

FINANCIAL RATIOS & ANALYSIS

ACCOUNTING PLAY



JOHN GILLINGHAM CPA

Financial Ratios & Analysis

Accounting Play

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Using Financial Ratios & Analysis

Audio

[Using Financial Ratios & Analysis](#)

Topics

- [Using Financial Ratios & Analysis](#)

Using Financial Ratios & Analysis

Financial Ratios & Analysis is a book based upon the App, Financial Ratio Flashcards. Both the book and app covers the most important financial ratios using both flashcards along with written and audio lessons that cover ratio analysis, calculation, and key points. Audio within the text links to streaming online files (decent internet required). Get better functionality with the App or download files at AccountingPlay.com.

The Accounting Play Guarantee: **If this does not meet your expectation, email me subject title “Over It” along with a receipt equivalent and I will refund you.** Please let me know why and how we can do better at Support@AccountingPlay.com. *Limit one product refund per household.* Give us a week in case we are off wifi at a silent meditation retreat (shhhhhh) in the distant mountains or surf.

Accounting, finance, general business, and MBA students can benefit from the illustrative formulas. Examples draw from financial statements featured in the [Accounting Flashcards](#) module included in the app. Other materials can be found on [Kindle](#) and PDF at AccountingPlay.com/Product. Be sure to subscribe to gain access to free materials and stay posted on other resources such as the Accounting Play Podcast.

This may be used as a standalone resource or coordinate with business related curriculums. Ratios covered are often tested in standard exams such for becoming a CPA - Certified Public Accountant, CFA – Chartered Financial Analysis, and Chartered Certified Accountants. Please feel free to reach out personally to me at John@AccountingPlay.com and let us know how we are doing.

About



I took financial accounting three times as a history major and my grades were as follows: W, C, A. W stands for withdrawn, if you don't know. But after I received an A from an exceptionally clear instructor, everything became easy, so long as I dedicated enough time and studied to learn. I drew pictures, read financial statements of publically traded companies, sang songs, and listened to self-made recordings at bedtime. I could not afford any more mistakes after graduating in history during a financial crisis. Three years later I had worked in public accounting, passed all of my CPA exams on the first try, and nearly completed a masters in accounting with a 3.9 GPA – all paid for with credit cards. Now I work for myself and help students, life is good. With enough time and motivation there is nothing to stop you with this particular profession, class, or topic. Please be sure to let me know how Accounting Play is helping you learn on the [App Store](#) and ways we can do better by [emailing](#). All illustrations are done by [Courtney Quirin](#).

Financial Ratios in Concept

Audio

[Financial Ratios in Concept](#)

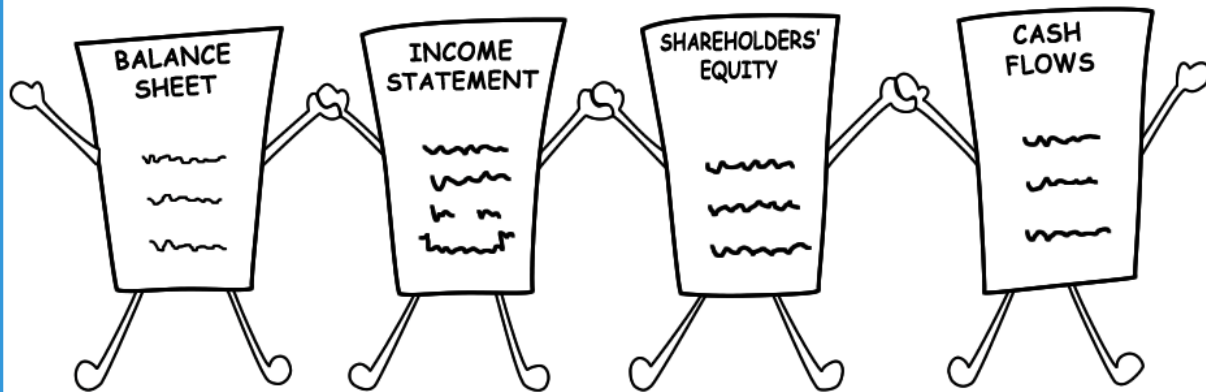
Topics

- [Stakeholders](#)
- [Analysis](#)
- [Decision Making](#)

Stakeholders

Financial ratios are designed to be useful to any stakeholders of a business. Broadly defined, stakeholders may be anyone affected by the business: owners, employees, managers, creditors, customers, government, and well, pretty much anyone or any entity. For business owners, efficiency ratios may help analyze productivity by comparing important data such as the cost of goods sold and the revenue of the company. Investors and creditors will look closely at ratios which measure financial strength and profitability. Most ratios are created using financial statements prepared by accountants.

Financial statement relationships



Financial statements share information to collectively present financial information

Financial ratios are relatively simple calculations if you have some experience with algebra. If not, the formulas can be broken down step by step if the math appears intimidating. I may have taken the beginning accounting class three times, but this was not due to any mathematical limitations.

The ratios covered use addition, subtraction, multiplication, and division.

Analysis

Ratios are used in the process known as analysis. Analysis has different forms or purposes including financial, managerial, economic, market, and competitive. The most common ratios are covered, but there are many other industry and investment specific ratios that exist. Some investors and analysts (those that analyze financial data) may also create their own ratios not covered in standard textbooks.

Balance sheet example

TEDDY FAB INC. BALANCE SHEET December 31, 2100			
ASSETS		LIABILITIES AND SHAREHOLDERS' EQUITY	
Current assets		Current liabilities	
Cash and cash equivalents	\$ 100,000	Accounts payable	\$ 30,000
Accounts receivable	20,000	Notes payable	10,000
Inventory	15,000	Accrued expenses	5,000
Prepaid expense	4,000	Deferred revenue	2,000
Investments	10,000	Total current liabilities	47,000
Total current assets	149,000		
Property and equipment		Long-term debt	200,000
Land	24,300	Total liabilities	247,000
Buildings and improvements	250,000		
Equipment	50,000	Shareholders' Equity	
Less accumulated depreciation	(5,000)	Common stock	10,000
		Additional paid-in capital	20,000
		Retained earnings	197,100
		Treasury stock	(2,000)
Other assets		Total liabilities and shareholders' equity	\$ 472,100
Intangible assets	4,000		
Less accumulated amortization	(200)		
Total assets	\$ 472,100		

Ratios are tools utilized by analysts as part of the analytical process to understand different aspects of a business. Ratios are based on logical known relationships between financial statement line items such as assets and liabilities or revenue and expense. Let's take business assets versus liabilities, also known as the acid test ratio (less exciting than it sounds). This ratio, also known as the debt to total assets ratio is comparing two major categories. If a company has 10 Million in liabilities and 1 Million in assets, the resulting ratio would be 10. An analyst could then compare this figure to other time periods or other companies.

Income statement example

TEDDY FAB INC. STATEMENT OF INCOME Year Ended December 31, 2100	
Revenues	\$ 1,000,000
<u>Cost of goods sold</u>	<u>200,000</u>
Gross profit	800,000
 Operating expenses	
Selling, general, and administrative expense	357,700
Interest expense	20,000
<u>Depreciation and amortization expense</u>	<u>5,200</u>
Operating income	417,100
 Interest income	 20,000
Net earnings before taxes	<u>437,100</u>
 Income tax expense	 <u>240,000</u>
Net income	<u><u>\$ 197,100</u></u>

Decision Making

Financial ratios show the relationship between different data points in order to make decisions. A major retail store for example, is constantly purchasing and selling inventory. The cost of this inventory, versus how much they sell it for, is significant to both the business and outside investors. This relationship can be expressed using **gross profit margin**.

Gross Margin

$$\text{Gross Margin} = \frac{\text{Net Sales} - \text{COGS}}{\text{Net Sales}}$$

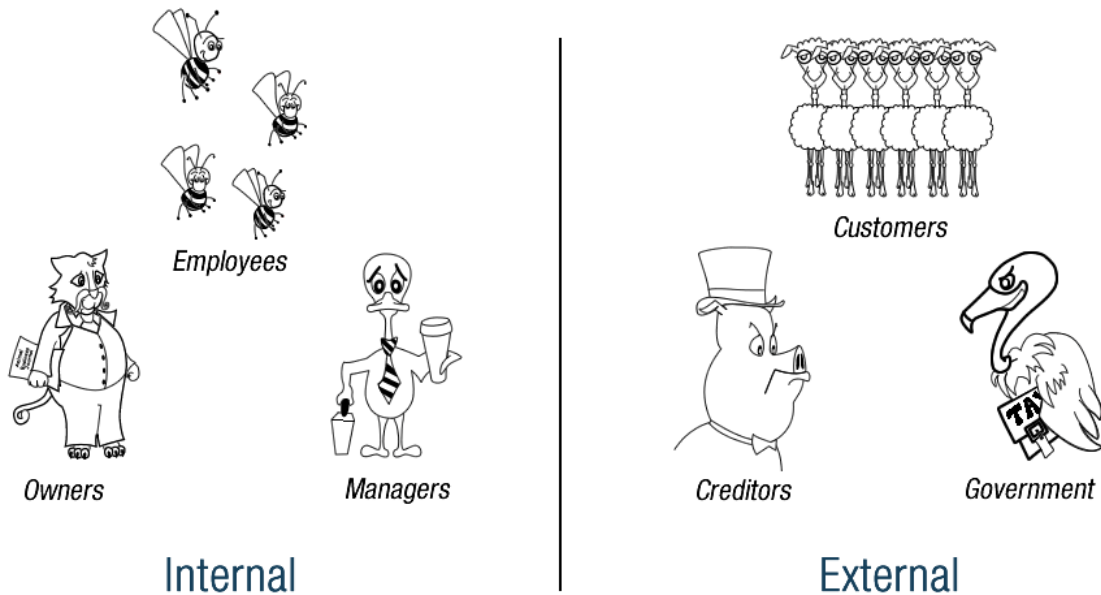
COGS = Cost of Goods Sold

Profitability

Ratios should be useful to the end user. Small business owners can benefit from the use of a few basic ratios such as debt to assets, accounts receivable turnover, and gross profit margin. Large publically traded companies and related stakeholders will perform more in-depth analysis. Regardless of the stakeholder, there will be some usefulness to financial ratios when used in the appropriate context.

Stakeholders

Those affected by the business



Why Use Financial Ratios

Audio

[Why Use Financial Ratios](#)

Topics

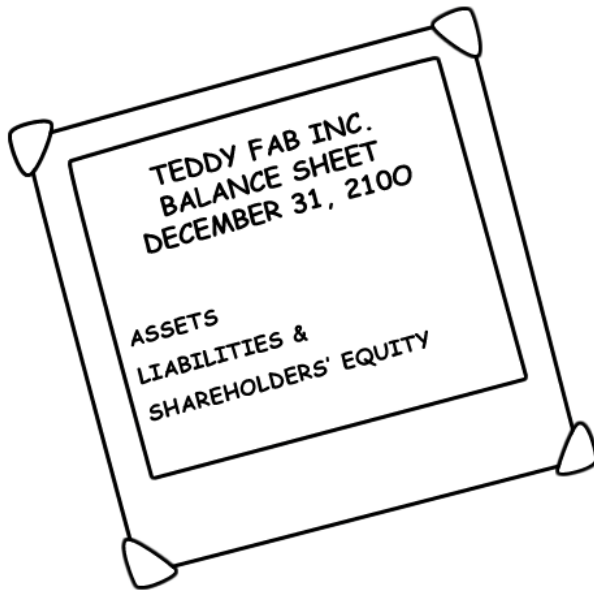
- Initial Assessments
- Entity Size

Initial Assessments

Analysts and other users employ ratios to make initial assessments and to provide a starting point for further analysis. Ratios can therefore play a supporting role in the decision making process. These initial assessments provide insight into a company's financial condition (balance sheet information) and operating performance (income statement information), either for a single point in time or by comparing

multiple reporting periods. Examples of why external stakeholders (those outside the business) use financial ratios could include investors looking for new attractive investment opportunities. Internal stakeholders such as business managers can use analysis to compare actual to budgeted results. Product or strategic planning can employ the use of these financial tools. Ratios may also be used to evaluate a company relative to competitors (peer analysis). In other words, the results provide absolute and relative information about a company.

Balance sheet

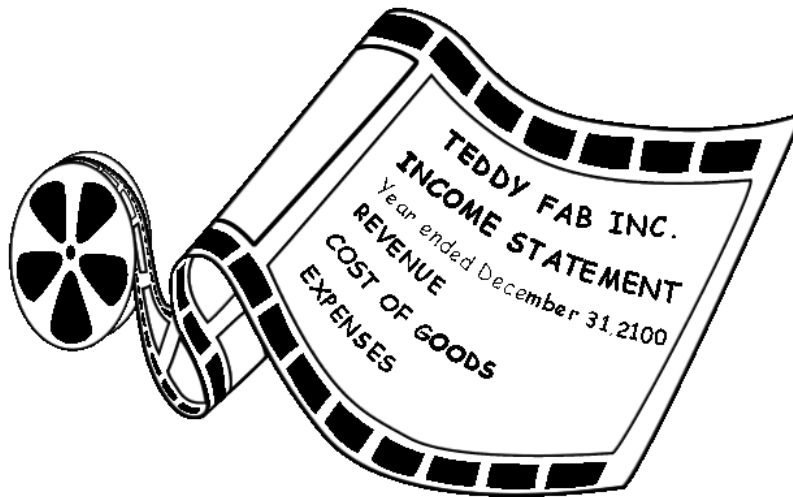


A snapshot of the company's financial position

The balance sheet is compared to a photo because it captures the financial position at one moment in time

Income statement

Revenue and expenses for a specified time period



Income statement is compared to a movie, because it captures activity over a range of time, such as one year

Entity Size

Ratios and financial analysis is typically associated with large, publicly traded companies, but other entities can benefit as well. Other entities could include: small businesses, start-up businesses, municipalities, nonprofit organizations, charitable organizations, non-governmental organizations, or even a nightclub. In order to be useful, the ratios and analysis may be modified given the business size and the purpose of the analysis. Inventory turnover for example, will be a useless ratio if the company has no inventory and the times interest earned ratio won't be relevant if a company has no debt.

Inventory Turnover

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

$$\text{Average Inventory} = \frac{\text{Beginning + Ending Inventory}}{2}$$

Operating Performance

Times Interest Earned

$$\text{Times Interest Earned} = \frac{\text{EBIT}}{\text{Interest Expense}}$$

EBIT = Earnings Before Interest & Taxes

Liquidity

Benefits and Limitations

Audio

[Benefits and Limitations](#)

Topics

- [Benefits](#)
- [Limitations](#)
- [Balance Sheet](#)
- [Income Statement](#)
- [Industry Specific](#)

Benefits

Financial ratios are designed to provide users of information useful metrics to evaluate business activity and health. The results provide a quick and consistent methodology for digging into somewhat complex data and providing helpful insights to facilitate decisions. Projections (educated financial guesses about the future) may also be made based upon historical results and the corresponding ratio. For example, a stakeholder could use the current gross profit margin to project gross profit in the future based upon revenue estimates.

Gross Margin

$$\text{Gross Margin} = \frac{\text{Net Sales} - \text{COGS}}{\text{Net Sales}}$$

COGS = Cost of Goods Sold

Profitability

Different stakeholders can benefit from different benefits of ratio analysis. The concepts apply to both internal or intra-company analysis as well as inter-company or peer analysis. Comparing a company's financial ratios to a peer group is a standard analytical practice that helps give a basis for understanding company-specific ratios. By using a relative comparison to a group of companies operating in similar business lines, an analyst can form conclusions to help decision making. Comparisons are useful when in the same peer group in terms of the products or services offered, size, and structure. A big publically traded software company will be best compared against another big publically traded software company, and so on.

Limitations

Ratios are based on historical information and history is never guaranteed to repeat itself. Historical data can sometimes also include unusual or nonrecurring activities that may not be present going forward. Ratios without context generally have limited value to stakeholders. A video cassette rental company, for example could have strong financial ratios, but be put out of business almost overnight with the release of DVDs and internet streaming. Financial ratios by themselves may not indicate such an abrupt change and therefore must be interpreted along with other circumstances.

Ratios should be combined with other outside data points. Using gross profit margin to predict future cost of goods sold based on revenue, for example, is logical but dangerous if other circumstances are not considered. The ratio itself will not tell the analyst that current prices may have doubled due to

supply chain issues or political problems, for example. There have been many companies with strong financial ratios that subsequently failed due to internal and external circumstances.

Cost of goods sold (COGS)

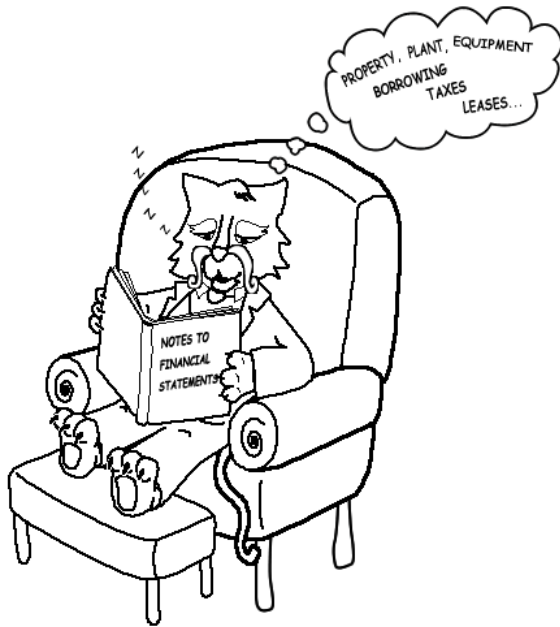


$$\begin{array}{r}
 \text{BEGINNING INVENTORY} \\
 + \\
 \text{INVENTORY PURCHASE} \\
 - \\
 \text{END INVENTORY} \\
 \hline
 \text{COST OF GOODS SOLD (COGS)}
 \end{array}$$

COST OF GOODS SOLD EQUATION

Ratios provide insights into business metrics, but typically require further analysis to be valuable. A competent financial analyst understands that ratios often create more questions than answers and will increase the scope of research and analysis where appropriate. Financial analysis starts with the numbers, but takes into account other factors outside the balance sheet and income statement. The notes to the financial statements for example can be a very important area of analytical information that provide clues to the accounting methodology, lawsuits, plans, and other required disclosures. Micro and macro political and economic trends will also factor into analysis, such as new law or interest rate changes.

Notes to financial statements



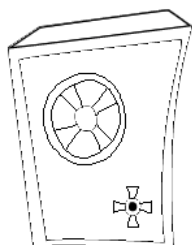
Presents detailed financial information about the company, appearing after the financial statements

Investor Cat reads all disclosures in the notes to the financial statements before investing

Balance Sheet

Ratios provide information at a single point in time or time period. Ratios that use balance sheet accounts will be at a single point in time, because the balance sheet accumulates transactions up to a point in time. For example, cash is a balance sheet account that is specified at a given date. An analyst must pick a point in time that is relevant for the given analysis, such as December 31, a typical calendar year end. If only one point in time was analyzed the results might not be useful unless compared to several other time periods. Cash, for example, at a given date could fluctuate due to many circumstances such as: financing, investing, or operating changes. Financial analysts will therefore draw on different time periods for testing and use average balances for specific ratios, such as when calculating accounts payable turnover.

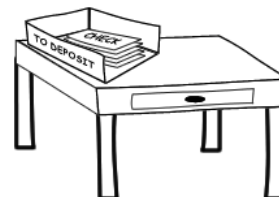
Cash & cash equivalents



Cash



Bank CD



Checks not mailed

Currency and cash accounts
with an original maturity 90 days or less

*Current assets on
balance sheet*

Balance sheet example

TEDDY FAB INC. BALANCE SHEET December 31, 2100

ASSETS

Current assets

Cash and cash equivalents	\$ 100,000
Accounts receivable	20,000
Inventory	15,000
Prepaid expense	4,000
Investments	10,000
Total current assets	149,000

Property and equipment

Land	24,300
Buildings and improvements	250,000
Equipment	50,000
Less accumulated depreciation	(5,000)

Other assets

Intangible assets	4,000
Less accumulated amortization	(200)

Total assets **\$ 472,100**

LIABILITIES AND SHAREHOLDERS' EQUITY

Current liabilities

Accounts payable	\$ 30,000
Notes payable	10,000
Accrued expenses	5,000
Deferred revenue	2,000
Total current liabilities	47,000

Long-term debt 200,000

Total liabilities

247,000

Shareholders' Equity

Common stock	10,000
Additional paid-in capital	20,000
Retained earnings	197,100
Treasury stock	(2,000)

Total liabilities and shareholders' equity **\$ 472,100**

Income Statement

Income statement ratios are based on a period of time and the resulting calculations will be heavily dependent on the time period selected. Seasonal businesses such as resorts or gift based businesses will have large fluctuations depending on the time of year. A ski resort may have losses in summer and booming profits in winter. Analysts must therefore understand limitations of ratios based upon the given time period and adjust their conclusions. Several different points in time and time periods for analysis may be used to see how a business is changing over time. Comparing ratios over a number of reporting periods, such as 3-5 years is a standard practice. This is known as trend analysis and may be both represented in numeric and graphical formats. Users will look for standard trends to see whether a business is improving or declining over several different areas of performance.

Income statement example

TEDDY FAB INC. STATEMENT OF INCOME Year Ended December 31, 2100	
Revenues	\$ 1,000,000
<u>Cost of goods sold</u>	<u>200,000</u>
Gross profit	800,000
 Operating expenses	
Selling, general, and administrative expense	357,700
Interest expense	20,000
<u>Depreciation and amortization expense</u>	<u>5,200</u>
Operating income	417,100
 Interest income	20,000
Net earnings before taxes	<u>437,100</u>
 Income tax expense	<u>240,000</u>
Net income	<u>\$ 197,100</u>

Industry Specific

The same ratio calculations can have a different meaning or interpretation depending on the target company's industry. It is therefore important for the user to properly understand specific details about that industry. For example, an accounting firm is not the same as an office furniture manufacturer. The distinctions need to be understood when applying ratios. Ratios are a tool for analysis and likely have limited value unless all facts and circumstances are considered.

Users

Audio

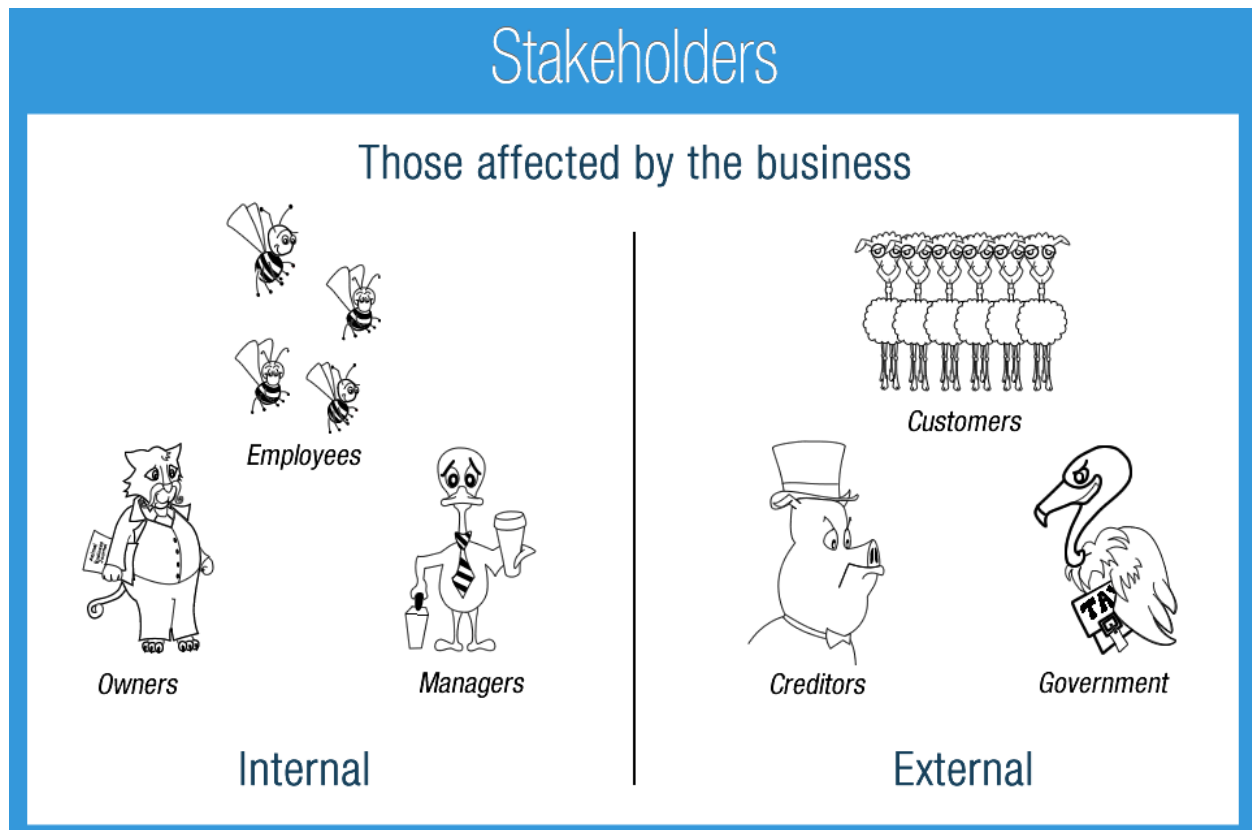
[Users](#)

Topics

- Users of Financial Ratios
- The Analyst

Users of Financial Ratios

Stakeholders are users of financial information with an interest in better understanding a company or organization. Internal users can include division managers and executive officers. External users such as bankers and other lenders rely heavily on financial ratios when making loan and other credit decisions. Investors employ financial ratios when reviewing existing investment positions or evaluating new opportunities. Less obvious parties could include a raw material supplier who may want to gauge the quality of a new client. Ratios can be applied to charitable organization to evaluate their operating efficiency. The type and extent of financial analysis with ratios will be dependent upon the end goals of the users.

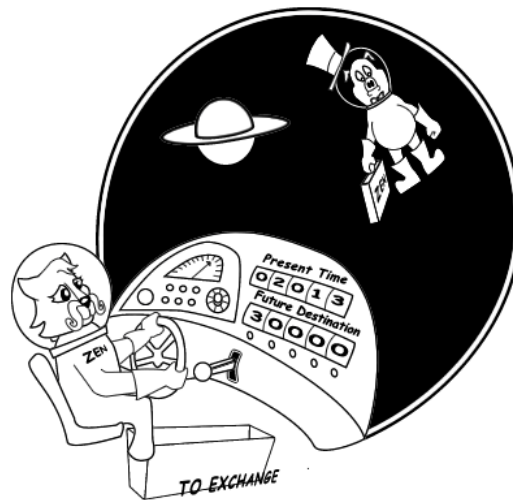


The Analyst

Financial analysts serve the role of analyzing financial data in a variety of different capacities. An analyst may specialize in some or more of the following: investment, securities, research, equity, rating, and others. Analysts may work within a company providing internal analytics or outside, using publically available information. Generally they are charged with finding value in their research so that decisions may be made. Internally, analysts may conclude, for example, that revenue is projected to increase and that staffing must be adjusted. An outside analyst may conclude that a particular stock is undervalued and therefore be purchased. Analysts typically, but not always, hold an economics, finance, or business related degree. The Chartered Financial Analyst (CFA) designation may also be obtained when certain testing and work experience requirements are made.

Derivatives

Financial contracts used to reduce risk or invest



Investor Cat enters into a derivative contract with banker pig... in space

Standard Financial Ratios by Category

Audio

[Standard Financial Ratios by Category](#)

Topics

- Introduction
- Liquidity
- Profitability
- Debt or Solvency
- Operating Performance
- Cash Flow
- Valuation
- Industry Specific
- Summary

Introduction

For the purposes of this presentation, ratios will be grouped into main categories. They all serve to use quantitative data to make qualitative assessments.

Liquidity

Liquidity ratios are used to evaluate how well a company is able to meet its short-term financial obligations.

Profitability

Profitability ratios are used to identify the level and quality of earnings.

Debt or Solvency

Debt or Solvency ratios give insight into financial leverage and ability to meet long-term debt obligations.

Operating Performance

Operating Performance ratios identify aspects of operations and efficiency, and insight into the timing of cash inflows and outflows.

Cash Flow

Cash Flow ratios identify relative cash positions.

Valuation

Valuation ratios are concerned with identifying company valuation mostly from an investment perspective.

Industry Specific

Ratios that provide information specific to certain industries that may not apply to all businesses.

Summary

The groupings are designed to be useful, but should not limit the use of a ratio that may provide information across two categories, such as both solvency and operating performance.

Liquidity Ratios

Audio

[Liquidity Ratios](#)

Topics

- [Introduction](#)
- [Current Ratio](#)
- [Quick Ratio](#)
- [Cash Ratio](#)
- [Times Interest Earned Ratio](#)

Introduction

Liquidity ratios measure company's ability to meet its short-term obligations (liquidity). Understanding liquidity is important because it shows the degree to which a company can be expected to pay creditors (or suppliers, via accounts payable), and to do so per agreed terms. This can influence a company's ability to maintain operations going forward. Liquidity directly impacts the ability to service debt payments. Problems with liquidity are a warning sign, often a first indication of significant operational problems. This is especially relevant to lenders and creditors who are concerned mostly with being paid back.

Current Ratio

The current ratio (also known as the working capital ratio) is the broadest measure of short-term liquidity because it takes into consideration all available liquid assets, including inventory and accounts receivable. It is helpful in estimating liquidity over the production cycle or an annual period, but arguably less helpful in the more immediate short-term. Users such as lenders or creditors are less focused on this measure because of its broader scope.

In healthy companies, this ratio result should be in excess of 1.5x; if not, then there is reason for concern and the analyst will investigate matters to determine the issues behind the low result. A ratio value of less than 1.0x is a warning sign that indicates the company could have difficulty meeting its short-term obligations.

The user should make an effort to understand the composition of this ratio's numerator. For example, it may be possible that receivables or inventory comprise too large of a portion of working capital. In other words, it is important to understand if less liquid components comprise the bulk of liquid assets, particularly when the ratio result is strong.

- Measure of short-term liquidity using all available liquid assets (inventory and receivables included)
- Generally favorable: higher result
- Result of 1.5x-3.0x is generally considered optimal by stakeholders such as: bankers and lenders concerned about loan repayments
- Also known as the working capital ratio

Current Ratio

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

Current Assets = Cash & Equivalents + Accounts Receivable +
Inventory + Prepaid Expenses + Inventory + ...

Current Liabilities = Accounts Payable + Tax Payable + Current
Portion of Long-term Debt + Accrued ... + ...

Liquidity

Quick Ratio

The quick ratio is a more conservative liquidity indicator because it excludes inventory from the numerator. Inventory is generally less liquid than accounts receivable. A result of 1.0x would be considered breakeven but any concerned party will want to see results in excess of 1.2x at a minimum.

- Measure of short-term liquidity
- Generally favorable: higher result
- More conservative (errors on side of caution) compared to other liquidity measures, because it does not include inventory
- Result of 1.2x is generally considered safe by stakeholders, particularly bankers and lenders who are concerned about loan repayments
- Also known as the acid test ratio

Quick Ratio

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

Current Assets = Cash & Equivalents + Accounts Receivable +
Inventory + Prepaid Expenses + Inventory + ...

Current Liabilities = Accounts Payable + Tax Payable + Current
Portion of Long-term Debt + Accrued ... + ...

