[¶ 6.1]



How do analysts use ratios to understand financial statements?

What can accounting scandals teach us?

What are the warning signs of hidden truth?

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[¶ 6.2]

The Ratio Families

Profitability	Liquidity
Efficiency	**Leverage**

Ratios compare statement items to reveal performance and risk. A ratio alone means little; context and comparison over time are everything.



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[¶ 6.3]

Gross Margin

$$\frac{\text{Gross Profit}}{\text{Revenue}}$$

Net Margin

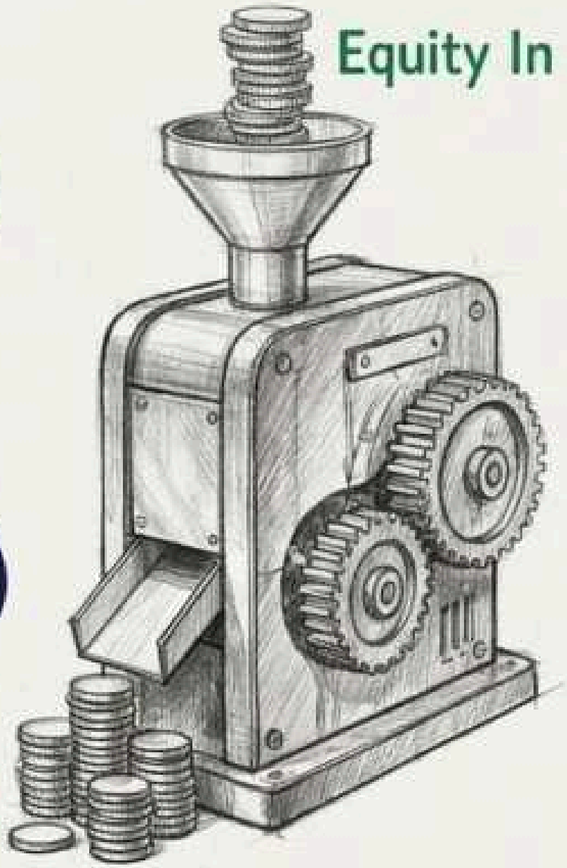
$$\frac{\text{Net Income}}{\text{Revenue}}$$

Bicycle shop's first-year net margin: 10% ($2,000 / $20,000).

Return on Equity (ROE)

$$\frac{\text{Net Income}}{\text{Equity}}$$

The shop's engine: 18% return.



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[¶ 6.4]

Liquidity (Short-term survival)

Current Ratio $\frac{\text{Current Assets}}{\text{Current Liabilities}}$

⚠ Caution: Below 1

Quick Ratio $\frac{(\text{Current Assets} - \text{Inventory})}{\text{Current Liabilities}}$



Excluded: Hard to sell quickly.

Efficiency (Moving stock)

Inventory Turnover

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[¶ 6.5]

