BANKING AT MICHIGAN

Accounting and the 3 Financial Statements

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Agenda

- Accounting’s Importance to IB Recruiting
- Understanding the Income Statement
- Deciphering the Balance Sheet
- Cracking the Cash Flow Statement
- Bringing it all Together
- Transposing Changes Across the 3 Statements

Why Accounting is Relevant to IB Recruiting

Categories of Accounting Questions

- Conceptual Questions
    - “What’s the difference between Accounts Receivable and Deferred Revenue?”
- Single-Step Scenarios
    - “What happens across the 3 Financial Statements when Depreciation increases by $10?”
- Multi-Step Scenarios
    - “Walk me through what happens when you buy inventory with debt, turn it into products, and sell the products.”
- Advanced Accounting (We won’t cover this today)
    - “Walk me through what happens when you acquire a 70% stake in a company and pay $70 for it.”

B A N K I N G A T **M I C H I G A N**

Key Rule 1: Understanding the Income Statement

Key Characteristics of the Income Statement

- The income statement lists the following for a **period of time**:
  - Revenue
  - Expenses
  - Taxes
  - After Tax Income
- For an item to appear on an Income Statement, it must both:
  - Correspond to the relevant time period
  - Affect the company’s taxes
- If both the conditions aren’t met for an item, it doesn’t go on the Income Statement

Key Sections of the Income Statement

- Revenue and Cost of Goods Sold (COGS)
  - Revenue: value of goods sold by the company in the specified time period
  - COGS represents costs attributable to specific units of goods sold
- Operating Expenses
  - Expenses not directly linked to an individual product (Salaries, R&D, Depreciation and Amortization)
- Other Income and Expenses
  - Anything not related to the company's core operations goes here
- Taxes and Net Income
  - Net Income is the "Bottom Line" and equal to Revenues - Expenses - Taxes

Notes about Income Statement Line Items

- Expenses and Revenue do not need to be related to operational activities
  - Gains on sale, Depreciation, and Interest are all on the Income Statement
- Revenues and Expenses do not need to be cash
  - Non-cash revenue and non-cash expenses, like Depreciation, are also on the Income Statement
- Items may not be explicit and may be embedded in other items
  - Ex. Depreciation baked into COGS

Most Useful Income Statement Line Items

- EBIT: Earnings Before Interest and Tax
  - Also referred to as Operating Income
  - Removes cash flows from operations outside the core business (gains on sale, lawsuit payments, etc.)
- EBITDA: Earnings Before Interest and Tax + Depreciation and Amortization
  - Intended to give a more accurate representation of cash flow for the company
  - Removes Capital Structure payments from consideration
- Gross Margin
  - Gross Margin (Revenue - COGS) / Revenue
  - Indicates the percentage of revenue that exceeds the cost of goods sold

Income Statement Example

Income Statement	Year 1	Year 2
Revenue:	$ 1,300	$ 1,500
Cost of Goods Sold (COGS):	100	150
Gross Profit:	**1,200**	**1,350**
Operating Expenses:	200	250
Depreciation:	20	25
Stock-Based Compensation:	10	15
Amortization of Intangibles:	15	20
Operating Income:	**955**	**1,040**
Interest Income:	5	6
(Interest Expense):	(3)	(4)
Gain / (Loss) on Sale of PP&E:	1	-
Other Income / (Expense):	2	3
Pre-Tax Income:	**960**	**1,045**
Income Tax Provision:	384	418
Net Income:	**$ 576**	**$ 627**

Key Rule 2: Deciphering the Balance Sheet

Key Characteristics of the Balance Sheet

- Displays a company’s Assets, Liabilities and Equity
- Assets must always be equal to Liabilities plus Equity, as Assets are purchased through the other two
- Assets will, directly or indirectly, result in more future cash
  - Split into Current (under 1 year) and Long-Term (over 1 year)
- Liabilities will, directly or indirectly, result in less future cash
  - Related to external parties (borrowed money, payments owed to suppliers)
  - Split into Current (under 1 year and Long-Term (over 1 year)
- Equity items, like liabilities, used to fund a company
  - Refer to the company’s internal operations
- Shows how well a company can cover its expenses (Current Ratio)

Balance Sheet Example

Balance Sheet	Year 1	Year 2
Assets:		
Current Assets:		
Cash & Cash-Equivalents:	$ 722	$ 1,391
Short-Term Investments:	99	95
Accounts Receivable:	95	97
Prepaid Expenses:	102	99
Inventory:	103	101
Total Current Assets:	**1,121**	**1,783**
Long-Term Assets:		
Plants, Property & Equipment (PP&E):	986	974
Other Intangible Assets:	185	165
Long-Term Investments:	103	106
Goodwill:	100	100
Total Long-Term Assets:	**1,374**	**1,345**
Total Assets:	**$ 2,495**	**$ 3,128**

