



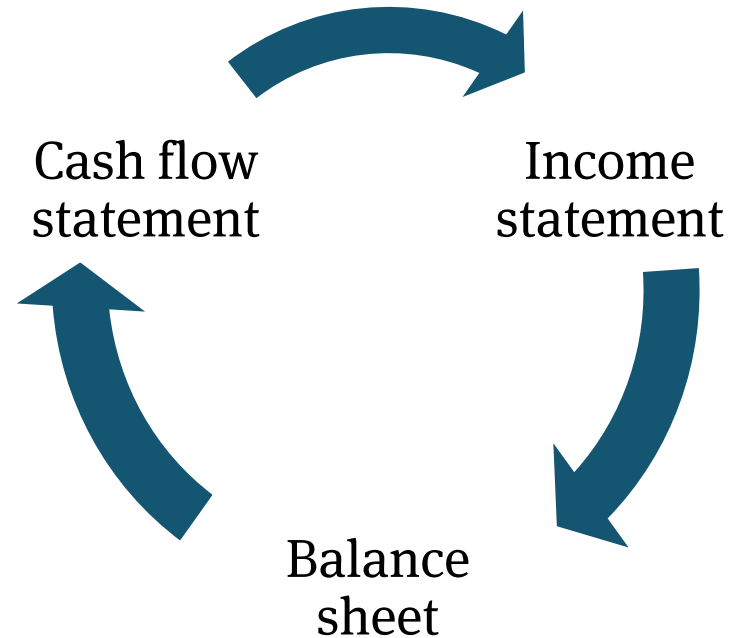
WALL STREET PREP CORE MODELING COURSE

Financial Statement Modeling

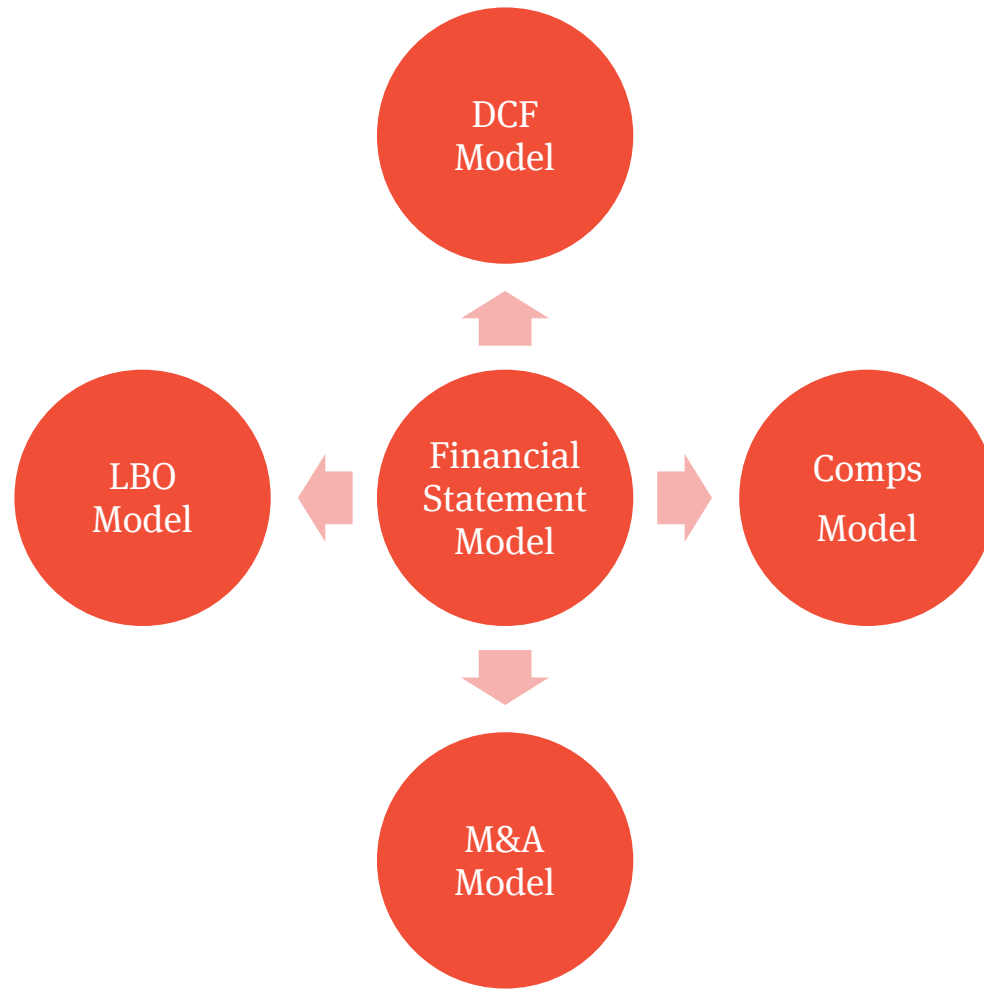
CASE STUDY: APPLE

What is a financial statement model (FSM)?