Debt-to-Equity

$$\frac{\text{Liabilities}}{\text{Equity}}$$

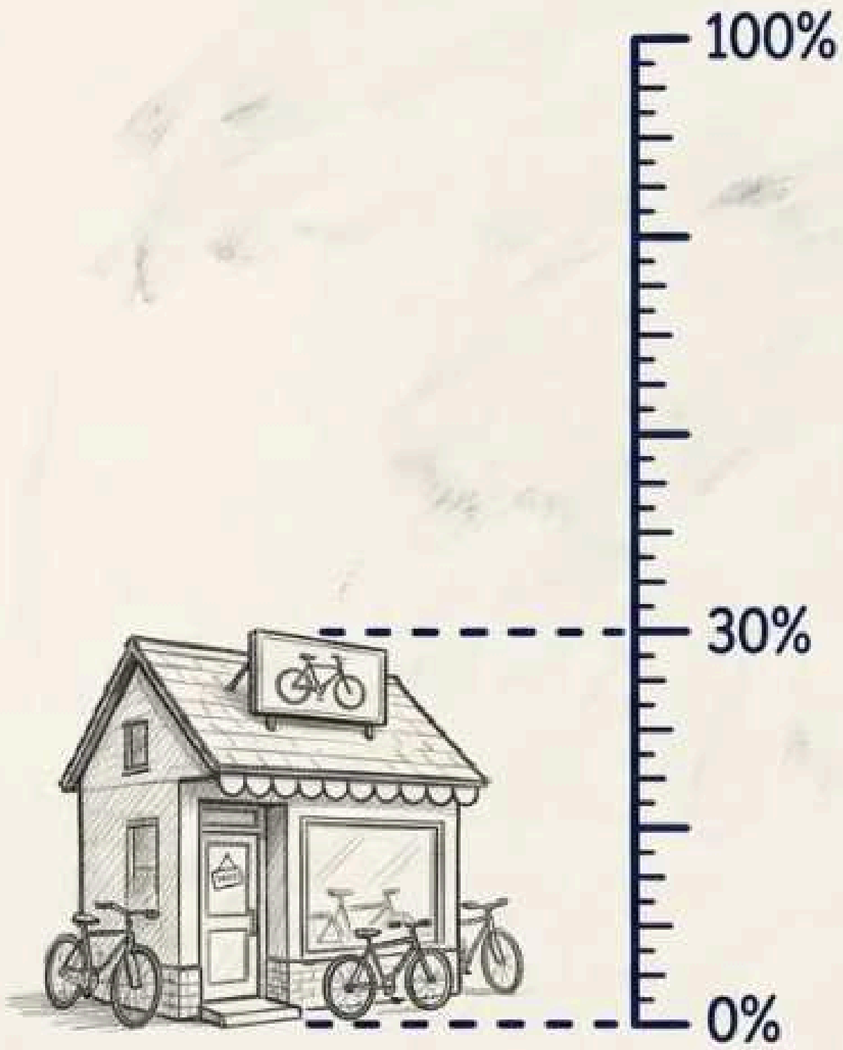
Interest Coverage

$$\frac{\text{Operating Profit}}{\text{Interest}}$$

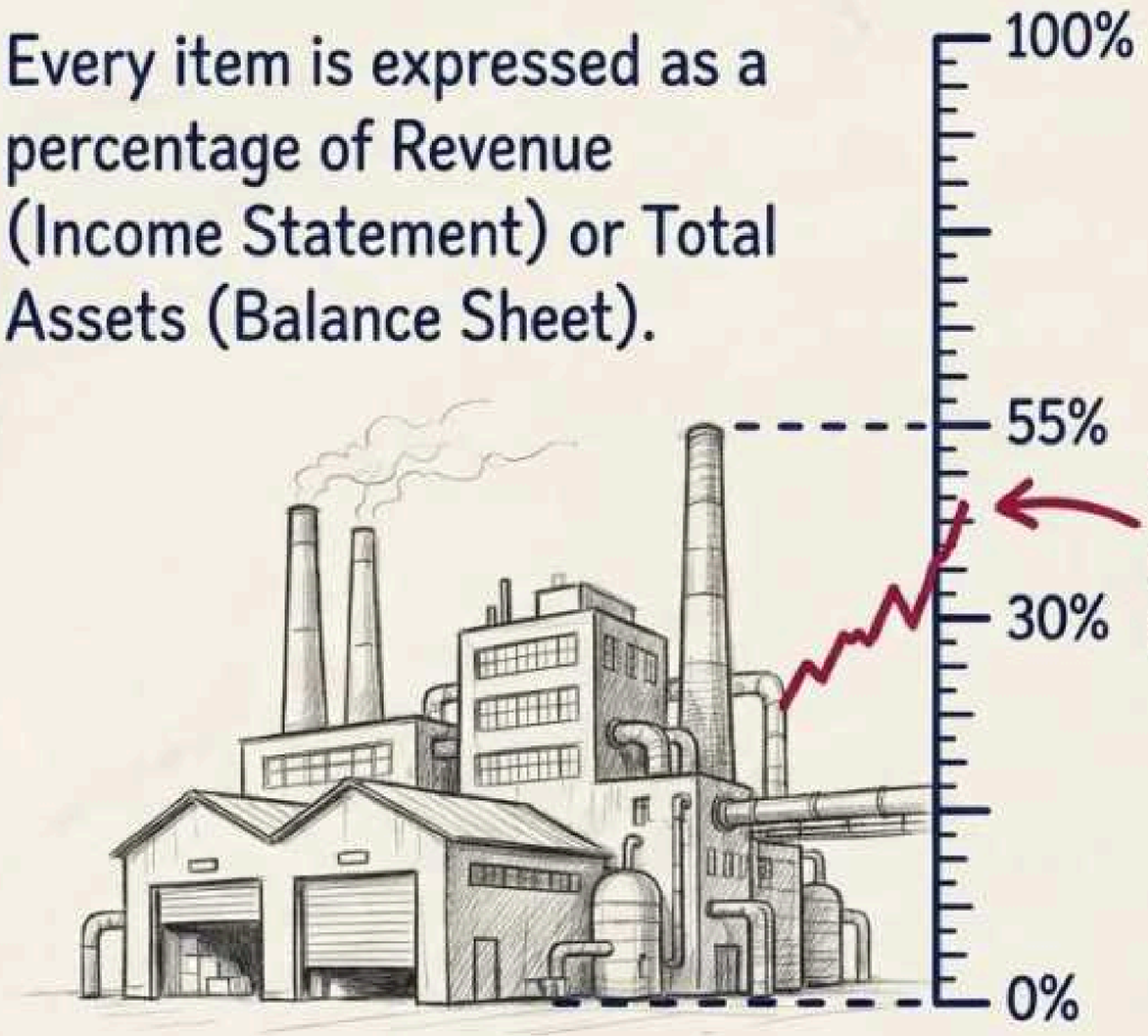


Common-size Statements: Normalizing Scale

[¶ 6.6]



Every item is expressed as a percentage of Revenue (Income Statement) or Total Assets (Balance Sheet).



Spotting trends: rising costs as a share of sales.