Liquidity

Cash Ratio

The cash ratio measures cash and cash equivalent balances relative to current liabilities. It is an extreme liquidity ratio because other generally liquid assets like accounts receivable and inventory are excluded from the numerator. It measures the ability of a business to repay its current liabilities by only using its cash and cash equivalents.

Cash equivalents are assets which can be converted into cash quickly, whereas current liabilities are liabilities which are to be settled within 12 months or the business cycle. A cash ratio of 1.0x is breakeven, meaning the company could satisfy its current liabilities in full using only cash and equivalents. The ratio is usually below 1.0x because cash is tied up in some degree in components that make up the process of production. A result close to 0.5x is considered normal.

- Measure of short-term liquidity
- More conservative (errors on side of caution) compared to other liquidity measures (current ratio, quick ratio) because it only includes cash and equivalents in the numerator
- Result generally well under 1.0x

Cash Ratio

$$\text{Cash Ratio} = \frac{\text{Cash Equivalents} + \text{Cash}}{\text{Current Liabilities}}$$

Cash Equivalents	=	Original maturities of 90 day or less: Bank CDs + Money Market + Savings + ...
Current Liabilities	=	Accounts Payable + Tax Payable + Current Portion of Long-term Debt + Accrued ... + ...

Liquidity

Times Interest Earned Ratio

The times interest earned ratio is a basic measure of the ability to cover interest payments. The ratio is especially relevant for bankers and other lenders, all of whom will have minimum repayment standards. For such users, a minimum coverage ratio result might be 1.25x, and in general somewhere around 2.0x would be considered optimal. If the ratio is too high it might indicate that a company is not taking advantage of financing or leverage.

Times interest earned does not include principal payments, so using this ratio only for situations where a company has contractual principal reduction payments would serve to overstate the “debt coverage.” Additionally, if trend analysis shows increased borrowings in the most recent period, along with a decline in the ratio result, one can give thought to whether or not the potential earnings impact resulting from the new borrowings has yet been fully realized or not.

- Measures a company’s ability to use earnings to cover interest expense obligations
- Generally favorable: higher result
- Preferred result generally a minimum of 1.25x by lenders and bankers

Times Interest Earned

$$\text{Times Interest Earned} = \frac{\text{EBIT}}{\text{Interest Expense}}$$

EBIT = Earnings Before Interest & Taxes

Liquidity

Profitability Ratios

Audio

Profitability Ratios

Topics

- Introduction
- Profit Margin
- Gross Margin
- Effective Tax Rate
- Return on Assets
- Return on Equity
- DuPont Formula
- Return on Capital Employed

Introduction

Profitability is a measure of net earnings, relative to components used to generate earnings. Profitability is also a measure of efficiency, providing evidence for how well a company utilizes things like assets or equity in order to generate both revenue and profit.

Measuring or evaluating profitability is important for gauging the quality of a company, as well as providing a basis for valuation as an enterprise or investment. Investors are especially concerned with profitability measures.

Despite being influenced by accounting conventions, earnings are still the most relevant and popular indication of a company's ability to make money. Profitability ratios are important for defining the quality of a company's earnings stream, and shed light on a company's ability to generate cash.

Profit Margin

The profit margin ratio is an important measure and point of consideration for any user. It measures the total profit of a company relative to total sales. Expected ratio results can vary widely by industry type (for example, banks have very low profit margins). A negative result means the company reported a net operating loss for the period being analyzed.

This ratio is often expressed on a “net” basis, and referred to as “net profit margin”, and the denominator is generally expressed as “net sales” which rightly adjust total sales for any returns, allowances and discounts. There is no absolute benchmark and it is best to compare the ratio result to a relevant peer group in order to make a proper determination.

The main drawback to this ratio is that it does not explain the quality of the result. For example, if the result is low, the user does not know if the problem lies in high cost of goods sold, or high overhead or low sales volume, or other factor. Additional research is usually required to fully understand a ratio result.

- Measures the degree of profitability after all direct or operational expenses
- Usually calculated after the impact of net interest income / expense
- Also known as pre-tax margin

Profit Margin

$$\text{Profit Margin} = \frac{\text{Net Income}}{\text{Net Sales}}$$

Profitability

Gross Margin

Gross margin measures the relationship between sales and cost of goods sold. It is the first available measure of profitability on the income statement, specifically measuring the profitability inherent in a business before applicable overhead costs. A high gross margin is a welcome sign, indicating that production revenue is well in excess of total direct production costs. A low gross margin is cause for concern and further investigation. Peer group analysis will shed important perspective on this result.

The ratio can often be expressed in terms of “net revenue” as well, meaning gross sales less returns, Allowances or Discounts. This ratio should always result in a significantly positive number. If looking at interim statements, keep in mind that the gross margin can be affected by seasonality. Using annual statements will mitigate this possibility. The ratio is mostly relevant for companies with significant manufacturing activities such as an equipment producer or re-seller. This would not apply to service sector companies such as accounting or law firms that have no significant cost of goods.

- Measure of cost of goods sold (COGS) relative to revenue
- Most relevant for inventory based businesses (manufacturing / retail sales)
- Best evaluated relative to similar companies / peer group

Gross Margin

Gross Margin

=

$$\frac{\text{Net Sales} - \text{COGS}}{\text{Net Sales}}$$

COGS = Cost of Goods Sold

Profitability

Effective Tax Rate

The effective tax rate shows the overall relationship between income earned and taxes paid. It does not reflect or demonstrate effects of tiered taxation rates. A potential limitation of this ratio can be the composition of the numerator. For example, the analyst should (or can) investigate further to determine the impact of any non-recurring tax loss carryforward that could serve to reduce actual taxes paid. This is important if one is using historical results as a basis for building financial projections, or simply looking to estimate cash flows using a forward perspective.

Effective tax rate can be applied differently depending on user needs. If the user is charged with evaluating a new potential line of business and its net earnings impact for example, it may likely be more accurate to use marginal tax rates. Use of the marginal rates may best determine tax implications resulting from the anticipated marginal earnings increase. To interpret this variation, compare the result to applicable standardized tax schedules and compare to peer groups.

- Measure of income tax paid relative to net income
- Calculation of tax rate at a given time period

Effective Tax Rate

$$\text{Effective Tax Rate} = \frac{\text{Income Tax Expense}}{\text{EBT}}$$

EBT = Earnings Before Taxes Earn

Profitability

Return on Assets

The return on assets (ROA) ratio measures relationship between net earnings and assets. The result varies greatly between industry types, generally because of balance sheet composition. Capital intensive industries such as utilities or automobile manufacturers generally will report lower ROA numbers compared to service firms such as law offices or software developers. Manufacturing industries require expensive equipment which appears as an asset on the balance sheet and therefore not comparable to service based businesses. Peer analysis is therefore important when drawing conclusions.

Capital structure can have a significant impact on ROA and therefore analysts may add back interest expense to net income, especially when conducting peer analysis. This measure can also be calculated on a pre-tax basis, and often is, especially when comparing a company to a peer group. Many analysts consider this less of a measure of profitability than a measure of operating efficiency because it also indicates how well a company is employing its assets to generate profits.

- Measures relationship between net earnings and assets
- Indication of operating efficiency
- Favorable: higher result

Return on Assets

$$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Total Assets}}$$

Profitability

Return on Equity

Return on equity (ROE) measures profitability relative to shareholder investment, or equity. This ratio is generally considered the best measure of profitability and is strongly favored by investors. While always important, users such as lenders or creditors are less concerned with this ratio given their focus on risk of being paid back. As with return on assets, it is best to use average equity in the denominator for the period being analyzed because equity levels can change during the period.

Capital structure and financial leverage heavily influence ROE results, both within and between industry groups. Companies that use higher levels of long-term debt will generate have higher ROEs (all things equal). Higher leverage can also indicate a higher degree of risk associated with generating earnings.

- Measures relationship between net earnings and business equity
- Indication of operating efficiency
- Favorable: higher result

Return on Equity

Return on Equity

(ROE)

=

Net Income

Average Shs' Equity

Average Shareholders'
Equity

=

Beginning + Ending
Shareholders' Equity

2

Profitability

DuPont Formula

The DuPont formula is an alternative approach to evaluating return on equity, effectively splitting the traditional ROE ratio into three significant components: profit margin, asset turnover and financial leverage, to better understand changes in ROE over time using trend analysis.

The purpose is to isolate or breakout these three drivers to get a better idea of which component has had more impact on the change in ROE from the prior period. For example, learning that profit margin was the reason for the increase in ROE over the prior reporting period is a positive sign. Conversely, if the increase was attributable solely to an increase in financial leverage (increased long-term debt) then that could be considered negative.

Generally there is no standard benchmark for this metric. In terms of the calculation result, the higher is better, just like with the conventional ROE Ratio. More importantly is the ability of this ratio to look beyond conventional ROE. Comparability between similar industries, timeframe, and other context is particularly important when employing this formula.

- An alternative approach to evaluating return on equity (ROE) to provide further insight than just the standard ROE measure
- Splits the traditional ROE ratio into three components: profit margin, asset turnover, and financial leverage
- Favorable: higher result

DuPont Formula, ROE

DuPont Formula: Return on Equity =

$$\frac{\text{Net Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total Assets}} \times \frac{\text{Total Assets}}{\text{Average Shs' Equity}}$$

$$\text{Average Shareholders' Equity} = \frac{\text{Beginning + Ending Shareholders' Equity}}{2}$$

$$\text{Profitability}$$

Return on Capital Employed

Return on capital employed, or “ROCE” is a similar measure to return on equity, but gives more consideration to the effects of debt and leverage relative to earnings. It is therefore especially helpful when evaluating highly-leveraged or capital-intensive companies. ROCE is potentially better and more accurate than standard ROE because it attempts to indicate how well a company is generating earnings in relation to both debt and equity.

An important consideration is that the ROCE ratio should be greater than the company’s weighted-average cost of capital; if it is not, then this is a signal that over time earnings from operations may be steadily declining, resulting in less earnings available to shareholders.

One general drawback is the total assets in the denominator which includes the effects of depreciation and amortization. This can serve to reduce the denominator and artificially increase the ratio result. This scenario could skew results between new and older companies, so one should consider this potential issue.

Trend analysis is beneficial when using most ratios, but especially so for ROCE. The analyst should hope to find year to year increases in ROCE which would indicate the company is in fact benefiting over time from its efficient employment of capital. This cannot be determined from looking at a single reporting period.

- Measures the relationship between earnings before interest and taxes (EBIT) and shareholders’ investment
- Indicates profitability and efficiency
- Favorable: higher result
- Higher results indicate more efficient use of capital

Return on Capital Employed

$$\begin{array}{c} \text{Return on Capital} \\ \text{Employed} \\ \text{(ROCE)} \end{array} = \frac{\text{EBIT}}{\text{Capital Employed}}$$

EBIT = Earnings Before Interest & Taxes

Capital Employed = Total Assets - Current Liabilities

Profitability

Debt and Solvency Ratios

Audio

[Debt and Solvency Ratios](#)

Topics

- [Introduction](#)
- [Debt Ratio](#)
- [Debt to Equity Ratio](#)
- [Equity Ratio](#)
- [Capitalization Ratio](#)
- [Cash Flow to Debt](#)

Introduction

Solvency is the ability of a company to meet its long-term financial obligations. This ratio group is concerned with identifying absolute and relative levels of debt, financial leverage, and capital structure.

These ratios allow users to gauge the degree of inherent financial risk, as well as the potential of insolvency. Financial risk is a relative measure; the absolute amount of debt used to finance assets and operations is by itself not that meaningful. In other words, there is no right or wrong amount of debt. The company may be evaluating in context of ability to carry or service liabilities.

Debt Ratio

The debt ratio is the most basic indicator of solvency which identifies the percentage of assets that are funded by liabilities. There is no set rule for the result but one could expect to see a rough range of results between 60%-80% across a broad spectrum of most industries. Financial institutions conversely are highly leveraged and ratios with results of 90%+ are common. Ratios below 50% are infrequent, with the possible exception of small family owned businesses.

This ratio by itself is not especially important. It tells the level of debt or leverage, but the result needs to be considered in relation to the enterprise as a whole. High leverage can be positive if the company is able to support and take advantage of it. This ratio is therefore a starting point to solvency analysis. Analysts will quickly move on from this point by focusing attention to the composition of liabilities, earnings, cash flow, and coverage.

- Measures the relationship between total liabilities and total assets
- Basic indicator of risk, leverage, and solvency
- Favorable: lower result
- Lower results indicate a higher percentage of equity employed to fund or support operations

Debt Ratio

$$\text{Debt Ratio} = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

Debt and Solvency

Debt to Equity Ratio

The debt to equity ratio provides a different perspective on the manner in which a company funds its assets. It is a measure of leverage and a preliminary indicator of solvency. As with the debt ratio, there is no standard generic benchmark from which to judge all companies. This metric should be considered in large part by the industry type being analyzed while performing quality peer group analysis.

Trend analysis (comparing company results over a number of years) is also helpful in understanding debt to equity ratio. Should the ratio results rise over time, for example, this trend would likely suggest increased use of bank financing or worse, signal operational issues. Such a trend would require further attention and investigation.

- Measures the relationship of total liabilities to shareholders' equity
- Indicator of financial leverage
- Favorable: lower result
- Lower results indicate less risk in operations

Debt to Equity Ratio

$$\text{Debt to Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Shareholders' Equity}}$$

Debt and Solvency

Equity Ratio

In almost all cases, a strong equity to assets ratio is a positive sign, especially from a risk or solvency perspective. A high equity ratio is generally a common trait of quality, well performing companies. The equity ratio by itself, however, does not explain how the level of equity was achieved. A high degree of equity can be present for a variety of reasons, from seed funded startups to long-running, historically successful companies with significant retained earnings. Another possible event that could distort the usefulness of this measure could be a large secondary common stock offering.

Lower relative amounts of equity can occur simply for industry-specific reasons such as the case with commercial banks or investment brokerages. This result could be also driven by an over-leveraged capital structure (too much debt) or net operating losses. As is often the case, it's important for the analyst to get to work in order to understand the "how and why" behind the ratio result.

- Measures % of total assets financed by shareholders' investment and retained earnings
- Indicator of leverage and solvency
- Favorable: higher result
- Peer analysis helps to qualify this measure because different industries can employ different capital structures

Equity Ratio

$$\text{Equity Ratio} = \frac{\text{Shareholders' Equity}}{\text{Total Assets}}$$

Debt and Solvency

Capitalization Ratio

The capitalization ratio is a key identifier of financial leverage, or operational leverage which can be broadly thought of as financial or investment risk. In general, higher results indicate higher risk; lower results equal less risk. At the same time, however, higher results can equal higher returns, and vice versa.

It is difficult to assign a normal or expected range of results for the capitalization ratio. There is really no hard or fast rule because capital composition decisions are influenced by many factors including industry type, development stage, management philosophy, prevailing economic and monetary conditions, and other factors. Key to evaluating this ratio is to simultaneously understand how well the company can manage leverage.

Leverage has both risks and rewards. High leverage allows for greater returns on shareholder' equity investment and is therefore beneficial, especially in good economic times. Conversely, when a company with high leverage is struggling, whether because of operational, competitive or general economic reasons, leverage can become a problem because required debt payments can be more difficult or even impossible to meet. Inability to service debt requirements could potentially lead to serious problems such as cessation of operations, bankruptcy, insolvency, liquidation, and restructure.

Industry type will generally influence the result. Capital intensive industries typically finance their long-lived property, plant, and equipment (PP&E) which thus increases the relationship of debt to capital. This metric will have little use for industries with little or no physical infrastructure.

- Measures the relationship of long-term debt to capital structure
- Indicator of financial leverage
- Evaluation depends on industry and perspective; generally, the lower the better
- Lower results indicate less risk in operations
- Strongly influenced by industry type

Capitalization Ratio

$$\text{Capitalization Ratio} = \frac{\text{Long-term liabilities}}{\text{Long-term liabilities} + \text{Shareholders' equity}}$$

Debt and Solvency

Cash Flow to Debt

Cash flow to debt is a broad, top level indicator of solvency. Cash flow to debt compares the relationship of operating cash flow to total debt outstanding. This ratio is technically different from the debt service coverage ratio because it demonstrates a company's implied capacity to retire debt principal, or, in other words, to make payments above and beyond contractual minimums. Higher resulting ratios are generally better. However, one point to consider is that if the ratio is very high, it may indicate that management has not been employing cash in the most effective manner.

Cash flow to debt may be a slightly overstated measure because the numerator includes total cash flow from operations. In some cases, not all operating cash would be available for debt retirement. To combat this, some analysts will take this ratio a step further by adjusting the numerator to remove known anticipated cash expenditures. For example, upcoming capital equipment purchases may be removed. Further adjustments to this or other ratios are the hallmark of a competent analyst or ratio user.

Important to note is that all relevant or related categories of total debt may be adjusted for a variety of things, such as: mandatory principal reductions on interest-only financing, redeemable preferred stock or applicable portions of the principal on non-cancelable operating leases, and anything that is industry specific.

- Measures relationship of cash flow to total debt
- An indicator of solvency
- Favorable: the higher the better, within reason
- Generally less than 1:1
- Lower results indicate less risk in operations
- Not a direct indicator of debt service capacity

Cash Flow to Debt Ratio

$$\text{Cash Flow to Debt Ratio} = \frac{\text{Operating Cash Flow}}{\text{Liabilities}}$$

Debt and Solvency

Operating Performance Ratios

Audio

Operating Performance Ratios

Topics

- Summary
- Fixed Assets Turnover Ratio
- Sales or Revenue per Employee
- Operating Cycle
- Cash Conversion Cycle
- Account Receivable Turnover Ratio
- Accounts Payable Turnover Ratio
- Inventory Turnover Ratio

Summary

Operating performance is defined as measuring results relative to the assets used to achieve those results. Efficiently for the purposes of this presentation could be defined as the ratio of output performed by a process or activity relative to the total required energy spent. This category is subjective in nature. Often measurements are viewed not only in relation to factors within a company but without it as well, which is done by making comparisons of company results to industry standards or benchmarks. Most often, making relative comparisons is the best way to fully understand results in this ratio category. In general this measurement tool is most often applied in a monetary or financial sense, though it also has applications in other areas such as regulatory compliance, ethics, and managing risk.

Understanding operating performance is critical in gauging the condition of a company. Consistently top-performing companies are always efficient operators, while poorly performing companies often have underlying issues which are creating poor results. Results will vary depending on the time period selected, but overtime should provide valuable performance insight.

Fixed Assets Turnover Ratio

The fixed assets turnover ratio measures how efficiently or effectively a company employees its fixed assets to generate sales. Trend analysis is beneficial in making sense of this ratio. Ideally the user would like to see a rising trend which could indicate efficiency or less required investment for a given sales volume. Conversely, a ratio result in a declining trend could indicate overspending or issues on the revenue side. Factors such as book value, age of equipment or, less often, different capital structures or strategic differences in methods of production may make industry comparison difficult.

- Measures relationship between sales and fixed assets
- Generally favorable: higher result
- Measure of: activity and efficiency
- Indicates how well a company utilizes property, plant & equipment to generate revenue

Fixed Asset Turnover

$$\text{Fixed Asset Turnover} = \frac{\text{Net Sales}}{\text{Average Net Fixed Assets}}$$

$$\text{Average Net Fixed Assets (Cost - Depreciation)} = \frac{\text{Beginning + Ending Net Fixed Assets}}{2}$$

Operating Performance

Sales or Revenue per Employee

Sales or revenue per employee uses average employee figures for the reporting period analyzed compared to sales. Ratio results are highly divergent and are driven by industry and strategic management choices. Trend analysis is helpful to gain insight into any operational or efficiency changes, or impacts from changes in strategy within a given company. Peer comparison is particularly important, as business type and size will substantially affect the ratio.

- Indicates revenue generated per employee
- Generally favorable: higher result
- Measure of: activity and efficiency
- Heavily influenced by: industry type, production, and operating strategy
- Best used with: trend analysis

Sales Revenue per Employee

$$\text{Sales Revenue per Employee} = \frac{\text{Net Sales}}{\text{Average Number of Employees}}$$

$$\text{Average Number of Employees} = \frac{\text{Beginning + Ending Employees}}{2}$$

Operating Performance

Operating Cycle

The operating cycle is a concept that estimates the average the number of days a company takes to convert inventory to cash by combining the impacts of both the time taken to sell inventory and the time taken to collect cash from accounts receivable. It represents the completed production process.

Generally speaking, at least with regard to this and other conversion ratios, companies purchase inventory or raw materials on credit and later sell products on credit. These actions result in accounts payable and accounts receivable. Therefore, the actual transfer of cash, in either direction, does not come into play until the company pays payables and collects receivables. The ratio is a measure of operating efficiency and working capital management. The shorter the time required to complete the cycle, the better.

- Measures time in days to convert inventory to cash
- Generally favorable: shorter result
- Includes impact of receivables collection
- Measure of: operating efficiency and working capital management
- Best used with: peer comparison

Operating Cycle Ratio

$$\begin{array}{c} \text{Operating Cycle} \\ \text{Ratio} \\ \text{(Days)} \end{array} = \text{DSI} + \text{DSO}$$

Days' Sale of Inventory DSI		Days Sales Outstanding DSO
$\frac{365}{\text{Purchases}} \times \text{Average Inventory}$		$\frac{365}{\text{Credit Sales}} \times \text{Average Accounts Receivable}$
$\frac{\text{Beg. Inv.} + \text{End Inv.}}{2} = \text{Average Inventory}$		$\frac{\text{Beg. AR} + \text{End AR.}}{2} = \text{Average Accounts Receivable}$

Operating Performance

Cash Conversion Cycle

The cash conversion cycle measures the time between cash outflows and cash inflows resulting from the primary business line, or production process. In other words, it illustrates how quickly a company can convert its products into cash through sales. The shorter the cycle, the less time capital is tied up in the business process, and thus the better for earnings.

- Measures the time to convert resources into cash
- Generally favorable: shorter result
- Indicator of working capital efficiency
- Best used with: peer comparison

Cash Conversion Cycle

$$\text{Cash Conversion Cycle (CCC)} = \text{DIO} + \text{DSO} - \text{DPO}$$

$$\begin{array}{c} \text{Days Inventory Outstanding} \\ \text{DIO} \\ \hline \frac{\text{Inventory}}{\text{Cost of Goods Sold}_p} \times \text{Days}_p \\ P = \# \text{ days in period} \end{array}$$

$$\begin{array}{c} \text{Days Sales Outstanding} \\ \text{DSO} \\ \hline \frac{\text{Accounts Receivable}}{\text{Revenue}_p} \times \text{Days}_p \\ P = \# \text{ days in period} \end{array}$$

$$\begin{array}{c} \text{Days Payable Outstanding} \\ \text{DPO} \\ \hline \frac{\text{Accounts Payable}}{\text{Revenue}_p} \times \text{Days}_p \\ P = \# \text{ days in period} \end{array}$$

Operating Performance

Account Receivable Turnover Ratio

Accounts receivable turnover gives an average for the number of times (expressed in days) that a company takes to collect its outstanding receivables. Similar turnover ratios can be expressed in either number of times per year or days.

The AR turnover ratio is an indicator of operating efficiency. It measures the efficiency in money collection. Only sales made on credit are used in this evaluation because sales made on a cash basis are collected immediately. A high result indicates a company is collecting on receivables quickly. A low result indicates the opposite, and could be a sign the company needs to review slow paying customers.

- Calculates the average number of days required to collect receivables
- Generally favorable: shorter result
- Measure of: operating efficiency and working capital management
- Heavily influenced by: industry type

Accounts Receivable Turnover

$$\text{Accounts Receivable Turnover} = \frac{\text{Net Sales}}{\text{Average AR}}$$

$$\text{Average Accounts Receivable (AR)} = \frac{\text{Beginning + Ending AR}}{2}$$

Operating Performance

Accounts Payable Turnover Ratio

The principles underlying the accounts payable turnover ratio are the same as for the accounts receivable turnover ratio, with the exception that accounts payable (liability account) is being addressed. It also is an indicator of operating efficiency, demonstrating the degree to which a company can pay its short-term obligations in a timely manner.

This ratio is of primary interest to both suppliers and lenders. Lower numbers are almost always better. Companies that pay quickly can often benefit by better terms or receive discounts. However, if the turnover result is exceptionally low it might indicate a company is paying too quickly. Paying too fast can be a loss of opportunity for a company to make money on existing savings. Paying too quick may also force a company to use more high interest credit lines which increase interest expense.

- Calculates the average rate at which payables are paid
- Generally favorable: shorter result
- Measure of: operating efficiency and working capital management
- +/- 45 Days considered reasonable
- Heavily influenced by: industry type

Accounts Payable Turnover

$$\text{Accounts Payable Turnover} = \frac{\text{Supplier Purchases}}{\text{Average AP}}$$

$$\text{Average Accounts Payable (AP)} = \frac{\text{Beginning + Ending AP}}{2}$$

Operating Performance

Inventory Turnover Ratio

Inventory turnover provides the average number of times inventory is sold during a reporting period. The ratio can be expressed either by the number of times during the period, or by the number of days. As with every turnover ratio, this is a measure of efficiency in operations. The quicker a company can sell its inventory, the better. Quicker turnover allows for more opportunities to generate profit, indicates that the company is selling a desired product, and reduces the chance of spoilage, obsolescence or the need to offer discounts. The ratio result is significantly influenced by industry type. For example, you should expect a local bakery to have a higher turnover compared to manufacturer of cruise ships.

- Calculates frequency of inventory sold on average, during a reporting period
- Generally favorable: shorter result
- Measure of: operating efficiency and working capital management
- Heavily influenced by: industry type

Inventory Turnover

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

$$\text{Average Inventory} = \frac{\text{Beginning + Ending Inventory}}{2}$$

Operating Performance

Cash Flow Ratios

Audio

[Cash Flow Ratios](#)

Topics

- [Summary](#)
- [Operating Cash Flow / Sales Ratio](#)
- [Free Cash-Flow / Operating Cash Ratio](#)
- [Cashflow Coverage Ratio](#)

Summary

Cash flow is the actual amount of cash generated or lost by an entity during the course of operations. Cash and cash flow are important mainly because it is perhaps the ultimate indicator of a company's attractiveness, success or health. As they say, "Cash is King."

The main reason for pursuing any business activity is ultimately to make money. Successful well-performing businesses have enough cash to comfortably make timely payments to creditors and lenders, meet operating expenses and pursue growth and expansion initiatives. Companies that are short on cash are in just the opposite position and can over time be at risk of insolvency.

Cash is a factor in evaluating solvency, liquidity, growth potential, efficiency and the quality of management overall. Understanding cash flow is so significant that financial statements usually include the statement of cash flows which is devoted entirely to this one factor. The statement is divided into three parts: operating, financing and investing.

Operating Cash Flow / Sales Ratio

The operating cash flow / sales ratio is limited by its very nature. This ratio just gives a very broad or general idea about how well a company can convert sales into cash. Without a real standard benchmark to rely upon to evaluate the result, using trend analysis and peer analysis is important.

When evaluating this ratio over multiple time periods, an analyst should expect to see a reasonably consistent relationship between cash flow and sales. When sales increase, so should cash flow. If this consistency is not present, further analysis should be pursued. Some factors to look for in such a situation might include changes in sale terms, potential credit issues with buyers or issues with managing trade receivables.

- Measures the relationship of cash flow to sales
- Generally favorable: higher result
- Measure of: efficiency
- Best used with: trend analysis and peer comparison
- A broad measure only, providing no meaningful detail by itself

Operating Cash Flow / Sales Ratio

$$\text{Operating Cash Flow / Sales Ratio} = \frac{\text{Operating Cash Flow}}{\text{Net Sales Revenue}}$$

$$\text{Operating Cash Flow} = \frac{\text{Net Cash Provided by Operating Activities}}{\text{Net Sales}}$$

Cash Flow

Free Cash-Flow / Operating Cash Ratio

Free cash-flow / operating cash flow is a significant ratio for users interested in understanding cash that may be available for additional activities. When evaluating this measure, the higher resulting ratio is better. Most credit analysts and many investment analysts consider free cash flow the most important factor to consider when making recommendations.

Good results give comfort to creditors and investors alike. High levels of free cash flow are evidence of a well performing operation and enable financial flexibility in decision making, strategic planning and the overall company management process. Peer analysis is helpful in identifying comparable standards and evaluations.

- Measures actual free cash flow in relation to total cash flow
- Generally favorable: higher result
- Measure of: liquidity, financial flexibility, and operating efficiency

Operating Cash Flow / Sales Ratio

$$\text{Operating Cash Flow / Sales Ratio} = \frac{\text{Operating Cash Flow}}{\text{Net Sales Revenue}}$$

$$\text{Operating Cash Flow} = \frac{\text{Net Cash Provided by Operating Activities}}{\text{Net Sales}}$$

Cash Flow

Cashflow Coverage Ratio

In its base application, the cash flow coverage ratio estimates a company's ability to meet its interest expense with available free cash flow. The ratio is included in the cash flow group but is also a measure of liquidity or solvency. A higher result is almost always better and a comfortable minimum standard should be at least 1.5x given that other payments, not simply interest expense, can be present.

Many users place high value on this ratio, in particular lenders. It is an important indication of financial condition and company quality. Correctly evaluating the quality of cash flow coverage is critical for many reasons. Some other coverage examples include loan principal repayment, preferred stock coverage, capital expenditure coverage, dividend coverage, and other similar uses. Analysts that understand their target company, its industry and the purpose behind the analysis being conducted will find ways to best apply the concept of coverage in the course of their work.

- Measures capacity to make debt payments
- Generally favorable: higher result
- Measure of: solvency
- 1.0x is considered "break even", 1.2x is generally considered minimally acceptable

Cash Flow Coverage Ratio

$$\text{Cash Flow Coverage} = \frac{\text{Operating Cash Flow} - \text{Capital Expenditures}}{\text{Interest Expense}}$$

Capital Expenditures = Physical assets such as: Property, Plant, & Equipment

Cash Flow

Valuation Ratios

Audio

Valuation Ratios

Topics

- Summary
- Price/Book Value Ratio
- Earnings per Share
- Price to Earnings per Share
- Price/Earnings to Growth Ratio
- Price / Sales Ratio
- Dividend Yield Ratio
- Dividend Payout Ratio
- Enterprise Market Value

Summary

Valuation ratios in this sense are concerned with identifying the value component of securities investment vehicles behind companies. These are most often used by people who participate in the securities markets (stock market and equity sales). From this perspective, a range of users would include those employed in the industry such as portfolio managers or investment analysts, down to smaller participants like individual investors. In general, these users are looking to make either investment decisions or recommendations. Valuation is an important concept mostly because it serves as a foundational component for determining the actual cost or price of an investment. It provides a way to measure the relative value of an investment against alternative options.

Price/Book Value Ratio

Price/book value ratio (price to book or P/B ratio) compares current market value to current book value. Market value is the current value of the company in the stock market, while book value is the difference between reported assets and reported liabilities for a given period. This is most often expressed in terms of per share values. The P/B ratio is an indication of the inherent value of a company. Note that some formula calculations will exclude intangible assets when calculating book value, which is referred to as the price to tangible book ratio.

Price to book is a very simplistic method of identifying attractive investment opportunities. A lower P/B ratio can mean either the stock is undervalued or something is fundamentally wrong with the company. In other words, the ratio by itself does not explain the “why” behind the result. This ratio gives you an idea if you're paying too much for what would be left if the company declared bankruptcy.

