Elphinstone Research Group

Introduction to Accounting

Overview of Today's Session

1. Introduce the 3 Financial Statements

2. Learn how they link together and what information we are trying to find as analysts

3. Go through the major calculations and ratios we will need as analysts

A quick example

Company A		Company B
$10m	Revenue	$10m
$1m	Net Income	$1m
$1.2m	Operating Cash Flow	-$0.5m

Operating cash flow = cash generated by a company's core business operations

A quick example

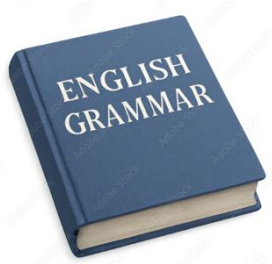
Company A		Company B
$10m	Revenue	$10m
$1m	Net Income	$1m
+$0.3m	+Depreciation	+$0.3m
-$0.1m	-Inventory	-$1.8m
$1.2m	**Operating Cash Flow**	**-$0.5m**

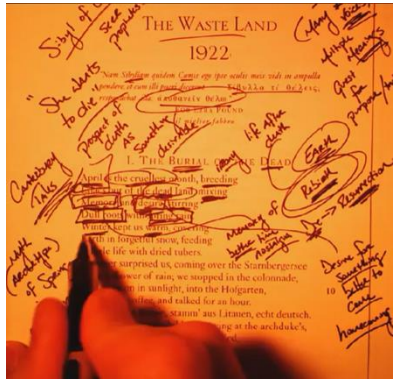
What is Accounting?

Accounting is the 'language' of finance

'Accounting is the process of i*dentifying*, *measuring* and *communicating* economic information to permit informed judgements and decisions by users of the information.'

(American Accounting Association, A Statement of Basic Accounting Theory, Evanston, IL: American Accounting Association, 1966, p. 1)





Why do we need accounting?

Management	To make informed capital allocation decisions
Shareholders	To be able to holder management to account for their decisions
Prospective Shareholders	To be able to make an informed decision on whether to invest in the company or not
Prospective Lenders	To assess the financial health of the business to inform the lending rate and whether to lend
Consultants	To be able to offer advice informed by the financial realities of the business

Finding Financial Information

Companies House — GOV.UK

U.S. Securities and Exchange Commission — EDGAR sec.gov

SEDAR+ — SEDAR+ www.osc.ca

Or go to Investor Relations page…

e.g. https://ir.tesla.com/#quarterly-disclosure

Or use…

S&P Capital IQ

The 3 Financial Statements

Income Statement	Balance Sheet	Cash Flow Statement
Profitability	**Financial Position**	**Cash Allocation**
Between two periods e.g., 31/12/2024—31/12/2025	At a given time e.g., on the 31/12/2025	Between two periods e.g., 31/12/2024—31/12/2025
Revenue – expenses = Net Income	Assets = Liabilities + Equity, Assets – Liabilities = Equity	Operating Cash - Financing Cash + Investing Cash = Change in Cash

The Income Statement

The Matching Principle

"The matching principle requires that revenues and any related expenses be recognized together in the same reporting period."

See: Financial Accounting Standards Board. Concepts Statement No. 8: Conceptual Framework for Financial Reporting. FASB, 2023

Income Statement

The 'Line Items'

($)	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**

Revenue: a.k.a. Sales

Gross Profit = Revenue – COGS

Operating Profit = Gross Profit – Operating Expenses – D&A

Pre-tax Income a.k.a. Earnings before Tax (EBT) = Operating Profit – Interest Expenses [+Interest Income]

Net Income = EBT - Tax

The Income Statement – The Line Items

Cost of Sales (COGS/ Cost of Revenue) are expenses **directly attributable to producing or delivering** the goods/services that generated the period's revenue.

Examples include: raw materials, direct labour, manufacturing overhead, freight-in

Operating Expenses (OpEx) are costs incurred to **run the business and generate sales**, but not directly tied to producing each unit sold. – Sits below **GP** and drives **OP** (EBIT)

Typical includes the buckets: SG&A and R&D

Non-operating Expenses are costs that are **not part of core business operations**, often related to **financing or one-off/other activities**.

