 - DPO Trends
- Cash operating cycle
- Accrued expenses
- Customer advance payments
- Warranty liability
- Debt



The Nature of Financial Statements

Balance Sheet – Non-Current Assets

- Property, plant & equipment
- Depreciation expense and accumulated depreciation
- Disposals
- Goodwill
- Intangible assets
 - Indefinite and definite life



The Nature of Financial Statements

Balance Sheet – Non-Current Assets (cont.)

- Non-controlling interest – result of a business combination
- Investments



The Nature of Financial Statements

Balance Sheet – Non-Current Liabilities

- Debt requiring current classification
- Contingencies
- Restructuring reserves



The Nature of Financial Statements

Balance Sheet – Equity

- Stock
- Treasury stock



Engagement Question

The operating cycle is an important indicator of a reporting entity's working capital management and liquidity. The operating cycle is:

- a. Based on economic cycles of recessions and expansion
- b. Based on industry factors
- c. The amount of time to convert inventory into cash
- d. The amount of time to convert accounts receivable into cash



Engagement Question Answer

The operating cycle is an important indicator of a reporting entity's working capital management and liquidity. The operating cycle is:

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- d. The amount of time to convert accounts receivable into cash



The Nature of Financial Statements

Income Statement – Covers a Specified Period or Range of Dates

1. Unusual or Infrequent Gains or Losses
2. Discontinued Operations
3. Changes in Accounting Principle
 - Example IBM Revenue Recognition Note



The Nature of Financial Statements

Income Statement – Covers a Specified Period or Range of Dates

Operating Expenses:

1. Shipping and handling costs
2. Expense amounts of depreciation and amortization, pension, rent, and interest are required disclosures
3. Advertising expenses
4. Income taxes and deferred taxes



The Nature of Financial Statements

Income Statement – Covers a Specified Period or Range of Dates

Income Taxes and Deferred Taxes:

1. Identify future taxable items (deferred tax liability)
2. Identify future deductible items (deferred tax asset)
3. Tax effect of all future taxable/deductible items
4. Compare beginning balances of deferred tax asset to ending balance



The Nature of Financial Statements

Income Statement – Covers a Specified Period or Range of Dates

Income Taxes and Deferred Taxes:

5. Compare the beginning and ending balances of deferred tax assets and liabilities to derive the deferred tax provision
6. Determine the need for a deferred tax asset valuation
7. Derive income tax expense



Leases - ASU 2016-02 (Topic 842)

Objective - increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on balance sheet and disclosing key information about leasing arrangements

Core Principle - Reporting entity should recognize assets and liabilities arising from leases.

Lessee will recognize liability to make lease payments and right-of-use (RoU) asset representing its right to use leased asset for lease term

Our focus is leasing from lessee's perspective



Leases - ASU 2016-02 (Topic 842)

Lease Definition – Contract

- *Lease is contract or part of contract that conveys right to control use of identified property, plant, or equipment (an identified asset) for period of time in exchange for consideration*
- Contract is (or contains) lease when two criteria are met:
 1. Contract explicitly or implicitly specifies use of identifiable asset
 2. Lessee (customer) controls use of asset for that period of use

Topic 842 applies to all leases, including subleases (except for intangible assets, exploration for or use of minerals, oil, natural gas, and similar assets, biological assets, including timber, inventory, assets under construction)

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Kaplan Inc. Communications

2022



Leases - ASU 2016-02 (Topic 842)

Lease Classification

- Finance Lease / Operating Lease

Election not to put short-term leases on balance sheet

- Short-term lease - at commencement date, term of 12 months or less and does not include option to extend term, or purchase underlying asset that lessee is reasonably certain to exercise
- “Reasonably certain” - high degree of confidence (i.e., 85% to 90%) event will take place

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Kaplan Inc. Communications

2022



Leases - ASU 2016-02 (Topic 842)

Lease Classification – Finance Lease

- Transfer of ownership
- Option to purchase underlying asset (probable)
- Major part (legacy GAAP 75%) of remaining useful life
- Present value of sum of lease payments + any residual value guaranteed by lessee that is not already reflected in lease payments \geq substantially all of fair value (legacy GAAP 90%) of underlying asset
- Specialized nature