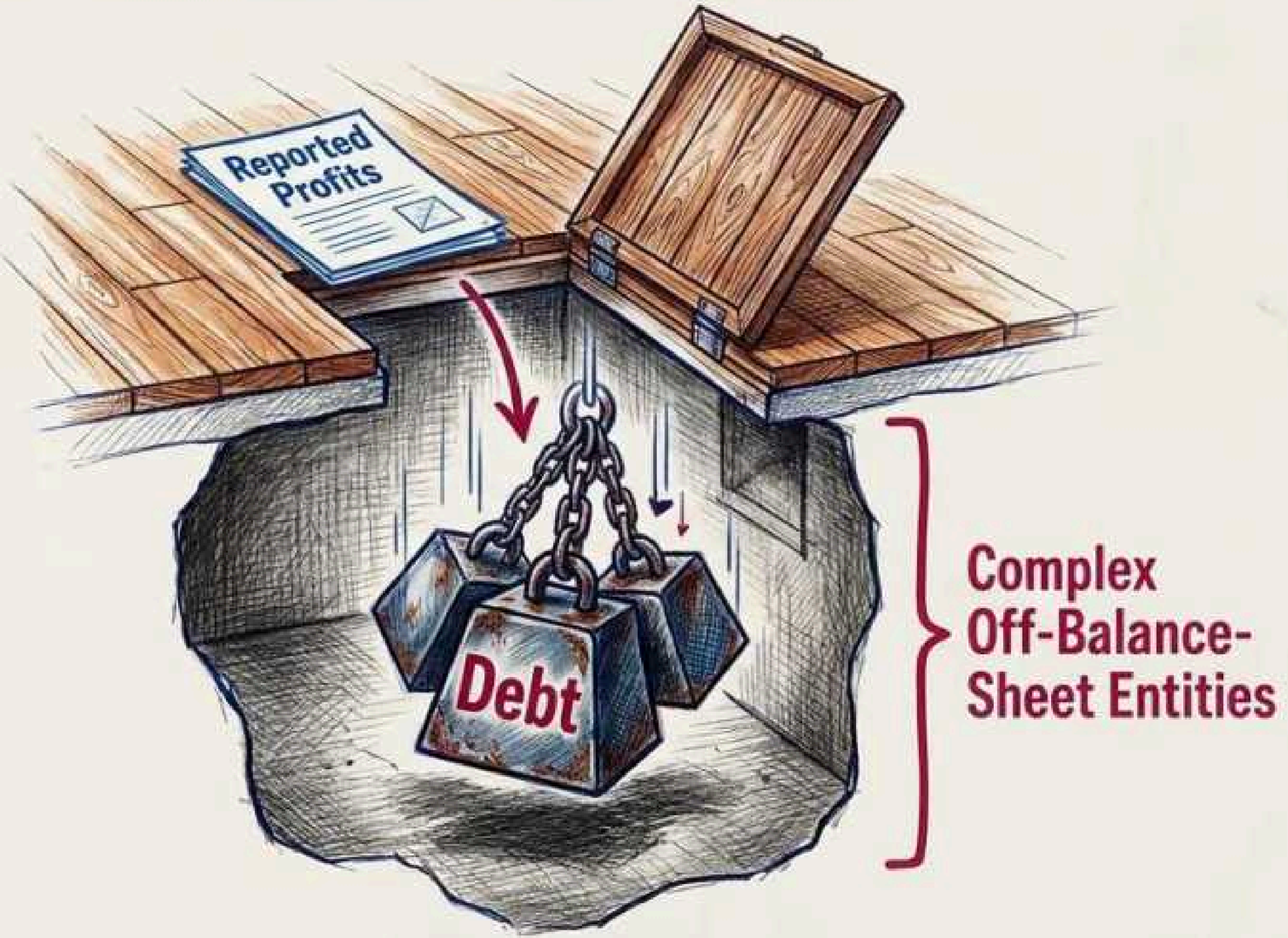
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[¶ 6.7]

CASE FILE: When Judgment Becomes Deception

Fraud Profile

- **Company:** Enron
- **Year:** 2001
- **Sector:** Energy
- **Fallout:** Largest US bankruptcy at the time; destroyed auditor Arthur Andersen.