P/B ratio is particularly useful for value investors, who are always on the hunt for low price stocks that the market has neglected. A P/B result of less than 1.0x generally means either the market believes the asset value is overstated, or the company is underperforming from an earnings perspective.

The ratio has several different limitations. It is mostly relevant for capital-intensive companies, financial institutions or other asset heavy companies. Book value does not account meaningfully for considerations such as goodwill, brand identity, new potential innovations, intellectual properties and any potential capital appreciation of certain assets. High leverage can also artificially distort the ratio because of the level of liabilities. Additionally, a newer company with historical reported losses and negative equity will have negative book value, but could be poised for profitability going forward.

- Compares market price of stock relative to book value
- Limited valuation measure that does not take into account several other possible valuation factors: appreciation of book value assets, market environment, income growth
- A value > 1.0x indicates favorable investor sentiment, a value < 1.0 indicates the opposite

Price / Book Value Ratio

$$\begin{array}{ccc} \text{Price / Book} & & \text{Price per Share} \\ \text{Value Ratio} & = & \frac{\quad}{\quad} \\ \text{P/B Ratio} & & \text{Book Value per Share} \end{array}$$

$$\text{Book Value per Share} = \frac{\text{Total Shareholders' Equity}}{\text{Total Outstanding Shares}}$$

Valuation

Earnings per Share

Earnings per share (EPS), is the most commonly expressed, and most important, measure of company valuation. EPS is generally regarded as the single most significant factor for influencing a company's stock price, either upward or downward. A higher ratio result is always better. From an investment perspective, this ratio is highly significant and less important from a lender perspective.

EPS is also often calculated on a fully diluted basis, which accounts for the potential of additional shares from sources such as options, warrants and convertible securities. This calculation is generally considered the more accurate method. This metric is best evaluated in comparison to other companies in the same industry as well as over time using trend analysis.

- Presents earnings (net income) per single share of common stock
- Generally favorable: higher result
- Measure of: profitability and valuation

Earnings per Share

$$\begin{array}{c} \text{Earnings} \\ \text{per Share} \\ \text{EPS} \end{array} = \frac{\begin{array}{c} \text{Net Income} \\ - \text{Dividends on Preferred Stock} \end{array}}{\text{Average Outstanding Shares}_2}$$

$$\text{Average Outstanding Shares}_2 = \frac{\text{Alternate Calc: Number of Outstanding Common Shares} + \text{Common Stock Equivalents}}{2}$$

$$\text{Average Outstanding Shares} = \frac{\text{Beginning} + \text{Ending Shares}}{2}$$

Valuation

Price to Earnings per Share

Also known as the P/E Ratio, this metric is extremely popular among investors. The calculation shows the relation between the market price of a stock and the underlying earnings on a per share basis. The measure shows how expensive a stock is in relative terms to the market price. The ratio effectively shows how much investors are willing to pay per dollar of company earnings. It is useful for comparing investment opportunities between companies within an industry segment, and even between different industries. The P/E Ratio is traditionally calculated using the previous 12 month historical earnings and can also be calculated using 12 month projected earnings. If using forward earnings, the ratio is then known as forward P/E.

If there is a drawback to this ratio it would be that the denominator is based (usually) on historical reported earnings, which can be manipulated or skewed either by proper accounting convention or even fraudulent reporting. Thus, it is important for the user to understand the quality of the earnings reported.

- Compares common stock price per share to its earnings per share
- The higher the ratio, the more “expensive” the stock
- Higher results can indicate greater market demand
- Measure of: valuation

Price to Earnings Ratio

$$\begin{array}{c} \text{Price to Earnings} \\ \text{Ratio} \\ \text{P/E Ratio} \end{array} = \frac{\text{Market Value per Share}_1}{\text{Earnings per Share}_2}$$

$$\text{Alternate Calc:} = \frac{\text{Average Common Stock Price}_1}{\text{Net Income Per Share}_2}$$

$$\text{Earnings per Share} = \frac{\text{Net Income} - \text{Dividends on Preferred Stock}}{\text{Average Outstanding Shares}}$$

Valuation

Price/Earnings to Growth Ratio

Price/earnings to growth ratio (PEG) takes into account company earnings growth in evaluating potential investment opportunities. Because the metric adds a growth component, it is considered more complete than the standard price/earnings ratio. Investors may look to see if a stock is under or overvalued and make decisions accordingly.

- Determines the value of common stock by taking earnings growth into account
- Measure of: valuation
- General guideline: if the resulting value < 1.0x a company is potentially undervalued

Price to Earnings to Growth Ratio

$$\begin{array}{c} \text{Price to Earnings} \\ \text{to Growth} \\ \text{PEG Ratio} \end{array} = \frac{\left(\frac{\text{Price per Share}}{\text{Earnings per Share}} \right)}{\text{Annual EPS Growth}}$$

EPS = Earnings per Share

$$\begin{array}{c} \text{Annual} \\ \text{EPS} \\ \text{Growth} \end{array} = \frac{\text{Current year EPS} - \text{Prior Year EPS}}{|\text{Prior Year EPS}|}$$

Valuation

Price/Sales Ratio

The price to sales ratio (P/S) relates the company price per share to sales. The benefit to the approach is that it provides a method for evaluating potential investment opportunities among companies that are operational but not yet profitable. Such a company could be newer and still operating at a loss. The drawback is the highly limited nature of the calculation, in particular the exclusion of earnings quality or cash flow generation. It is useful for comparing similar stage companies within the same industry sector.

- Compares the value of common stock relative to sales volume
- Generally favorable: lower result
- Measure of: valuation
- Useful for evaluating newer companies with sales, but no earnings to date

Price to Sales Revenue

$$\text{Price to Sales Revenue} = \frac{\text{Market Capitalization}}{\text{Total Revenue}}$$

P/S Ratio

$$\text{Market Capitalization} = \text{Total Outstanding Shares} \times \text{Stock Price}$$

Valuation

Dividend Yield Ratio

The dividend yield ratio calculates the ratio between dividends received relative to a company's stock price. The objective is to illustrate what relative percentage an investor can expect to receive from dividends, compared to the stock's purchase price. This metric is important to equity investors that prefer income producing stocks (as opposed to growth-oriented equity investors).

- Comparison of dividends paid relative to stock price
- Measure of: valuation and income (for investors)
- Less valuable for growth investors

Dividend Yield

$$\text{Dividend Yield} = \frac{\text{Annual Dividends per Share}}{\text{Price per Share}}$$

Valuation

Dividend Payout Ratio

The dividend payout ratio simply shows the relationship between dividends paid and net income for a given reporting period. The ratio can be evaluated relative to historical dividend payout rates, management's stated goals regarding dividends, peer results, and dividend related decisions.

A positive result indicates earnings are sufficient to cover dividends paid. That is the expected scenario if a company is paying dividends. A negative result means that current earnings are not sufficient to support the current level of dividend payout. This is not ideal and indicates adjustments in dividend policy or operations (or both) are necessary.

Trend analysis is helpful in determining the consistency of the ratio over time, which can be compared to actual payouts as well as management's philosophy regarding dividends. This metric is relevant to dividend paying companies. New companies are less likely to pay dividends, generally choosing instead to reinvest earnings back into the company to support future growth.

- Measures dividends paid relative to net income
- An indicator of profitability, but not exclusively
- Result is highly company-specific
- If too high, it may indicate the payout rate is unsustainable or management is having issues employing capital

Dividend Payout Ratio

$$\text{Dividend Payout Ratio} = \frac{\text{Total Dividend Payments}}{\text{Net Income} + \text{Noncash expense} - \text{Noncash Sales}}$$

DPR Ratio

Valuation

Enterprise Market Value

Enterprise market value is a simple method for making quick valuation assessments of a company, viewing it as an entire economic entity or enterprise and doing so from an acquisition perspective. Other standard metrics may include market capitalization which is simply the aggregate value of its common stock shares outstanding. Generally speaking, many adjustments are made during an acquisition process but this ratio simplifies the issue using a “quick and dirty” methodology, only adjusting for outstanding debt and cash. In an acquisition, acquiring debt would increase the cost of acquisition but cash holdings would reduce the cost of acquisition. This ratio accounts for these two factors. The ratio can only be considered as a quick estimate of acquisition cost at best and the user should never expect to rely solely on this approach when seriously pursuing acquisition targets. This is only one metric in the analysis, due diligence, and negotiation required of a business sale.

- Represents the entire economic value of a company
- Measure of: valuation
- Gives a theoretical “takeover price”
- Highly dependent on company fundamentals

Enterprise Market Value

$$\begin{array}{r} \text{Market Capitalization} \\ + \text{Total Debt} \\ - \text{Cash} \end{array}$$

Enterprise Market Value

EMV

$$\text{Market Capitalization} = \text{Total Outstanding Shares} \times \text{Stock Price}$$

Valuation

Financial Ratios in Closing

Audio

[Financial Ratios in Closing](#)

Topics

[Summary](#)

Summary

Financial ratios are only indications and not conclusions. They provide a tool for further financial analysis and must be taken in context. Context can be framed as the five Ws: Who, what, when, where, and why. Who is producing the data you are using and is it legitimate? What kind of business are you analyzing and comparing with? When or what time period are you using? Where is the business? And why are you doing this? Context is everything when drawing valid conclusions and making comparisons.

Ratios will help support conclusions and decision making. They provide standardized metrics for comparison across several different areas covered: Liquidity, profitability, solvency, operations, cash flow, valuation, and more. They provide business insights, lead to further investigation beyond ratios, and create useful benchmarks.

If you have found Financial Ratio Flashcards useful, please tell a friend or consider getting the resource in Kindle Format. Please email me with any questions or concerns personally at

John@AccountingPlay.com. Thanks.

Example Financial Statements

Balance Sheet

Balance sheet example

TEDDY FAB INC. BALANCE SHEET December 31, 2100			
ASSETS		LIABILITIES AND SHAREHOLDERS' EQUITY	
Current assets		Current liabilities	
Cash and cash equivalents	\$ 100,000	Accounts payable	\$ 30,000
Accounts receivable	20,000	Notes payable	10,000
Inventory	15,000	Accrued expenses	5,000
Prepaid expense	4,000	Deferred revenue	2,000
Investments	10,000	Total current liabilities	47,000
Total current assets	149,000		
Property and equipment		Long-term debt	200,000
Land	24,300	Total liabilities	247,000
Buildings and improvements	250,000		
Equipment	50,000	Shareholders' Equity	
Less accumulated depreciation	(5,000)	Common stock	10,000
		Additional paid-in capital	20,000
		Retained earnings	197,100
		Treasury stock	(2,000)
Other assets		Total liabilities and shareholders' equity	\$ 472,100
Intangible assets	4,000		
Less accumulated amortization	(200)		
Total assets	\$ 472,100		

Income Statement

Income statement example

TEDDY FAB INC. STATEMENT OF INCOME Year Ended December 31, 2100	
Revenues	\$ 1,000,000
<u>Cost of goods sold</u>	<u>200,000</u>
Gross profit	<u>800,000</u>
 Operating expenses	
Selling, general, and administrative expense	357,700
Interest expense	20,000
Depreciation and amortization expense	5,200
<u>Operating income</u>	<u>417,100</u>
 Interest income	20,000
Net earnings before taxes	<u>437,100</u>
 Income tax expense	<u>240,000</u>
Net income	<u><u>\$ 197,100</u></u>

Statement of Shareholders' Equity

Statement of shareholders' equity example

TEDDY FAB INC. STATEMENT OF SHAREHOLDERS' EQUITY December 31, 2100						
	Common Stock	Additional Paid-In-Capital	Retained Earnings	Accumulated Other Comprehensive Income	Treasury Stock	Total
BALANCE, DECEMBER 31, 2099	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	0
Net Income (Loss) for 2100			197,100			197,100
Common Stock Issued	10,000					10,000
Additional Paid-In-Capital		20,000				20,000
Treasury Stock					(2,000)	(2,000)
BALANCE, DECEMBER 31, 2100	<u>\$ 10,000</u>	<u>\$ 20,000</u>	<u>\$ 197,100</u>	<u>\$ 0</u>	<u>\$ (2,000)</u>	<u>\$ 225,100</u>

Items affecting equity are presented in detail

Statement of Cash Flows

Statement of cash flows example

TEDDY FAB INC. STATEMENT OF CASH FLOWS Year Ended December 31, 2100	
Cash flows from operating activities:	
Net income	\$ 197,100
Adjustments to reconcile net income to net cash used in operating activities:	
Depreciation and amortization	5,200
Changes in operating assets and liabilities:	
Accounts receivable	(20,000)
Inventories	(15,000)
Prepaid expenses	(4,000)
Accounts payable	30,000
Accrued expenses	5,000
Deferred revenue	2,000
Total adjustments	3,200
Net cash used in operating activities	200,300
Cash flows from investing activities:	
Purchase of property and equipment	(324,300)
Intangible asset purchase	(4,000)
Investment purchase	(10,000)
Net cash used in investing activities	(338,300)
Cash flows from financing activities:	
Proceeds from notes payable	10,000
Proceeds from additional paid-in capital	20,000
Proceeds from issuance of common stock	10,000
Proceeds from bond issuance	200,000
Purchase of treasury stock	(2,000)
Net cash provided by financing activities	238,000
Net increase (decrease) in cash and cash equivalents	100,000
Cash and cash equivalents, beginning	0
Cash and cash equivalents, ending	\$ 100,000

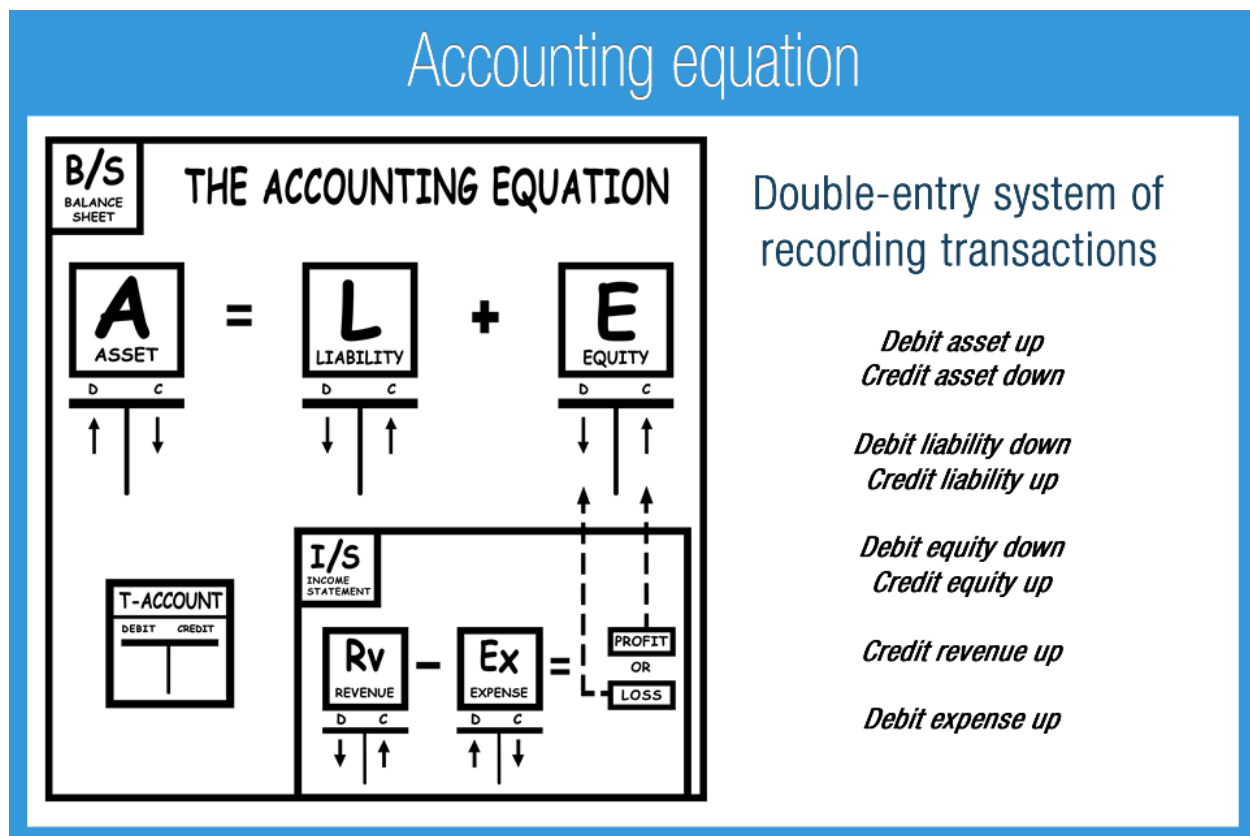
Sources of cash presented

Statement reconciles to ending cash

Accounting Glossary

Accounting equation The double-entry accounting framework expressed as: Assets = Liabilities + Equity

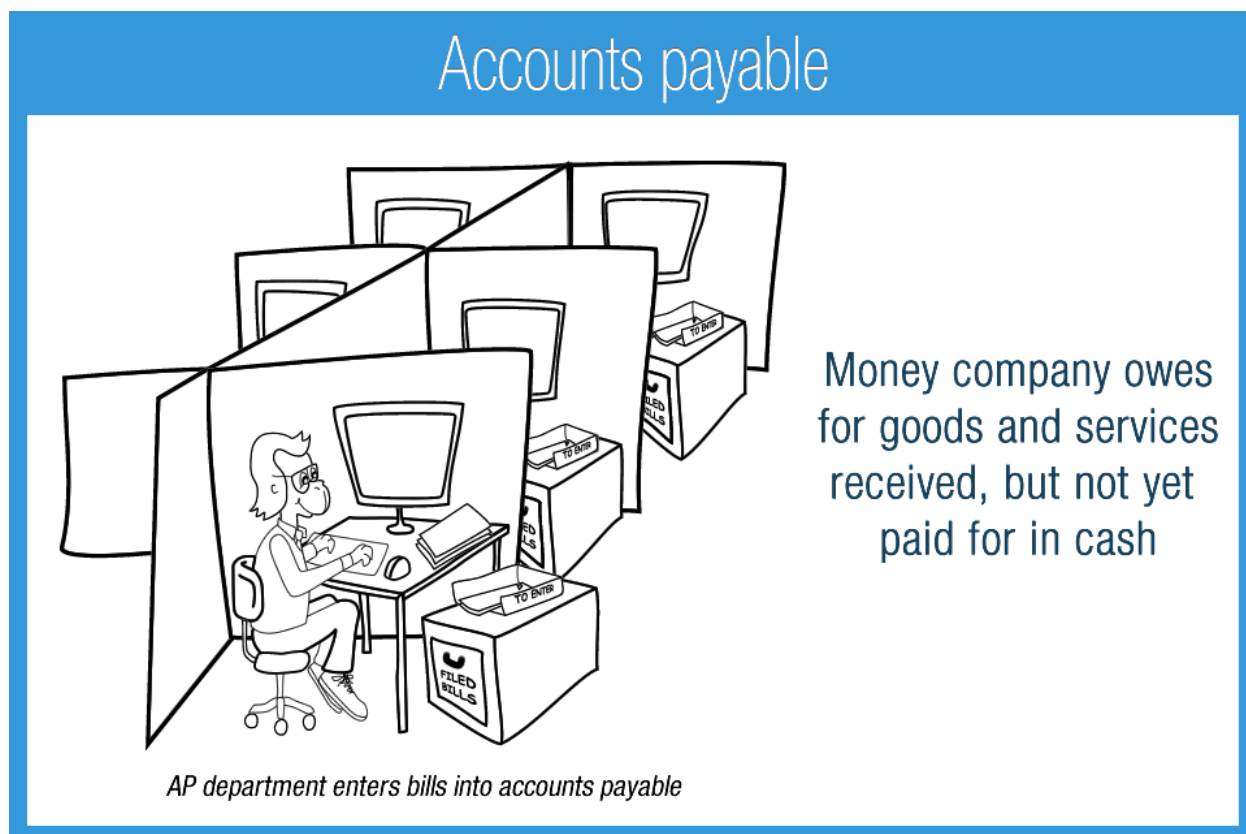
- May be expressed as Equity = Assets – Liabilities
- Assets, liabilities, and equity represent balance sheet accounts
- Revenue and expenses are income statement accounts that combine to create net income or net loss
- Net income or loss gets added or subtracted to retained earnings at the end of the accounting period



[Return to Dictionary Index](#)

Accounts payable (AP) Money owed to creditors and vendors

- Increased when expense incurred
- Decreased when expense paid in cash
- Considered a liability because it represents amounts owed to vendors

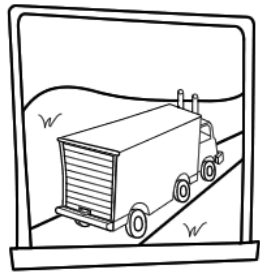


[Return to Dictionary Index](#)

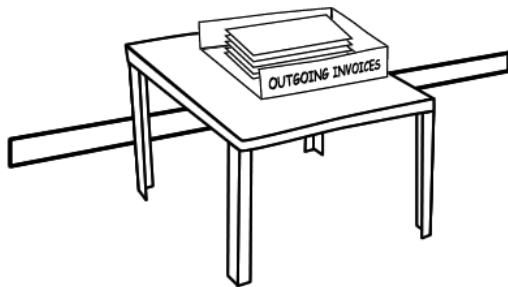
Accounts receivable (AR) Cash due from customers who have purchased merchandise or received services not yet paid for

- Increased when sale is made
- Decreased when sale is collected
- Converted to cash by collection, discounting, or factoring customer accounts

Accounts receivable



Represents uncollected cash
from customers



*AR Department sends invoices for goods
shipped and services rendered*

[Return to Dictionary Index](#)

Accounts receivable turnover Measures the frequency of the revenue collection cycle

- Helps monitor the rate of collection for credit sales
- A low ratio implies that collection of credit sales is slow
- $365 / \text{accounts receivable turnover ratio} = \text{Average collection period}$

Accounts Receivable Turnover

$$\text{Accounts Receivable Turnover} = \frac{\text{Net Sales}}{\text{Average AR}}$$

$$\text{Average Accounts Receivable (AR)} = \frac{\text{Beginning + Ending AR}}{2}$$

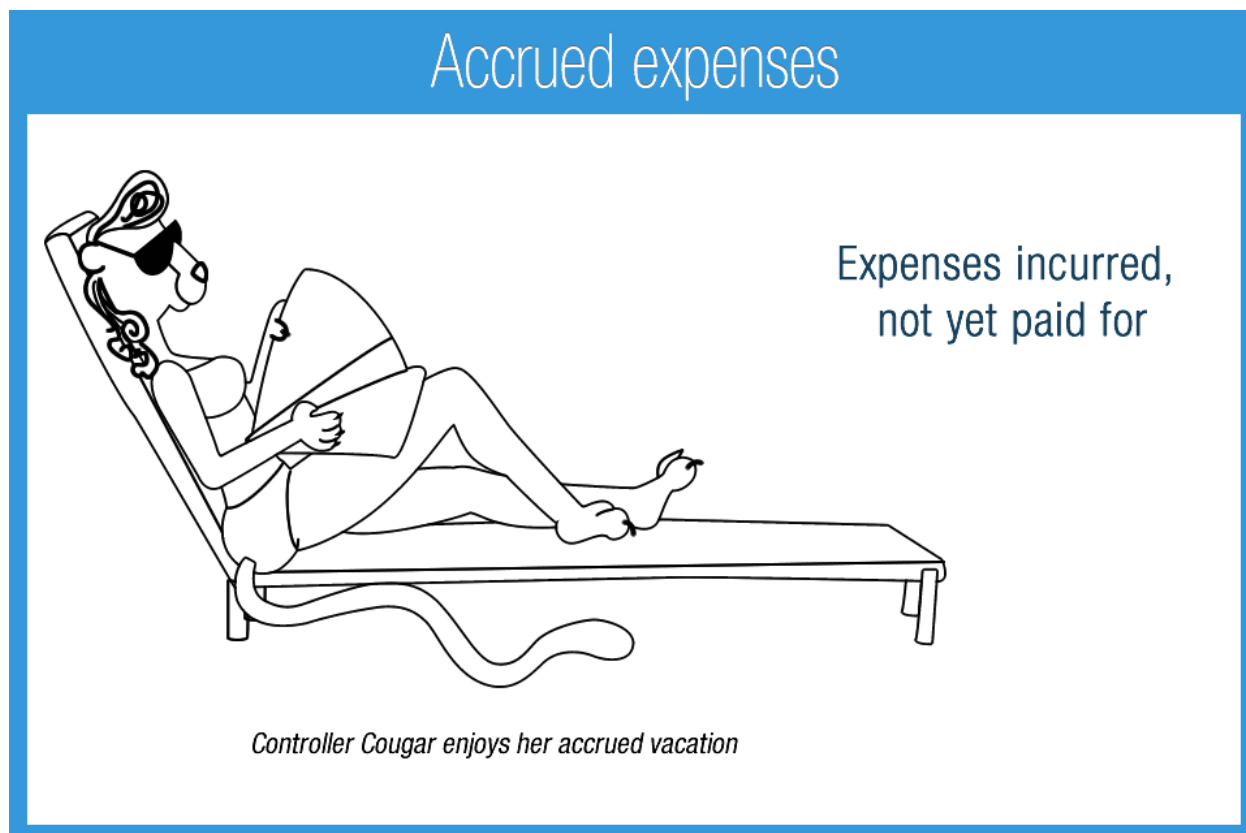
Operating Performance

[Return to Dictionary Index](#)

Accrued expenses Expenses incurred before the end of the accounting period, but not yet paid for

Examples

- Wages earned by employees not paid at year-end
- Employee benefits not yet paid, such as vacation



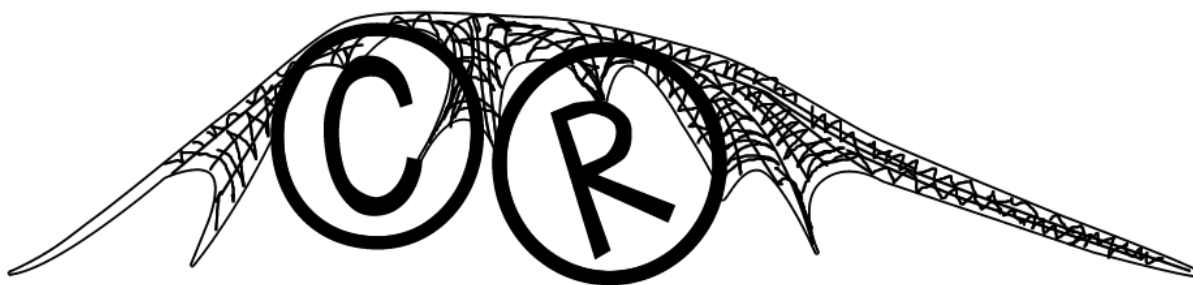
[Return to Dictionary Index](#)

Accumulated amortization The sum of prior amortization expense

- Contra account presented as a negative number (credit) in the asset section of the balance sheet
- Offsets intangible asset value recorded at cost, such as: patents, trademarks, copyrights, franchise licenses, and goodwill

Accumulated amortization

Contra account, reduces amortizable asset value



These copyrights and registered trademarks are less valuable over time

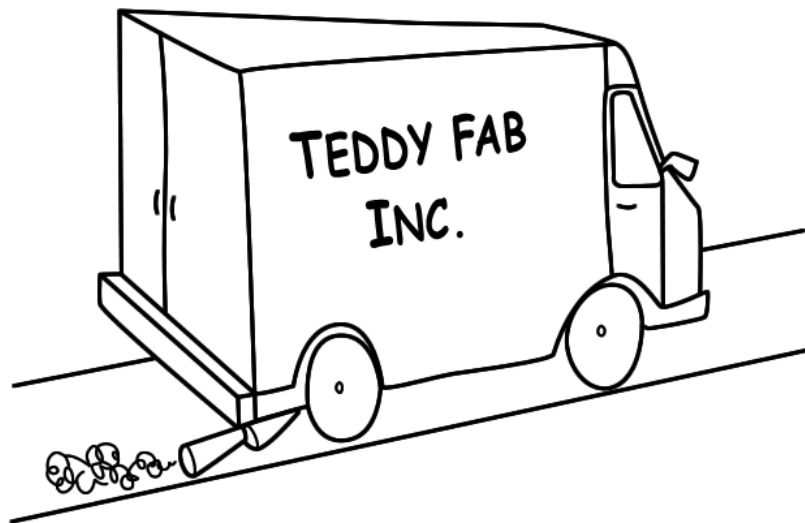
[Return to Dictionary Index](#)

Accumulated depreciation The sum of prior depreciation expense

- Contra account presented as a negative number (credit) in the asset section of the balance sheet
- Offsets tangible asset value recorded at cost, such as property, plant, and equipment

Accumulated depreciation

*This truck is fully depreciated
after many years of use*



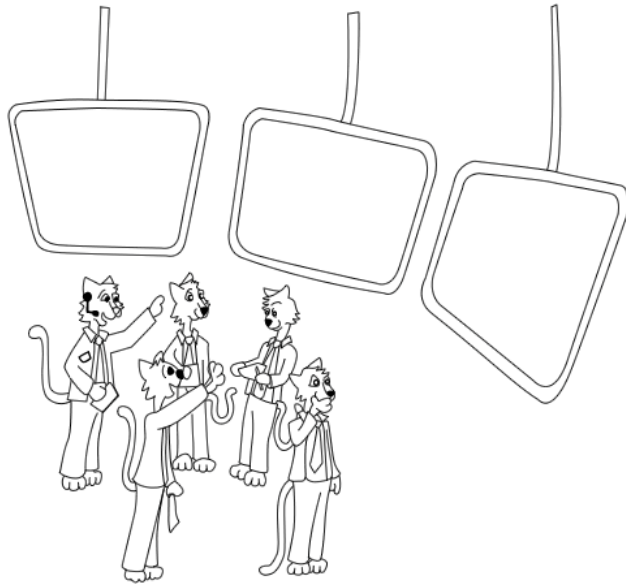
Contra account, reduces depreciable asset value

[Return to Dictionary Index](#)

Additional paid-in capital Investment received by corporation, in excess of par value per share

- Par value typically set low, such as \$.01 per share
- Classified as equity on the balance sheet

Additional paid-in capital



Funding from sale of stock

[Return to Dictionary Index](#)

Adjusting journal entries Adjusts records directly by increasing or decreasing accounts

- Directly adjusts the books and records without changing individual transactions

Common adjustments: depreciation, amortization, capitalization of assets purchased, accrued expense liabilities, prepaid assets, investment performance adjustments, and unearned revenue

Adjusting journal entries defined

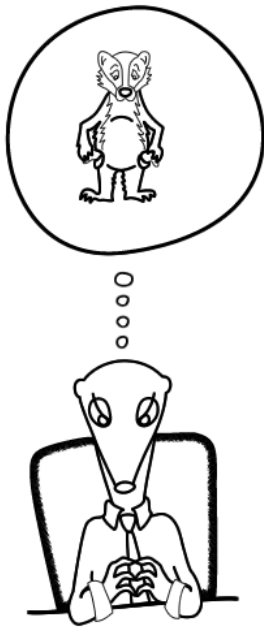
TEDDY FAB INC. ADJUSTING JOURNAL ENTRIES December 31, 2100			
	Debit	Credit	
AJE-1 Depreciation expense	5,000.00		Used to adjust the accounting record directly
Accumulated depreciation		5,000.00	
Record depreciation expense			
AJE-2 Amortization			
Accumulated amortization	200.00		
Record amortization expense		200.00	
AJE-3 Property, plant, & equipment	1,200.00		
Operating expense		1,200.00	
Reclassify fixed asset purchase			
AJE-4 Prepaid expense	2,000.00		
Rent expense		2,000.00	
Reclassify January rent paid in December			
AJE-5 Intangible assets	4,000.00		
Startup expenses		4,000.00	
Reclassify startup expenses			
	<u>\$ 12,400.00</u>	<u>\$ 12,400.00</u>	