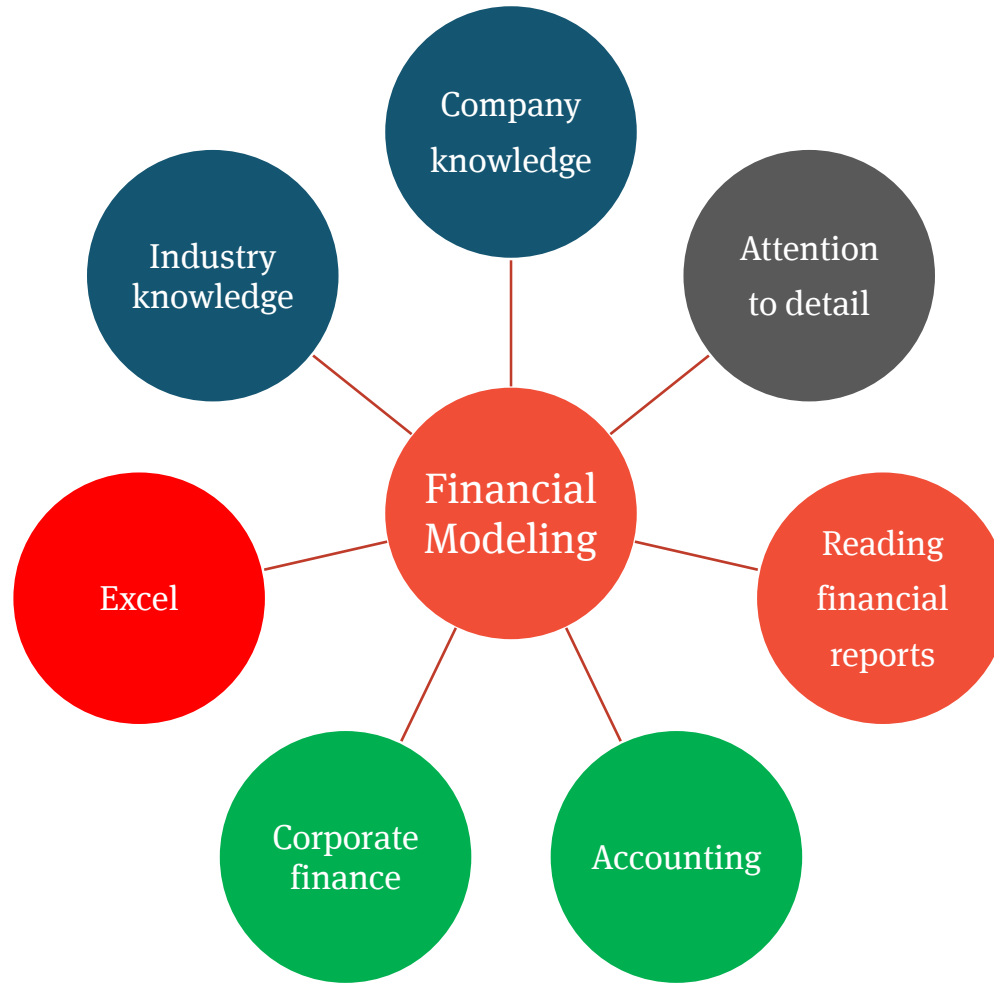
- Historical results and forecasts
 - Income statement
 - Balance sheet
 - Cash flow statement