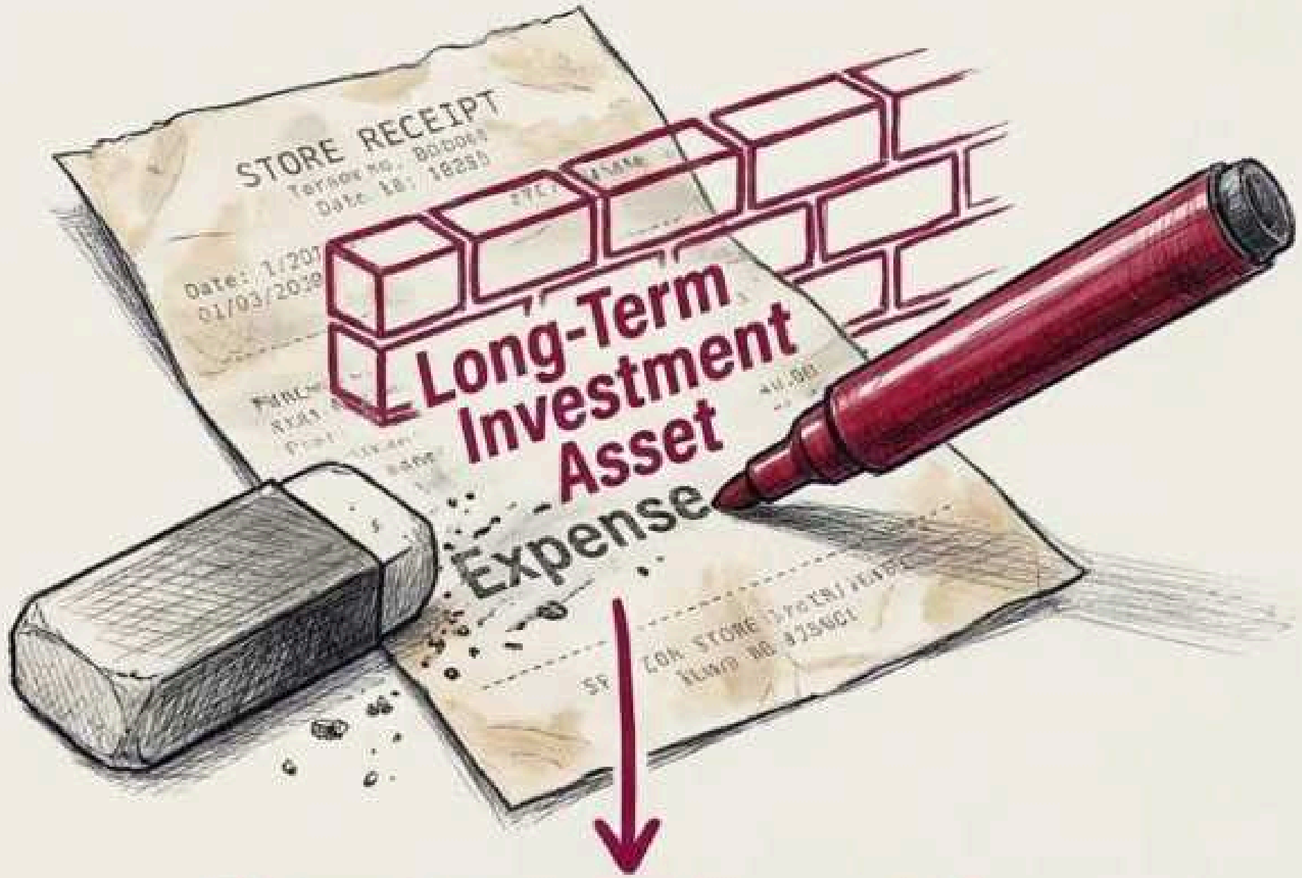
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[¶ 6.8]

CASE FILE: When Judgment Becomes Deception

Fraud Profile

- **Company:** WorldCom
- **Year:** 2002
- **Sector:** Telecommunications
- **Fallout:** $11 Billion fraud, exceeding Enron's bankruptcy. Uncovered by internal auditor Cynthia Cooper.



Disguising everyday costs to artificially inflate current profit.

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[¶ 6.9]