[Return to Dictionary Index](#)

Allowance for doubtful accounts Used to estimate uncollectible credit sales

- Contra account presented as a negative number (credit) in the asset section of the balance sheet
- Allowance is increased along with bad debt expense if more customers are expected to not pay amounts due

Allowance for doubtful accounts



Estimate of credit sales that
will not be collected

*To establish the allowance for doubtful accounts,
the CFO considers customers that might default*

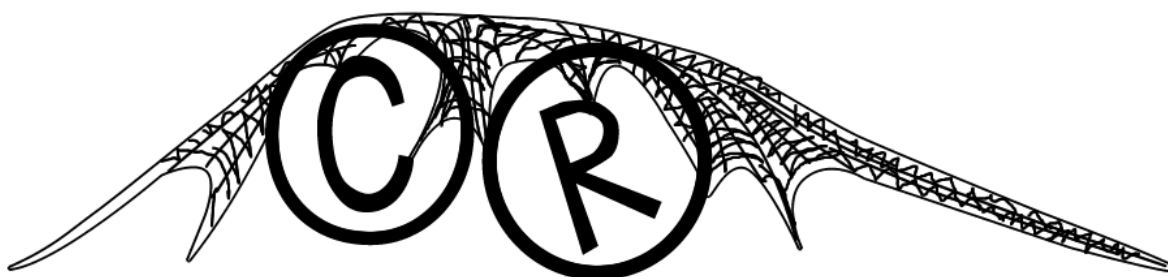
[Return to Dictionary Index](#)

Amortization expense Represents the cost of an intangible asset over time

- Represents decline in intangible assets such as patents, trademarks, and copyrights
- Tax law and Generally Accepted Accounting Principles (GAAP) differ on amortization methodologies

Amortization expense

Intangible asset cost recognized over time



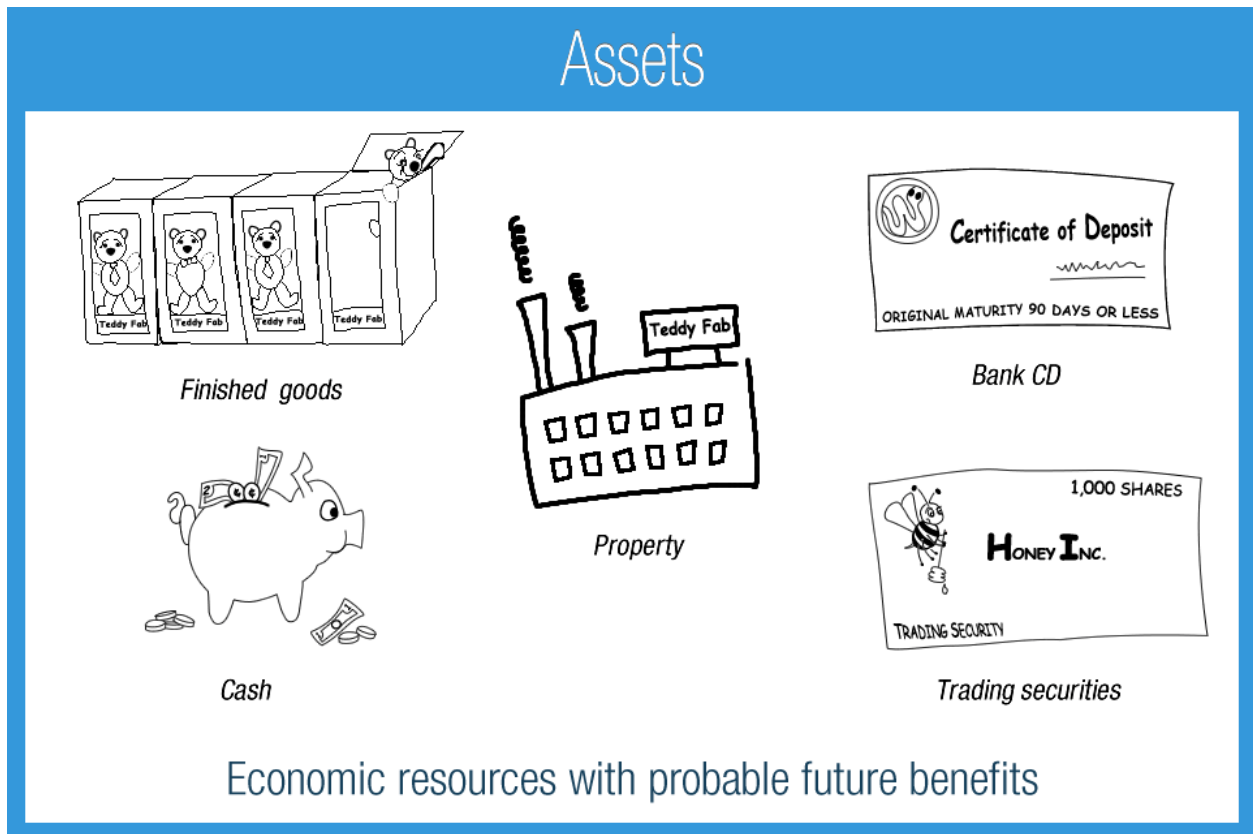
Copyrights and registered trademarks are examples of intangible assets which can lose value

[Return to Dictionary Index](#)

Assets Economic resources with probable future benefits

Examples: cash and cash equivalents, accounts receivable, inventory, prepaid expenses, investments, property, plant, and equipment, and intangible assets

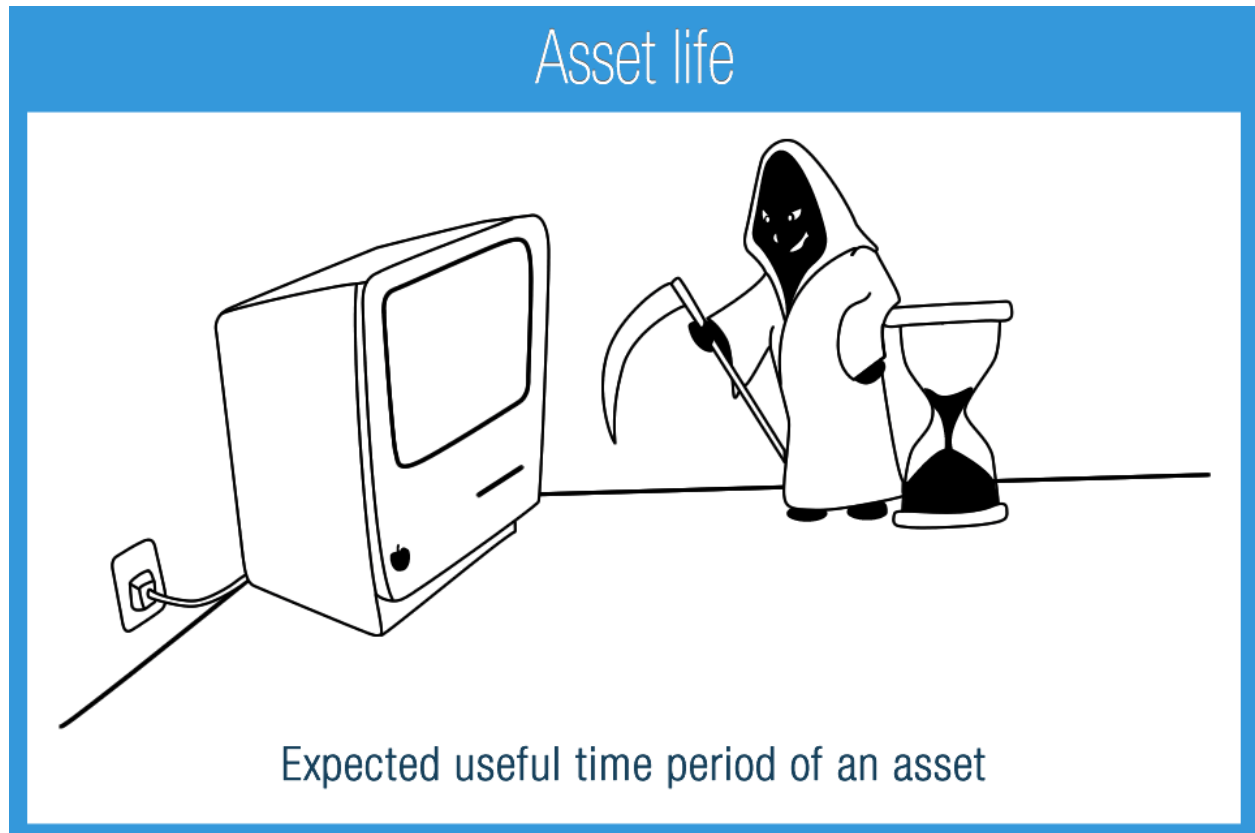
Financial statement: balance sheet



[Return to Dictionary Index](#)

Asset life Estimated length of time an asset is expected to be useful

- Typically asset life will be in years
- Under units-of-production depreciation method, useful life is estimated by machine output or hours



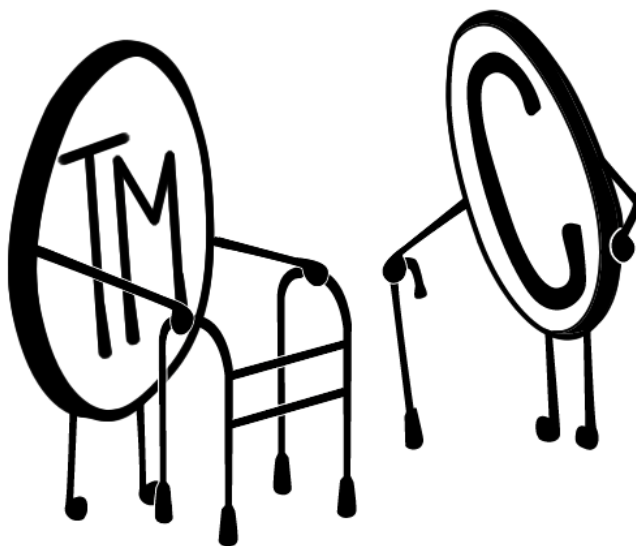
[Return to Dictionary Index](#)

Asset retirement Point at which asset is no longer useful and is disposed of

- Asset cost and accumulated depreciation for the asset are removed from the books
- Gain or loss on disposition whether sold or scrapped, will likely be classified as extraordinary income

Asset retirement

When asset is no longer useful



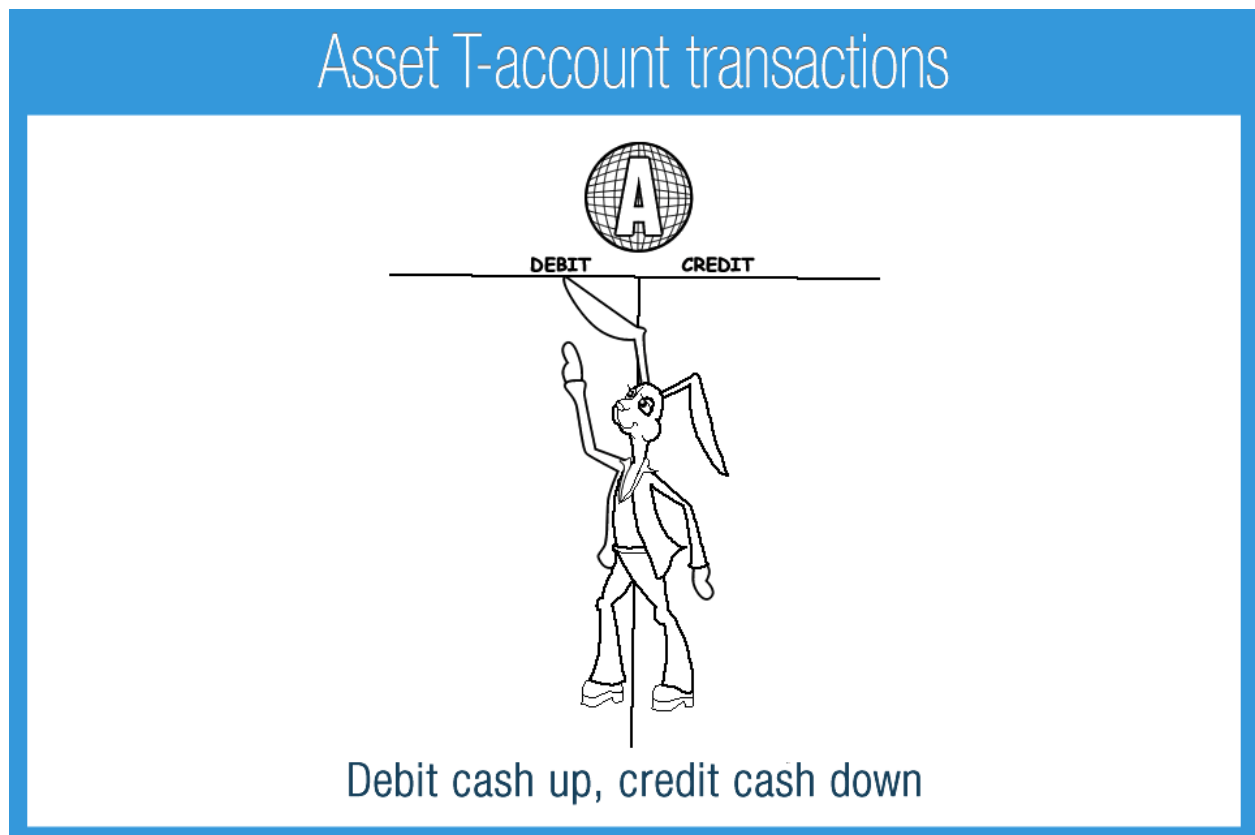
These intangible assets have reached the end of their useful life

[Return to Dictionary Index](#)

Asset T-account transactions Increase assets with a debit and decrease with a credit

Basic entries

- Receive outside investment: debit cash, credit equity
- Receive a loan: debit cash, credit liability
- Receive refund of expense: debit cash, credit expense
- Pay bills: debit accounts payable, credit cash
- Repay loan: debit liability, credit cash

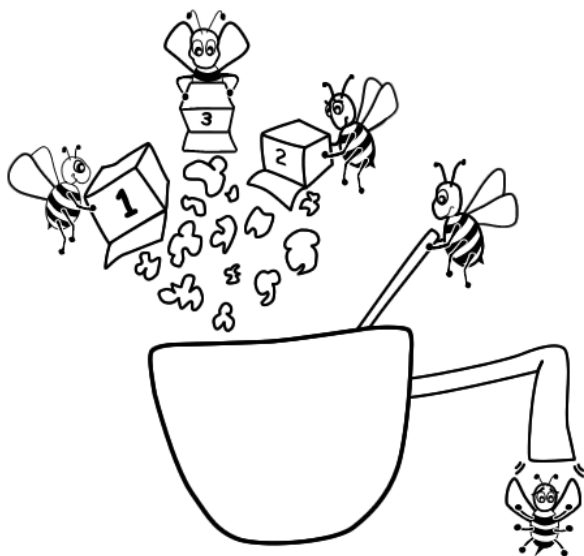


[Return to Dictionary Index](#)

Average cost method Inventory accounting system which assigns cost based upon an average purchase price to determine ending inventory and the cost of goods sold

- Works well for homogenous inventory items, such as bulk cotton used in manufacturing

Average cost method



Assigns inventory cost based on the average cost of goods

[Return to Dictionary Index](#)

Balance sheet Statement that reports the financial position of a company by presenting assets, liabilities, and equity

- At a fixed date in time
- Presents accumulation of financial activity
- Balance sheet format similar to the accounting equation: $\text{Assets} = \text{Liabilities} + \text{Equity}$
- Assets are presented in order of liquidity, classified as current or long-term
- Liabilities are presented in the order of date due

Balance sheet



A snapshot of the company's financial position

The balance sheet is compared to a photo because it captures the financial position at one moment in time

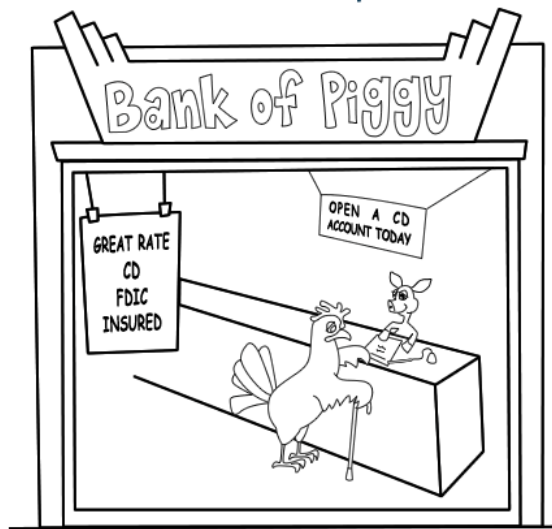
[Return to Dictionary Index](#)

Bank CD Certificate of deposit promises a rate of return to the investor and allows the bank use of funds for the investment period

- Considered a cash equivalent if CD has an original maturity date of 90 days or less
- Redeemable in cash
- Typically a penalty due for early redemption

Bank CD

Cash invested for a fixed period of time in exchange for interest paid



Rickety Rooster chooses to invest in a bank CD because it pays consistent interest

[Return to Dictionary Index](#)

Bank reconciliation Proves the differences between cash per books and cash per bank

- Balance per books = bank balance – outstanding checks + outstanding deposits
- Balance per bank = balance per books + outstanding checks – outstanding deposits
- Reconciliation shows the differences between the bank statement and accounting record

Bank reconciliation

	BALANCE PER BANK
	STATEMENT
+	
	DEPOSITS IN TRANSIT
-	
	OUTSTANDING
	CHECKS
+/-	
	BANK ERRORS
	<hr/>
	BALANCE PER BOOK

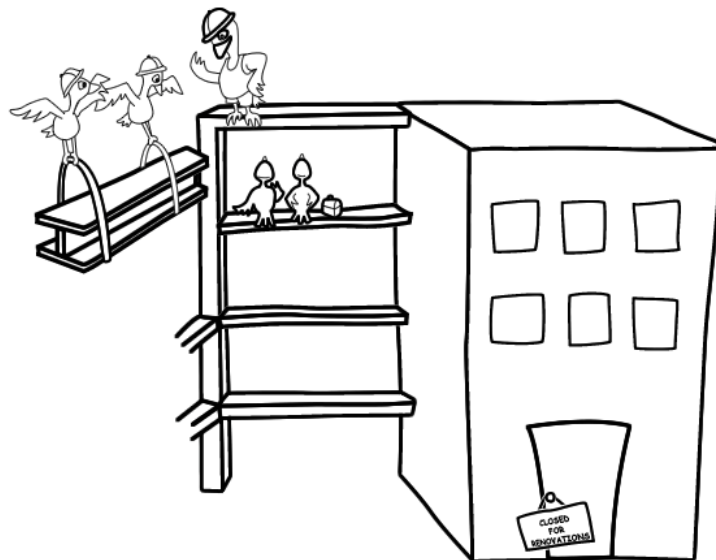
Ties cash book balance to cash bank account balance

[Return to Dictionary Index](#)

Capital improvement Existing assets made to last longer, increase productivity, or extend use value

- Added to asset value and depreciated
- Depreciation expense recognizes the cost of the improvement over time

Capital improvement

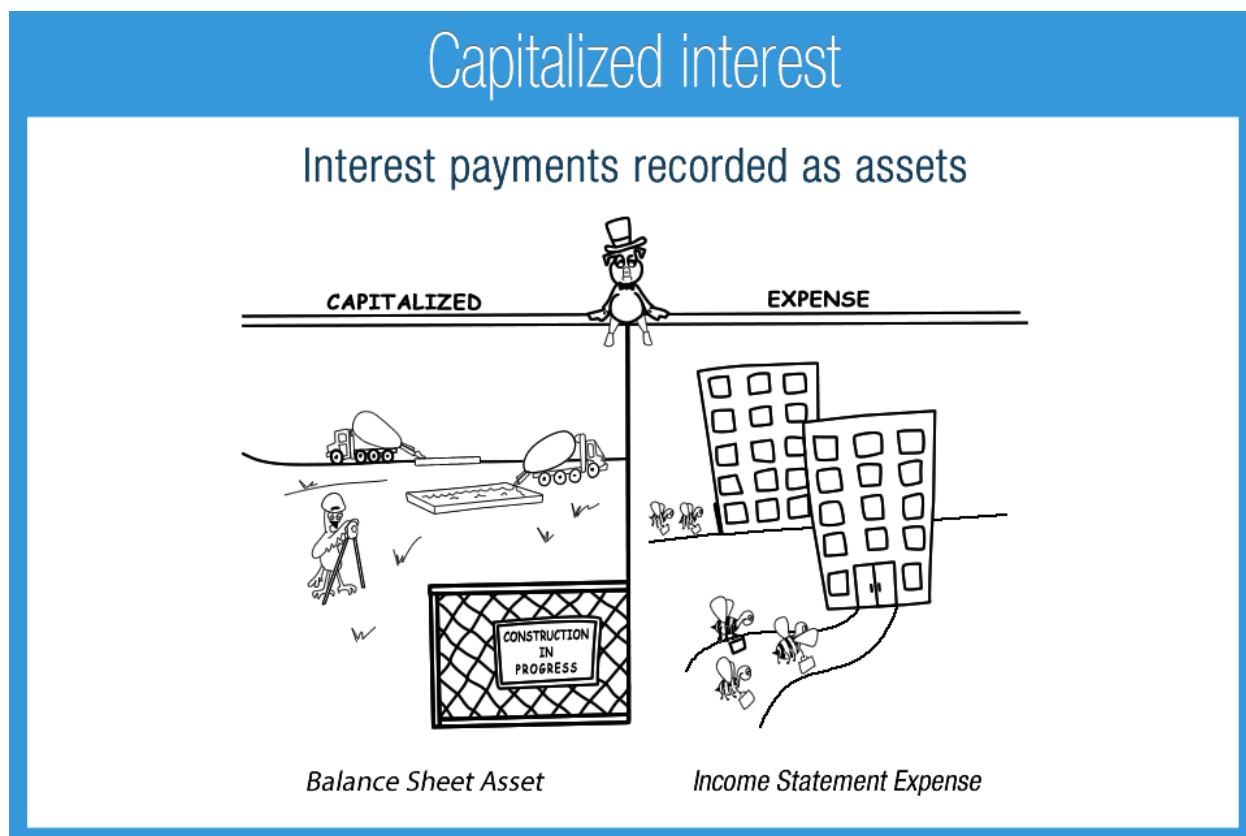


Makes asset become more useful or last longer

[Return to Dictionary Index](#)

Capitalized interest Interest payments treated as an asset, instead of an expense, in certain circumstances

- Interest payments related to construction are capitalized until a structure is complete
- Interest payments following the completion of an asset are expensed
- Capitalized interest increases the basis of an asset



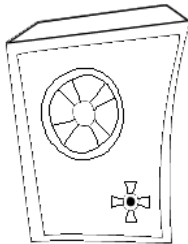
[Return to Dictionary Index](#)

Cash & cash equivalents The most liquid asset on the balance sheet

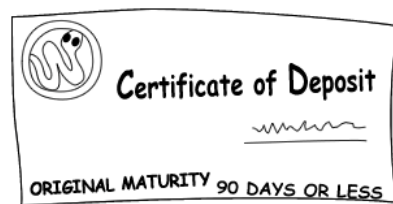
- Easily converted to cash, original maturity 90 days or less

Examples: negotiable paper, bank CDs, money market accounts, petty cash, savings accounts, and checks not mailed

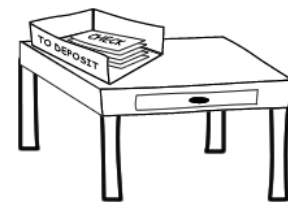
Cash & cash equivalents



Cash



Bank CD



Checks not mailed

Currency and cash accounts
with an original maturity 90 days or less

*Current assets on
balance sheet*

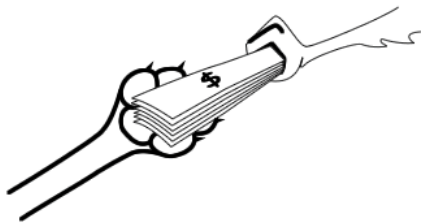
[Return to Dictionary Index](#)

Cash basis v. Accrual The cash basis method of accounting recognizes transactions only when cash or equivalents have been exchanged, while accrual basis follows the matching principle and recognizes transactions as they occur

- Cash basis accounting records revenue and expenses only when cash or equivalents have been exchanged
- Only accrual basis accounting is an acceptable method under US Generally Accepted Accounting Principles (US-GAAP)
- Accrual basis accounting records revenue when earned and realizable and expenses as incurred, even if cash has not been paid

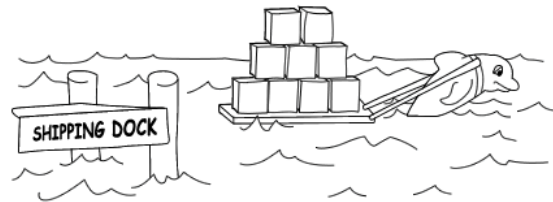
Cash basis v. Accrual

Cash basis: Revenue recognized when received



Not GAAP:

Accrual basis: Revenue recognized when earned and realizable



GAAP:

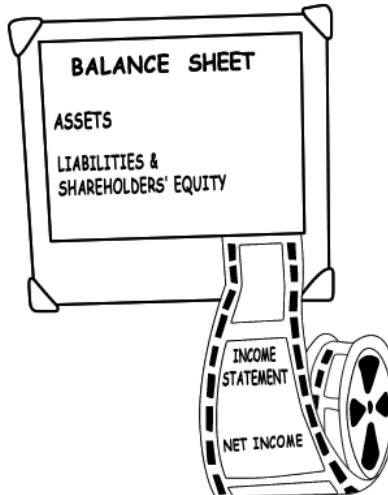
[Return to Dictionary Index](#)

Closing retained earnings Net income or loss on the income statement is added or subtracted to retained earnings on the shareholders' equity section of the balance sheet, at the end of the accounting period

- Income summary accounts are used to record income statement profit or loss to retained earnings
- Recording income statement activity to retained earnings is also referred to as closing retained earnings

Closing retained earnings

Income statement results are recorded to retained earnings at the end of the accounting period



Closing retained earnings connects the income statement to the balance sheet

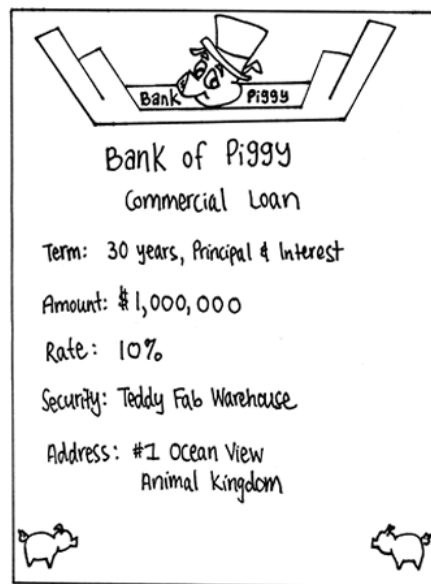
[Return to Dictionary Index](#)

Commercial loan Borrowed money, typically from a bank, to finance company operations

- Appears as a liability on the balance sheet as a note payable
- Amounts payable within a year appear as a current liability
- Accrued interest at year-end becomes an accrued expense

Commercial loan

Money borrowed to finance company operations



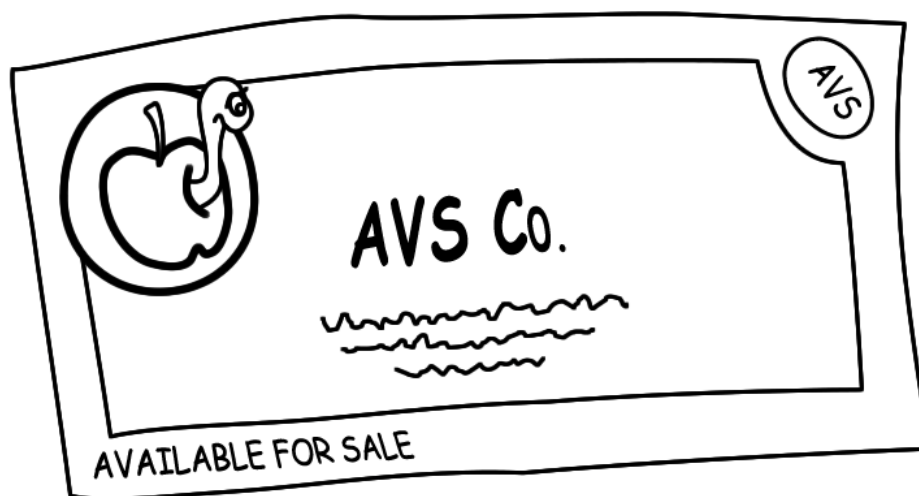
[Return to Dictionary Index](#)

Common stock Represents ownership of a corporation

- Shareholders own stock
- Common shareholders influence the company by electing the board of directors
- Stocks may pay dividends to shareholders

Common stock

Issued to investors in exchange for capital, typically cash



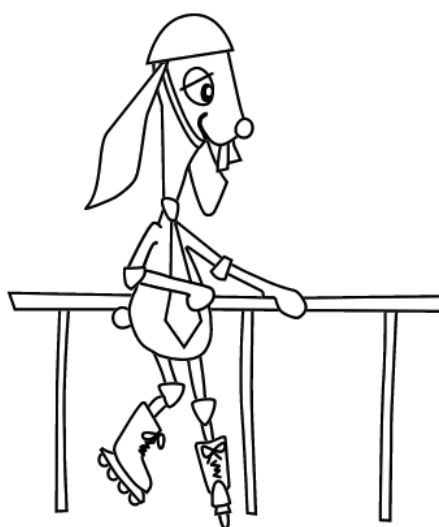
[Return to Dictionary Index](#)

Conservatism Reporting income and expenses in an accurate manner and erring towards understatement of net income and asset values

- Error on the side of understating revenue
- Error on the side of overstating expense
- Example: inventory reported at historical cost or lower

Conservatism

Accountants' error on the side of caution



GAAP Bunny is not taking any chances here

[Return to Dictionary Index](#)

Controller Head accountant for a company

- Duties may include: general accounting, bank reconciliations, and journal entries
- A controller works for one company, also referred to as private accounting

Controller

Head accountant for a company



Cougar Controller performs a bank reconciliation

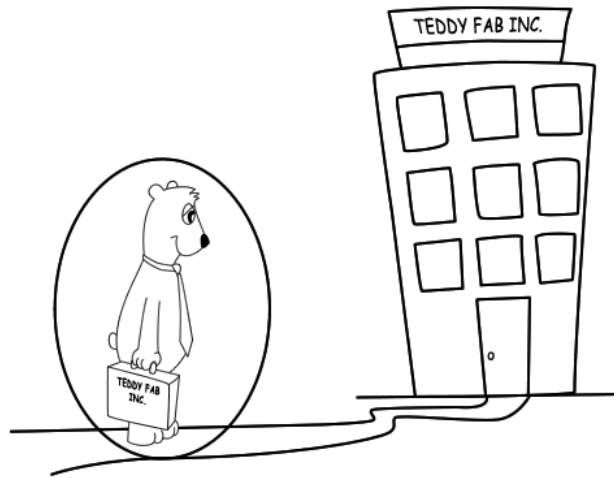
[Return to Dictionary Index](#)