FSM is a foundational model for common models

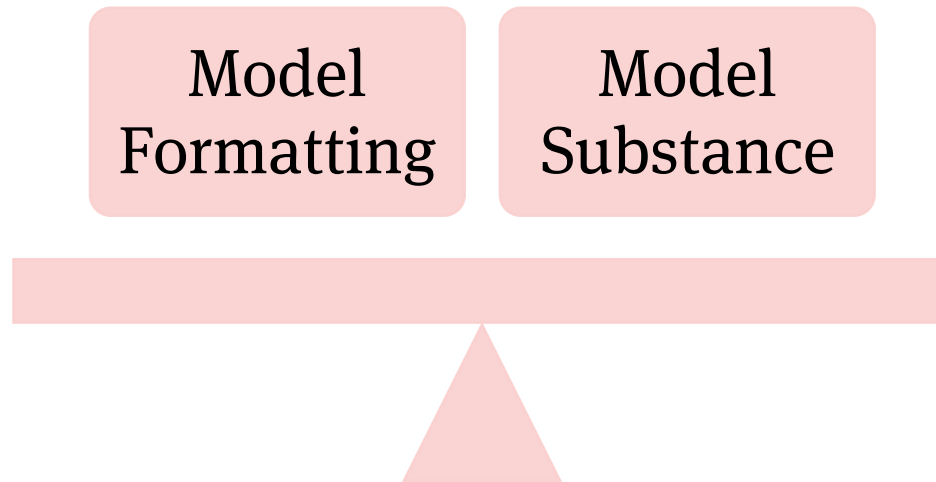


Effective modeling requires a combination of skills



Formatting

- As important as the substance of your model
- An unformatted model is difficult to understand
- Always assume the model will be sent to a client



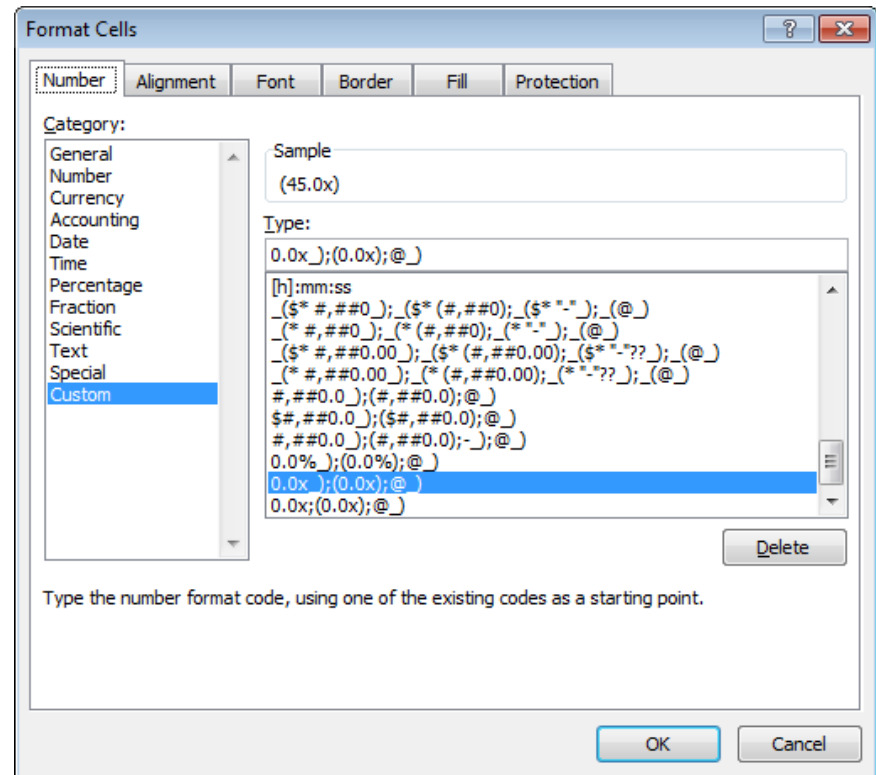
Color coding

- Maintain consistent color conventions
- Boost helps: Auto-color (ctrl alt a)

| Type of cells | Excel formula | Color |
|---|-----------------------|----------|
| Hard-coded numbers (inputs) | =1234 | Blue |
| Formulas (calculations) | =A1*A2 | Black |
| Links to other worksheets | =Sheet2!A1 | Green |
| Links to other files | =[Book2]Sheet1!\$A\$1 | Red |
| Links to data providers (i.e. CIQ, Factset) | =CIQ(IQ_TOTAL_REV) | Dark Red |

Custom formatting

- Format Cells > Number > Custom
- Multiples (i.e. 8.5x)
- Row headers (use “”)
- Switches
- Positive; Negative; Zero



Formatting

- Maintain standard formatting
 - Number formats
 - Column / row headers & spacing

The screenshot shows an Excel spreadsheet with the following data:

| | | 2004 | 2005 | 2006 |
|----|---------------------------------|---------------|---------------|---------------|
| 2 | Historical results | | | |
| 3 | Revenues | \$194.0 | \$232.0 | \$272.0 |
| 4 | Operating expenses | 24.0 | 26.4 | 29.0 |
| 5 | Operating profit | 170.0 | 205.6 | 243.0 |
| 6 | Non-operating income/(expenses) | (4.0) | 5.0 | (20.0) |
| 7 | Pretax profit | 166.0 | 210.6 | 223.0 |
| 8 | Taxes | 58.1 | 73.7 | 78.0 |
| 9 | Net Income | 107.9 | 136.9 | 144.9 |
| 10 | Shares outstanding | 50.0 | 52.0 | 55.0 |
| 11 | EPS | \$2.16 | \$2.63 | \$2.63 |

Annotations in the image:

- A box labeled "Negative numbers shown in parenthesis" points to the value (4.0) in cell C6.
- A box labeled "EPS and share price data: always carry to 2 decimals (\$25.43)" points to the values \$2.16, \$2.63, and \$2.63 in row 11.
- A box labeled "\$ sign only shown on first row of worksheet and highlighted financial results" points to the \$ sign in the first row of the data (row 3).

