

Accounting Basics

- Accounting answers these basic questions about a business:
 - **What** does a company **own**?
 - **How much** does a company **owe** others?
 - **How well** did a company's operations **perform**?
 - **How** does the company **get the cash** to fund itself?

Fundamental Concepts of Accounting

- **7 Guiding Set of Policies** that Underlie All Accounting Rules and Reporting:
 - The Entity
 - Cash and Accrual Accounting
 - Objectivity
 - Conservatism
 - Going Concern
 - Consistency
 - Materiality

The Entity

- Accounting reports communicate the ***activities*** of a ***specific entity***.
- A reporting entity can be a single store, a production plant, an entire business, or a conglomerate.

Cash Basis vis-à-vis Accrual Accounting

- **Cash Basis accounting**
 - Transactions are recorded only when cash changes hands.
 - Tells when and how much cash changed hands BUT it does NOT try to match the costs of conducting business with their related sales.

Cash Basis vis-à-vis Accrual Accounting

- **Accrual accounting**
 - Method used by most companies of significant size.
 - Recognizes the financial effect of an activity when the activity takes place without regard to the movement of cash.
 - As a consequence, raises 2 related issues – ***Allocation & Matching*** – because activity and cash movement most often do not occur at the same time.

Accrual Accounting: *Allocations & Matching*

- **Allocations to Accounting Periods.**
 - Because P&L statements reflect activities over a specific time, the ***period of recognition*** is ***very important***.
- **Matching**
 - Sales made in one period are matched with their related selling costs or ***cost of goods sold (COGS)*** in the same accounting period.
- Without established policies for ***allocation*** and ***matching***, accountants could easily manipulate financial reports by choosing when to record sales or expenses in order to cover up or delay bad results.

Objectivity

- Accountants have an ***objectivity rule*** to guide them when in doubt.
- There must be ***reasonable*** and ***verifiable evidence*** to support a transaction, else it does NOT get RECORDED.

Conservatism

- When companies ***incur losses*** that are ***probable*** and that can be ***reasonably estimated***, accountants record them, even if the losses have not actually been realized.
- When ***gains are expected***, accountants ***postpone recording*** them ***until*** they are actually ***realized***.
- Accounting ***conservatism*** governs the preparation of financial statements.
 - **When in doubt, be conservative!!!**

Conservatism & Historical Costs

- Conservatism also dictates that transactions be recorded at their **historical costs**.
 - Caveat: if the **value** of an asset falls **below** the **recorded cost**, conservatism dictates that the **loss** be **recognized today**.
- The value of goods held in inventory is also stated at historical cost.

Going Concern

- Financial statements describe businesses as operating entities.
- The values assigned to items in the accounting records assume that the business is a going concern
 - i.e. accountants presume that companies will continue to operate in the foreseeable future.

Consistency

- The consistency concept is crucial to readers of financial statements.
 - Accounting rules demand that an entity use the same accounting rules year after year.
- The consistency rule insists that companies value their inventory the same way from year to year
 - e.g. FIFO, LIFO
 - The ***accounting method*** is ***independent*** of the ***physical movement*** of inventory. **It is just an accounting method!**

Materiality

- Important caveat of financial statements: they are not necessarily exact to the peso (dollar).
- They are only materially correct so that a reader can get a fairly stated view of where an entity stands.

Financial Statements

- The summary of all the individual transactions recorded during a period of time.
- The final product of the accounting function – they give interested parties the opportunity to see in a neat summary what went on.

The BALANCE SHEET

- Presents the ***assets owned*** by the company, the ***liabilities owed*** to others, and the ***accumulated investment*** of its owners.
- Shows these balances *at a specific date.*

The Fundamental Accounting Equation

Assets = Liabilities + Owners' Equity

- Assets are the resources that the company possesses for the future benefit of the business.
- Liabilities are the dollar-specific obligations to repay borrowing debts, and other obligations to provide goods or services to others.
- Owners' equity is the accumulated dollar measure of the owners' investment in the company.

Liquidity

- An important aspect of the balance sheet statement is that the assets and liabilities are listed in order of their **liquidity**, from most liquid to least.
- **Liquidity** refers to the ability of an asset to be converted to cash.