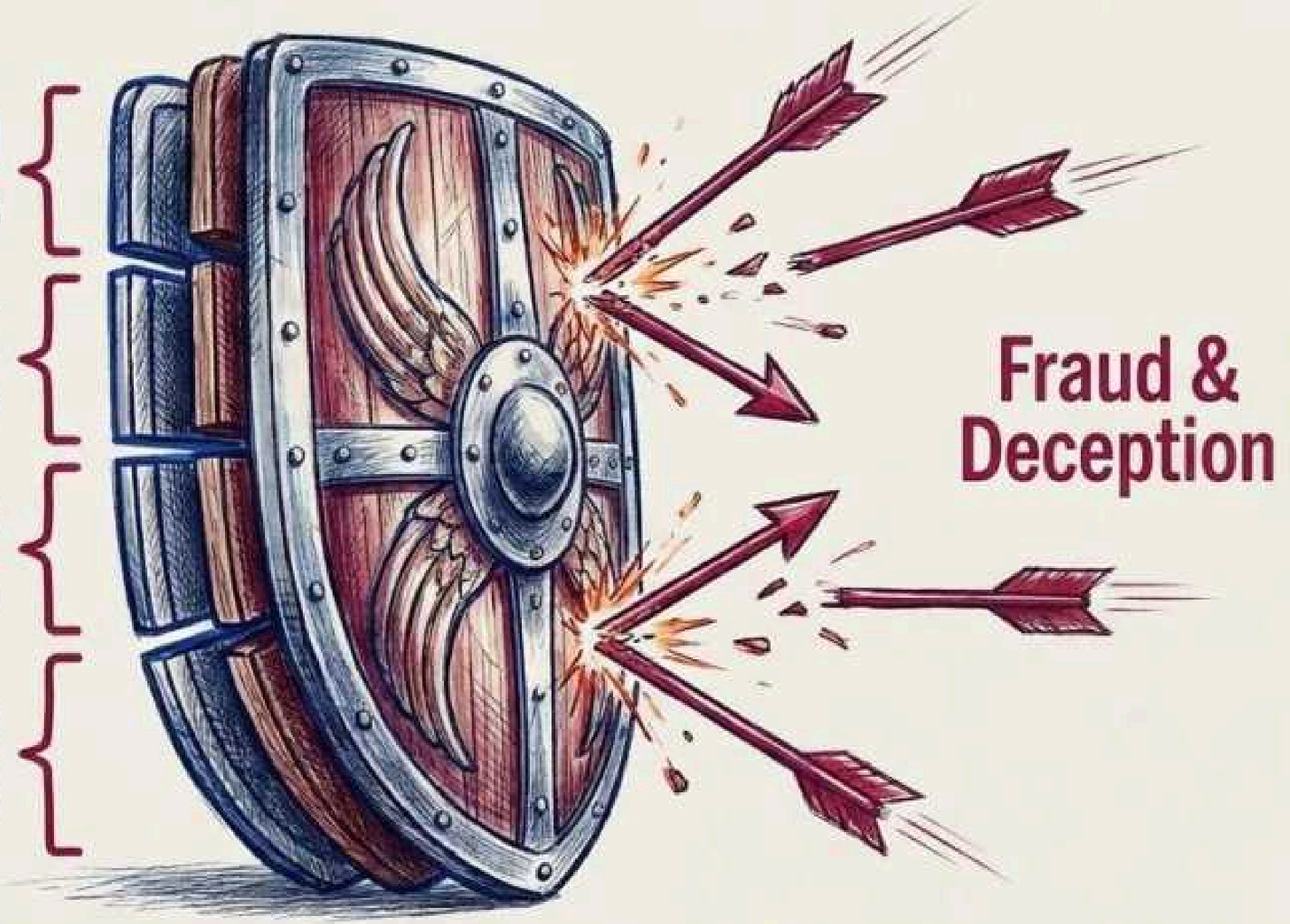
The Sarbanes-Oxley Act (SOX) of 2002

CEO/CFO personal certification of accounts

Strengthened audit committees

Strict limits on auditors selling consulting services

Creation of a new oversight board for auditors



Global regulations strengthened in tandem.

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[¶ 6.10]

CASE FILE: When Judgment Becomes Deception

Fraud Profile

- **Company:** Wirecard
- **Year:** 2020
- **Sector:** Payments
- **Fallout:** Financial Times journalists raised questions for years before collapse.



Even cash—the simplest asset—must be physically verified.

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[¶ 6.11]

The Red Flag Dashboard



Profits steadily rising

Operating Cash Flow flat

Instrument 1:

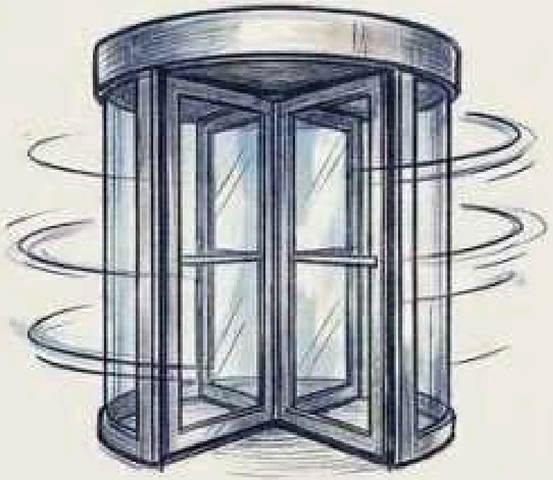


Instrument 2:

Receivables/Inventory growing much faster than Sales.

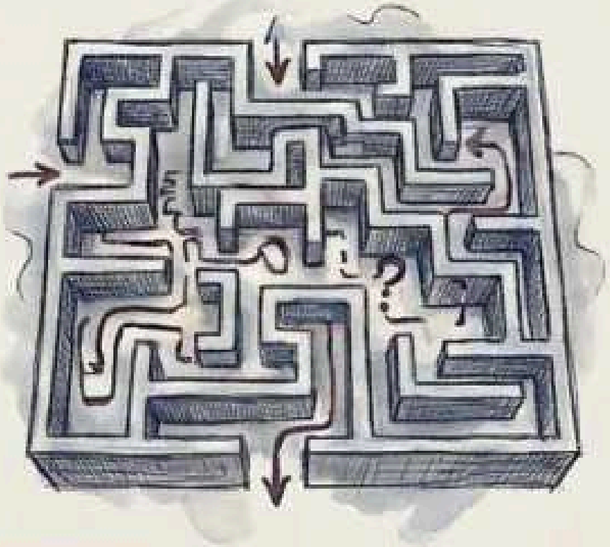
Instrument 3:

Frequent changes in accounting methods or auditors.