Corporate characteristics Provides owners limited liability

- Liability limited to amount invested
- Corporation may continue in perpetuity
- Shareholders (owners) may still be liable if they commit crimes

Corporate characteristics

Corporations are treated as a separate legal entity apart from owners



Teddy CEO, founder and shareholder, is incorporated to protect his personal assets

[Return to Dictionary Index](#)

Cost of goods sold (COGS) Price of goods sold during the accounting period

- Deduction from revenue to calculate gross profit or loss
- May include: raw materials cost, machine costs, labor, and other overhead costs for a manufacturing entity
- Revenue - Cost of goods sold = Gross profit

Cost of goods sold (COGS)



$$\begin{array}{r} \text{BEGINNING INVENTORY} \\ (+) \\ \text{INVENTORY PURCHASE} \\ (-) \\ \text{END INVENTORY} \\ \hline \text{COST OF GOODS SOLD (COGS)} \end{array}$$

COST OF GOODS SOLD EQUATION

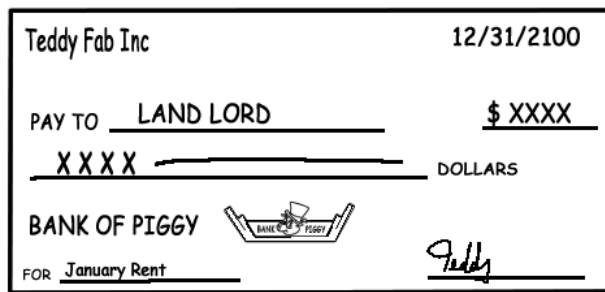
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Current assets Resources expected to be used or converted into cash within one year of the balance sheet date or longer, if the operating cycle is greater than a year

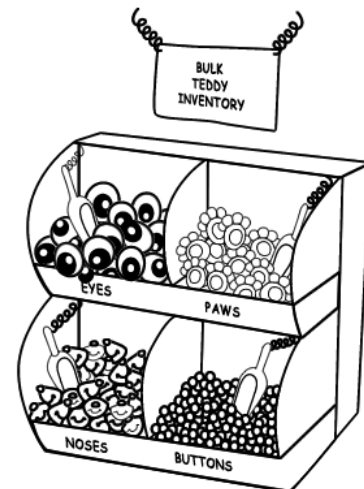
Examples

- Cash and cash equivalents: currency and cash accounts with an original maturity 90 days or less
- Accounts receivable: cash customers owe a business
- Inventory: materials used to make products
- Prepaid expenses: expenses paid in advance
- Investments: purchased for financial gain

Current assets



Prepaid rent



Inventory

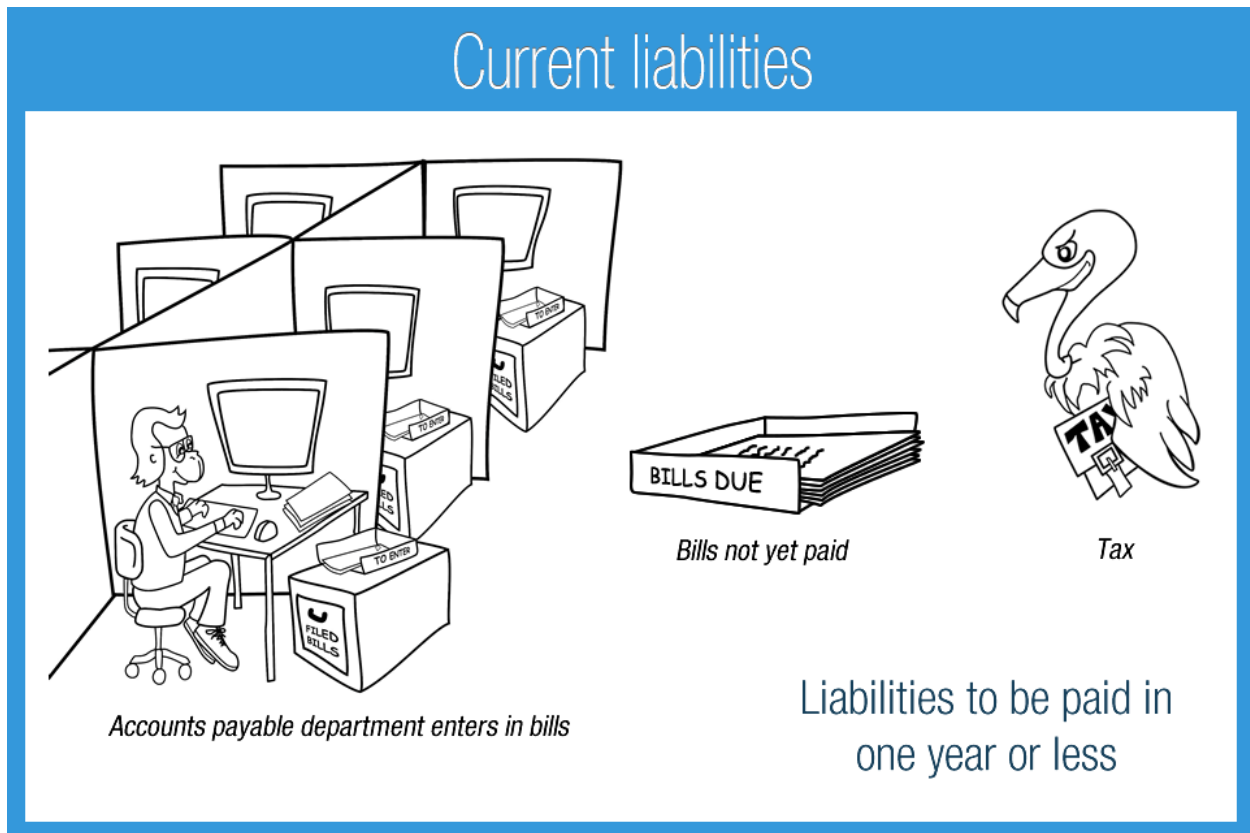
Assets to be used or converted
to cash within a year or less

[Return to Dictionary Index](#)

Current liabilities Obligations due in one year or less

Examples

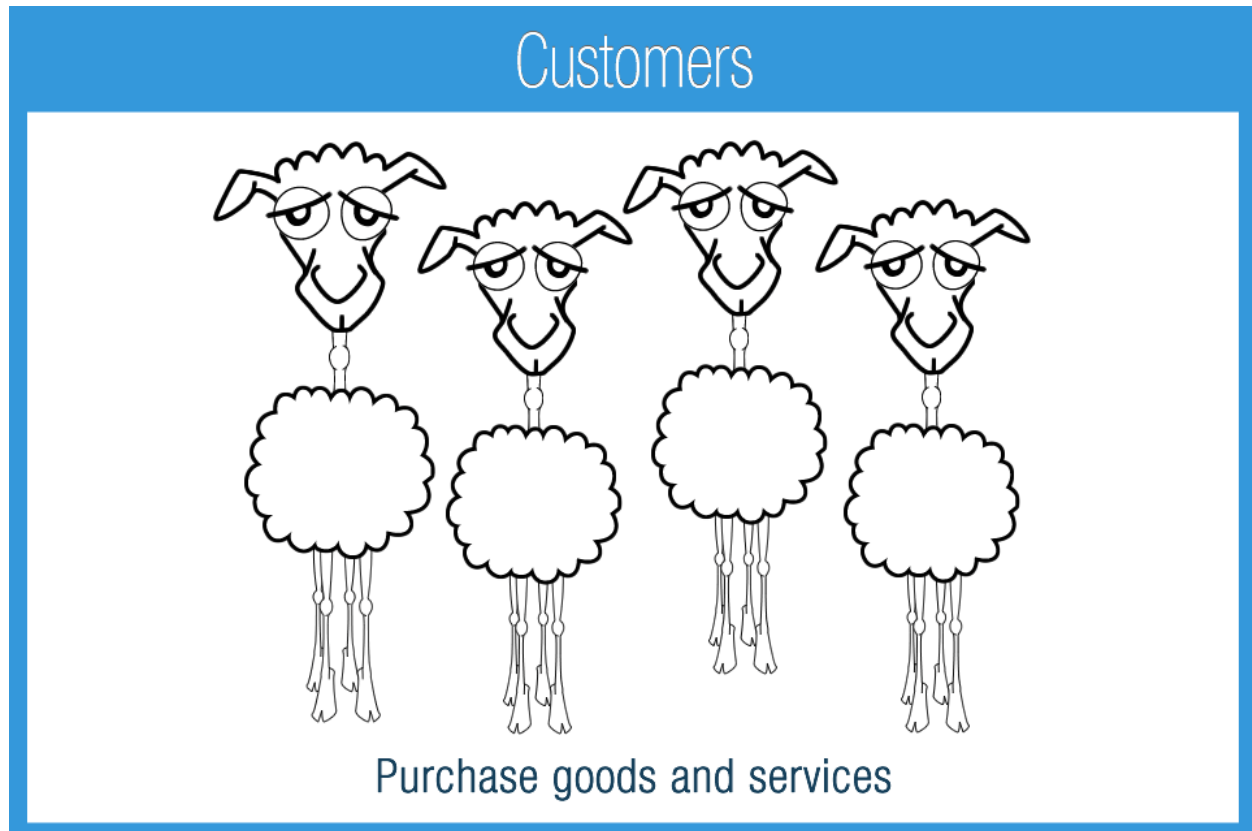
- Accounts payable: cash owed to others
- Income tax payable: tax owed to government
- Dividends payable: dividends owed to shareholders
- Accrued expense: expenses incurred, not yet paid for
- Current portion of long-term debt: portion of debt due in a year or less



[Return to Dictionary Index](#)

Customers Purchase goods and services from a company

- Credit sales to customers involve shipping goods or performing services prior to getting paid
- Accounts receivable department typically sends invoices and collects cash
- External stakeholders



[Return to Dictionary Index](#)

Debits and credits system The accounting system increases and decreases account balances with a debit or credit (also known as double-entry accounting)

- The system helps users understand the significance of the transaction
- Sum of debits always equals the sum of credits
- Debits and credits combined form a trial balance
- Transactions are all accounted for

Debits and credits system

DEBIT	CREDIT
↑ ASSETS	↓ ASSETS
↓ LIABILITY	↑ LIABILITY
↓ EQUITY	↑ EQUITY
↑ EXPENSES	↑ REVENUE

Accounts are increased and decreased with a debit or credit

[Return to Dictionary Index](#)

Debt to total assets Measures the amount of debt there is relative to assets

- The lower the ratio, the more assets a company has relative to debt
- A low debt to asset ratio is generally viewed favorably by investors

Debt Ratio

$$\text{Debt Ratio} = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

Debt and Solvency

[Return to Dictionary Index](#)

Debt to total equity Proportion of financing that is debt related

- Generally a high debt to equity ratio indicates a company has utilized a significant amount of financing to grow

Debt to Equity Ratio

$$\text{Debt to Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Shareholders' Equity}}$$

Debt and Solvency

[Return to Dictionary Index](#)

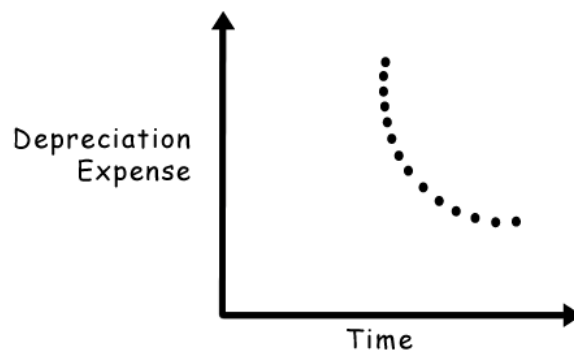
Declining-balance depreciation Accelerated depreciation method, generates more expense in earlier years

- No salvage value taken into account
- Logical if best use of asset is in earlier years of life
- Often used for tax purposes

Declining-balance depreciation

$$\text{DOUBLE DECLINING RATE} = \left[\frac{100\%}{\text{USEFUL LIFE}} \right] \times 2$$

 = DOUBLE DECLINING BALANCE



[Return to Dictionary Index](#)

Deferred revenue Cash received in advance, but not yet earned

Examples: subscriptions, maintenance contracts, retainers, and cash received for future insurance coverage

Deferred revenue



Advanced revenue for goods and services
not yet rendered

Subscriptions are deferred revenue until the
materials are delivered to the subscriber

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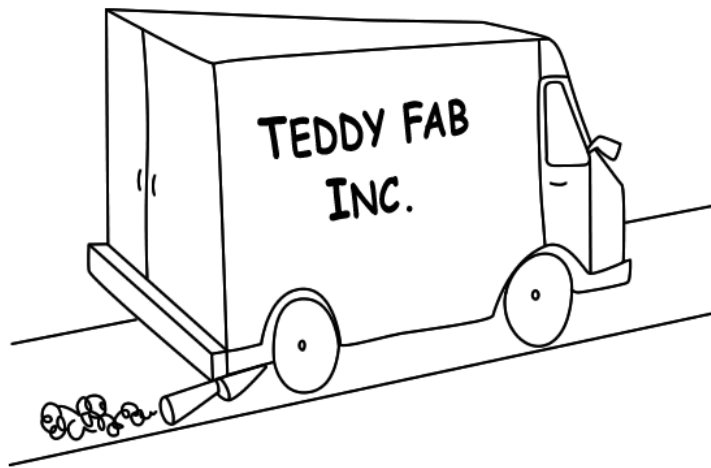
Depreciation expense Represents the cost of fixed assets over time

- Recorded to capture the decline in business asset use-value over time
- Matches the expense of the asset as it is being used up

Depreciation method examples: straight-line, accelerated depreciation, sum-of-the-years-digits', and units of production

Depreciation expense

Expense of property, plant, and equipment
(capitalized asset) cost over time



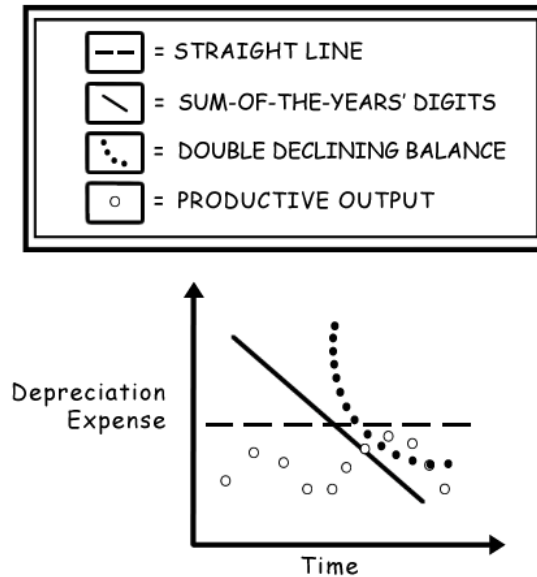
This truck is fully depreciated and not likely to last much longer

[Return to Dictionary Index](#)

Depreciation methods compared Different methods result in different timing of expense

- Accelerated methods result in more expense earlier in the asset life
- Different methods of depreciation result in timing differences for depreciation expense

Depreciation methods compared



Depreciation expense is recognized at different rates over time

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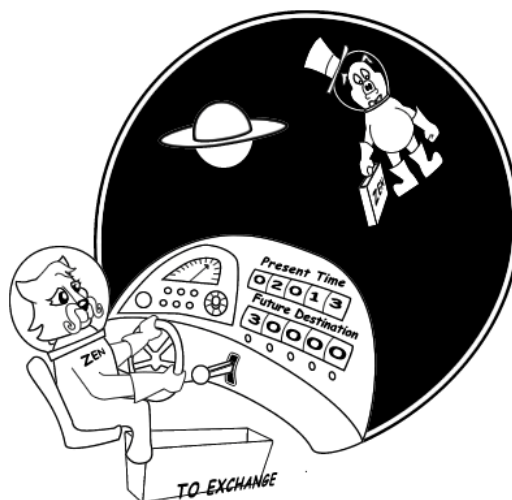
Derivatives Financial contracts to buy or sell assets based upon specified conditions

Characteristics:

- Zero net investment
- Equivalent to cash or cash settlement
- Notional and underlying amount

Derivatives

Financial contracts used to reduce risk or invest



Investor Cat enters into a derivative contract with banker pig... in space

[Return to Dictionary Index](#)

Dividends Corporate profits paid to shareholders

- Reduce retained earnings
- Authorized by the board of directors
- Typically paid when company is performing well
- Cash paid to shareholders in excess of retained earnings is a return of capital, not a dividend

Dividends



Portion of retained earnings
paid to shareholders

*Eager beaver shareholders receive
a dividend payment (dramatization)*

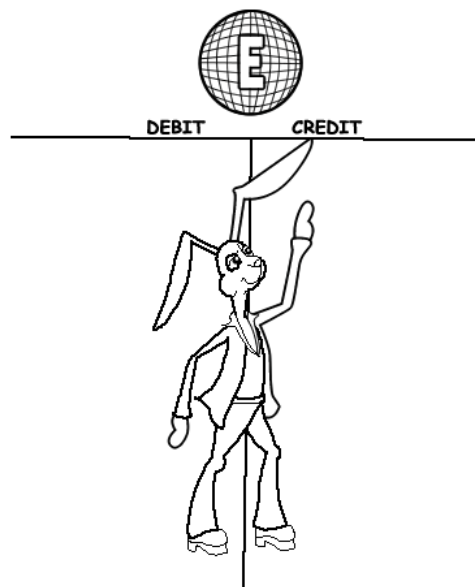
[Return to Dictionary Index](#)

Equity T-account transactions Equity decreases with a debit and increases with a credit

Basic entries

- Increase equity from stock issue: debit cash and credit equity
- Increase equity from net income: debit income summary and credit retained earnings
- Decrease equity from net loss: debit retained earnings and credit income summary
- Decrease equity from declared dividend: debit retained earnings and credit dividend payable

Equity T-account transactions

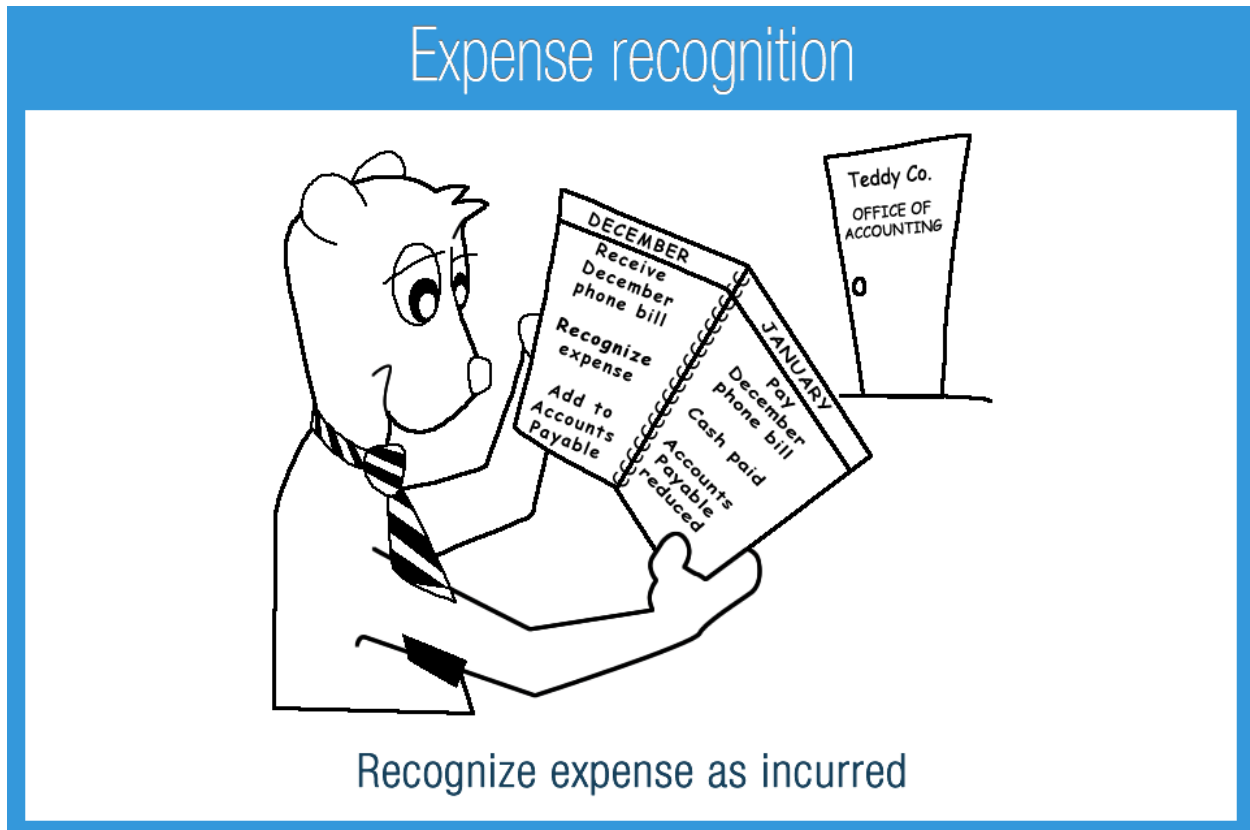


Debit equity down, credit equity up

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Expense recognition Expenses are recognized when incurred, as goods are used and services received

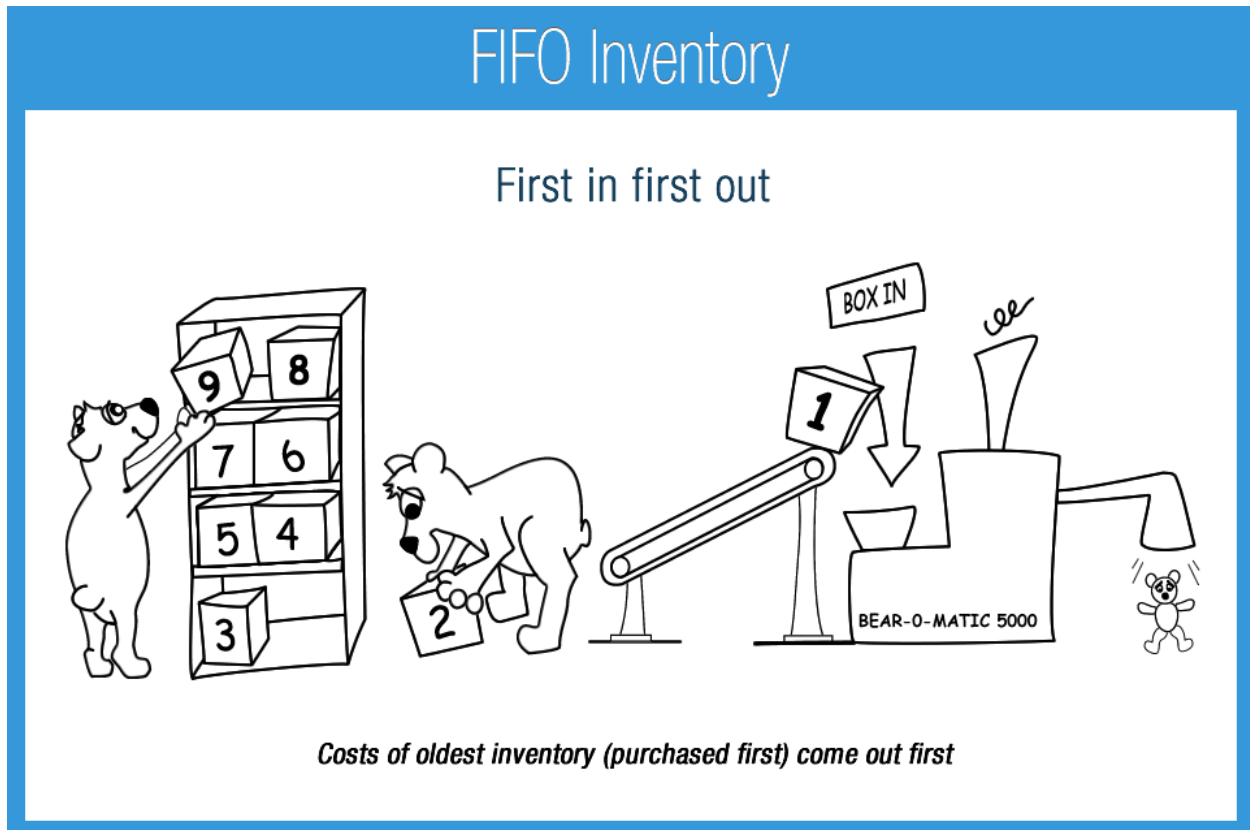
- Inventory items will not be an expense until sold
- Matching principle dictates that expenses be matched with related revenue in the same period
- Payments for rent and insurance are prepaid assets if paid in advance and are recognized as expenses as they are used over time
- Property, plant, and equipment are capitalized assets, not expenses



[Return to Dictionary Index](#)

First in first out Inventory accounting system in which items purchased earliest are the first to be used to determine ending inventory and the cost of goods sold

- Costs are similar to the physical flow of inventory
- Results in higher net income in a period of rising prices when compared to the LIFO method
- Inventory value is overstated in period of rising prices
- Acceptable method under both US-GAAP & IFRS

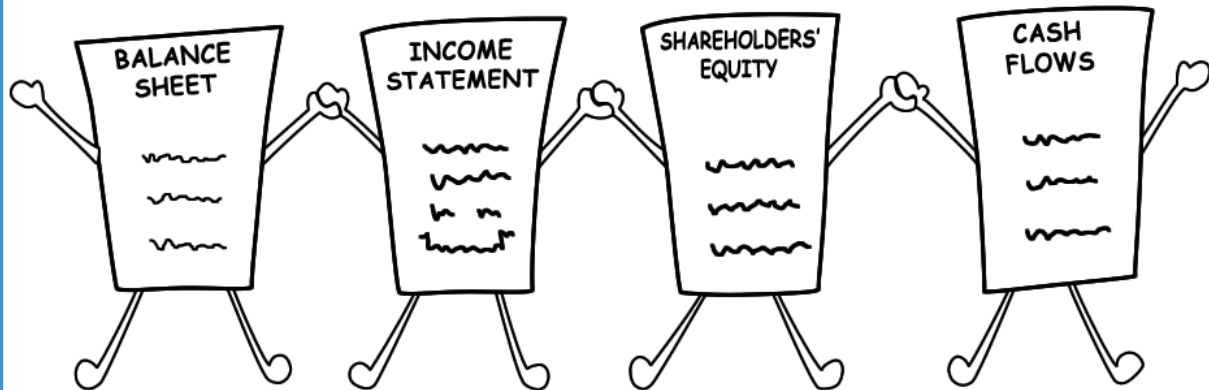


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Financial statement relationships Financial statements are dependent on each other for financial reporting

- The income statement reports net income or loss
- Net income is added or a net loss is deducted from retained earnings on the balance sheet at end of accounting period
- The statement of cash flows uses net income and changes in balance sheet accounts to present the cash ins and outs
- The statement of shareholders' equity reports the balance sheet equity detail

Financial statement relationships



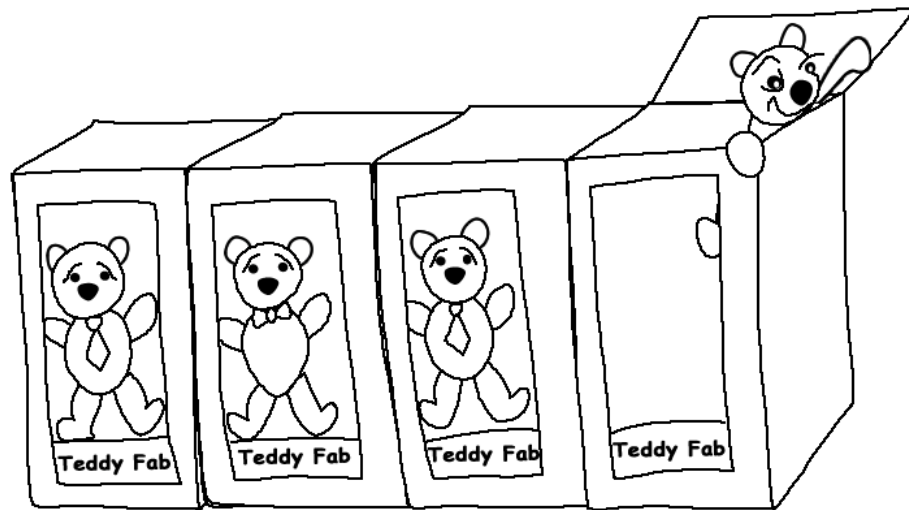
Financial statements share information to collectively present financial information

[Return to Dictionary Index](#)

Finished goods Product ready for sale that includes raw material, manufacturing labor, and overhead costs

- Raw material examples: wood, steel, parts, stuffing, cloth, oil, and plastic
- Manufacturing labor includes machine operators
- Overhead costs include electricity and water to power machines

Finished goods



Goods available for sale that include all product costs

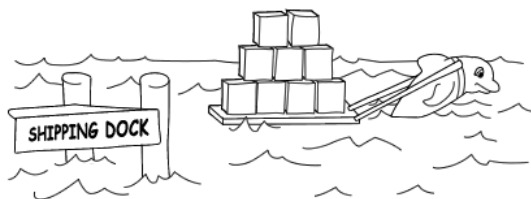
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FOB shipping point v. FOB destination FOB shipping point recognizes the sale of an item when the seller ships it, while FOB destination recognizes the sale of an item when the buyer receives the item

- Defines terms of sale and accounting treatment
- FOB: Free On Board
- Item included in books of buyer at year-end under FOB shipping point
- Item included in books of seller at year-end under FOB destination

FOB shipping point v. FOB destination

FOB shipping point



Sale when shipped

FOB destination



Sale when arrives

[Return to Dictionary Index](#)

General ledger Record of all accounting transactions

- May be summarized in a trial balance for financial statement preparation
- Presented in order of the balance sheet, then income statement accounts: assets, liabilities, equity, revenue, and expenses
- Debits presented as positive numbers and credits as negative

General ledger

TEDDY FAB INC. GENERAL LEDGER December 31, 2100				
Type	Date	Name	Amount	Balance
Cash Operating				25,000.00
Collect sale	1/1/2100	Turtle Toys	15,489.11	40,489.11
Collect sale	1/15/2100	Mega Corp	70,000.00	110,489.11
Pay vendor	1/16/2100	Vendor Giraffe	(45,400.11)	65,089.00
Receive loan	1/19/2100	Piggy Bank	10,000.00	75,089.00
Collect sale	1/20/2100	Blue Dolphin Toys	6,515.46	81,604.46
Continued...	Continued...	Continued...	Continued...	Continued...
Total ending				90,496.74
Cash Savings				9,500.00
Interest paid	9/30/2100		1.11	9,501.11
Interest paid	12/31/2100		2.15	9,503.26
Total ending				9,503.26
Accounts receivable				100,000.00
Collect sale	1/1/2100	Turtle Toys	(15,489.11)	84,510.89
Collect sale	1/15/2100	Mega Corp	(70,000.00)	14,510.89
Collect sale	1/20/2100	Blue Dolphin Toys	(6,515.46)	7,995.43
Sale	2/15/2100	Mega Corp	26,500.00	34,495.43
Continued...	Continued...	Continued...	Continued...	Continued...
Total ending				20,000.00
Parts inventory				
Continued...	Continued...	Continued...	Continued...	Continued...
Raw materials inventory				
Continued...	Continued...	Continued...	Continued...	Continued...
Work in process inventory				
Continued...	Continued...	Continued...	Continued...	Continued...
Finished goods inventory				
Continued...	Continued...	Continued...	Continued...	Continued...
PAGE				1/1875

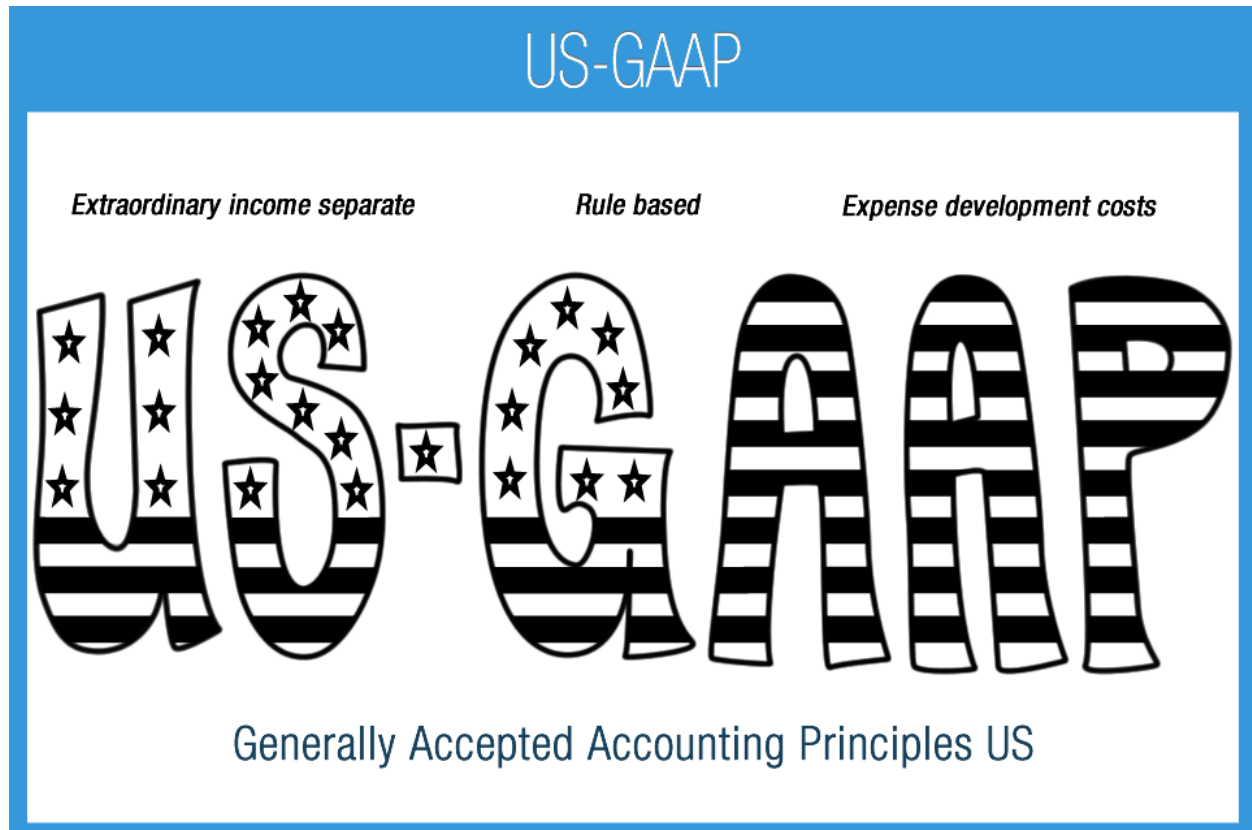
Record of all accounting transactions

Debits = Credits

[Return to Dictionary Index](#)

Generally Accepted Accounting Principles (US-GAAP) Accounting system established by FASB (Financial Accounting Standards Board) that governs financial reporting

- Rule based system
- Extraordinary income items presented separately
- LIFO inventory permissible
- Development costs expensed



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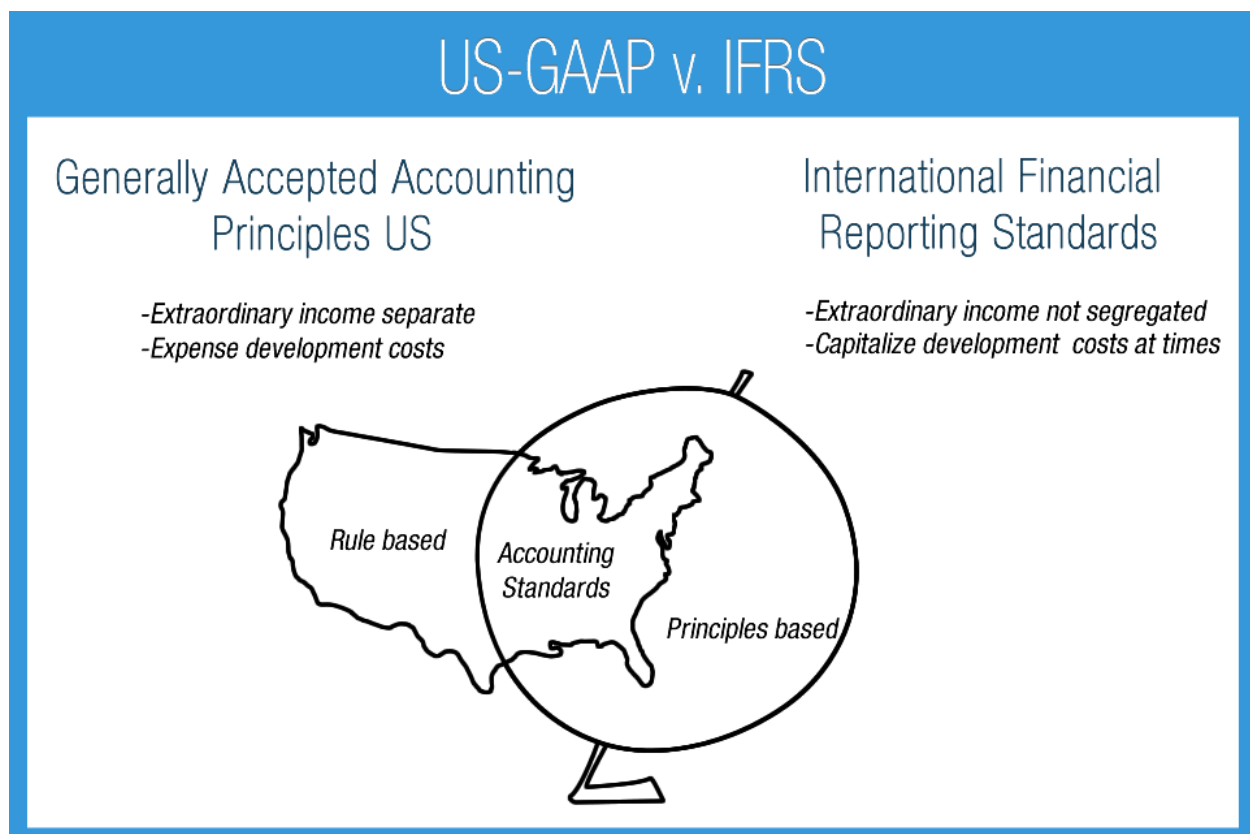
Generally Accepted Accounting Principles (US-GAAP) v. International Financial Reporting Standards (IFRS)

US-GAAP

- Rule based system
- Extraordinary income items presented separately
- LIFO inventory permissible
- Development costs expensed

IFRS

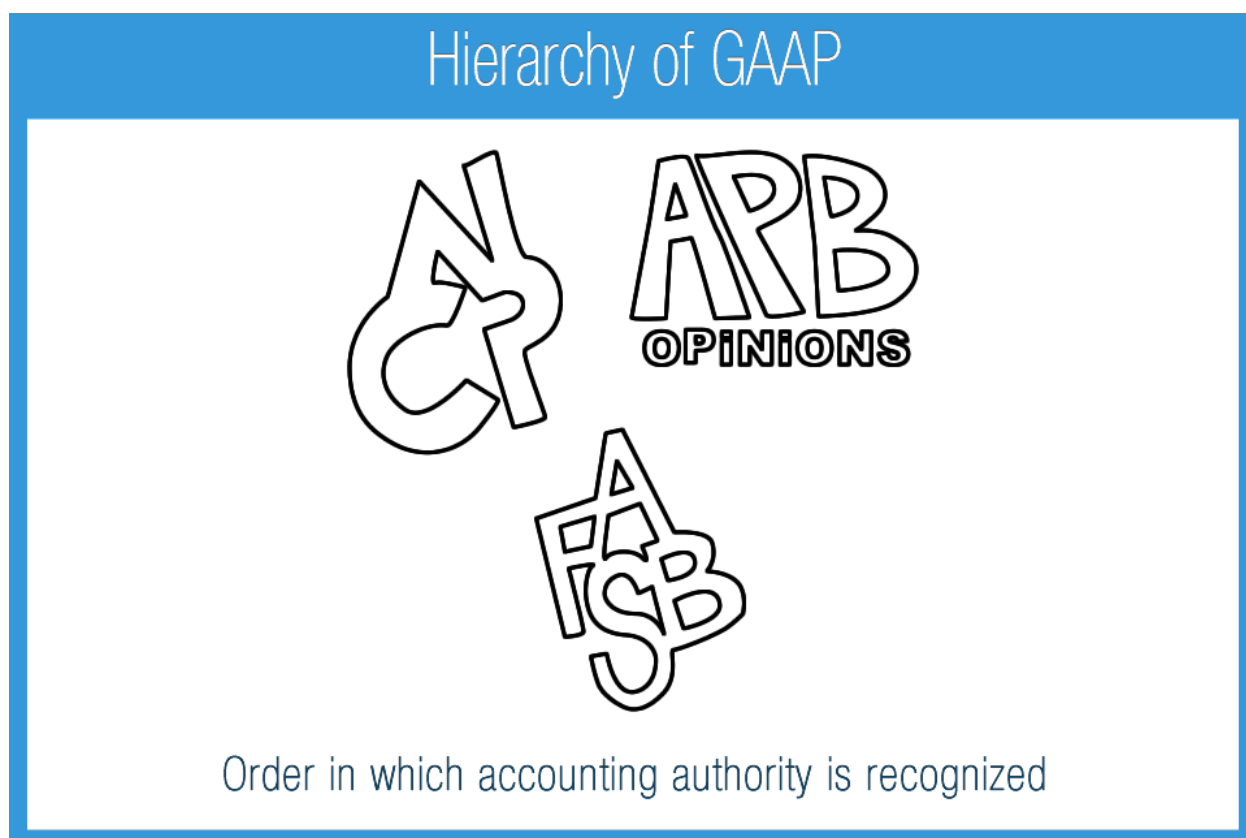
- Principles based system
- Extraordinary income not separated
- No LIFO inventory
- Development cost capitalization possible



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Generally Accepted Accounting Principles hierarchy The rank of authority for accounting standards

- AICPA Accounting Research Bulletins
- APB Opinions
- FASB Statements on Financial Accounting Standards
- FASB Interpretations
- FASB Staff Positions
- FASB Statement 133 Implementation Issues



[Return to Dictionary Index](#)

Gross profit Initial profit on sales after cost of goods is deducted

- Appears on income statement after revenue and cost of goods sold
- High gross profit would indicate that goods sold do not cost much relative to the revenue generated from sales

Gross profit

$$\begin{array}{r} \text{REVENUE} \\ \text{⊖} \\ \text{COST OF GOODS SOLD (COGS)} \\ \hline \text{GROSS PROFIT} \end{array}$$

**GROSS PROFIT
EQUATION**

[Return to Dictionary Index](#)

Gross profit margin Measure of remaining revenue after deducting the cost of goods sold

- High gross profit margin indicates that the cost of goods sold is low relative to the selling price
- High profit margins may generally be favorable, but do not account for other operating expenses

Profit Margin

$$\text{Profit Margin} = \frac{\text{Net Income}}{\text{Net Sales}}$$

Profitability

[Return to Dictionary Index](#)

International Financial Reporting Standards (IFRS) Financial reporting standard adopted widely outside of the US

- US companies primarily report under Generally Accepted Accounting Principles (US-GAAP); however, IFRS is an optional reporting method in some instances
- Principles based system
- Extraordinary income not segregated on income statement
- No last in first out (LIFO) inventory permissible
- Development costs may be capitalized under certain criteria



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Income statement Statement that reports the financial performance of a company for a specified period of time

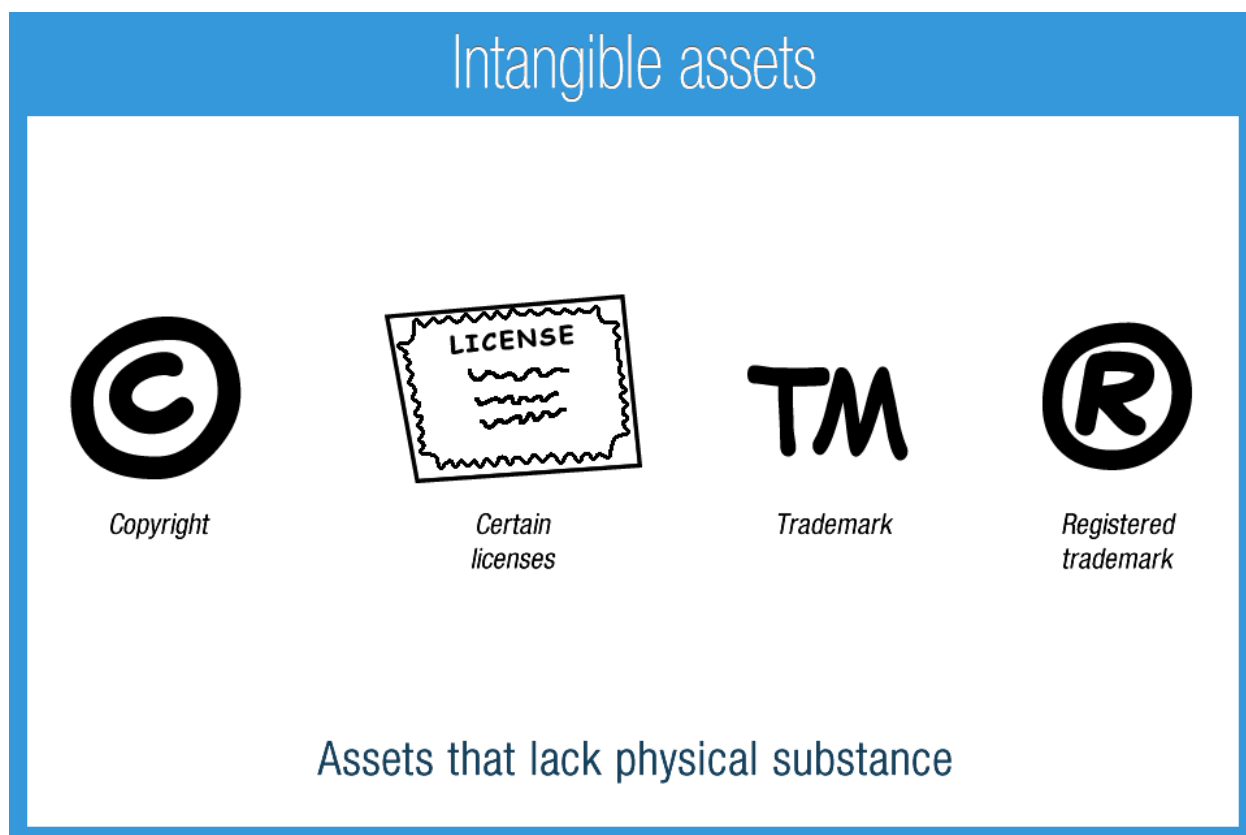
- Expenses are deducted from income to arrive at net income or net loss (profit or loss) for a period of time
- Net income or loss at the end of the accounting period flows to retained earnings on balance sheet
- $\text{Income} - \text{expenses} = \text{Net income or loss}$
- Operating income is from normal business activity

[Return to Dictionary Index](#)

Intangible assets Non-physical assets, unlike property, plant, and equipment

- Purchased and internally developed in some cases
- Amortized (expensed) over the life of the asset

Examples: patents, trademarks, copyrights, franchise licenses, and goodwill



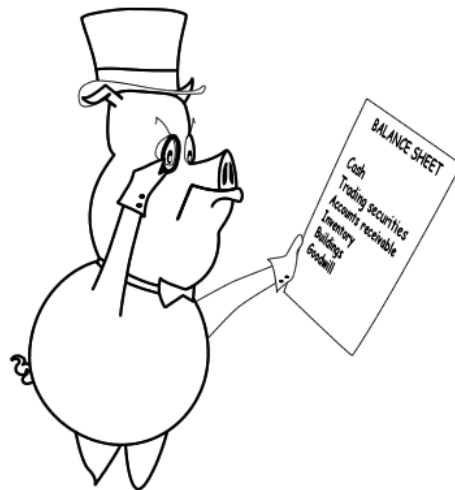
[Return to Dictionary Index](#)

Interest expense Cash paid to lenders for the use of borrowed money

- Most interest is a financing expense used for general operations
- Some interest, such as interest in connection with construction, is capitalized and becomes a part of the overall cost of the asset
- Interest expense is generated from debt, notes payable, and other company borrowings

Interest expense

Cost of borrowed money

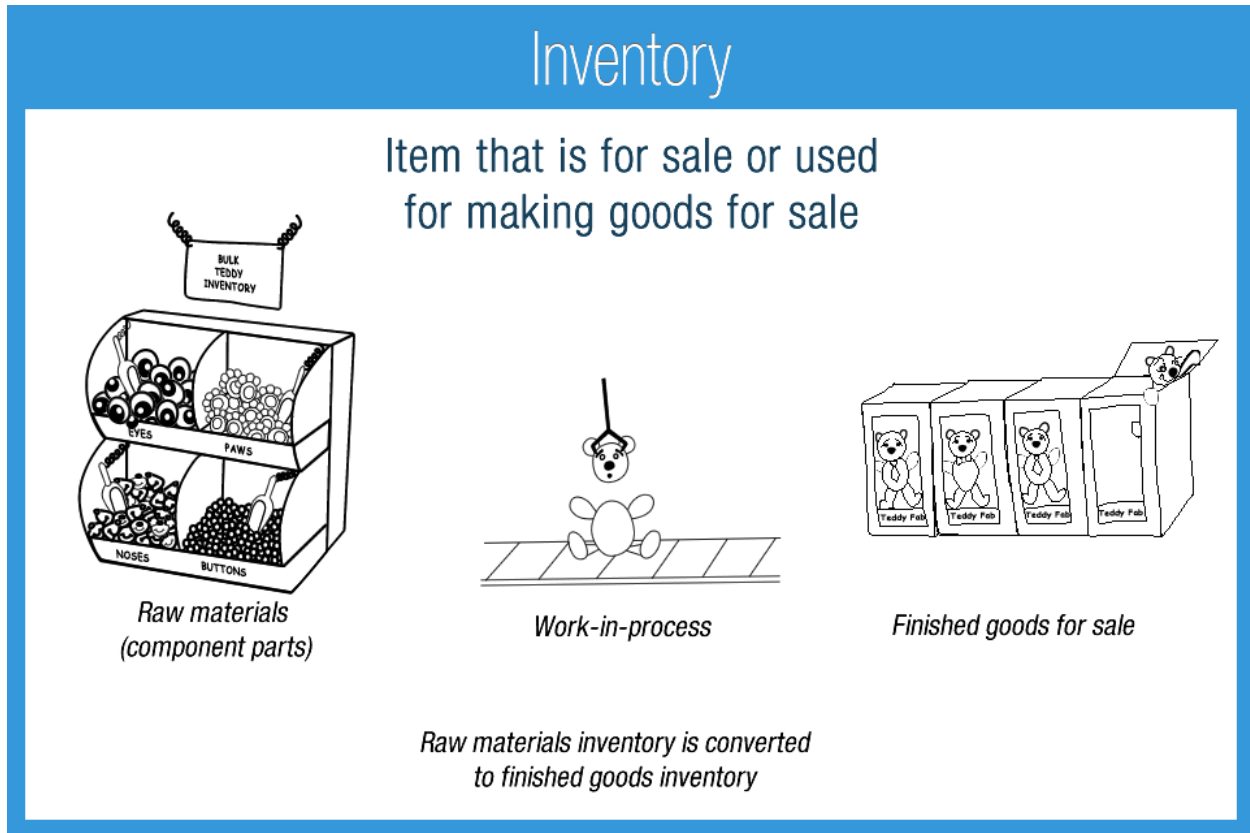


Banker Pig analyzes a balance sheet prior to lending any money

[Return to Dictionary Index](#)

Inventory Cost of products ready to be sold or used in the manufacturing process

- Manufacturing inventory starts as raw material, moves to work-in-process, and finally a finished good
- Recorded at cost or lower, if the value has declined using a lower of cost or market valuation



[Return to Dictionary Index](#)

Inventory turnover Measures the frequency that inventory is used and replaced

- Used to monitor inventory management
- Low turnover may indicate company is not selling enough or has over purchased inventory
- Turnover ratio should be used in context of the prior year performance or as a comparison to other competitors

Inventory Turnover

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

$$\text{Average Inventory} = \frac{\text{Beginning + Ending Inventory}}{2}$$

Operating Performance

[Return to Dictionary Index](#)

Investments Assets purchased for financial gain

- Investment classification affects reporting on the financial statements

Examples: stocks, bonds, and partnership interests as well as physical assets such as land and gold

Investments

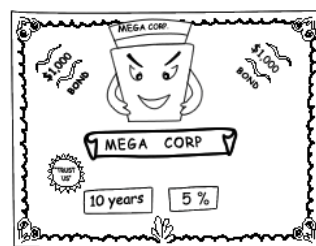
Assets purchased with the expectation of financial gain



Investment in stocks



Investment in partnerships



Investment in bonds

[Return to Dictionary Index](#)

Invoice 2/10, net/30 Payment terms for items sold

- If paid in 10 days, the customer may have a 2% discount
- If paid in 30 days, the invoice must be paid in full
- Generally terms used to encourage customers to pay faster

Invoice 2/10, net/30

Invoice terms



CFO Weasel for Teddy Fab Inc. pays 2/10, net/30 invoices within 10 days for a 2% discount

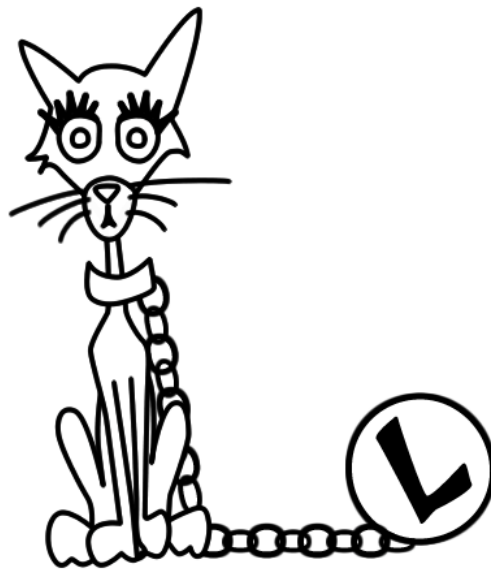
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Liabilities Debts owed by a business, typically paid in cash when due

Examples: accounts payable, income tax payable, dividends payable, accrued liabilities, and long-term debt payable

Financial statement: balance sheet

Liabilities



Amounts owed to creditors
(vendors and lenders)

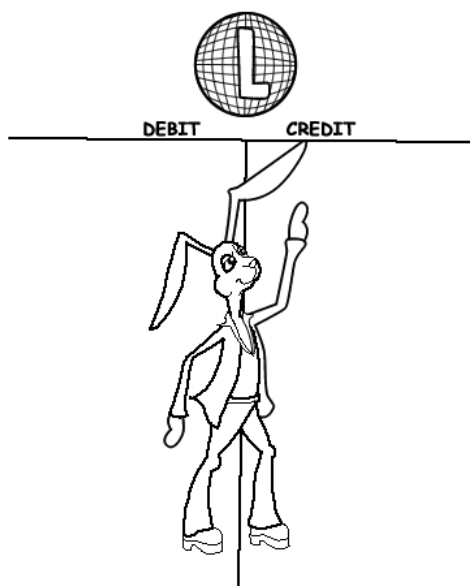
[Return to Dictionary Index](#)

Liability T-account transactions Decrease liabilities with a debit and increase with a credit

Basic entries

- Increase liability from a loan: debit cash, credit liability
- Increase liability for expense: debit expense, credit liability
- Decrease liability from a loan repayment: debit liability, credit cash

Liability T-account transactions

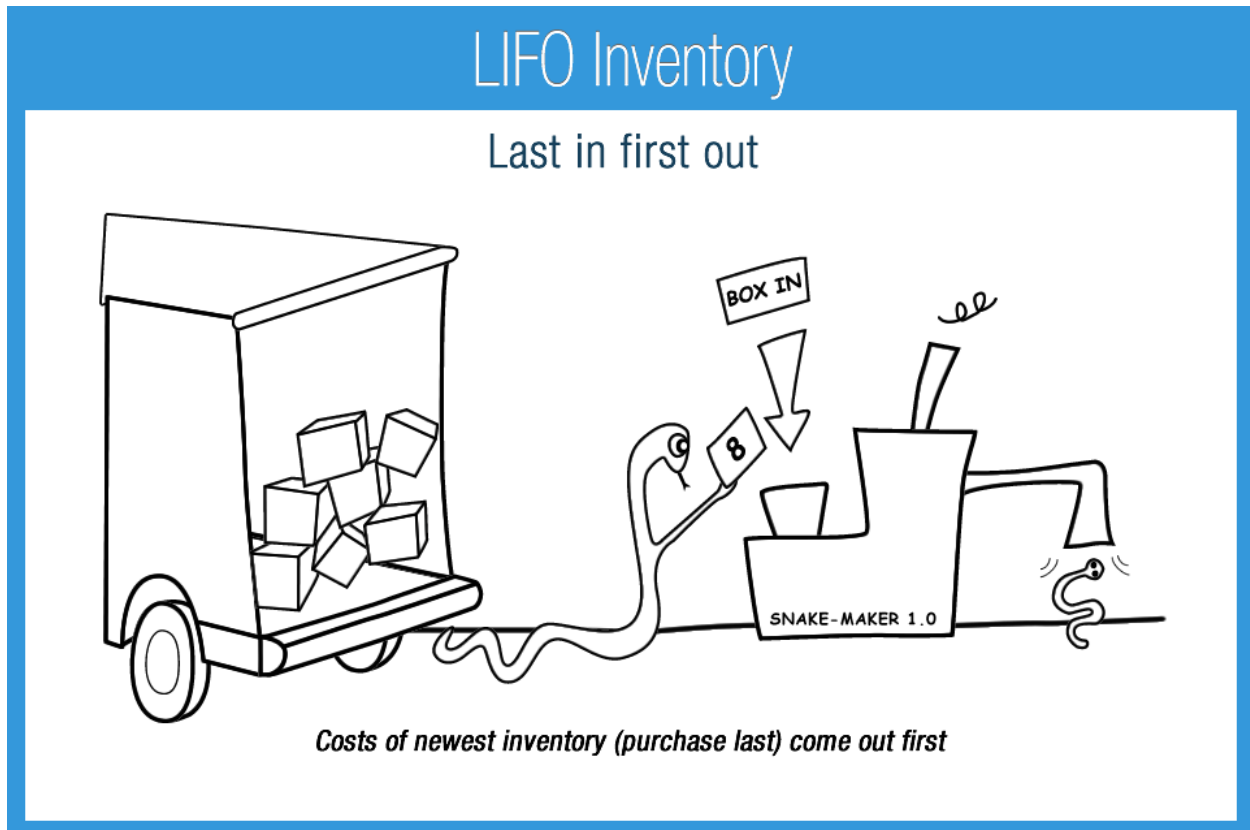


Debit liability down, credit liability up

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Last in first out Inventory accounting system in which last purchases are the first to be used to determine ending inventory and the cost of goods sold

- Oldest costs tend to remain in the inventory account
- Results in lower net income in a period of rising prices when compared to the FIFO method
- Inventory value is understated in period of rising prices
- Acceptable method only under US-GAAP



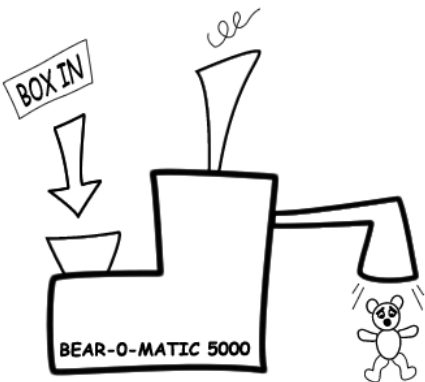
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Long-term assets Expected benefit greater than one year

Examples

- Depreciable assets: physical assets used in ordinary operations (property, plant, and equipment)
- Intangible assets: non-physical assets used in ordinary operations (copyrights, trademarks, goodwill)

Long-term assets



Equipment


Intangibles:

©®TM

Copyright

Registered trademark

Trademark



Certain investments

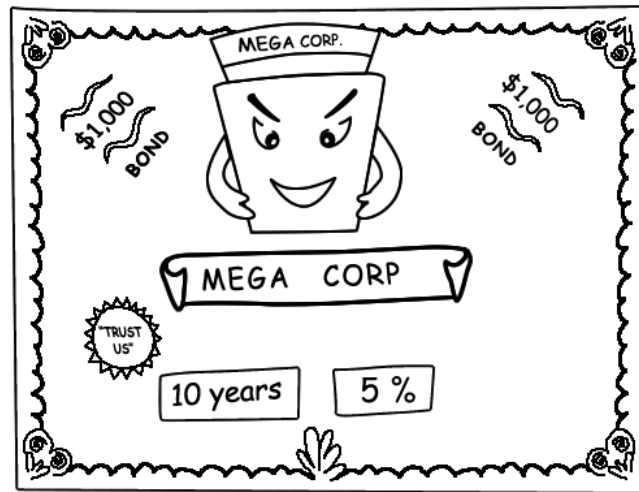
Assets expected to last more than one year

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Long-term bonds payable Represents money borrowed to finance company operations, due in more than one year

- Issued to investors to raise funding
- Form of debt financing

Long-term bonds payable



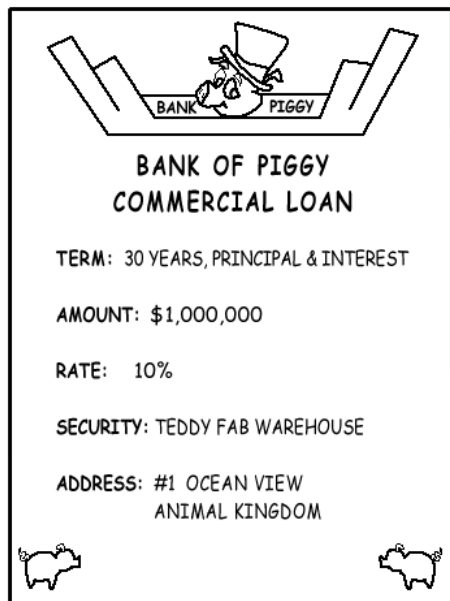
Funds company borrows with a promise to repay in a year or more

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Long-term liabilities Debts owed to creditors, due in more than one year from the balance sheet date

Examples: bonds payable, notes payable, and mortgage loans payable

Long-term liabilities



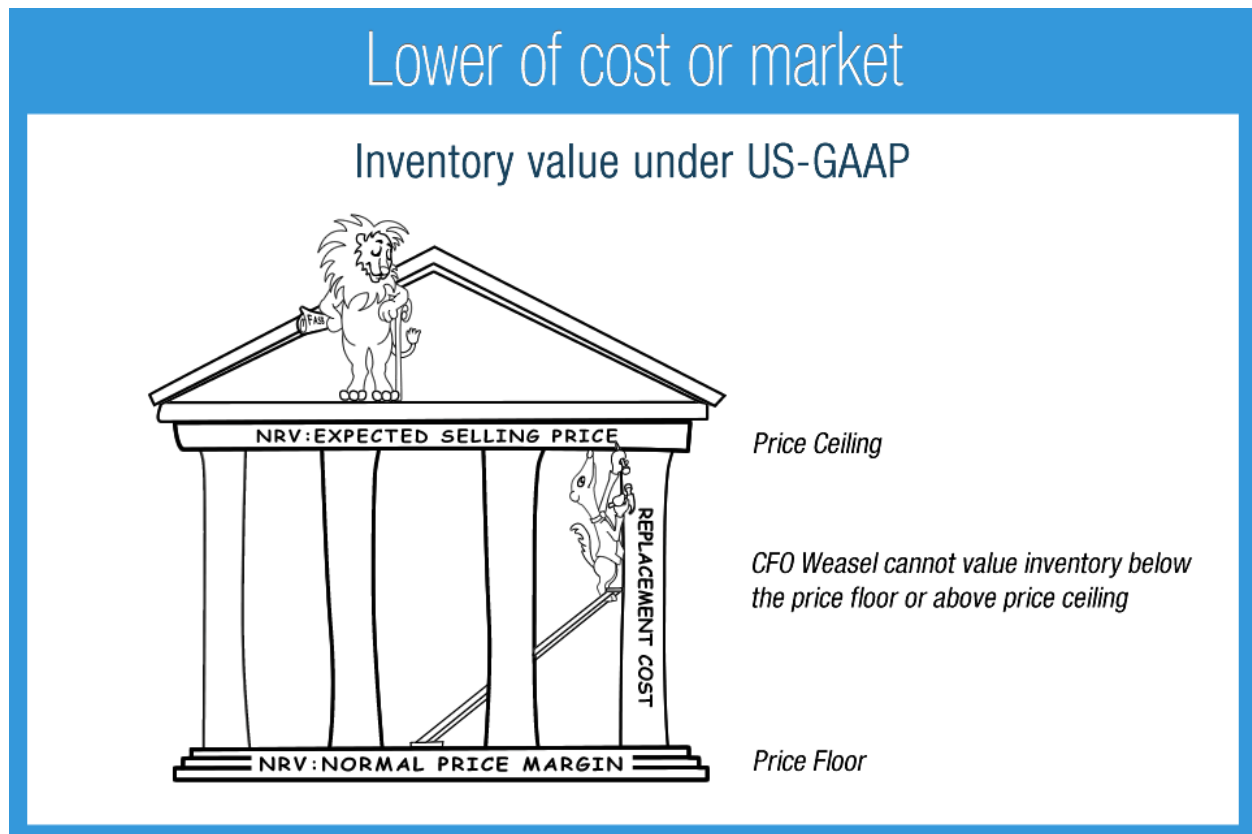
Portion of liabilities payable
due in a year or more

*The principal portion of this loan due in one year
is a short-term liability and the excess
is classified a long-term liability*

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Lower of cost or market Inventory valuation methodology based on price paid or a lower value calculated following US-GAAP

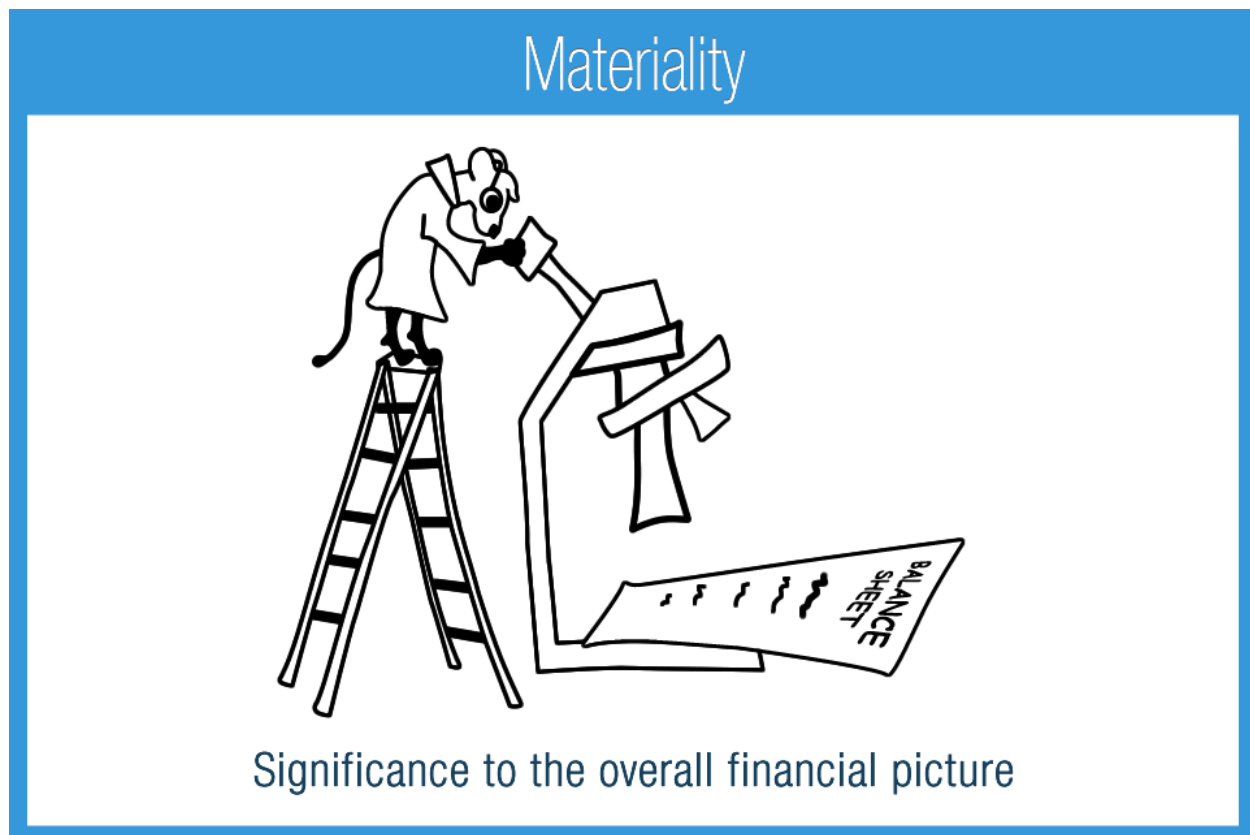
- Inventory cost is never greater than cost
- Cost is the price paid for the item
- Market value determined by calculating three different values: replacement cost, net realizable value (NRV), and NRV less normal profit margin



[Return to Dictionary Index](#)

Materiality Defines the level to which certain accounting principles do not apply

- Financial statement rounding to the nearest dollar or greater, depending on the size of the company
- Any violation of accounting principles do not change the overall interpretation by the end user



[Return to Dictionary Index](#)

Net profit on sales Measures profitability on sales

- Useful for comparison across similar companies and trend analysis
- Ratio may not be very useful alone because a company may have low total profit with a high net profit on sales ratio

Net profit on sales

$$\text{NET PROFIT RATIO} = \frac{\text{NET PROFIT}}{\text{NET SALES}} \times 100$$

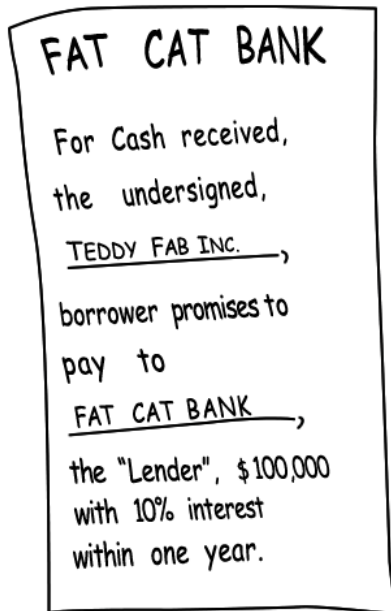
Profitability Ratio

[Return to Dictionary Index](#)

Notes payable Debts owed to banks or other creditors based on written agreements

- Split on balance sheet as a short-term liability (owed in one year or less) and long-term (due in more than one year)
- Rate of interest and terms specified in lending document

Notes payable

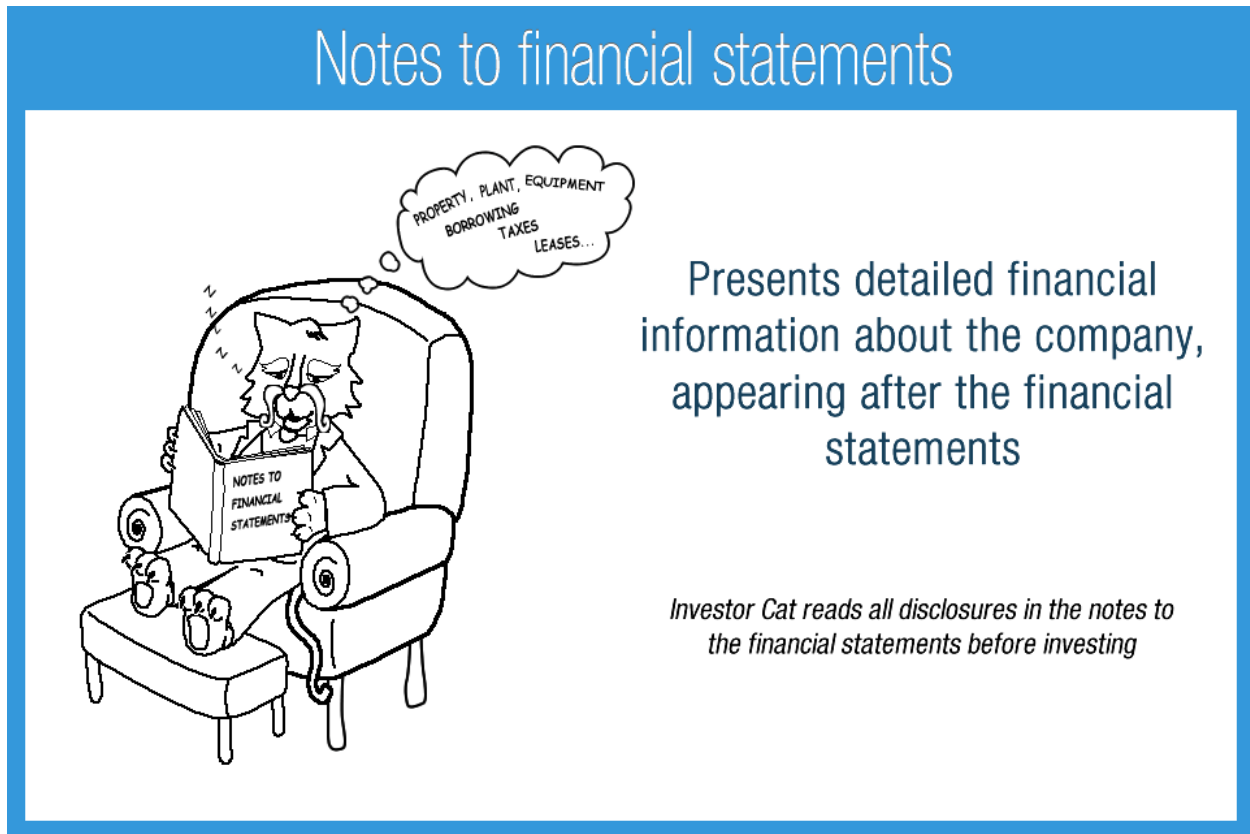


Debt owed for money borrowed

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Notes to financial statements Detailed financial information issued with the financial statements

Topics that may be covered: basis of financial presentation, business changes, risks, uncertainties, accounting developments, business combinations, risk exposure, fair value measurement, investments, asset summaries, income taxes, related party transactions, debt detail, and other disclosures



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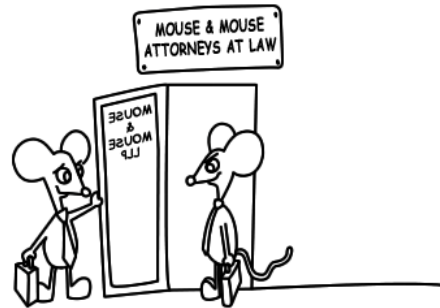
Partnerships v. limited partnerships Members of a general partnership have personal liability for their own actions and actions of partners, while limited partners of a limited partnership have liability protection, but the general partner does not

- General partnership may be formed if any two people are in business together absent any agreements
- Limited partnerships are formal and granted limited liability by the state

Partnerships v. limited partnerships



*Joint and several liability
(held responsible for the acts of other partners)*



Limited liability (general partner held liable)


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Prepaid expense Expenses paid, but not entirely used in the accounting period

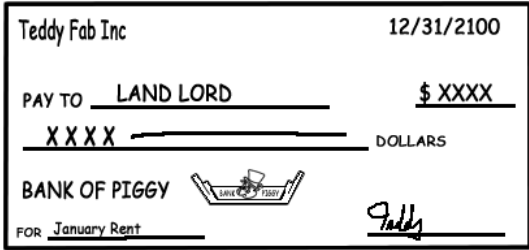
- Asset until used
- Asset becomes an expense once benefit has been received

Examples: insurance, advertising, rent, and subscription services


Prepaid expense



Insurance



Rent



Marketing

Expenses paid in advance

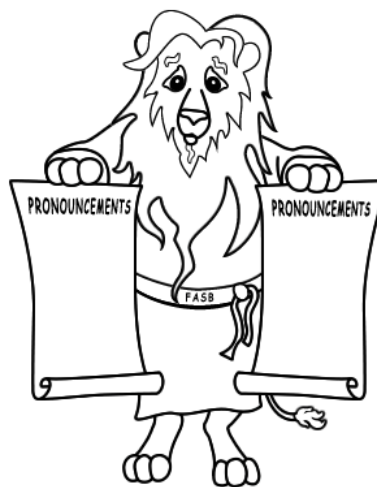
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Pronouncements Financial Accounting Standards Board (FASB) guidance that comprises Generally Accepted Accounting Principles in the US (US-GAAP)

- **Comprised of:** Statements of Financial Accounting Standards (FAS), Statements of Financial Accounting Concepts, Interpretations, Technical Bulletins, and Staff Positions

Pronouncements

Financial Accounting Standards Board guidance that comprise Generally Accepted Accounting Principles in the US



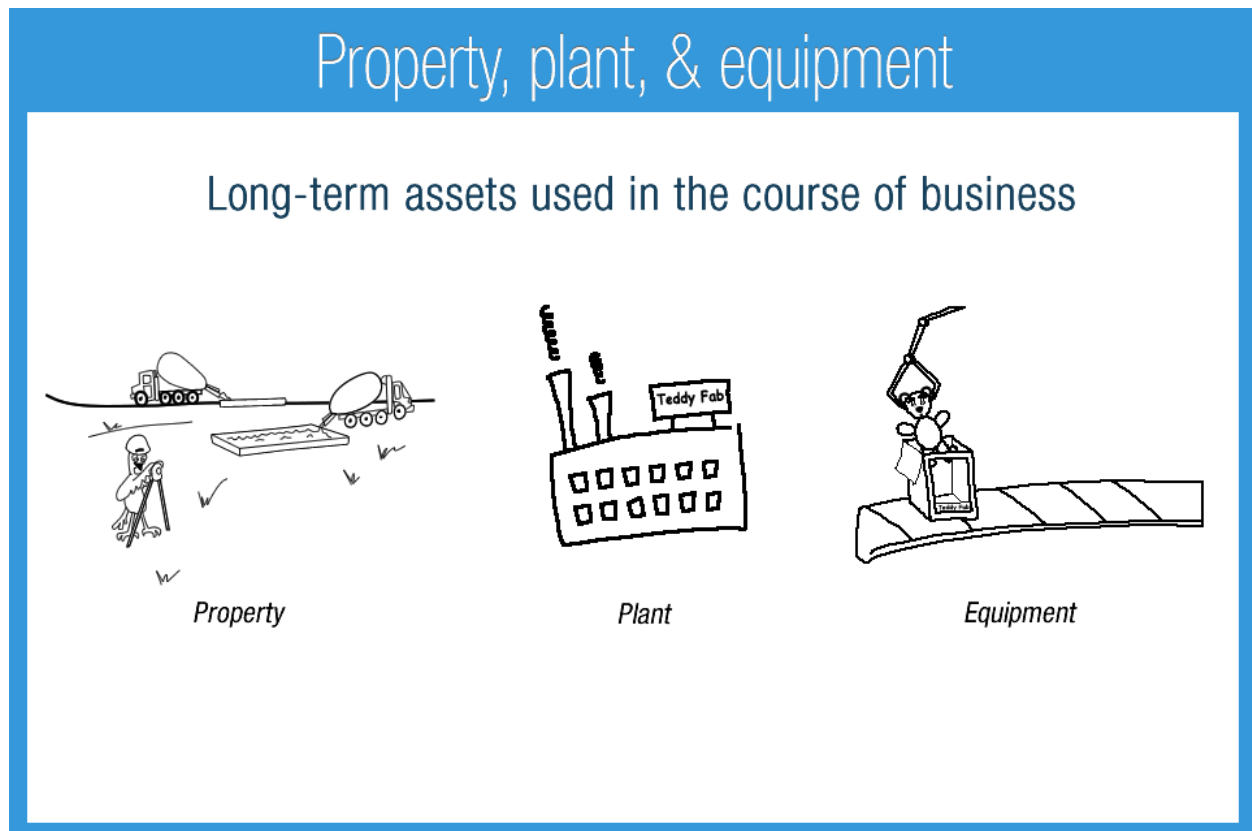
FASB Lion issues new pronouncements

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Property, plant, and equipment (PP&E) Long-term assets used in the course of business

- Reported on the balance sheet at cost
- Depreciated to represent decline in asset value over time

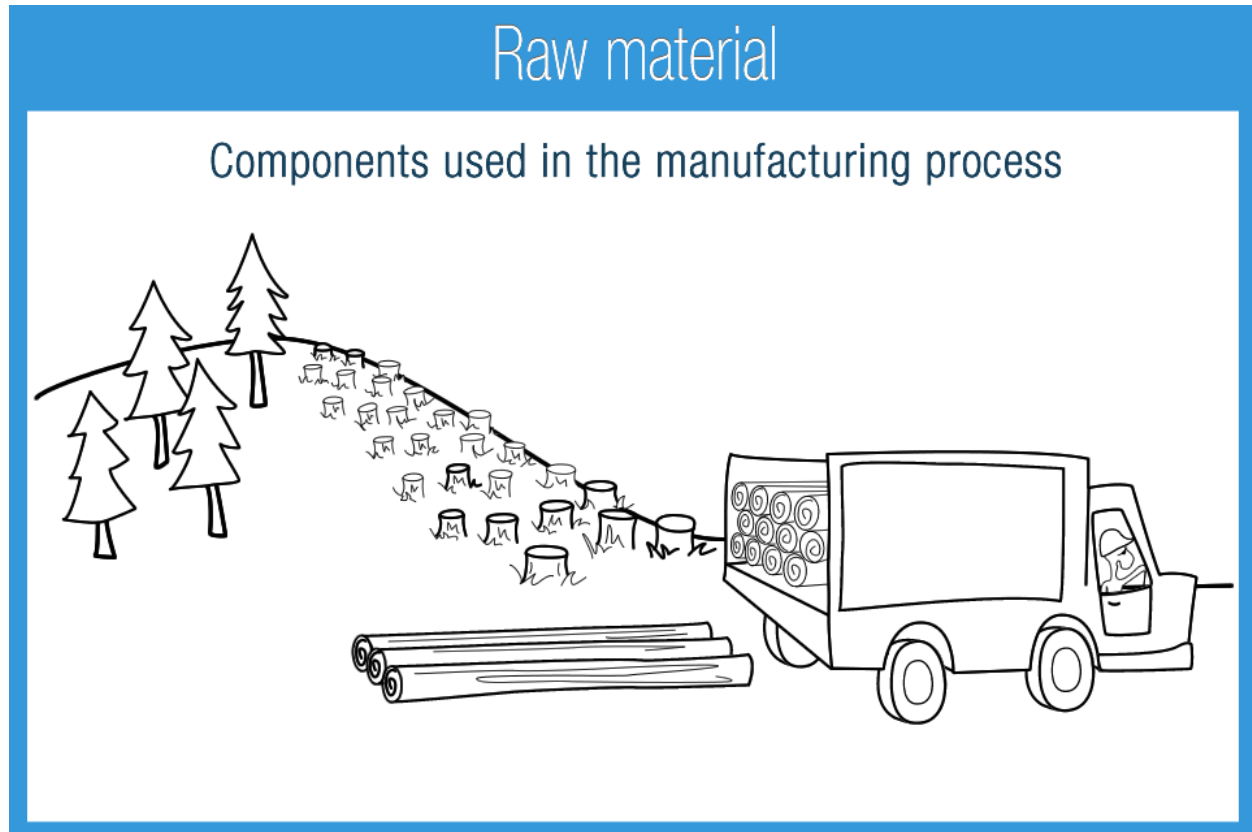
Examples: land, buildings, leasehold improvements, office equipment, furniture, fixtures, and vehicles



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Raw material Components used in the manufacturing process that are part of direct costs

- **Examples:** wood, steel, parts, stuffing, cloth, and oil
- Does not include indirect costs such as factory utilities or manufacturing labor

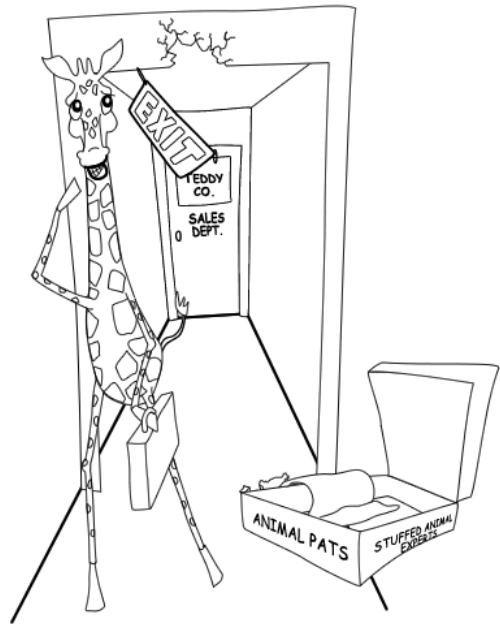


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Repairs expense Costs of maintaining assets

- Expensed costs recognized on the income statement
- Ordinary maintenance that does not improve an asset

Repairs expense

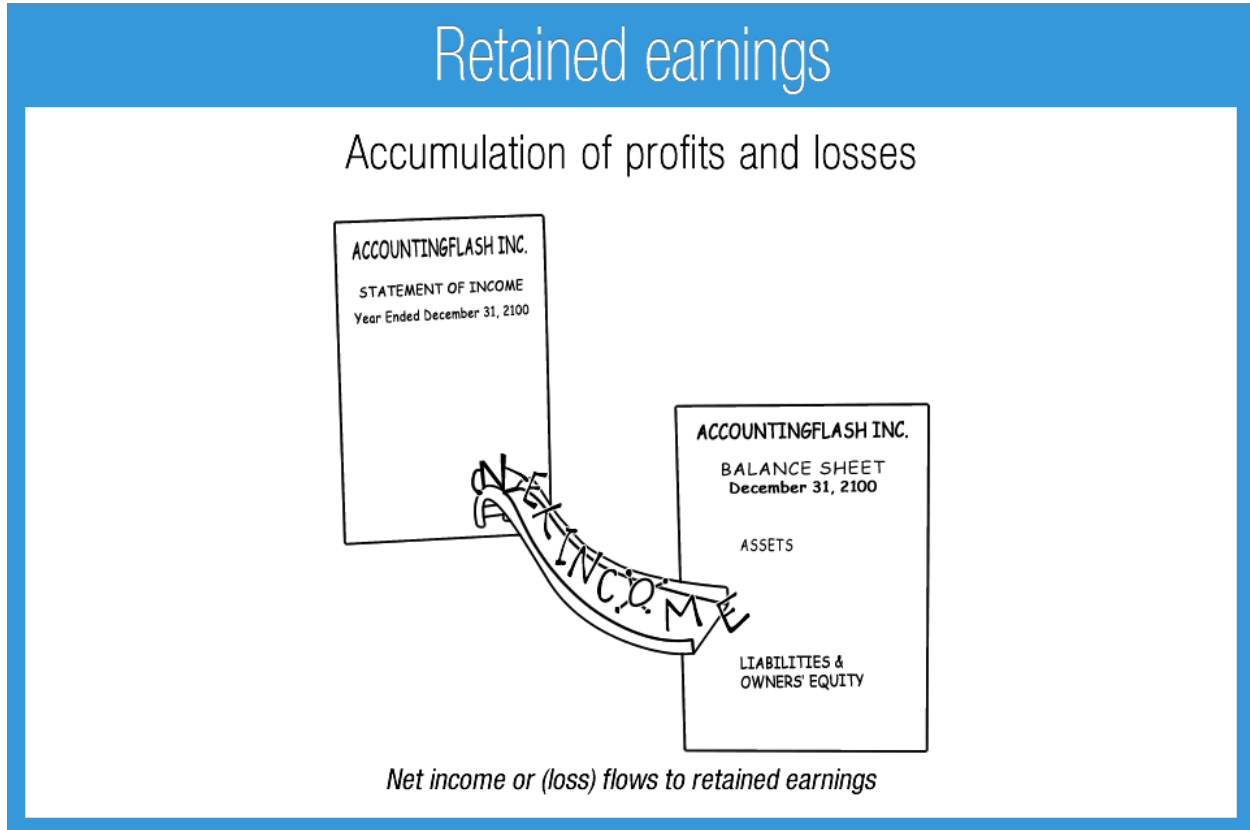


Ordinary maintenance

[Return to Dictionary Index](#)

Retained earnings Sum of all previous profit and losses, less dividends

- Net income or loss is recorded to retained earnings at the end of the accounting period
- Dividends declared reduce retained earnings



[Return to Dictionary Index](#)

Return on assets Measures asset utilization compared to net income

- Useful for comparison across similar companies and trend analysis
- Less useful for companies that do not utilize assets much in the production of revenue, such as consulting firms

Return on Assets

$$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Total Assets}}$$

Profitability

[Return to Dictionary Index](#)

Return on equity Measure of profit compared to amounts invested into the company

- Useful for comparison across similar companies and trend analysis
- High ratio indicates strong profitability relative to the investment

Return on Equity

$$\text{Return on Equity (ROE)} = \frac{\text{Net Income}}{\text{Average Shs' Equity}}$$

$$\text{Average Shareholders' Equity} = \frac{\text{Beginning + Ending Shareholders' Equity}}{2}$$

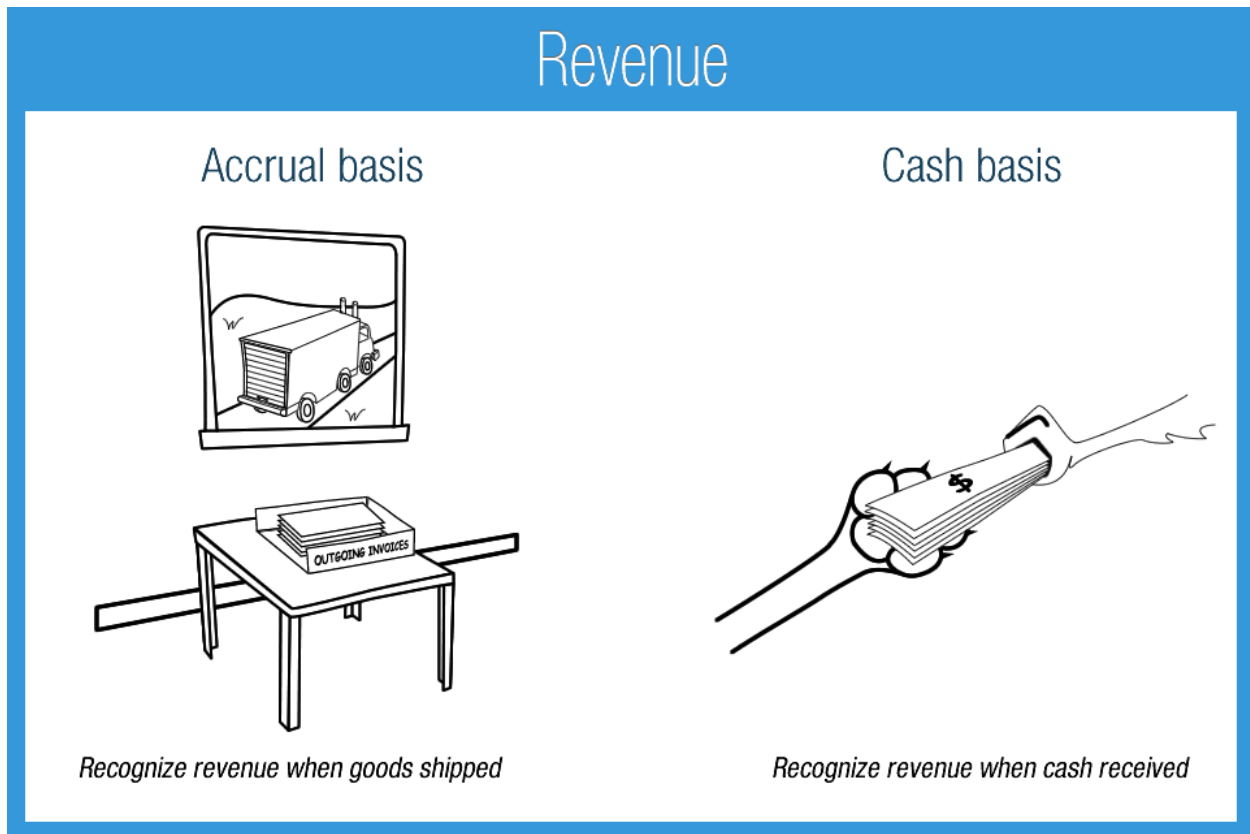
Profitability

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Revenue Income earned from the sale of goods and services

Accrual basis accounting: revenue recognized when goods are delivered or services performed

Cash basis accounting: revenue is recognized when cash is received for goods delivered or services performed



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Revenue recognition Recognize revenue when it is earned and realizable

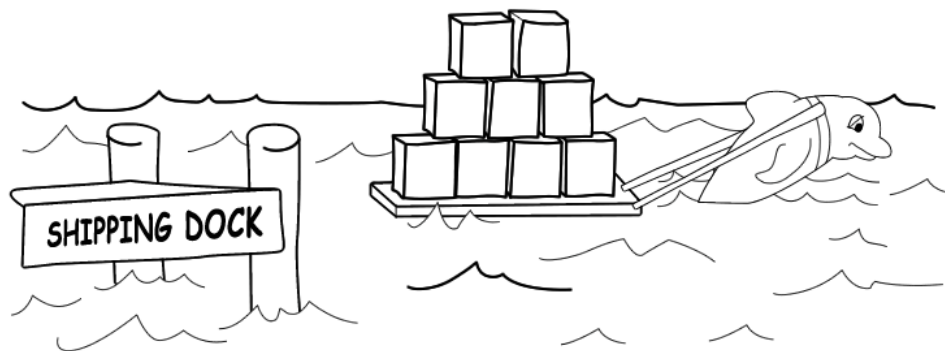
- Goods shipped or services rendered
- Revenue recorded before cash is collected

Realize revenue: When cash is received

- Customer pays for goods delivered or services rendered

Revenue recognition

Recognize revenue when sale is completed or services have been rendered under accrual (GAAP) accounting

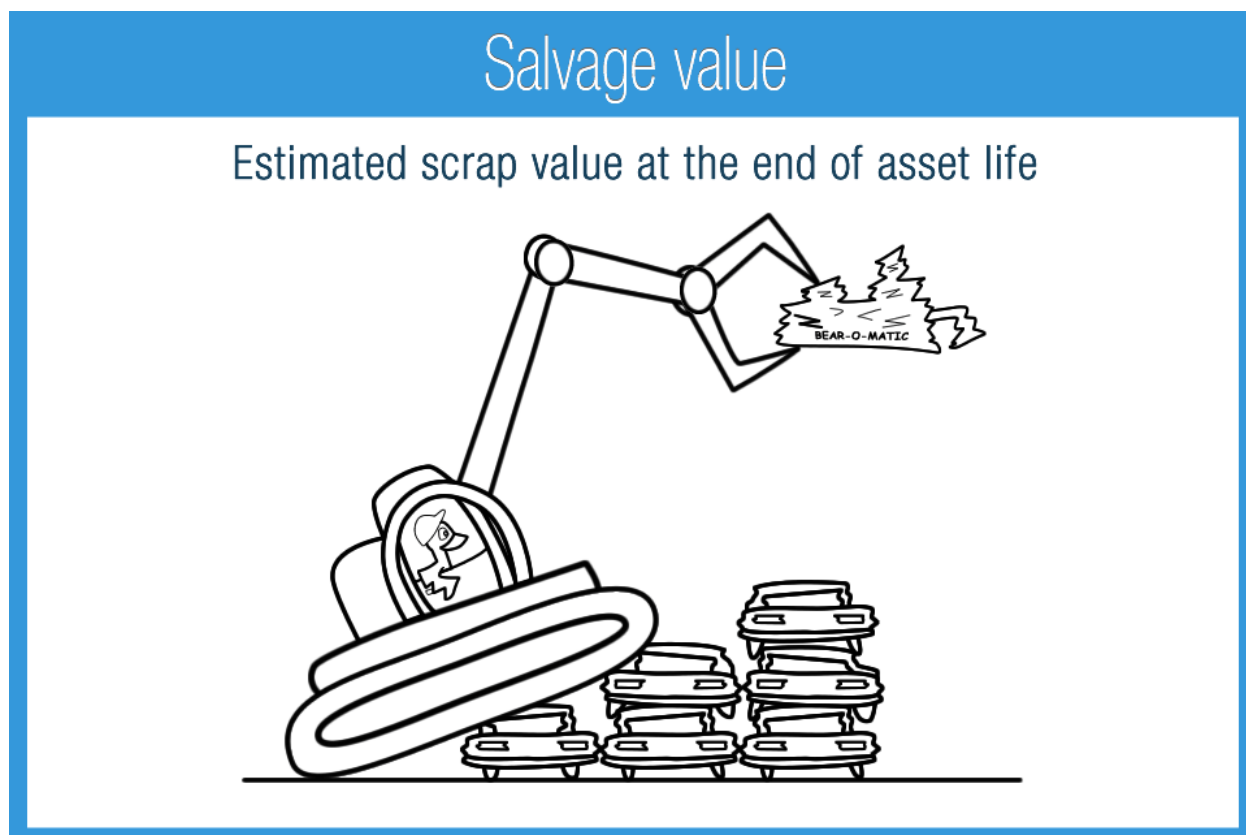


Revenue recognized as goods are shipped via dolphin

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Salvage value Estimated value of a fixed asset at the end of its useful life

- Used in depreciation methods: straight-line method, units of production method, and sum-of-the-years-digits' method



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Selling, general, and administrative expense Costs expensed as they occur

- Costs expensed on the income statement in the period in which they occur
- Not added to inventory or fixed assets

Selling: costs not in cost of goods sold, such as commissions

General: expenses such as taxes and miscellaneous costs

Administrative: general support and salaries not directly related to manufacturing

Selling, general, & administrative expense

Ordinary expenses incurred the course of business



Selling expense
Sales-Elephant



Administrative expense
Cougar-Controller

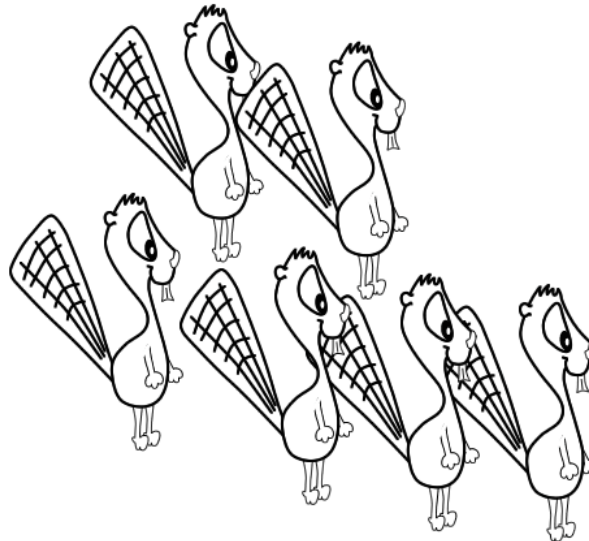
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Shareholders Owners of a corporation

- Influence the company by electing the board of directors
- Board of directors elects chief executive officer (CEO) of company
- Corporate shareholders limit losses to their original investment and are not personally liable for corporate actions
- Shareholders may be rewarded with stock appreciation, dividends, and sales

Shareholders

Owners of a corporation (stockholders)



Eager Beaver shareholders

[Return to Dictionary Index](#)

Shareholders' equity Represents value retained by the company

- Equity on the balance sheet is defined as: $\text{Equity} = \text{Assets} - \text{Liabilities}$
- Generally comprised of stock, additional paid-in capital, and retained earnings
- Represents a value per book which does not take into account certain changes in fair market value

Financial statement: balance sheet

Shareholders' equity

$$\text{Equity} = \text{Assets} - \text{Liabilities}$$



Teddy is stoked on equity

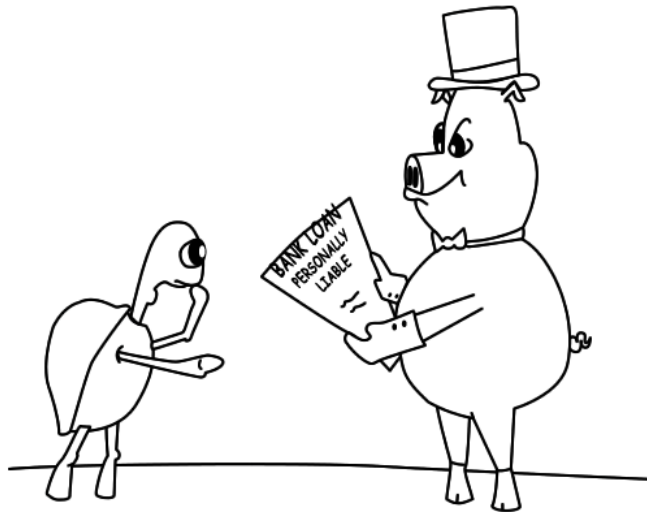
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Sole proprietorship Owned by one person with unlimited liability, because there is no legal separation from the business and the owner

- Most common form of doing business
- No shareholders
- Owner is personally liable for business and employee actions

Sole proprietorship

Single-person ownership of a business that has unlimited personal liability

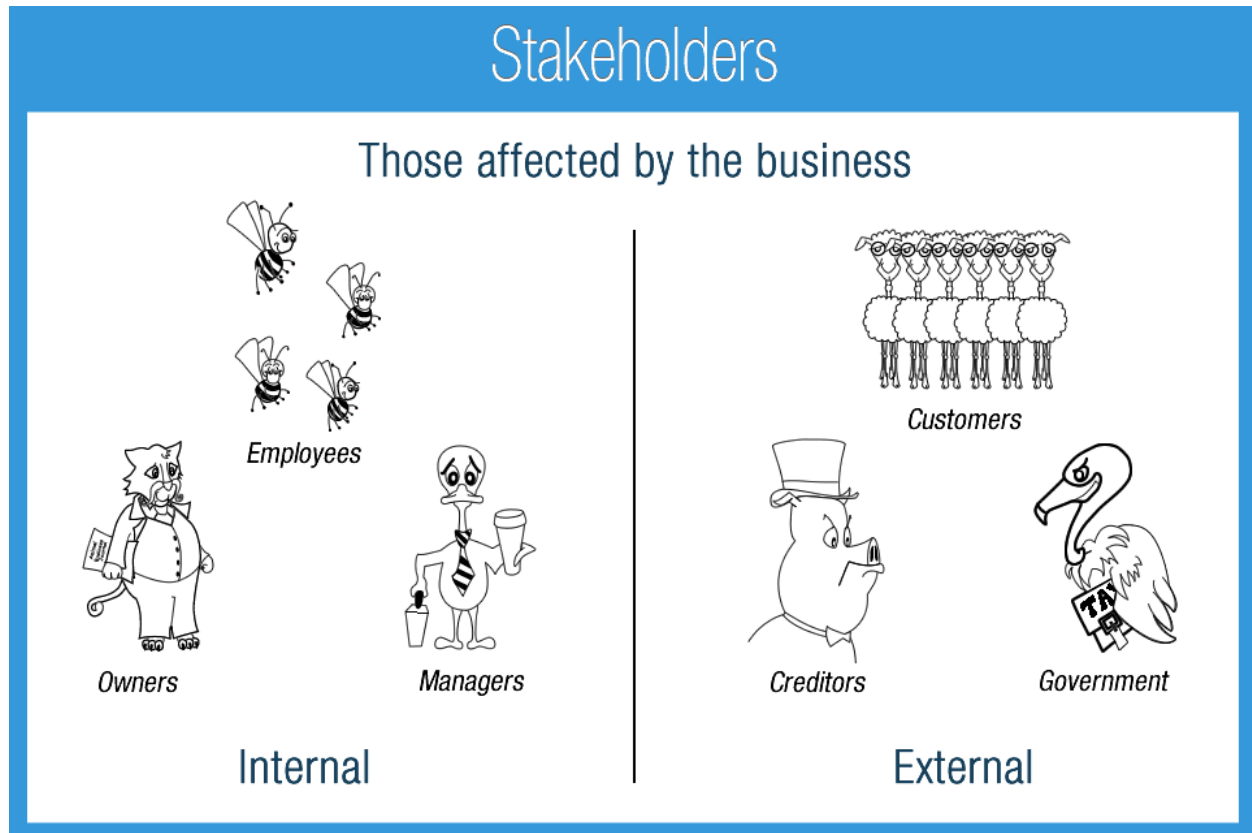


Sole Proprietor Turtle accepts a bank loan from Banker Pig

[Return to Dictionary Index](#)

Stakeholders Those affected by the outcome of the business

- Users of financial information



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Statement of cash flows Reports cash in and out of a company for a given period of time

- Reconciles beginning period cash to ending cash in three categories: operating, investing, and financing
- Indirect method of preparation uses net income or loss from the income statement to reconcile beginning cash to ending cash for the period

Statement of cash flows

Reports cash in and out for a specified time period



Statement of cash flows is compared to a movie, because it captures activity over a range of time, such as one year

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Statement of cash flows example Statement reporting cash flow activity for a specified period of time

- Statement reconciles net income or loss to ending cash
- Changes in cash categorized: operating, investing, and financing

Statement of cash flows example

TEDDY FAB INC. STATEMENT OF CASH FLOWS Year Ended December 31, 2100	
Cash flows from operating activities:	
Net income	\$ 197,100
Adjustments to reconcile net income to net cash used in operating activities:	
Depreciation and amortization	5,200
Changes in operating assets and liabilities:	
Accounts receivable	(20,000)
Inventories	(15,000)
Prepaid expenses	(4,000)
Accounts payable	30,000
Accrued expenses	5,000
Deferred revenue	2,000
Total adjustments	3,200
Net cash used in operating activities	200,300
Cash flows from investing activities:	
Purchase of property and equipment	(324,300)
Intangible asset purchase	(4,000)
Investment purchase	(10,000)
Net cash used in investing activities	(338,300)
Cash flows from financing activities:	
Proceeds from notes payable	10,000
Proceeds from additional paid-in capital	20,000
Proceeds from issuance of common stock	10,000
Proceeds from bond issuance	200,000
Purchase of treasury stock	(2,000)
Net cash provided by financing activities	238,000
Net increase (decrease) in cash and cash equivalents	100,000
Cash and cash equivalents, beginning	0
Cash and cash equivalents, ending	\$ 100,000

Sources of cash presented

Statement reconciles to ending cash

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Statement of shareholders' equity Reports changes in equity during a specified time period due to earnings and financing activity

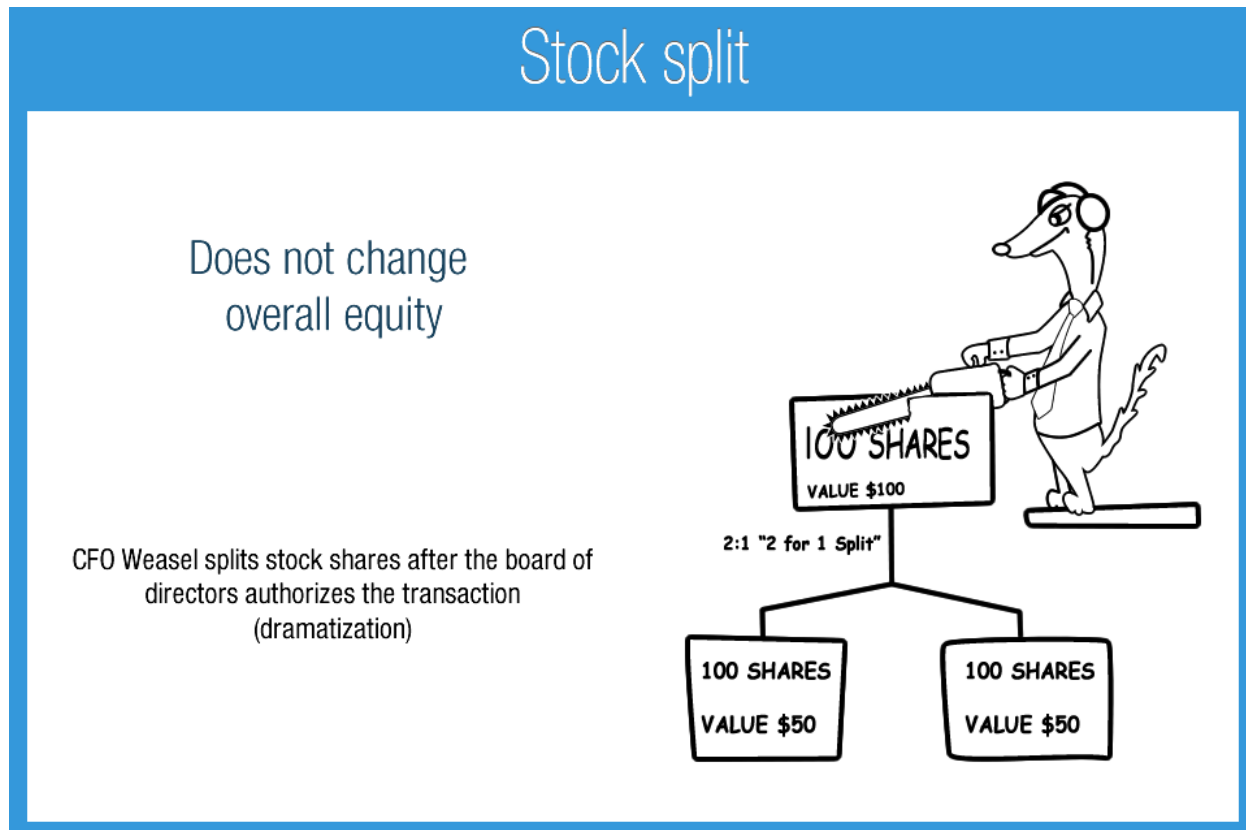
Items which may change shareholders' equity: net income or loss, dividends, other changes in equity, common stock issuance, additional paid-in-capital, other comprehensive income, and treasury stock transactions

Equity accounts presented: common stock, additional-paid-in-capital, retained earnings, accumulated other comprehensive income, and treasury stock

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Stock split More shares issued, but overall share value stays the same

- Increases outstanding shares and reduces par value per share proportionately
- Similar to exchanging a dollar bill for 4 quarters because value is the same, only further divided



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Straight-line depreciation Depreciation method, generates same expense each year until asset has reached the estimated end of its useful life

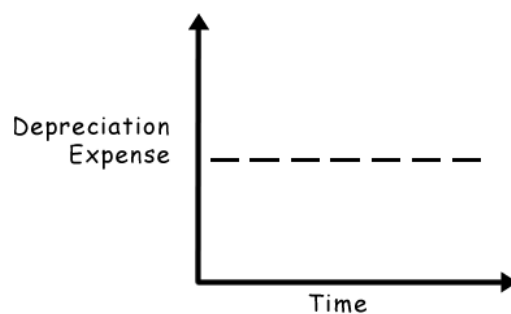
- Takes into account salvage value

Straight-line depreciation

STRAIGHT LINE METHOD

$$\text{RATE} = \frac{\text{COST-SALVAGE VALUE}}{\text{USEFUL LIFE}}$$

-- = STRAIGHT LINE




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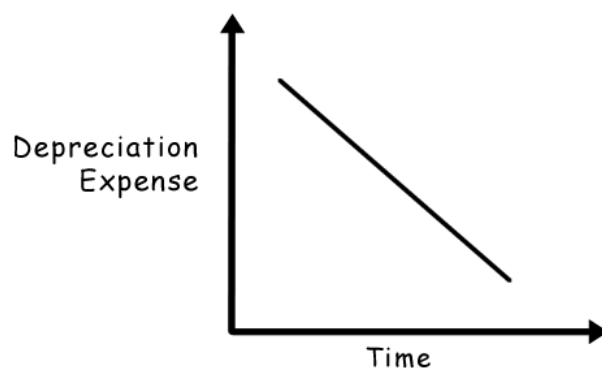
Sum-of-the-years-digits' depreciation Accelerated depreciation method, generates more expense in earlier years

- Takes into account salvage value

Sum-of-the-years-digits' depreciation

$$\text{DEPRECIATION EXPENSE} = (\text{COST-SALVAGE VALUE}) \times \left[\frac{\text{\# OF YEARS LEFT IN ASSET LIFE}}{\text{SUM OF YEARS IN ASSET LIFE}} \right]$$

 = SUM-OF-THE-YEARS' DIGITS



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Times interest earned Measures ability to meet interest obligations

- Useful for comparison across similar companies and trend analysis
- A higher ratio indicates a better ability to repay interest obligations

Times Interest Earned

$$\text{Times Interest Earned} = \frac{\text{EBIT}}{\text{Interest Expense}}$$

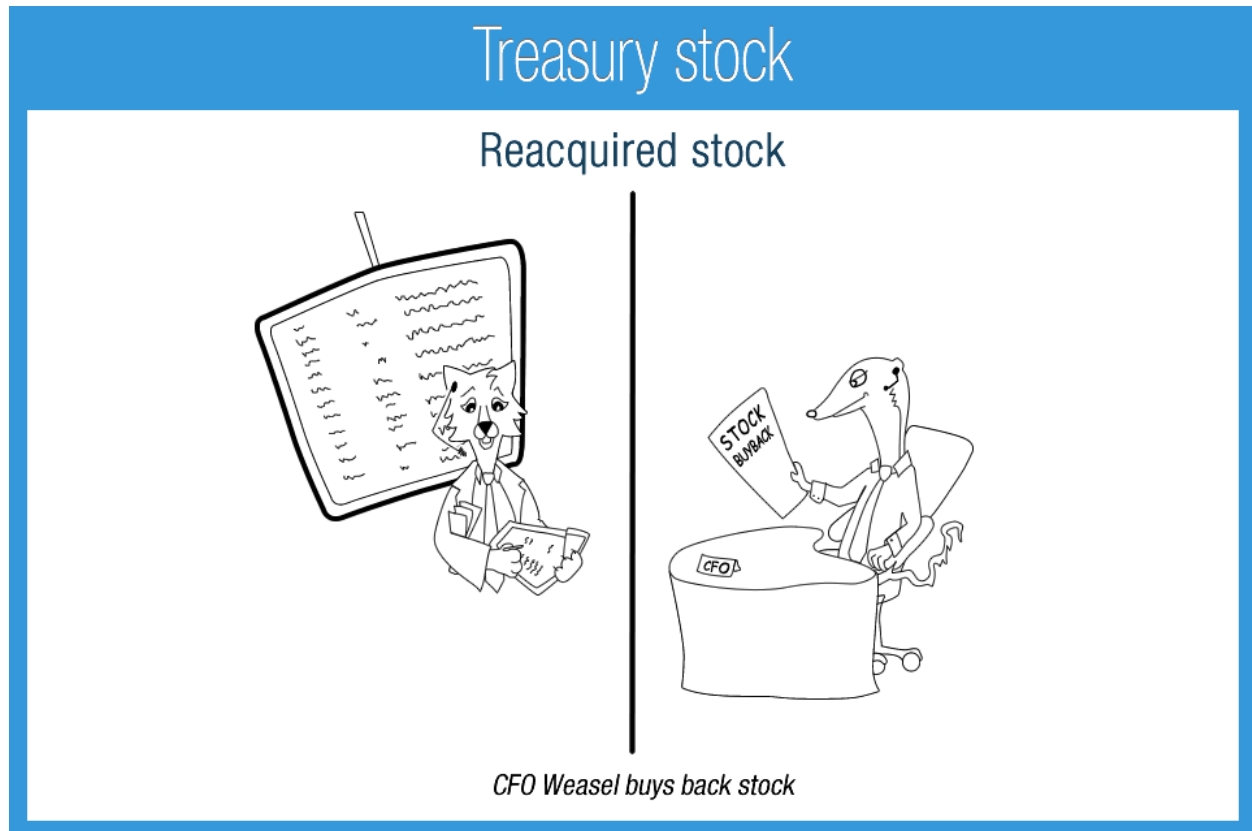
EBIT = Earnings Before Interest & Taxes

Liquidity

[Return to Dictionary Index](#)

Treasury stock Stock repurchased by company

- Reduces outstanding shares
- Recorded at cost
- Contra account presented as a negative number on financial statements



[Return to Dictionary Index](#)

Trial balance Summarizes all general ledger accounts in a consolidated format

- Used to form the financial statements
- Summarizes debit and credit balances by account
- Can be adjusted with journal entries

Trial balance

TEDDY FAB INC. TRIAL BALANCE 12/31/2100			
	Debit		Credit
Assets	\$		\$
Cash and cash equivalents	100,000.00		
Accounts receivable	20,000.00		
Inventory	15,000.00		
Prepaid expense	4,000.00		
Investments	10,000.00		
Land	24,300.00		
Buildings and improvements	250,000.00		
Equipment	50,000.00		
Accumulated depreciation		5,000.00	
Intangible assets	4,000.00		
Accumulated amortization		200.00	
Liabilities			
Accounts payable		30,000.00	
Notes payable		10,000.00	
Accrued expenses		5,000.00	
Deferred revenue		2,000.00	
Long-term debt		200,000.00	
Shareholders' Equity			
Common stock		10,000.00	
Additional paid-in capital		20,000.00	
Retained earnings		-	
Treasury stock		(2,000.00)	
Revenue			
Sales revenue		1,000,000.00	
Expenses			
Cost of goods sold	200,000.00		
SG&A	357,700.00		
Interest	20,000.00		
Depreciation	5,000.00		
Amortization	200.00		
Interest income		20,000.00	
Income tax	240,000.00		
BALANCE,			
DECEMBER 31, 2100	<u>\$ 1,300,200.00</u>		<u>\$ 1,300,200.00</u>

Sum of asset, liability, and equity
accounts used to summarize
general ledger accounts

Debits = Credits

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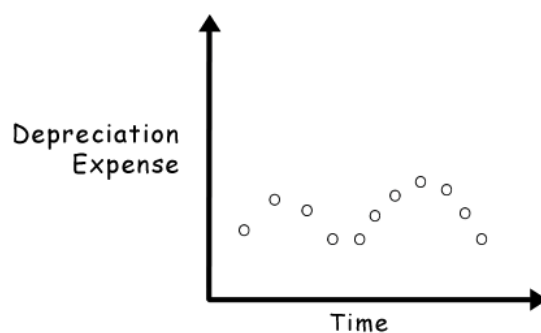
Units-of-production depreciation Depreciation method, matches expense with machine output

- Takes into account salvage value

Units-of-production depreciation

$$\text{DEPRECIATION EXPENSE} = (\text{COST-SALVAGE VALUE}) \times \left(\frac{\text{HOURS THIS YEAR}}{\text{TOTAL ESTIMATED HOURS}} \right)$$

○ = PRODUCTIVE OUTPUT

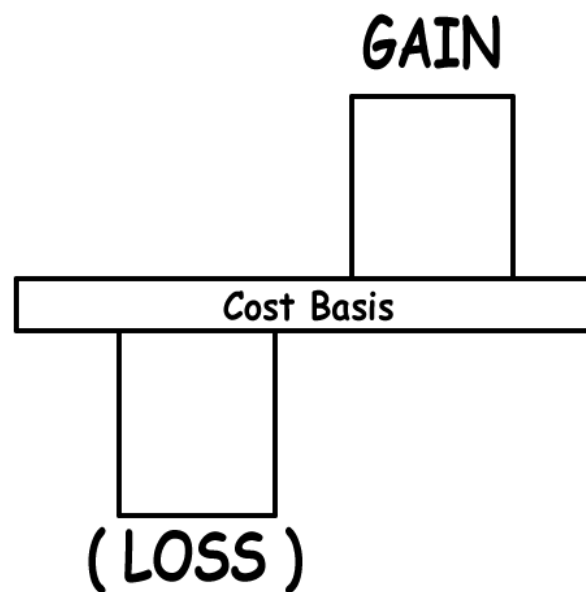


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Unrealized gain (loss) Change in value of an asset still owned

- A gain or loss is unrealized until the asset is sold or otherwise disposed of
- Depending on financial reporting, may or may not appear in financial statements
- Stock will have an unrealized gain if the current value is greater than the basis (purchase price)
- Stock will have unrealized loss if the current value is less than the basis (purchase price)

Unrealized gain (loss)



Change in value not yet realized (turned into cash)

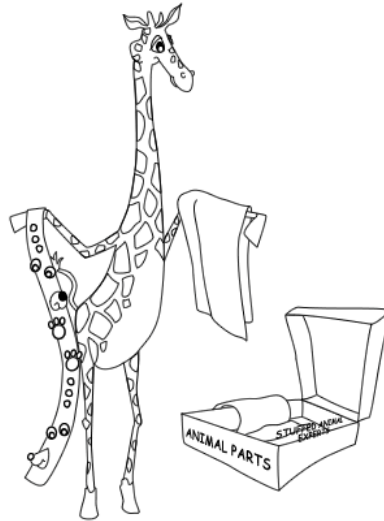
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Vendor Sells goods and services to customers

- Credit purchases become a part of accounts payable

Vendor

Supplies goods or services to a company

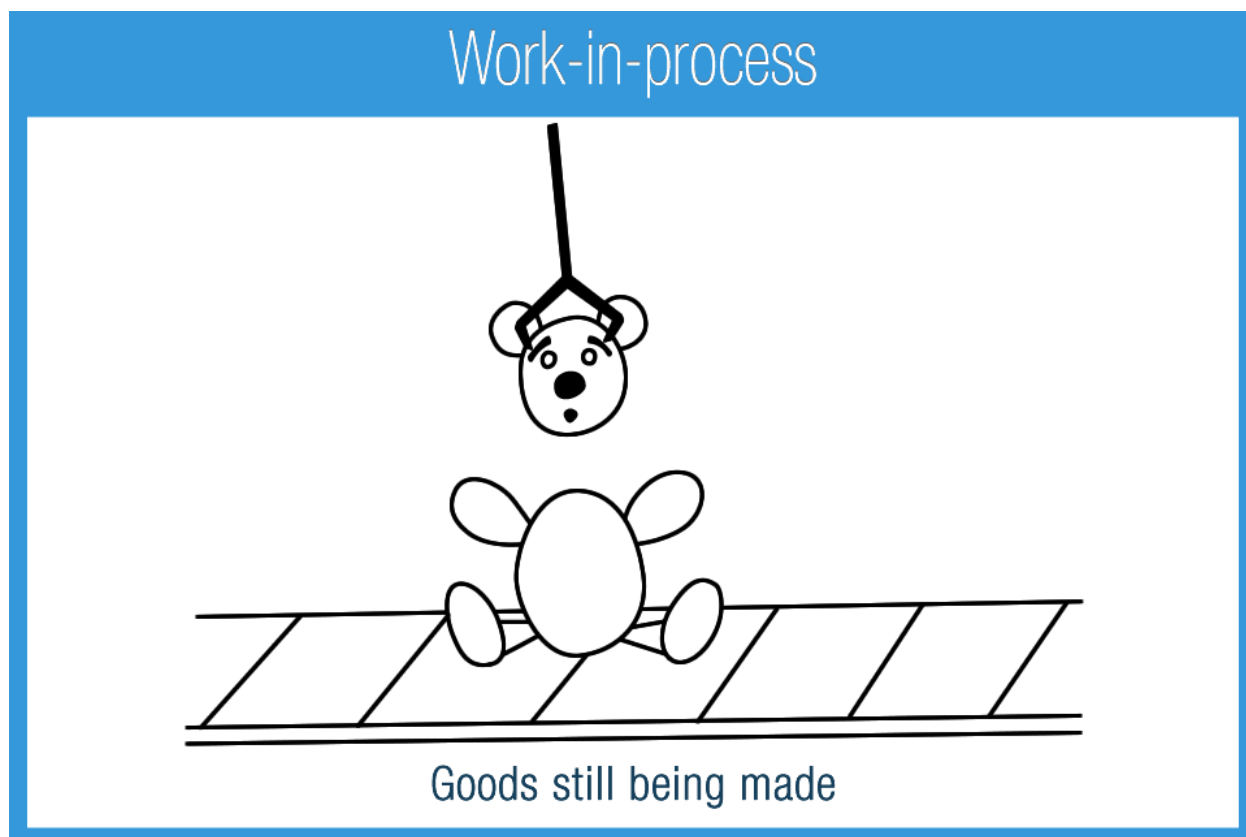


Vendor Giraffe looks to sell Teddy Fab Inc. some stuffed animal components

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Work-in-process (WIP) Asset account that accumulates manufacturing costs until the good is finished

- Raw materials, manufacturing labor, and manufacturing overhead added to WIP
- Costs such as raw material and manufacturing labor accumulate in a WIP account until the item is finished, at which point they move to finished goods (FG)



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