Working Capital

- Refers to the assets and liabilities that a company constantly ***works with*** as part of its daily business.
- A measure of ***solvency***.
- Equals **Current Assets** less **Current Liabilities**
- The proper amount depends on the **Industry**.

Owners' Equity

- Represents the long-term obligation of a company to its owners.
 - Owners are paid only after all other debt payments are made.
- The **Residual Interest** of the firm, i.e., assets less liabilities.
 - Also called **Net Worth**, as it is the net value after all other obligations.
- Increases in 2 ways:
 - Investors can **contribute more funds**;
 - Investors may elect that the company **retain** its **profits**.

The INCOME STATEMENT (P&L)

- Shows the ***flow*** of activity and transactions ***over a specific period*** (usually 1 year).
- There are revenues from sales and expenses relating to those revenues. When revenues and expenses are properly matched using accrual accounting, the difference is income
 - **Revenue** less **Expenses** equal **Income**

Levels of Profit (Income)

- **Gross Margin = Sales less COGS**
 - **COGS = beginning inventory + new purchases – ending inventory**
 - If a business has a negative gross margin, either costs are out of control, or the pricing structure of the industry does not afford the company a profit.
- **Operating Profit**
 - Earnings before interest and taxes (EBIT)
 - Gross margin less selling, general, and administrative expenses (EBITDA if including depreciation and amortization)
- **Net Income**
 - The bottom-line profit of the company; Measure of success or failure

The STATEMENT OF CASH FLOWS

- The inability to manage a company's cash needs is often the primary cause of demise of many "profitable" enterprises.
- The cash flow statement is a management tool to help avoid liquidity problems.
 - Both the income statement and balance sheet are used to form the cash flow picture of a company.

The CASH FLOW STATEMENT

- The statement answers the following:
 - What is the relationship between cash flow and earnings.
 - How are dividends financed?
 - How are debts paid off?
 - How is the cash generated by operations used?
 - Are management's stated financial policies reflected in the cash flow?

The CASH FLOW STATEMENT

- Three types of business activities (shown clearly in cash flow statements)
 - Operating Activities
 - Investing Activities
 - Financing Activities

CASH FLOW: Operating Activities

- The cash flow statement converts accrual basis net income to a cash basis by adjusting the net income in 2 ways:
 - **Step 1: Adjust Net Income for Noncash Expenses**
 - e.g. Depreciation
 - **Step 2: Adjust Net Income for Changes in Working Capital**
 - Increases in current assets use cash while decreases in current assets produce cash
 - Increases in current liabilities increase cash while decreases in current liabilities use up cash.
 - To calculate net changes for the year, simply subtract the beginning of the period's balances of current assets and liabilities from the ending balances items.

CASH FLOW: Investing Activities

- Deals with cash use and generation by long-term “investments” by the company.
- When a company buys or sells a long-term asset (e.g. building, equipment), the cash relating to the transaction is reflected in the *investing activities* section of the cash flow statement.

CASH FLOW: Financing Activities

- There are **2 ways** a company can finance itself.
 - Either managers ***borrow money***
 - Or they ***raise money from investors.***

CASH FLOW STATEMENT: Summary

- When a ***company is healthy***, operating activities ***will generate cash***. This message is delivered by the net income adjusted for changes in working capital.
- Whatever the sources and uses of cash, the statement of ***cash flows tells a great deal about a business's health***. To many financial analysts, it is the ***most important*** statement of all.

FINANCIAL RATIOS

- Absolute numbers in a financial statement in and of themselves often are of limited significance.
- The real information can be found in an analysis of the relationship of one number to another or of one company to another in the same industry – using RATIOS.
- Ratios are used to compare performances among companies within an industry and against a company's own historical performance.

4 Major Categories of RATIOS

- **Liquidity measures:** How much is on hand that can be converted to cash and pay the bills.
- **Capitalization measures:** Is a company heavily burdened with debt? Are its investors financing the company? How is the company funding itself?
- **Activity measures:** How actively are the firm's assets being deployed?
- **Profitability measures:** How profitable is a company in relation to the assets and the sales that made its profits possible?