Leases - ASU 2016-02 (Topic 842)

Lessee Initial Measurement

- At lease commencement date, lessee recognizes in statement of financial position both:
 - A **lease payment liability** based on present value of lease payments, discounted using discount rate implicit in lease
 - A **right-of-use (RoU) asset** representing lessee's right to use underlying asset for lease term

DB: Right-of-Use Asset

CR: Lease Payment Liability



Leases - ASU 2016-02 (Topic 842)

Lease Payment Liability = Σ of present values of

- Fixed payments
- Variable lease payments
- Exercise price of option
- Payments for penalties for terminating lease
- Fees paid by lessee to owners of special-purpose entity for structuring transaction
- Residual value guarantees

Lease Classification and Subsequent Measurement

Finance Lease – Example

Operating Lease – Example



The Nature of Financial Statements

Cash Flows – Covers a Specified Period or Range of Dates Concurrent with the Income Statement Period

1. Investing activities
2. Financing activities
3. Operating activities



The Nature of Financial Statements

Cash Flows – Covers a Specified Period or Range of Dates
Concurrent with the Income Statement Period

- Indirect method
- Direct method



Ford Motor Company 2021 Financial Statements

Refer to Unit 2



Engagement Question

Special categories of earnings that must be presented separately in total and in Earnings Per Share (public companies) are:

- a. Extraordinary items
- b. Discontinued operations
- c. Cumulative effect of a change in accounting principle
- d. Corrections of errors



Engagement Question Answer

Special categories of earnings that must be presented separately in total and in Earnings Per Share (public companies) are:

- a. Extraordinary items
- b. Discontinued operations**
- c. Cumulative effect of a change in accounting principle
- d. Corrections of errors

Unit 4: Financial Statement Analysis – Part 1



Unit 4 – Learning Objectives

After completing this unit, participants will be able to:

- Perform financial statement analysis using best practices and various cases.
- Compare financial statements of different companies in the same industry and the same company across different time periods.
- Explain importance of using company's MD&A for effective financial statement analysis.



Introduction

Objectives of Financial Analysis

- Screening
- Performance evaluation
- Diagnostic tool
- Predictive indicator



Introduction

Decision Makers

- Credit grantors
- Equity investor
- Management
- Supplier
- Customer
- Mergers & acquisitions
- Auditors
- Employees
- Stakeholders



Introduction

Industry Differences

- Operating Strategy Differences
 - Mattel – Captive manufacturing
 - Hasbro – Contract manufacturing



Introduction

Industry Differences

- Understanding a Reporting Entity's Goals, Objectives, and Strategy
 - Mattel
 - Hasbro
- MD&A



Discussion Question

How is Mattel's strategy different from Hasbro's strategy?



Earnings Quality

- Net income is high quality if it is earned in ordinary course of business, which means it represents underlying economics of business, and it is sustainable over time.
- If instead, net income was financially engineered, then it was not earned in ordinary course of business and is low quality.



Earnings Quality

Earnings quality ratio - should be near 1 over time

$$\frac{\text{Cash Flow from Operating Activities}}{\text{Net Income} + \text{Depreciation} + \text{Amortization} + \text{Other significant non-cash items, e.g., impairment, stock comp}}$$



Conventional Analytical Tools

- Expectations
- Horizontal (trend) analysis
- Vertical (common size) analysis
- SEC requirements – 5-year trends:
 - Mattel
 - Hasbro



Accounting Profit vs. Economic Profit – EVA – Economic Value Added

- Premise behind EVA is that conventional financial measures, based on accounting profit, produce misleading results and create conflicting management incentives to do things that may actually destroy shareholder value.
- Common management incentive compensation rewards achieving milestones in earnings and returns may not increase shareholder wealth.