Instrument 4:

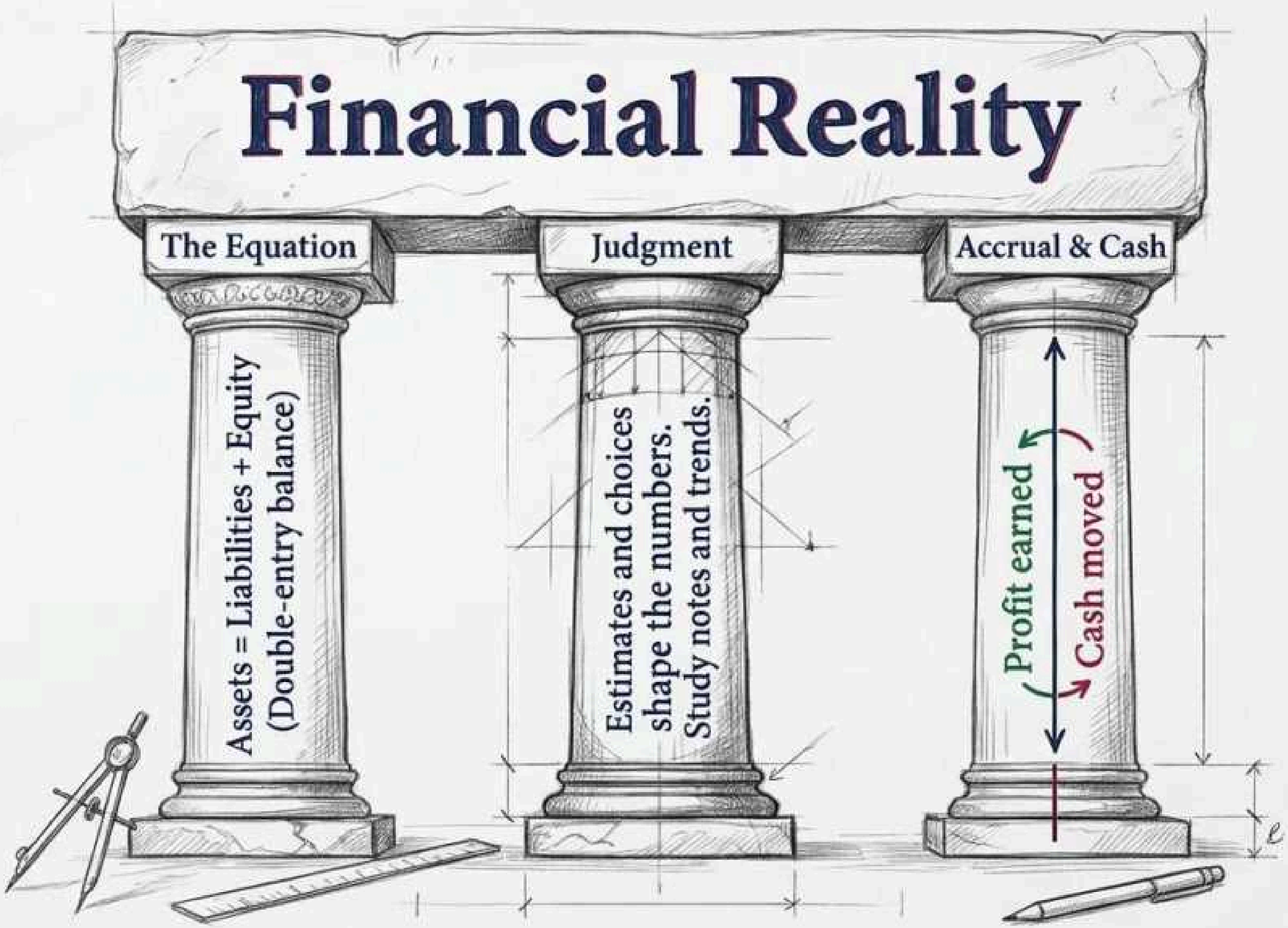
Complex structures & unofficial adjusted profit measures.



None proves wrongdoing, but each demands questions.