8 Most Commonly Used RATIOS

1. **Current Ratio**

= Current Assets / Current Liabilities

- Can the company pay its bills comfortably?
- A **ratio of greater than 1 shows liquidity.**

2. **Financial Leverage**

= (Total Liabilities + Owners' Equity) / Owners' Equity

- When a company assumes a larger proportion of debt than the amount invested by its owners, it is said to be leveraged.
- **Ratios greater than 2** show an **extensive use of debt.**

8 Most Commonly Used RATIOS

1. **Long-Term Debt to Capital**

= Long-Term Debt / (Liabilities + Owners' Equity)

- Because debt obligations are fixed obligations that must be paid while dividends to investors are not, the **level of debt is an important measure of a company's risky-ness**. A ratio of **greater than 50%** shows a **high level of debt**.

2. **Assets Turnover per Period**

= Sales / Total Assets

- This ratio tells the reader **how actively the firm uses all of its assets**. The firm that can generate more sales with a given set of assets is said to have managed its assets efficiently.

8 Most Commonly Used RATIOS

1. **Inventory Turnover**

= COGS / Average Inventory Held During the Period

Note: Average Inventory = (beginning + ending) / 2

2. **Days Sales in Inventory**

= Ending Inventory / (COGS / 365)

- These **2 activity ratios show how actively a company's inventory is being deployed**. Is inventory sitting around collecting dust or is it being sold as soon as it hits the shelf?
- In a **high turnover business** (e.g. grocery trade), there are **many turns of inventory** during a year and **only a few days of inventory on hand**.

8 Most Commonly Used RATIOS

- “Return” ratios are easy to calculate and investment analysts use them often.
- They calculate the return on just about any part of the balance sheet and income statement.

3. ***Return on Assets (ROA)***

= Net Income / Total Assets

4. ***Return on Equity (ROE)***

= Net Income / Owners' Equity

Financial Leverage

- The ***mix of debt and equity can dramatically affect the ratios***. If a company has a high level of debt and a small amount of equity, ROE can be tremendously affected. This is called ***Financial Leverage***.
- The choice of lower equity level can “leverage” the ROE to extremely high levels.
- ROE ratio is a widely accepted yardstick to measure success.
- **Caveat**: If management’s ***goal*** is to ***achieve a higher profitability ratio through leverage***, there is a ***risk cost***. ***Higher debt levels require higher interest payments*** that a company may not be able to service if operations do poorly.

The *Du Pont* Chart

- By charting the interrelationships among ratios, one can see that changes in a component of one ratio affect the other ratios. The ratios share the same inputs.

Profit Margin		Asset Turnover		Return on Assets
$\frac{\text{Net Income}}{\text{Sales}}$	x	$\frac{\text{Sales}}{\text{Total Assets}}$	=	$\frac{\text{Net Income}}{\text{Total Assets}}$
Return on Assets		Financial Leverage		Return on Equity
$\frac{\text{Net Income}}{\text{Total Assets}}$	x	$\frac{\text{Total Assets}}{\text{Owners' Equity}}$	=	$\frac{\text{Net Income}}{\text{Owners' Equity}}$

Ratios are Industry-Specific

- Profitability is, as in the case of all ratios, industry-specific.
 - Every industry has a profit level depending on the physical demands of the industry
 - Examples:
 - Steel industry – low ROA: because of high capex
 - Service industry – high ROA: only assets needed are cash, office furniture, and ARs
- Profitability also depends on the level of competition
- The true value of ratios is seen when one firm's ratios are compared to those of another firm in the same industry, or to that firm's historical performance.
- The “attractiveness” of various industries as business opportunities may be explored by comparing their averages.

Managerial Accounting (Variance Analysis)

- Uses accounting data to manage and analyze operations.
- ***Focuses on operations.***
- ***Instead of ratios***, uses ***standards, budgets***, and ***variances*** to run the business and explain operational results.
- Objective is to budget a company's activities for a period of time, and then to ***explain why the actual results "varied" from the projections.***
- Using standards as a yardstick, managerial accountants analyze actual results to explain variances from the budgets and standards. Once completed, ***variance analysis highlights the source of positive or negative results for management decision making.***