Accounting Profit vs. Economic Profit – EVA – Economic Value Added

- EVA concept is based on economic profit, which means reporting entity does not achieve “real” earnings or increase “real” value until profits earned exceed entity’s cost of financing its capital.
- Cost of financing its capital is minimum required risk-adjusted rate of return for shareholders and creditors combined, commonly referred to as Weighted Average Cost of Capital (WACC).
- Corrects for conventional accounting profit financial ratios



Accounting Profit vs. Economic Profit – EVA – Economic Value Added

Basic EVA formula is:

$$\begin{aligned} & \text{Accounting Profit (Net Income)} \\ & - \text{Capital Charge (Capital Investment x WACC)} \\ & = \text{Economic Profit (EVA)} \end{aligned}$$

Positive is good; negative is bad



Case 3 Economic Value Added



Dashboards – Tool to Impact Positive Change

- Dashboards are valuable analytical tools that build accountability in organizations.
- What makes dashboards so valuable is fast speed that it communicates performance by translating financial data into insight.
- Dashboards are a quick way to communicate performance and actionable items by translating financial, operational, and strategic data into meaningful and relevant information.
- Narrative vs. tables vs. graphs



Dashboards – Tool to Impact Positive Change

Dashboards are similar to balanced scorecards, which communicate more than financial performance:

1. Financial
2. Customer
3. Internal business processes
4. Learning and growth



Dashboards – Tool to Impact Positive Change

- Communicate strategy
- Build accountability

Example – Patient satisfaction dashboard

Example – Company website dashboard



Engagement Question

The balanced scorecard's heart is the company's vision and strategy. Which of the following is not an area the company needs to excel in to achieve its vision and strategy?

- a. Financial
- b. Customer
- c. Competition
- d. Learning and growth



Engagement Question Answer

The balanced scorecard's heart is the company's vision and strategy. Which of the following is not an area the company needs to excel in to achieve its vision and strategy?

- a. Financial
- b. Customer
- c. Competition
- d. Learning and growth

Unit 5: Financial Statement Analysis – Part 2



Unit 5 – Learning Objectives

After completing this unit, participants will be able to:

- Perform financial statement analysis using best practices and various cases.
- Compare f/s of different companies in same industry and same company across different time periods.
- Apply accrual and cash-based ratios to published f/s.
- Describe limitations of ratio-based analysis.
- Identify an entity's quality of earnings and explain results.



Introduction

Ratios

- Ratios are particularly industry dependent.
- One may derive an infinite number of ratios from any set of financial statements.
- For ratio to be useful, its numerator should have some meaningful relationship with its denominator.
- Ratios are difficult to interpret when additional outside information is necessary for complete understanding.



Introduction

Ratios (cont.)

- Interpretation of ratios is also complicated by use of different acceptable accounting methods.
- Ratios can be affected by interdependencies between numerator and denominator.
- Ratios based on total assets or total equity should be scrutinized carefully to determine if results are meaningful.
- Ratios most useful as diagnostic tools to highlight trends or changes that warrant special attention. They do better job raising questions than providing answers.



Liquidity Ratios

<i>Ratio</i>	<i>Formula</i>
Current Ratio	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$
Quick Ratio	$\frac{\text{Cash} + \text{Cash Equivalents} + \text{Net Receivables}}{\text{Current Liabilities}}$



Efficiency Ratios

<i>Ratio</i>	<i>Formula</i>
Accounts Receivable Turnover	$\frac{\text{Net Revenue}}{\text{Average Accounts Receivable}}$
Days' Sales in Accounts Receivable	$\frac{360 \text{ Days}}{\text{Accounts Receivable Turnover}}$
Inventory Turnover	$\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$
Day's Sales in Inventory	$\frac{360 \text{ Days}}{\text{Inventory Turnover}}$



Efficiency Ratios

<i>Ratio</i>	<i>Formula</i>
Accounts Payable Turnover	$\frac{\text{Cost of Goods Sold}}{\text{Average Accounts Payable}}$
Accounts Payable Days Outstanding	$\frac{360 \text{ Days}}{\text{Accounts Payable Turnover}}$
Asset Turnover	$\frac{\text{Net Revenue}}{\text{Average Total Assets}}$
Sales to Fixed Assets	$\frac{\text{Net Revenue}}{\text{Average PP\&E}}$



