Working with Financial Statement

Cash Flows, Ratios, and the DuPont System

I Putu Sukma Hendrawan, M.S.M, CSA

2026

Lecture Overview

1.1. Sources and Uses of Cash: The Mechanics

Cash flow is driven by changes in Balance Sheet accounts between two reporting periods.

Account Type	Increase (↑)	Decrease (↓)
Assets	Use of Cash	Source of Cash
Liabilities	Source of Cash	Use of Cash
Equity	Source of Cash	Use of Cash

Defining the Movements

- **Sources (Inflow):** Selling an asset, collecting a receivable, taking a loan, or issuing new equity.
- **Uses (Outflow):** Purchasing new equipment, growing inventory, paying off debt, or distributing dividends/buying back shares.

1.2. Statement of Cash Flows (SCF)

The SCF categorizes these sources and uses into three standardized buckets:

- **Operating Activities:** The "engine." Net Income adjusted for non-cash items (Depreciation) and Working Capital changes.
- **Investing Activities:** The "future." Buying and selling long-term assets (Property, Plant, Equipment).
- **Financing Activities:** The "capital." Transactions with lenders (Debt) and owners (Dividends/Equity).

Note: Positive Operating Cash Flow is the primary indicator of a healthy, sustainable business model.

1.3. Example: Statement of Cash Flows

Organizing cash movements into the three standardized categories.

Cash, beginning of year	**Rp84.000.000**
Operating activity	
Net income	Rp435.000.000
Plus: Depreciation	276.000.000
Increase in accounts payable	32.000.000
Less: Increase in accounts receivable	(23.000.000)
Less: Increase in inventory	(29.000.000)
Net cash from operating activity	*Rp691.000.000*
Investment activity	
Fixed asset acquisitions	(Rp425.000.000)
Net cash from investment activity	*(Rp425.000.000)*
Financing activity	
Decrease in notes payable	(Rp35.000.000)
Decrease in long-term debt	(74.000.000)
Dividends paid	(145.000.000)
Increase in common stock	50.000.000
Net cash from financing activity	*(Rp204.000.000)*
Net increase in cash	**Rp62.000.000**
Cash, end of year	**Rp146.000.000**

1.4. Example: Sources and Uses of Cash

A direct classification of cash inflow vs. outflow.

Sources of Cash	**Amount (Rp)**	**Uses of Cash**	**Amount (Rp)**
Net income	435.000.000	Increase in accounts receivable	23.000.000
Depreciation	276.000.000	Increase in inventory	29.000.000
Increase in accounts payable	32.000.000	Decrease in notes payable	35.000.000
Increase in common stock	50.000.000	Decrease in long-term debt	74.000.000
		Fixed asset acquisitions	425.000.000
		Dividends paid	145.000.000
Total Sources	**793.000.000**	**Total Uses**	**731.000.000**
Net addition to cash			**62.000.000**

1.5. Meaning of (+) and (–) Cash Flows

Activity	Positive (+) Source	Negative (–) Use
Operating	Healthy core operations.	Core business "bleeding" cash.
Investing	Divesting/Selling assets.	Growth/Reinvestment (CapEx).
Financing	Raising capital (Debt/Stock).	Returning capital (Dividends).

1.6. The Ideal Cash Flow Profile

For a mature and healthy company, the most common profile is

CFO (+), CFI (–), CFF (–)

- **CFO (+):** Generates cash from operations.
- **CFI (–):** Reinvests that cash into new growth/assets.
- **CFF (–):** Uses excess cash to pay dividends or reduce debt.

2.1. Standardizing Statements: Common-Size Analysis

Problem: How do you compare a company with Rp500 Billion in assets to one with Rp50 Trillion?
Solution: Common-size statement, a standardized financial statement that presents all items in percentage terms. Balance sheet items are shown as a percentage of assets, and income statement items as a percentage of sales.

- **Common-Size Balance Sheet:**

$$\text{Item \%} = \frac{\text{Account Balance}}{\text{Total Assets}} \times 100$$

Usage: Identifies capital structure (Debt vs. Equity) and asset allocation (is the firm "long-term asset i.e. capital intensive"?).

- **Common-Size Income Statement:**

$$\text{Item \%} = \frac{\text{Account Balance}}{\text{Total Sales}} \times 100$$

Usage: Identifies the operating efficiency. (e.g., If Net Profit Margin is falling while Sales are rising, expenses are out of control).