Sales Price and Volume Variances

- The **Sales Price Variance** tells the manager how much of the difference between budgeted sales revenue and actual sales revenues is due to sales price changes.
$$= (\text{Actual Sales Price} - \text{Standard Sales Price}) \times \text{Actual Quantity Sold}$$
- The **Sales Volume Variance** isolates the dollar effect of a different unit volume from what was budgeted assuming no price changes.
$$= \text{Standard Sales Price} \times (\text{Actual Quantity Sold} - \text{Standard Quantity Sold})$$
- When you add together the Price and Volume variances, they equal the “total” Monthly **Sales Variance** from budget.
$$= \text{Sales Price Variance} + \text{Sales Volume Variance}$$

Purchase Price and Efficiency Variances

- Production departments also calculate variances for management control.
- Purchases and usage of production materials have **Purchase Price Variances**.
$$= (\text{Standard Purchase Price} - \text{Actual Purchase Price}) \times \text{Actual Quantity Purchased or Used}$$
- The amount of materials and labor used to produce products may also differ from the standard amount. These differences are called **Efficiency Variances**.
$$= (\text{Standard Use Quantity} - \text{Actual Usage Quantity}) \times \text{Standard Cost of Material or Labor}$$

Cost Accounting & Activity-Based Costing

- The relatively straightforward ***process of determining the cost of producing goods and services.***
- Closely associated with Managerial Accounting (i.e. all its “standards” are based on data gathered by cost accountants.
- With manufactured goods, ***direct labor and direct materials are relatively simple to allocate*** to the cost of the product.
- However, ***allocating overhead is much more difficult.***
- If ***not done properly***, it ***may falsely determine profitability*** of individual products and divisions of companies.

Cost Accounting & Activity-Based Costing

- Overhead ***must be allocated*** based on the ***actual usage*** of the overhead expenses;
- Hence, the term ***Activity-Based Costing (ABC)***. Overhead should be allocated based on what it takes to create and deliver the product to the customer.
- If accountants allocate based on sales, not volume of transactions, the ***profit picture*** would be ***distorted***.
- What ***usually*** happens in a company is that ***accountants***, detached from the business, ***arbitrarily or mechanically allocate overhead expenses***.

Bonus: Forensic Accounting

10 Ways Accountants Can Misstate Earnings

1. Misclassify expenses as assets
3. *Underestimate sales allowances for returns, discounts, and markdowns (result: higher profits)*
5. Underestimate bad-debt allowances on sales made on credit (result: higher profits)
7. *Create off-balance-sheet liabilities*
9. Recognize phantom revenues
11. *Depreciate assets too slowly*
1. Modify adjustments to inventory (A company can underestimate how much inventory will become obsolete. Reducing obsolescence increases profit)
3. *Forecast unusual gains or losses*
5. Create special reserves by overestimating future expenses and boost profits by revising those estimates “downward” later.
7. *Manipulate measures of performance that are tied to key executive bonus compensation.*

Bonus:

Accounting Overview

1. Assets = Liabilities + Owners' Equity
3. *There are 3 basic and interdependent financial statements: Balance Sheet, Income Statement (or Profit and Loss), and Cash Flow Statement.*
5. Accounting records and statements always balance.
7. *The statements can be interpreted by using ratios.*
9. Operating results can be analyzed and managed using variances.

Additional Management Control Topics:

Transfer Pricing

- Where segments of a company share responsibility for product development, manufacturing, and marketing, a ***transfer price*** system is required if these segments are to be delegated profit responsibility.
- The ***transfer price*** represents the ***opportunity cost*** to the company.

Additional Management Control Topics:

Transfer Pricing

- 2 Decisions involved in designing a transfer price system:
 - **Sourcing Decision.** Should the company produce the product inside the company or purchase it from an outside vendor?
 - **Transfer Price Decision.** At what price should the product be transferred between profit centers?

Additional Management Control Topics:

Transfer Pricing

- What should be basis of the transfer price?
- Ideally, the **transfer price** should **approximate** the normal outside **market price**, with **adjustments** for **costs not incurred** in intra-company transfers.
- Even when sourcing decisions are constrained, the **market price** (a.k.a. competitive price) **is still the best transfer price**.