Leverage Ratios

<i>Ratio</i>	<i>Formula</i>
Debt to Total Assets	$\frac{\text{Total Debt}}{\text{Total Assets}}$
Debt to Equity	$\frac{\text{Total Debt}}{\text{Stockholders' Equity}}$
Financial Leverage	$\frac{\text{Total Assets}}{\text{Stockholders' Equity}}$
Times Interest Earned	$\frac{\text{Operating Income}}{\text{Interest Expense}}$



Profitability Ratios

<i>Ratio</i>	<i>Formula</i>
Net Profit Margin	$\frac{\text{Net Income}}{\text{Net Revenue}}$
Gross Profit Margin	$\frac{\text{Gross Profit}}{\text{Net Revenue}}$
Operating Profit Margin	$\frac{\text{Operating Income}}{\text{Net Revenue}}$
Operating Expenses to Net Revenue	$\frac{\text{Operating Expenses}}{\text{Net Revenue}}$
Revenue per Employee	$\frac{\text{Net Revenue}}{\text{Number of Employees}}$
Net Revenue per Square Foot	$\frac{\text{Net Revenue}}{\text{Square Feet}}$



Profitability Ratios

<i>Ratio</i>	<i>Formula</i>
Return on Assets	$\frac{\text{Net Income} + \text{After-Tax Interest}}{\text{Average Total Assets}}$
Return on Equity	$\frac{\text{Net Income}}{\text{Average Stockholders' Equity}}$
Economic Value-Added	$\text{Net Income} - \text{Opportunity Cost of All Capital Employed}$



Profitability Ratios

<i>Ratio</i>	<i>Formula</i>
Dividend Payout Ratio	$\frac{\text{Dividends Paid}}{\text{Net Income}}$
Price-Earnings Ratio	$\frac{\text{Market Price per Common Share}}{\text{Diluted Earnings per Common Share}}$



Engagement Question

The DuPont Formula is a quick way to understand the financial drivers of:

- a. Return on assets and return on equity
- b. Gross profit and operating income
- c. Liquidity and solvency
- d. Accounts receivable turnover and inventory turnover



Engagement Question Answer

The DuPont Formula is a quick way to understand the financial drivers of:

- a. Return on assets and return on equity
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Cash Flow Ratios

Introduction

1. Examination of cash flow statement and “stories” it tells. Too often, this statement is regarded as an isolated step in the closing process. In many cases, it is not prepared as frequently as the balance sheet and income statement, so not routinely used in monitoring operations.
2. Introduction to ratio analysis that incorporates cash-flow-based measurements, which provides additional information improving reliability, relevance, and predictive qualities of financial information.



Cash Flow Ratios

Introduction (cont.)

- Provides tool to evaluate quality of earnings
- Provides information to derive operating and cash management recommendations
- Helps monitor adequacy of cash flows to either meet obligations as they become due or achieve planned growth
- Used to assess financial flexibility



Case 4

Cash Flows Tell the Real Story



Case 4 Suggested Solution

- Company enjoyed substantial increase in cash because it is self-liquidating.
- Company used proceeds from asset sales and issuance of stock to finance current operations.
- Without “one time” gains from sale of long-term assets, company would have substantial loss for 20X3.
- Cash flow from operations were negative.
- Net income was net loss of \$125,000 without one-time gains.



Case 5

Reviewing a Small Business Cash Flow Statement



Quality of Earnings

Earnings quality is regarded as high when reported income represents, as closely as possible, the operating results of a company during a period of time, using the most representative accounting policies and accounting alternatives.