Examples include: interest expenses, FX gain/loss, one-time items

The Income Statement - Margins

$$\text{Gross Margin} = \frac{\text{Revenue} - \text{COGS}}{\text{Revenue}}$$

Use case

- Look at trend between years:
  Expanding → evidence of moat (pricing power), or scale benefits
- Compressing → competition, pressure on costs of product (input)

$$\text{EBIT Margin} = \frac{\text{EBIT}}{\text{Revenue}}$$

Use case

- Understand the Operating Leverage
- (Ignores capital structure)
- Comparing Op Lev. With industry average

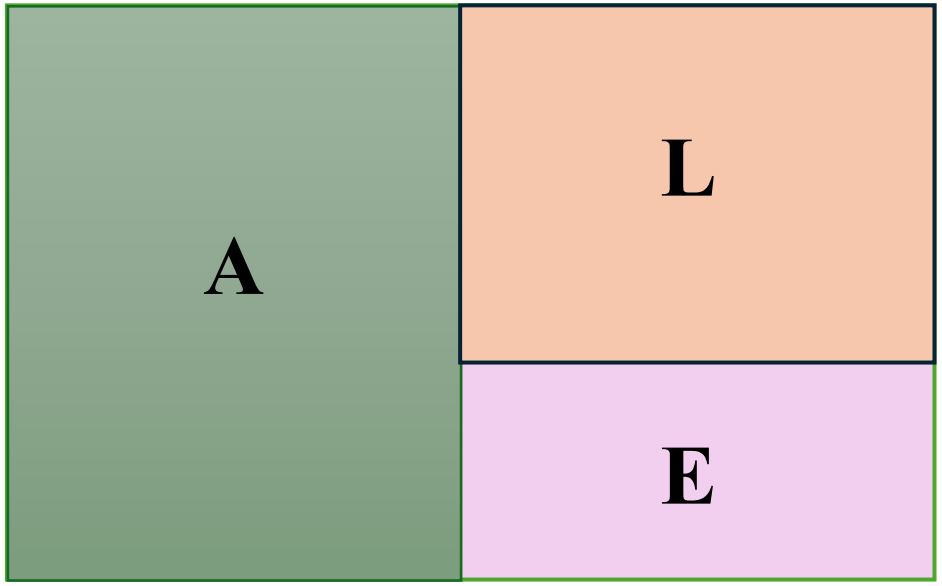
$$\text{Pre-Tax Margin} = \frac{\text{EBT}}{\text{Revenue}}$$

Use case

- Understand the impact of debt financing
- Comparing companies with different tax regimes


The Balance Sheet

The Balance Sheet as a Financing Map



$$A = L + E$$

Balance Sheet – why does it balance?

Assets = Uses of Capital
Cash (optionality)
Working capital (operational intensity)
PP&E (capital intensity)
Intangibles & goodwill (acquisition history)

Liab's & Equity = Sources of Capital
Operating liabilities (supplier financing)
Debt (leverage & risk)
Equity (permanent capital)

Earnings answer, *'Did we create value?'*
Cash answers *'Did we get paid?'*
Cash can either be used to pay interest (debtholders), pay out (voluntary payments to equity holders), or reinvested (the value in this case does not disappear but is recorded in B/S)

1. Every asset must be financed

2. There are two sources of capital: <u>debt</u> and <u>equity</u>

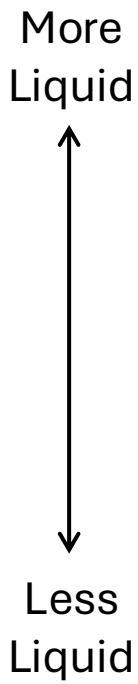
Capital (equity)	Liabilities (debt)
The residual interest in the assets of the entity after deducting all its liabilities, representing the owners' investment in the entity	present obligation of the entity to transfer economic resources as a result of past events → split between non-current and current

How to Read the Balance Sheet

Assets (current & long-term) = Liabilities (current & long-term) + Equity.