Negative numbers shown in parenthesis

EPS and share price data: always carry to 2 decimals (\$25.43)

\$ sign only shown on first row of worksheet and highlighted financial results

Grouping vs. hiding data

- Avoid hiding rows; Grouping is preferable (shift alt → / shift alt ←)

Microsoft Excel - Book1

| | | 2006 | 2007 | 2008 |
|---|----------|-------|-------|-------|
| 3 | | | | |
| 4 | Revenues | 194.0 | 232.0 | 272.3 |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Microsoft Excel - Book1

| | | 2006 | 2007 | 2008 |
|---|---------------|-------|-------|-------|
| 3 | | | | |
| 4 | Revenues | 194.0 | 232.0 | 272.3 |
| 5 | North America | 24.0 | 26.4 | 29.0 |
| 6 | Europe | 74.0 | 86.6 | 101.3 |
| 7 | | 84.0 | 87.0 | 90.0 |
| 8 | | 12.0 | 32.0 | 52.0 |
| 9 | | | | |


Inherited a model with hidden rows / columns?

Convert to grouped rows / columns by hitting Ctrl alt h (Boost)


Don't daisy chain (links to links...)

- More difficult to audit this and get to the end result
- Exceptions for straight lining data across forecast periods

| | | | | | | | | |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Tax Rate | 35.0% | | | | | | | |
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | | |
| Pretax Income | 100.0 | 115.0 | 130.0 | 145.0 | 160.0 | 175.0 | 190.0 | |
| Taxes | 35.0 | 40.3 | 45.5 | 50.8 | 56.0 | 61.3 | 66.5 | |
| Net Income | 65.0 | 74.8 | 84.5 | 94.3 | 104.0 | 113.8 | 123.5 | |
| Tax Rate | 35.0% | 35.0% | 35.0% | 35.0% | 35.0% | 35.0% | 35.0% | 35.0% |



| | | | | | | | | |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Tax Rate | 35.0% | | | | | | | |
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | | |
| Pretax Income | 100.0 | 115.0 | 130.0 | 145.0 | 160.0 | 175.0 | 190.0 | |
| Taxes | 35.0 | 40.3 | 45.5 | 50.8 | 56.0 | 61.3 | 66.5 | |
| Net Income | 65.0 | 74.8 | 84.5 | 94.3 | 104.0 | 113.8 | 123.5 | |
| Tax Rate | 35.0% | 35.0% | 35.0% | 35.0% | 35.0% | 35.0% | 35.0% | 35.0% |



Financial modeling conventions on Wall Street

| | | | |
|---|---|----------------|----------------|
| 1 | Cash & equivalents ST & LT market. securities | 121,251 | 146,761 |
| 2 | Accounts receivable | 10,930 | 13,102 |
| 3 | Inventory | 791 | 1,764 |
| 4 | Deferred tax assets | 2,583 | 3,453 |
| 5 | Other current assets (inc. non-trade receivables) | 14,220 | 14,421 |
| 6 | Property, plant & equipment | 15,452 | 16,597 |
| 7 | Acquired intangible assets (inc. Goodwill) | 5,359 | 5,756 |
| 8 | Other assets | 5,478 | 5,146 |
| 9 | Total assets | 176,064 | 207,000 |

Many shorter worksheets

| A | |
|----|---|
| 3 | |
| 4 | INCOME STATEMENT |
| 5 | Fiscal year |
| 6 | <i>Fiscal year end date</i> |
| 7 | Revenue |
| 8 | Cost of sales (enter as -) |
| 9 | Gross Profit |
| 10 | Research & development (enter as -) |
| 11 | Selling, general & administrative (enter as -) |
| 12 | Operating profit (EBIT) |
| 13 | Interest income |
| 14 | Interest expense (enter as -) |
| 15 | Other expense (enter as -) |
| 16 | Pretax profit |
| 17 | Taxes (enter expense as -) |
| 18 | Net income |
| 19 | |
| 20 | BALANCE SHEET |
| 21 | Cash & equivalents ST & LT market. securities |
| 22 | Accounts receivable |
| 23 | Inventory |
| 24 | Deferred tax assets |
| 25 | Other current assets (inc. non-trade receivables) |
| 26 | Property, plant & equipment |
| 27 | Acquired intangible assets (inc. Goodwill) |
| 28 | Other assets |
| 29 | Total assets |



Fewer longer
worksheets

Equity research reports

- Used widely in IB and asset management; available via Thomson, FactSet, and CIQ

RAYMOND JAMES

U.S. Research

Published by Raymond James & Associates

Apple Inc.