Additional Management Control Topics:

Transfer Pricing

- Transfer Price based on “**Cost Plus**”
 - **If competitive prices are not available**, transfer prices may be set on the basis of **cost plus a profit**.
 - Cost-based transfer prices can be made at **standard cost plus profit margin**, or by the use of the **two-step pricing system**, as follows:
 1. For each unit sold, a charge is made that is equal to the **standard variable cost** of production.
 2. A **periodic charge** (usually monthly) is made that is equal to the fixed costs associated with the facilities reserved for the buying unit.(Note: one or both of these components should include a profit margin)

Additional Management Control Topics:

Transfer Pricing

- Transfer Price based on “**Profit Sharing**”
 - If Two-Step Pricing system is not feasible, a ***profit sharing system*** might be used to ensure congruence between business unit and company interests.
 - A Profit Sharing System operates as follows:
 1. The product is transferred to the marketing unit at standard variable cost.
 2. After the product is sold, the business units share the contribution earned, which is the selling price minus the variable manufacturing and marketing costs.

Additional Management Control Topics:

Measuring & Controlling Assets Employed

- **Investment Centers**
 - Special type of profit centers.
 - Profit is compared with the assets employed in earning it
 - In contrast to profit being measured by the difference between revenues and expenses.

Additional Management Control Topics:

Measuring & Controlling Assets Employed

- **Investment Base**

- The sum of assets employed in an investment center.
- **2 methods** of relating profit to the investment base:
 1. The percentage Return on Investment (ROI)
 2. Economic Value Add (EVA) – previously referred to as “residual income”

Additional Management Control Topics:

Measuring & Controlling Assets Employed

- **Two Performance Objectives of business unit managers:**
 1. They should generate adequate profits from the resources at their disposal;
 2. They should invest in additional resources only when the investment will produce an adequate return.

- The purpose of relating profits to investments is to motivate business unit managers to accomplish these objectives.

Additional Management Control Topics:

Measuring & Controlling Assets Employed

● **ROI vs. EVA**

- ROI is a ratio. The numerator is income (as reported on the income statement). The denominator is assets employed.
- EVA is a dollar amount. It is found by subtracting a **capital charge*** from the **net operating profit**.
 - (*product of assets employed and a rate.)
- EVA is conceptually superior to ROI, but ROI is more widely used in business than EVA.

Additional Management Control Topics:

Measuring & Controlling Assets Employed

- **Apparent benefits of an ROI measure**
 1. It is a comprehensive measure in that anything that affects financial statements is reflected in this ratio.
 2. It is simple to calculate, easy to understand, and meaningful in an absolute sense.
 3. It is a common denominator that may be applied to any organizational unit responsible for profitability, regardless of type or size of business.

Additional Management Control Topics:

Measuring & Controlling Assets Employed

- **Inherent Advantages of EVA (over ROI)**
 1. With EVA, all business units have the same profit objective for comparable investments
 2. Decisions that *increase* a center's ROI may *decrease* its overall profits (If EVA is used, investments that produce a profit in excess of the cost of capital will increase EVA and are therefore attractive)
 3. Different interest rates may be used for different types of assets.
 4. EVA has a ***stronger positive correlation*** with changes in a company's ***market value***.

Additional Management Control Topics:

Measuring & Controlling Assets Employed

- **Actions that can Increase EVA**

1. Increasing in ROI through business process reengineering and productivity gains, without increasing the asset base;
2. Divesting assets, products, and/or businesses whose ROI is less than the cost of capital;
3. Aggressively investing in new assets, products, and/or businesses whose ROI exceeds the cost of capital;
4. Increasing sales, profit margins, or capital efficiency; or decreasing cost of capital percentage.

Additional Management Control Topics:

Measuring & Controlling Assets Employed

- **Use of EVA in Planning & Control**
 1. Strategic Direction.
 2. Acquisitions.
 3. Operational Improvements.
 4. Product Line Discontinuation.
 5. Working Capital Focus.
 6. Incentive Compensation.

Additional Management Control Topics:

Performance Measurement

- **The Balanced Scorecard**

- Business units are assigned goals and then measured from the following ***four perspectives***:

- 1. Financial** (e.g. profit margins, ROA, cash flow)
- 2. Customer** (e.g. market share, customer satisfaction index)
- 3. Internal Business** (e.g. employee retention, cycle time reduction)
- 4. Innovation & Learning** (e.g. percentage of sales from new products)