	2020A	2021A	2022A
ASSETS			
Cash	16.4	21.1	0.3
Accounts Receivable	27.0	27.8	28.3
Inventory	36.5	36.1	35.1
Prepaid Expenses	14.6	14.4	14.9
Other	1.4	1.8	1.2
Total Current Assets	95.9	101.2	79.8
Net PP&E	398.5	398.0	397.7
Other	19.0	15.0	12.0
Total Long Term Assets	417.5	413.0	409.7
Total Assets	**$513.4**	**$514.2**	**$489.5**

	2020A	2021A	2022A
LIABILITIES AND EQUITY			
Bank Debt - Revolver	0.0	0.0	0.0
Accounts Payable	18.3	18.7	18.2
Other	4.7	4.9	4.8
Total Current Liabilities	23.0	23.6	23.0
Deferred Income Taxes	0.7	6.9	8.0
Senior Secured Term Debt	250.0	225.0	200.0
Total Long Term Liabilities	250.7	231.9	208.0
Total Liabilities	**273.7**	**255.5**	**231.0**
Common Shares	120.0	120.0	120.0
Retained Earnings	119.7	138.7	138.5
Shareholder's Equity	**239.7**	**258.7**	**258.5**
Total Liabilities and Equity	**$513.4**	**$514.2**	**$489.5**



Balance Sheet Analysis: Liquidity (ST Risk)

A liquidity ratio is a type of financial ratio used to determine a company's ability to pay its short-term debt obligations.

	Liquidity / ST Risk
Failure mode →	Can't pay bills
Driven by →	Cash timing
Key balance-sheet focus →	Working capital, cash

Current Ratio = Cur. Ass. / Cur. Liab.

Quick Ratio = (Cash + A/R + Marketable Securities) / Cur. Liab

Cash Ratio = (Cash + Marketable Securities) / Current Liabilities

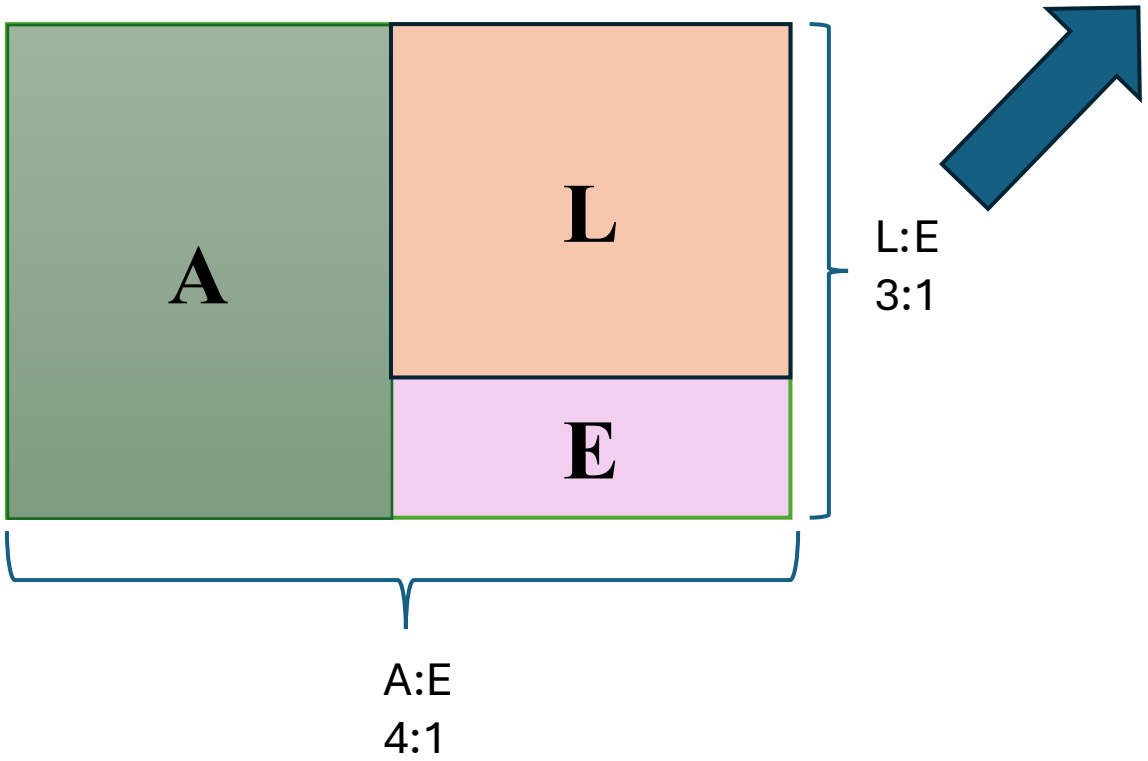
OCF Ratio = Operating Cash Flow/ Current Liabilities

Balance Sheet Analysis: Solvency (LT Risk)