(AAPL:NASDAQ)

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October 29, 2013

Company Comment

Rating _____
Strong Buy 1

Communications Technology: Mobile Devices _____

Higher Deferred Revenues Obscure Strong Guide, Steady Underlying Growth

Recommendation: We are maintaining our **Strong Buy** rating on shares of AAPL following the company's fiscal 4Q13 results, which came in ahead of our expectations on the top and bottom line. December guidance was slightly weaker than we had anticipated, but this appears to be entirely the result of an accounting change whereby Apple will defer \$900 million more in revenues than typical due to its decision to bundle software for free with its products. Adjusted for this anomaly, Apple's guide would have been approximately in line with our expectations and above consensus.

- ◆ **F4Q13 results:** Apple reported revenues of \$37.5 billion, up 4.2% y/y and slightly above our \$36.9 billion estimate. EPS of \$8.26 was above our \$8.05 estimate. The company

Current and Target Price

| | |
|-----------------------------|---------------------|
| Current Price (Oct-28-13) | \$529.88 |
| Target Price: Old: \$675.00 | New: \$650.00 |
| 52-Week Range | \$603.00 - \$385.10 |
| Suitability | Growth |

Market Data

| | |
|--------------------------|--------------|
| Shares Out. (mil.) | 908.4 |
| Market Cap. (mil.) | \$481,343 |
| Avg. Daily Vol. (10 day) | 12,979,290 |
| Dividend/Yield | \$12.20/2.3% |
| Book Value (Sep-13) | \$135.92 |
| ROE % | 24% |
| LT Debt (mil.)/% Cap. | \$16,958/0% |

Gathering the appropriate documents

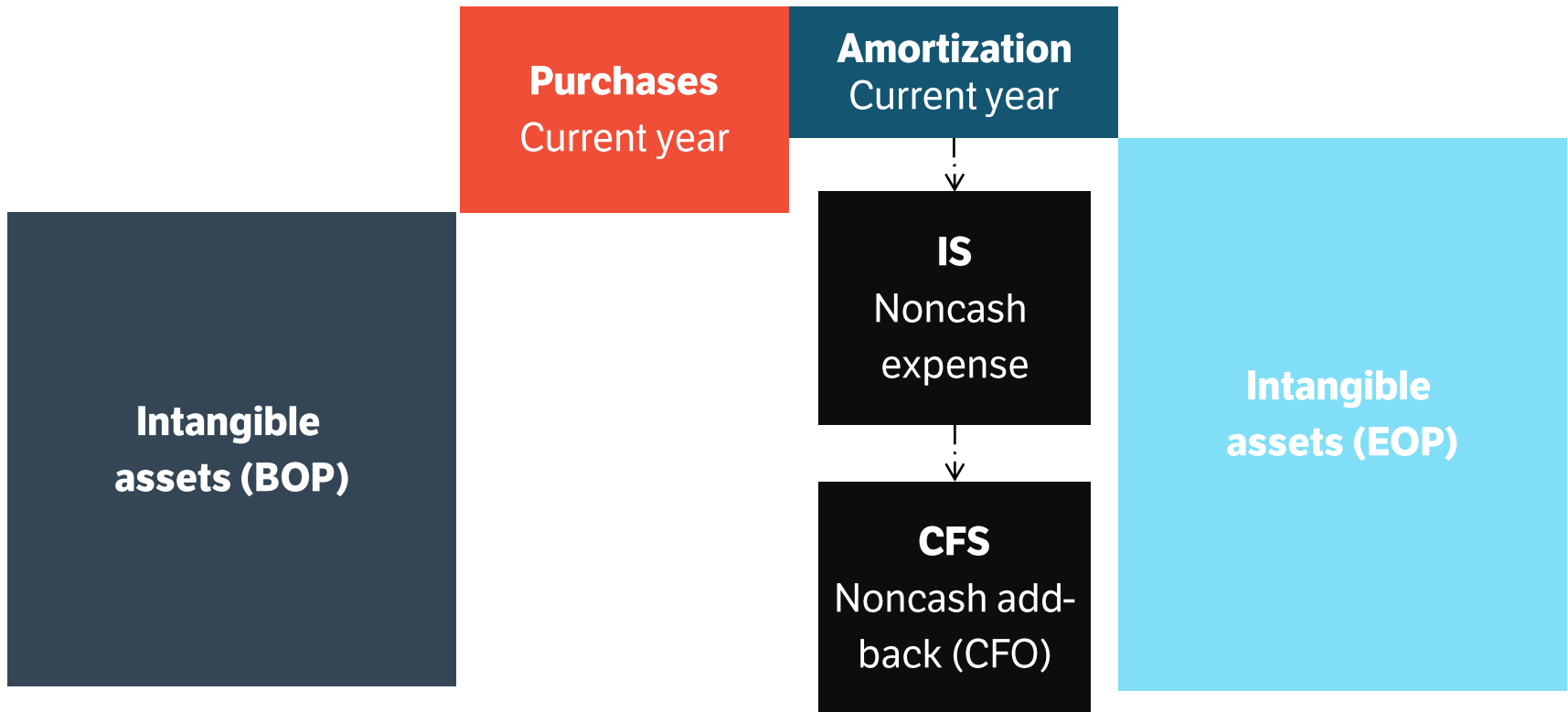
- The junior analyst gathers all the appropriate documents into a coil-bound manual (often called a 'PIB' – public information book) and gives copies to the team