2.2. Standardizing Statements: Common-Based Year Analysis

Problem: Imagine we were given balance sheets for the last 10 years for some company and we were trying to investigate trends in the firm's pattern of operations. Does the firm use more or less debt? Has the firm grown more or less liquid?

Solution: A useful way of standardizing financial statements in this case is to choose a base year and then express each item relative to the base amount i.e. common-base year statement.

3.1. Financial Ratios

Another way of avoiding the problems involved in comparing companies of different sizes is to calculate and compare financial ratios. **Financial ratios** is relationships determined from a firm's financial information and used for comparison purposes.

1. **Liquidity (Short-term):**
   - Current Ratio = Current Assets / Current Liabilities
   - Quick Ratio = (Current Assets - Inventory) / Current Liabilities
2. **Solvency/Leverage (Long-term):**
   - Debt-to-Equity = Total Liabilities / Total Equity
   - Times Interest Earned = EBIT / Interest Expense
3. **Asset Management (Efficiency):**
   - Inventory Turnover = COGS / Inventory
   - DSO = (Accounts Receivable / Annual Sales) $\times 360$
4. **Profitability:** ROA and ROE.

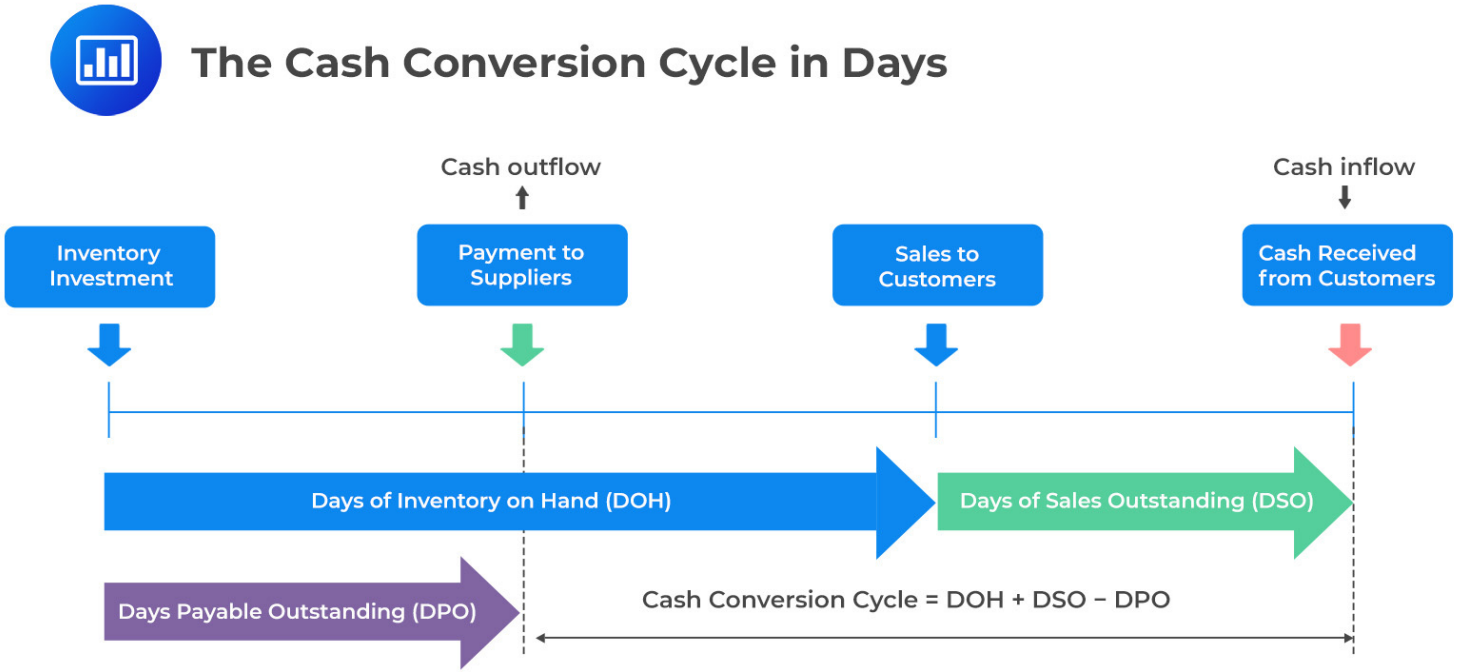
3.1. Financial Ratios

- **Liquidity (Short-term solvency):** These ratios measure the firm's ability to pay its liabilities over the short run without undue stress.
  - Current Ratio = Current Assets / Current Liabilities
  - Quick Ratio = (Current Assets - Inventory) / Current Liabilities
  - Cash Ratio = Cash / Current Liabilities
  - NWC to total assets = (Current Assets - Current Liabilities) / Total Assets
  - Interval Measure = Current Assets / Average Daily Operating Costs
- **Leverage Ratio (Long-Term Solvency):** These ratios address the firm's long-run ability to meet its obligations, or, more generally, its financial leverage.
  - Debt Ratio = Total Debt / Total Assets
  - Debt to Equity Ratio = Total Debt / Total Equity
  - Long Term Debt Ratio = Long Term Debt / (Long Term Debt + Total Equity)
  - Time Interest Earned = EBIT / Interest
  - Cash Coverage Ratio = (EBIT + Depreciation) / Interest
  - Equity Multiplier = Total Assets / Total Equity

3.1. Financial Ratios (Continued)

- **Turnover Ratio (Asset utilization):** These ratios describe how efficiently or intensively a firm uses its assets to generate sales.
  - Inventory Turnover = COGS / Inventory
  - Days' sales in inventory = 365 days / Inventory Turnover
  - Receivables Turnover = Sales / Account Receivables
  - Days' sales in Receivables = 365 days / Receivables Turnover
  - NWC Turnover = Sales / NWC
  - Fixed Assets Turnover = Sales / Net Fixed Assets
  - Total Assets Turnover = Sales / Total Assets
- **Profitability Ratios:** These ratios measure how efficiently the firm uses its assets and manages its operations to generate profit.