Solvency / LT Risk	
Net debt → scale of risk	Net Debt = Total Debt – Cash & Equivalents
Net debt / EBITDA → serviceability	Debt Service Capacity = Net Debt/ EBITDA
Interest coverage → survivability	**Interest Coverage** = EBIT/ Interest Expense
Assets / Equity → downside protection	Total B/S Leverage = Assets/Equity

The Balance Sheet - Leverage

Removing non-interest bearing Liab. To get to Total Debt



Common Financial Leverage Ratios

1. **Debt-to-Equity Ratio (D/E)**: This ratio compares a company's total debt to its total equity, providing insight into the balance between debt and equity financing. It is calculated as:

$$\text{Debt-to-Equity Ratio} = \frac{\text{Total Debt}}{\text{Total Equity}}$$

2. **Debt-to-Capital Ratio**: This ratio measures the proportion of debt in a company's capital structure, calculated as:

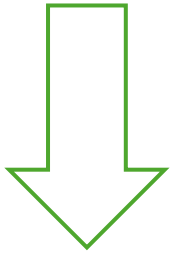
$$\text{Debt-to-Capital Ratio} = \frac{\text{Total Debt}}{\text{Total Debt} + \text{Total Equity}}$$

3. **Interest Coverage Ratio**: This ratio assesses a company's ability to pay interest on its outstanding debt, calculated as:

$$\text{Interest Coverage Ratio} = \frac{\text{Operating Income}}{\text{Interest Expenses}}$$

Linking the I/S and B/S Together – Uses of Retained Earnings

I/S
Revenue



Profit

What can be done with profit?

Withdraw (dividends)
Don't Withdraw (R.E.)

Uses of Retained Earnings

- Pay down debt
- Retain (keep as cash on B/S
- Fund acquisitions
- Reinvest in the business

Illustrative examples

Going-concern (maintenance) – PP&E replaced – B/S preserved
Efficiency reinvestment – Improving capital efficiency – PP&E/Int. ↑
Organic growth reinvestment – PP&E ↑ to improve top-line
Business model extension – R&D ↑ & PP&E ↑ -- develop new products

What can you do with profit?

The Cash Flow Statement

Cash Flow Statement - Conceptually

The Cash Flow Statement reconciles profit to cash and explains changes in the balance sheet.

Cash fundamentally can only be doing three things:

- Being made (input into the business) from the business's operations
- Being used (invested) into the business e.g. buying new equipment
- Being raised to finance the business (debt and equity issuance)

Cash Flow Statement – The Indirect Method

Step 1: Start with Net Income from I/S

Step 2: + back Depreciation

Step 3: Adjust for Working Capital Changes

- More receivables → more cash not collected
- More payables → more cash conserved

Step 4: work out Cash Flow from Operations

~~~

Step 5: work out Investing Cash Flow

– Capex

~~~

Step 6: work out Financing Cash Flow

- Either withdrawals (dividends paid)
- And/or debt/equity raised

Step 7: Find Net Change in Cash

Net Change = CFO + CFI + CFF

Cash Flow Statement

Blu Containers Company
Cash Flow Statement

($ Millions)

	2020A	2021A	2022A	2023
Operating Activities				
Net Income	14.1	23.7	2.2	29.7
Depreciation & Amortization	15.4	15.5	15.8	16.2
Deferred Income Taxes	2.7	6.2	1.1	1.8
Changes in working capital	0.0	0.0	0.0	(2.1)
Operating Cash Flow	**32.2**	**45.4**	**19.1**	**45.6**
Investing Activities				
CAPEX	(14.1)	(15.0)	(15.5)	(16.0)
Other	(5.0)	4.0	3.0	0.0
Investing Cash Flow	**(19.1)**	**(11.0)**	**(12.5)**	**(16.0)**
Financing Activities				
Revolver Issuance / (Repayment)	0.0	0.0	0.0	1.1
Term Debt Issuance / (Repayment)	(25.0)	(25.0)	(25.0)	(25.0)
Common Shares Issuance/ (Buy-Back)	0.0	0.0	0.0	0.0
Common Dividends	(2.8)	(4.7)	(2.4)	(5.9)
Financing Cash Flow	**(27.8)**	**(29.7)**	**(27.4)**	**(29.9)**
Change in the Cash Position	(14.7)	4.7	(20.8)	(0.3)
Beginning Cash	31.1	16.4	21.1	0.3
Ending Cash	16.4	21.1	0.3	0.0