Soft copy PIBs

- Use **Ctrl f** to help you quickly navigate through documents
- With PDFs use **Ctrl shift n** to go directly to the desired page number

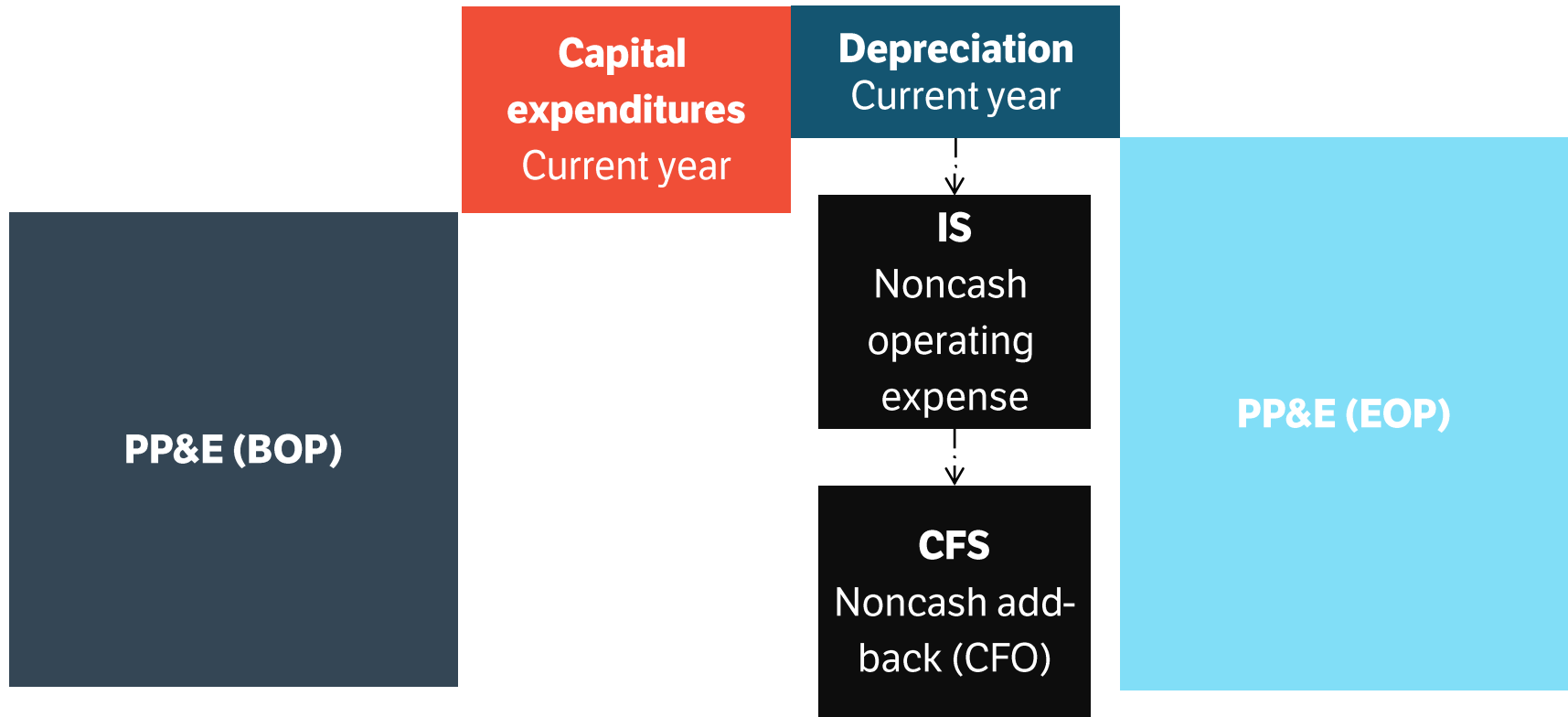
Intangible assets



Purchases of intangible assets

- The value of intangible assets can only increase via purchases, not write-ups
- Forecasting / modeling best practices