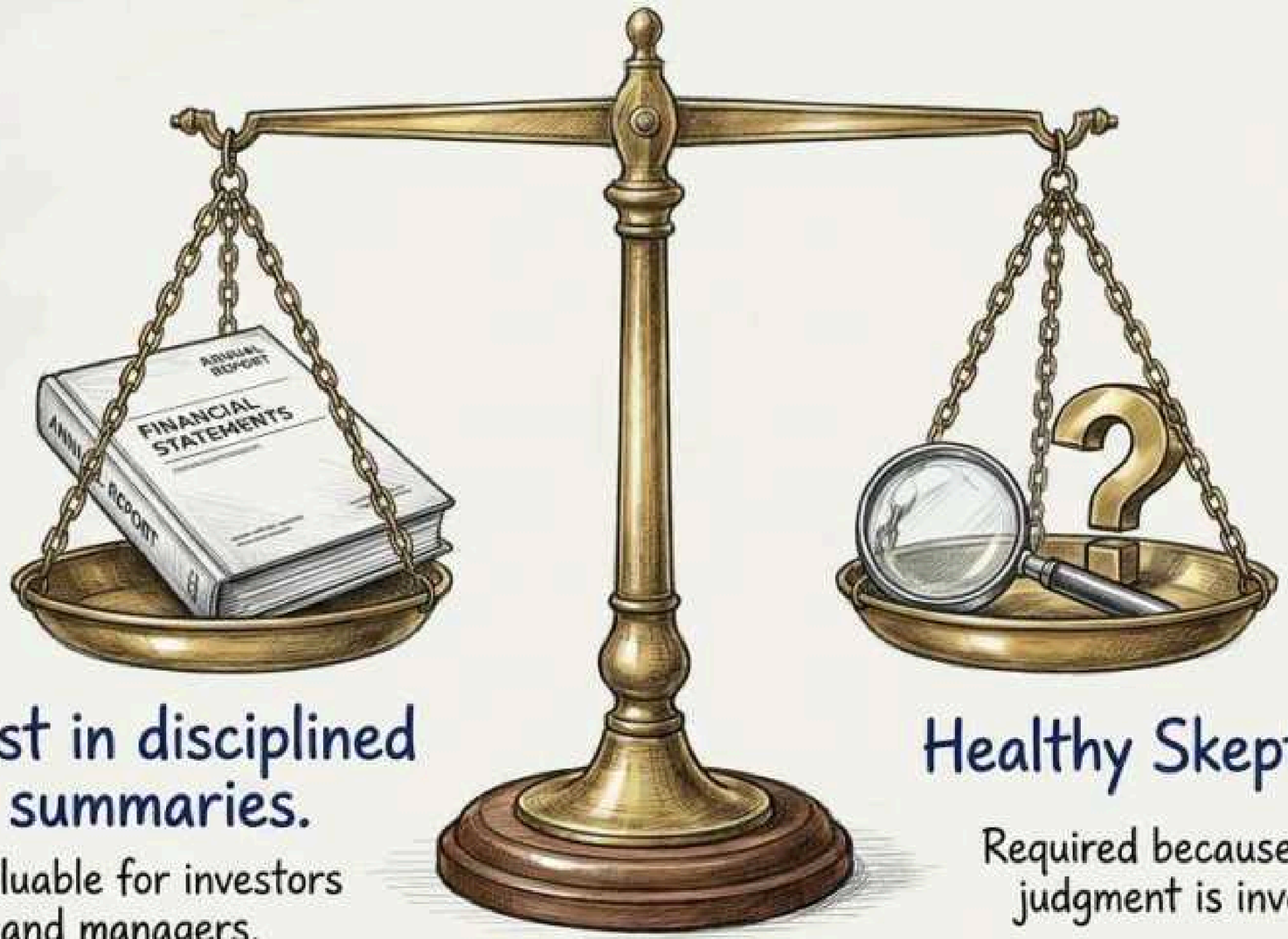
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[¶ 6.12]


Financial Reality
The Equation
Assets = Liabilities + Equity
(Double-entry balance)
Judgment
Estimates and choices
shape the numbers.
Study notes and trends.
Accrual & Cash
Profit earned
Cash moved

The Mindset of the Analyst

[¶ 6.13]



Trust in disciplined summaries.

Invaluable for investors and managers.

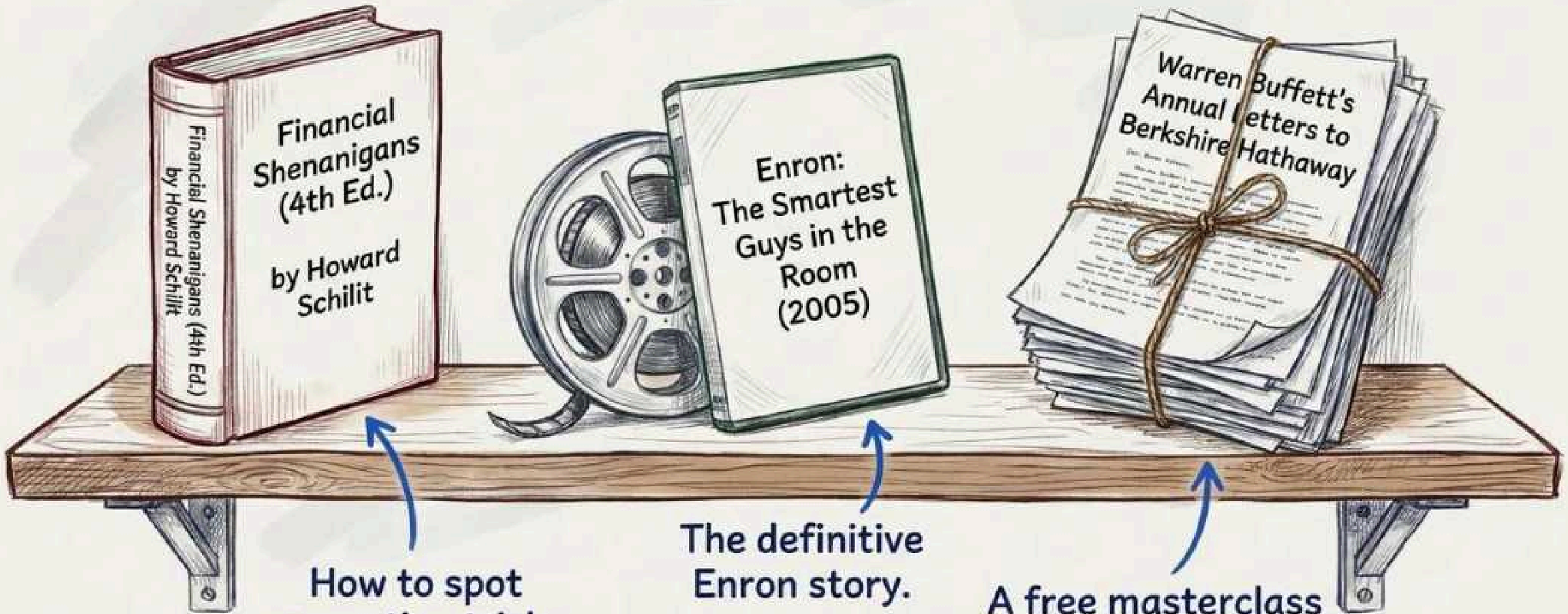
Healthy Skepticism.