  - Profit Margin = Net Income / Sales
  - Return on Assets (ROA) = Net Income / Total Assets
  - Return on Equity (ROE) = Net Income / Total Equity
  - ROE = Profit Margin x Total Assets Turnover x Equity Multiplier

3.2. Cash Conversion Cycle



- DOH = 365 days / Inventory Turnover
- DSO = 365 days / Receivables Turnover
- Payables Turnover = COGS / Account Payable
- DPO = 365 days / Payables Turnover
- Cash Conversion Cycle = DOH + DSO - DPO
- Operating Cycle = DOH + DSO

4. Market Ratios as Profitability Indicators

These ratios bridge the gap between **Accounting Value** and **Market Perception**.

- **P/E Ratio:** Price per Share / Earnings per Share.

  Also called PER, a high PER suggests high growth expectations.
- **Market-to-book ratio:** Market Cap / Total Equity

  Also called price-to-book value (PBV), a high PBV suggests high growth expectations.
- **PEG Ratio:** PER / Annual EPS Growth Rate.

  A PEG of 1,0 means the stock is fairly valued relative to growth. PEG $>$ 2,0 is often seen as "expensive."
- **Tobin's Q:** Total Market Value of Firm / Total Asset Replacement Cost
  - The current market price to replace an asset with an equivalent today.
  - Historical book values often understate current replacement costs.
  - $Q > 1$ suggests high intangible value.
  - $Q < 1$ suggests asset inefficiency.

5. The DuPont System: Determinants of Profitability

The DuPont Identity decomposes Return on Equity (ROE) to find the *source* of performance.

$$ROE = \underbrace{\frac{\text{Net Income}}{\text{Sales}}}_{\text{Profit Margin}} \times \underbrace{\frac{\text{Sales}}{\text{Total Assets}}}_{\text{Asset Turnover}} \times \underbrace{\frac{\text{Total Assets}}{\text{Total Equity}}}_{\text{Equity Multiplier}}$$

The Three Levers

- **Profit Margin:** Measures operating efficiency (Cost control).
- **Asset Turnover:** Measures asset use efficiency (Volume).
- **Equity Multiplier:** Measures financial leverage (Debt usage).

6. Limitations of Financial Statement Information

Analysts must be skeptical. Financial statements have inherent flaws:

- **Historical Cost:** Assets are listed at what was paid for them, not current market value (e.g., land bought in 1990).
- **Accounting Choice:** One company uses FIFO, another uses LIFO. This distorts comparisons.
- **Window Dressing:** Firms may delay payments or speed up collections at year-end to make ratios look better temporarily.
- **Inflation:** High inflation in Indonesia (IDR) can make historical asset values and depreciation expenses misleading.
- **Non-Financial Factors:** Statements don't show human capital, brand loyalty, or environmental impact.

Summary & Next Steps

- Don't look at numbers in isolation; compare them to industry averages.
- High ROE isn't always good—check if it's driven by dangerous levels of debt (Equity Multiplier).
- Cash flow provides the "truth" that accrual accounting might hide.

Questions?