Quality of Earnings

Earnings management activities often take place to:

- Improve opportunities for incentive compensation rewards (bonuses, stock options)
- Obtain additional long-term borrowings
- Maintain compliance with debt covenants
- Reduce taxable income for cash flow or labor negotiating purposes
- Meet published, announced, or market expectations related to revenues or earnings



Quality of Earnings

Quality of Earnings Influenced by:

- Accounting policies
- Management's objectives
- Accounting alternatives
- Stability of earnings



Quality of Earnings

<i>Ratio</i>	<i>Formula</i>
Quality of Earnings	$\frac{\text{CFFO}}{\text{Net Income plus Depreciation and Amortization}}$
Quality of Revenues	$\frac{\text{Cash Receipts}}{\text{Net Revenue}}$



Quality of Earnings Example



Case 6

Reading a Statement of Cash Flows



Case 7

Finding the Truth in the Cash Flow Statement - Enron



Quality of Earnings

Additional Quality of Earnings Considerations – Risk Indicators

- Net income plus depreciation exceeding cash flow from operations
- Net income growing at a rate that exceeds operating cash flow growth
- Inventories increasing at a greater percentage than sales
- Receivables increasing at a greater percentage than sales
- Reductions in capital expenditures over time
- Negative operating cash flows over time
- Positive investing and financing cash flows with negative operating cash flows
- Selling assets to fund current operations or pay down debt



Flexibility Ratios

<i>Ratio</i>	<i>Formula</i>
Operating Cash Flow to Net Revenue	$\frac{\text{CFFO}}{\text{Net Revenue}}$
Operating Cash Flow to Number of Employees	$\frac{\text{CFFO}}{\text{Number of Employees}}$
Operating Cash Flow to Total Assets	$\frac{\text{CFFO}}{\text{Average Total Assets}}$
Debt Coverage	$\frac{\text{CFFO}}{\text{Total Debt}}$
Times Interest Paid	$\frac{\text{CFFO}}{\text{Interest Paid}}$
Operating Cash Flow to Current Liabilities	$\frac{\text{CFFO}}{\text{Current Liabilities}}$



Flexibility Ratios

Ratio	Formula
Self Liquidation – PP&E	<u>Proceeds from Sale of PP&E</u> Average PP&E
Self Liquidation – Total Assets	<u>Proceeds from Sales of the PP&E</u> Average Total Assets
Free Cash Flow	CFFO (Adjusted for any non-recurring items) minus Capital Expenditures and Debt Payments and Dividends (Owner Distributions)
Cash Gap	Billing Lag (if available), plus Days Sales in AR, plus Days Sales in Inventory, minus AP Days Outstanding



Flexibility Ratios

Cash Gap Analysis

Operating cycle days = Days receivable + Days inventory – Days payables

Example – Pfizer, Johnson & Johnson, and Merck



Flexibility Ratios

<i>Ratio</i>	<i>Formula</i>
EBITDA	Earnings + Interest, Taxes, Depreciation, and Amortization



Use of Industry Data or Peer Group Comparisons

- Reviewing trends alone is not always adequate to fully assess company's performance.
- Additional measurements upon which company can be compared to its peers or industry group are often necessary to complete "analytical" picture.
- Analysts, therefore, use published industry/peer group benchmarks to assist in this analysis.



Use of Industry Data or Peer Group Comparisons

- Sources of Industry Information
- Benchmarking Websites



Altman Z-Score – Bankruptcy Prediction

- Bankruptcy predictive formula

Example – Amazon and Bed Bath & Beyond



Engagement Question

Dr. Ed Altman, a professor at NYU, created a Z-Score formula for predicting:

- a. The excitement level of accounting footnote presentation
- b. Statistical measure of financial success
- c. Bankruptcy
- d. Competition in the market



Engagement Question Answer

Dr. Ed Altman, a professor at NYU, created a Z-Score formula for predicting:

- a. The excitement level of accounting footnote presentation
- b. Statistical measure of financial success
- c. **Bankruptcy**
- d. Competition in the market



Case 8

Financial Statement Analysis Mattel and Hasbro



Case 8

- Liquidity – Hasbro
- Efficiency – Mattel
- Leverage – Mattel more financial risk
- Profitability – Hasbro
- Cash Flow (Flexibility) – Hasbro
- Quality of Earnings/EBITDA – Hasbro

Case Solutions