Required because human judgment is involved.

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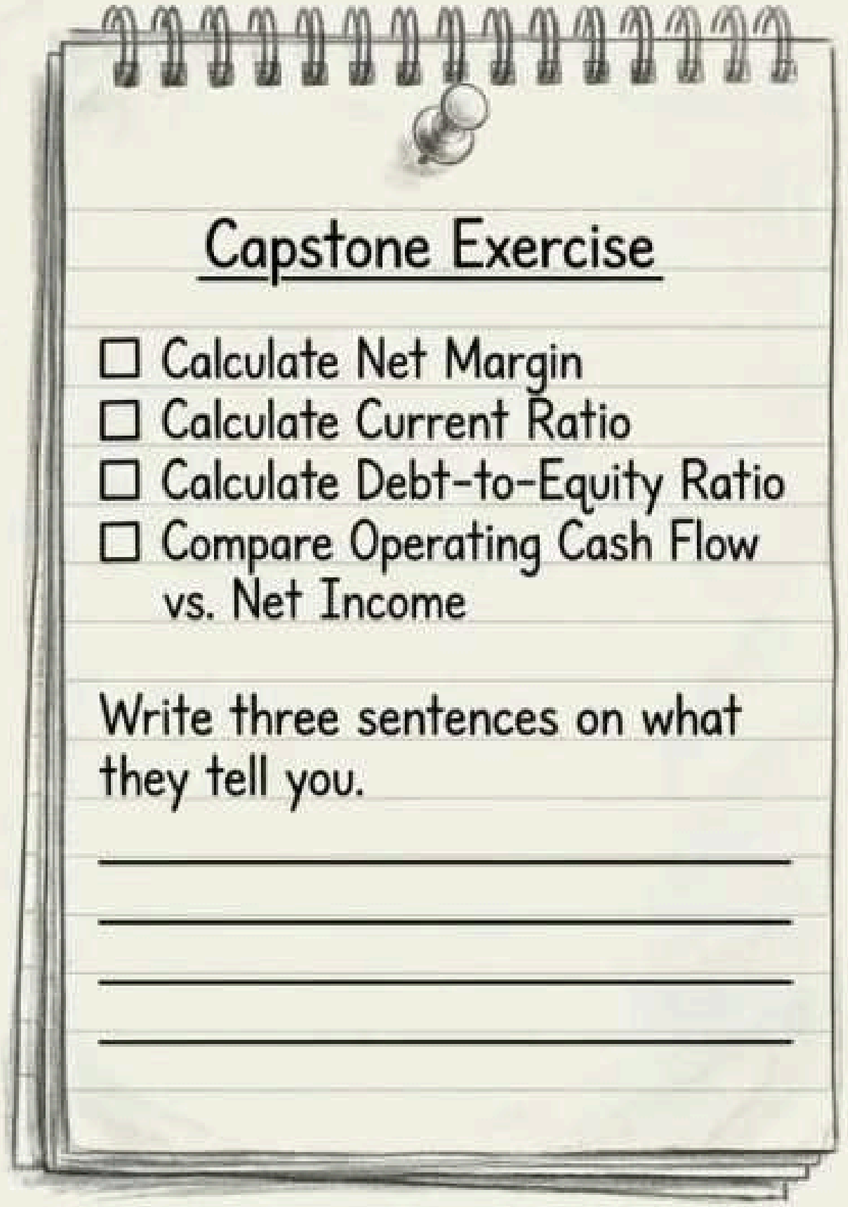
Where to go next:
Continuing Education

[¶ 6.14]



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[¶ 6.15]



Next up: The lecture quizzes, the final exam, and the tripos questions. →

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[¶ 6.16]

The full compensation for this free course is to pay it forward.



Be of service to humanity.
Tell us how you did it and what you learned.

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