Liabilities & Equity:		
Current Liabilities:		
Revolver (Short-Term Debt):	$ 101	$ 102
Accounts Payable:	204	199
Accrued Expenses:	201	198
Total Current Liabilities:	**506**	**499**
Long-Term Liabilities:		
Deferred Revenue:	209	214
Deferred Tax Liability:	200	200
Long-Term Debt:	103	106
Total Long-Term Liabilities:	**512**	**520**
Total Liabilities:	**$ 1,018**	**$ 1,019**
Shareholders' Equity:		
Common Stock & APIC:	616	637
Treasury Stock:	(105)	(110)
Retained Earnings:	866	1,482
Accumulated Other Compr. Income:	100	100
Total Shareholders' Equity:	**1,477**	**2,109**
Total Liabilities & Equity:	**$ 2,495**	**$ 3,128**

Key Rule 3: Cracking Cash Flow Statement

Overview of the Cash Flow Statement

- Like the Income Statement, the Cash Flow Statement shows change over a period of time
- The Cash Flow Statement exists to adjust for two main types of cash movements:
  - Non-cash Revenue or Expenses that are on the Income Statement
  - Adjusting for additional cash inflows and outflows that did not appear on the Income Statement
- Key Sections of the Cash Flow Statement:
  - Cash Flow from Operations (CFO)
  - Cash Flow from Investing (CFI)
  - Cash Flow from Financing (CFF)
- Net Working Capital: Current Assets - Current Liabilities
  - Operating Working Capital (often used in models): (Current Assets – Cash & Cash Equivalents) – (Current Liabilities – Debt)

Cash Flow Statement Example

Cash Flow Statement	Year 1	Year 2
Operating Activities:		
Net Income:	**$ 576**	**$ 627**
Non-Cash Expenses & Other Adjustments:		
Depreciation:	20	25
Stock-Based Compensation:	10	15
Amortization of Intangibles:	15	20
(Gain) / Loss on Sale of PP&E:	(1)	-
Changes in Operating Assets & Liabilities:		
Accounts Receivable:	5	(2)
Prepaid Expenses:	(2)	3
Inventory:	(3)	2
Accounts Payable:	4	(5)
Accrued Expenses:	1	(3)
Deferred Revenue:	9	5
Cash Flow from Operations:	**634**	**687**
Investing Activities:		
Purchase Short-Term Investments:	(2)	(1)
Sell Short-Term Investments:	3	5
Purchase Long-Term Investments:	(4)	(5)
Sell Long-Term Investments:	1	2
Capital Expenditures:	(10)	(15)
PP&E Sale Proceeds:	5	2
Cash Flow from Investing:	**(7)**	**(12)**
Financing Activities:		
Dividends Issued:	(10)	(11)
Issue Long-Term Debt:	4	5
Repay Long-Term Debt:	(1)	(2)
Issue Short-Term Debt:	2	3
Repay Short-Term Debt:	(1)	(2)
Repurchase Shares:	(5)	(5)
Issue New Shares:	6	6
Cash Flow from Financing:	**(5)**	**(6)**
Beginning Cash:	**$ 100**	**$ 722**
Increase / Decrease in Cash:	**$ 622**	**$ 669**
Cash & Cash Equivalents:	**$ 722**	**$ 1,391**

Key Rule 4: Bringing it all Together

Linking the 3 Financial Statements

1. Start with Net Income (the “Bottom Line” of the Income Statement), this will become the top line of the Cash Flow Statement
2. Add back non-cash expenses from the Income Statement
3. Adjust for changes in the Operational Balance Sheet
   - If Assets increase, cash flow drops. If Liabilities increase, cash flow increases
4. Adjust for purchase/sale of Investments/PP&E in CFI
5. Adjust for Dividends, Debt Activities, and Share issuance/purchase in CFF
6. Calculate Net Change in Cash at the bottom of the Cash Flow Statement
   - This links to next period’s Balance Sheet “Cash” line item
7. Use the information from the Cash Flow Statement to update the Balance Sheet

Key Rules when Linking the Financial Statements

- Reflect Each item on the Balance Sheet only once on the Cash Flow Statement, and vice versa
- As Assets increase, cash decreases. As Liabilities increase, cash increases
- The Balance Sheet ALWAYS has to balance, if it doesn't, you've made a mistake somewhere

Key Rule 5: Transposing Changes Across the 3 Statements

Types of ‘Change’ Questions and How to Approach Them

- Change to True Cash Item on Income Statement
  - Adjust the line item
  - Change Pre-Tax Income, Net Income, Cash and Retained Earnings.
  - Changes Cash and Retained Earnings on Balance Sheet
- Change to Non-Cash/Reclassified Item on Income Statement
  - Pre-tax Income and Net Income Change, but add the change back on the Cash Flow Statement.
  - Need to adjust something on Balance Sheet
    - Example: Depreciation (PP&E)
- Change to Operational Balance Sheet Item
  - Identify if changes will affect the Income Statement, and how changes differ if you increase/decrease item
- Change to Non-operational Balance Sheet Item or Cash Flow Item
  - No change to Income Statement.
  - Cash and corresponding Balance Sheet Item change

BANKING AT MICHIGAN: Investment Banking

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