 - Assume purchases in line with historical trends (% of sales or straight-line)
 - If historical trends are lumpy, assume no new purchases

Property, plant & equipment (PP&E)



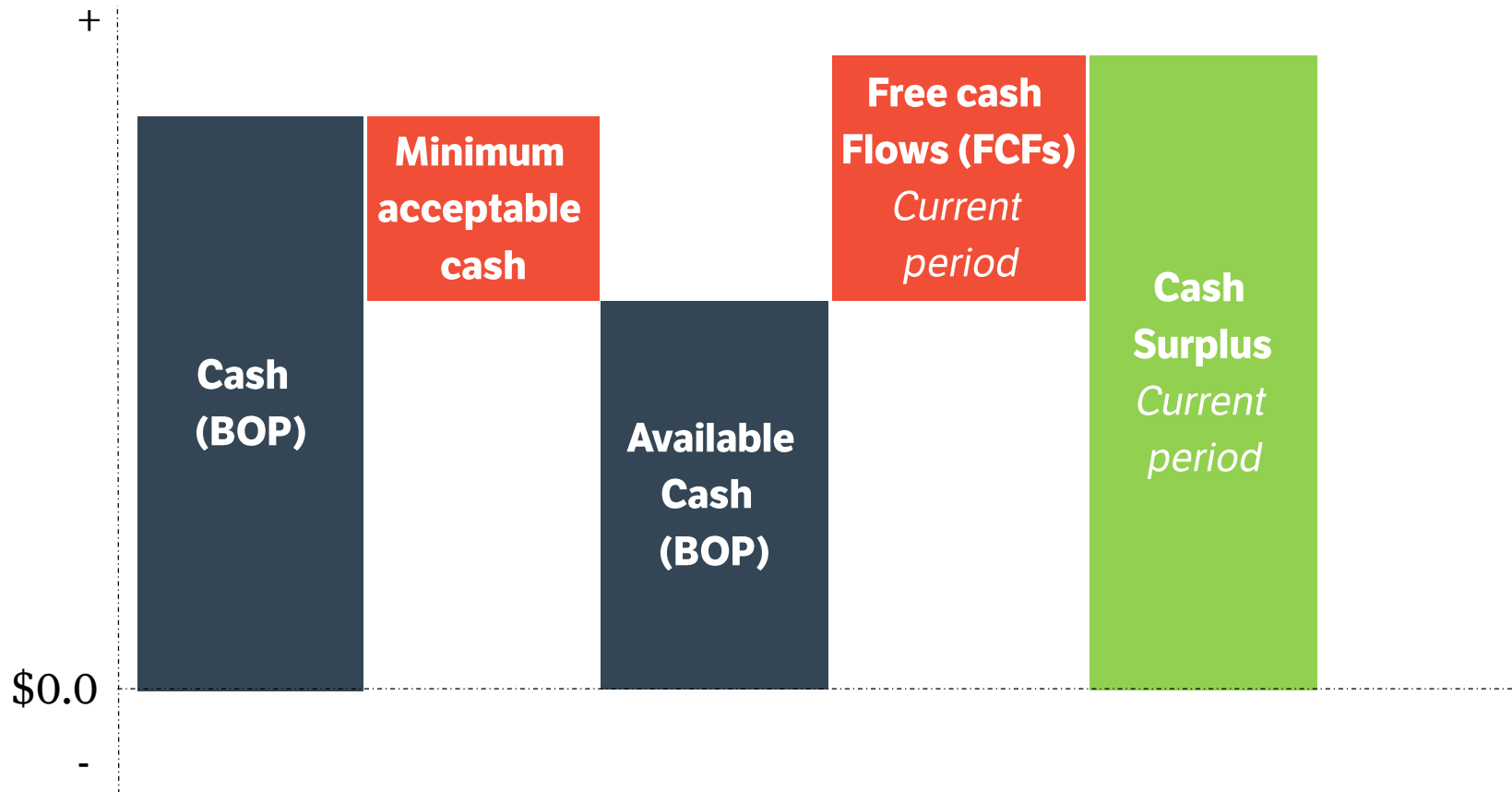
PIK interest

- Some loans enable borrowers to defer paying a portion / or all of the interest, by adding it to the principal
- Interest expense still appears on the IS
- Example: A 3 year, \$1,000 loan @ 10% PIK:

| 3 year, \$1,000 loan @ 10% PIK | | | | |
|--------------------------------|--------------|--------------|--------------|----------------|
| | Year 1 | Year 2 | Year 3 | At maturity |
| Loan (BOP) | 1,000 | 1,100 | 1,210 | |
| PIK interest | 100 | 110 | 121 | |
| Loan (EOP) | 1,100 | 1,210 | 1,331 | (1,331) |
| I/S impact (interest expense) | 100 | 110 | 121 | 0 |
| Cash impact | 0 | 0 | 0 | (1,331) |

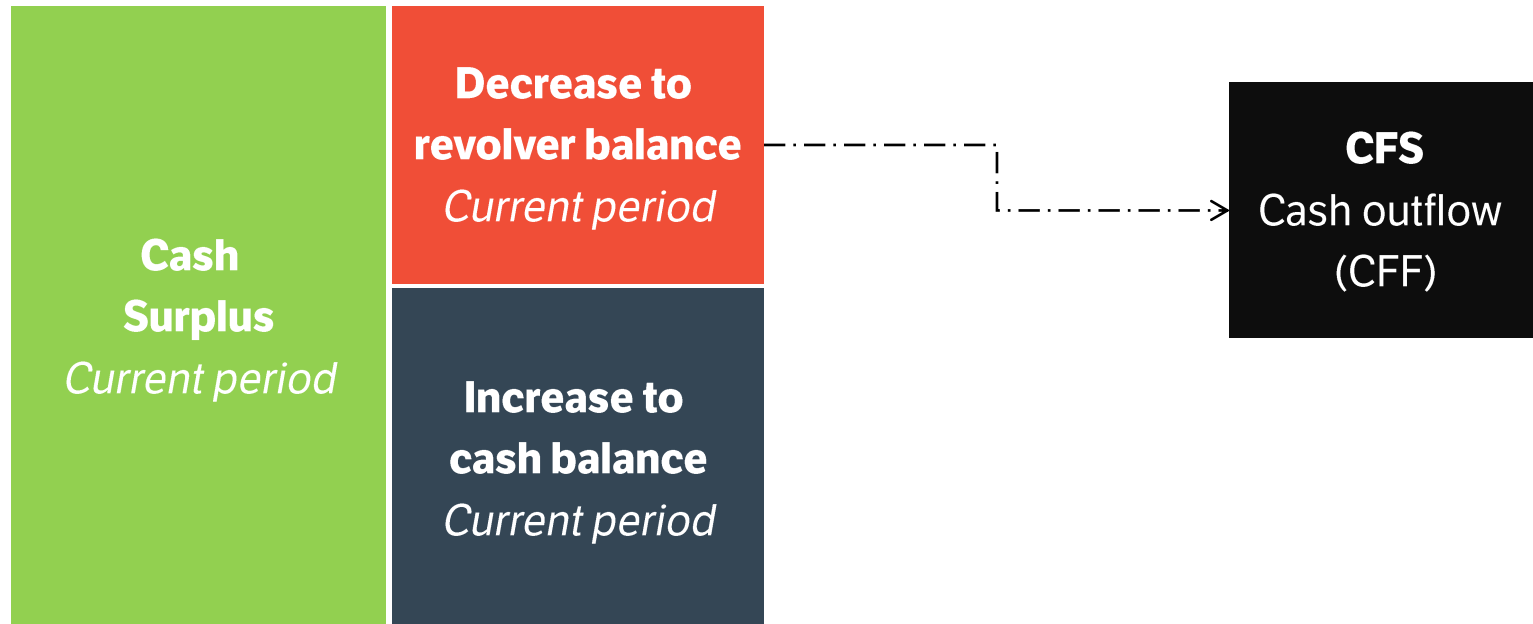
The revolving credit facility (revolver)

- When there is a surplus, revolver can be paid down...



The revolving credit facility (revolver)

- If revolver is fully paid down and there remains excess surplus, additional surplus grows the cash balance:



The revolving credit facility (revolver)

- When there is a deficit, must borrow from revolver:

