

Liquidity ratios

Current ratio may be defined as the relationship between current assets and current liabilities. This ratio is also known as "**working capital ratio**". It is a measure of general liquidity and is most widely used to make the analysis for short term financial position or liquidity of a firm. It is calculated by dividing the total of the current assets by total of the current liabilities.

Current Ratio = Current Assets / Current Liabilities.

The two basic components of this ratio are current assets and current liabilities. Current assets include cash and those assets which can be easily converted into cash within a short period of time, generally, one year, such as marketable securities or readily realizable investments, bills receivables, sundry debtors, (excluding bad debts or provisions), inventories, work in progress, etc. Prepaid expenses should also be included in current assets because they represent payments made in advance which will not have to be paid in near future. Current liabilities are those obligations which are payable within a short period of generally one year and include outstanding expenses, bills payable, sundry creditors, bank overdraft, accrued expenses, short term advances, income tax payable, dividend payable, etc.

Example: Current assets are \$1,200,000 and total current liabilities are \$600,000. **Calculate current ratio.**

Current Ratio = $1,200,000 / 600,000 = 2$ or $1,200,000 : 600,000$ 2 : 1

A relatively high current ratio is an indication that the firm is liquid and has the ability to pay its current obligations in time and when they become due. On the other hand, a relatively low current ratio represents that the liquidity position of the firm is not good and the firm shall not be able to pay its current liabilities in time without facing difficulties. An increase in the current ratio represents improvement in the liquidity position of the firm while a decrease in the current ratio represents that there has been deterioration in the liquidity position of the firm. A ratio equal to or near 2: 1 is considered as a standard or normal or satisfactory. The idea of having doubled the current assets as compared to current liabilities is to provide for the delays and losses in the realization of current assets. However, the rule of 2:1 should not be blindly used while making interpretation of the ratio. Firms having less than 2 : 1 ratio may be having a better liquidity than even firms having more than 2 : 1 ratio. This is because of the reason that current ratio

measures the quantity of the current assets and not the quality of the current assets. If a firm's current assets include debtors which are not recoverable or stocks which are slow-moving or obsolete, the current ratio may be high but it does not represent a good liquidity position.

The Quick Ratio, sometimes called the acid-test, is a more stringent test of liquidity than the current ratio. This is because it removes inventory from the equation. Inventory is the least liquid of all the current assets. A business has to find a buyer if it wants to liquidate inventory, or turn it into cash. Finding a buyer is not always easy. The quick ratio is calculated from balance sheet data. **Quick Ratio = Current Assets – Inventory / Current Liabilities**

Example: If a business firm has \$200 in current assets and \$50 in inventory and \$100 in current liabilities, the calculation is $\$200 - \$50 / \$100 = 1.50X$. The "X" (times) part at the end is important. It means that the firm can pay its current liabilities from its current assets (less inventory) one and a half times over.

Interpretation and Analysis

This is obviously a good position for the firm to be in. It can meet its short-term debt obligations with no stress. If the quick ratio was less than 1.00X, then the firm would have to sell inventory to meet its obligations. So, a quick ratio greater than 1.00X is better than a quick ratio of less than 1.00X with regard to maintaining liquidity and not being forced into the position of having to sell inventory.

Receivables Turnover Ratio

An accounting measure used to quantify a firm's effectiveness in extending credit and in collecting debts on that credit. The receivables turnover ratio is an activity ratio measuring how efficiently a firm uses its assets.

Receivables turnover ratio can be calculated by dividing the net value of credit sales during a given period by the average accounts receivable during the same period. Average accounts receivable can be calculated by adding the value of accounts receivable at the beginning of the desired period to their value at the end of the period and dividing the sum by two.

The method for calculating receivables turnover ratio can be represented with the following formula:

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

Receivable turnover ratio is also often called “accounts receivable turnover,” the “accounts receivable turnover ratio” or the “debtor’s turnover ratio.” In essence, the receivables turnover ratio indicates the efficiency with which a firm manages the credit it issues to customers and collects on that credit. Because accounts receivable are moneys owed on a credit agreement without interest, by maintaining accounts receivable firms are indirectly extending interest-free loans to their clients. As such, because of the time value of money principle, a firm loses more money the longer it takes to collect on its credit sales.

To provide an example of how to calculate the receivables turnover ratio, suppose that during 2014 Company A had \$800,000 in net credit sales. Also suppose that on the first of January it had \$64,000 accounts receivable and that on December 31 it had \$72,000 accounts receivable. With this information, one could calculate the receivables turnover ratio for 2014 in the following way:

$$\begin{aligned} & \$800,000 / [(\$64,000 + \$72,000) / 2] = \$800,000 / (\$136,000 / 2) = \\ & \$800,000 / \$68,000 = 11.76 \end{aligned}$$

This number also serves as an indicator of the number of accounts receivable a company collects during a year. Because of this functionality, one can determine the average duration of accounts receivable during a given year by dividing 365 by the receivables turnover ratio for that year. For this example, the average accounts receivable turnover is 31.04 days (365 / 11.76).

A high receivables turnover ratio can imply a variety of things about a company. It may suggest that a company operates on a cash basis, for example. It may also indicate that the company’s collection of accounts receivable is efficient, and that the company has a high proportion of quality customers that pay off their debts quickly. A high ratio can also suggest that the company has a conservative policy regarding its extension of credit. This can often be a good thing, as this filters out customers who may be more likely to take a long time in paying their debts. On the other hand, a company’s policy may be too conservative if it is too tight in extending credit, which can drive away potential customers and give business to competitors. In this case, a company may want to loosen policies to improve business, even though it may reduce its receivables turnover ratio.

A low ratio, in a similar way, can also suggest a few things about a company, such as that the company may have poor collecting processes, a bad credit policy or none at all, or bad customers or customers with financial difficulty. Theoretically, a low ratio can also often mean that the company has a high amount of cash receivables for collection from its various debtors, should it improve its collection processes. Generally, however, a low ratio implies that the company should reassess its credit policies in order to ensure the timely collection of imparted credit that is not earning interest for the firm.

Uses of 'Receivables Turnover Ratio'

The receivables turnover ratio has several important functions other than simply assessing whether or not a company has issues collecting on credit. Though this offers important insight, it does not tell the whole story. For example, if one were to track a company's receivables turnover ratio over time, it would say much more about the company's history with issuing and collecting on credit than a single value can. By looking at the progression, one can determine if the company's receivables turnover ratio is trending in a certain direction or if there are certain recurring patterns. What is more, by tracking this ratio over time alongside earnings, one may be able to determine whether a company's credit practices are helping or hurting the company's bottom line.

While this ratio is useful for tracking a company's accounts receivable turnover history over time, it may also be used to compare the accounts receivable turnover of multiple companies. If two companies are in the same industry and one has a much lower receivables turnover ratio than the other, it may prove to be the safer investment.

What is the 'Average Collection Period'

The average collection period is the approximate amount of time that it takes for a business to receive payments owed, in terms of receivables, from its customers and clients.

Calculated as:

$$\text{Average Collection Period} = \frac{\text{Days} \times \text{AR}}{\text{Credit Sales}}$$

Days = Total amount of days in period

AR = Average amount of accounts receivables

Credit Sales = Total amount of net credit sales during period

For example, suppose that a widget making company, XYZ Corp, has total credit sales of \$100,000 during a year (assume 365 days) and has an average amount of accounts receivables is \$50,000. Its average collection period is 182.5 days.

Due to the size of transactions, most businesses allow customers to purchase goods or services via credit, but one of the problems with extending credit is not knowing when the customer will make cash payments. Therefore, possessing a lower average collection period is seen as optimal, because this means that it does not take a company very long to turn its receivables into cash. Ultimately, every business needs cash to pay off its own expenses (such as operating and administrative expenses).

Inventory Turnover Ratio

Inventory turnover is a ratio showing how many times a company's inventory is sold and replaced over a period. The days in the period can then be divided by the inventory turnover formula to calculate the days it takes to sell the inventory on hand or "inventory turnover days."

Inventory Turnover = Cost of Goods Sold / Average Inventory

COGS (cost of goods sold) may be used because sales are recorded at market value, while inventories are usually recorded at cost. Also, average inventory may be used instead of the ending inventory level to minimize seasonal factors. This ratio should be compared against industry averages. A low turnover implies poor sales and, therefore, excess inventory. A high ratio implies either strong sales or ineffective buying. High inventory levels are unhealthy because they represent an investment with a rate of return of zero. It also opens the company up to trouble should prices begin to fall.

Things to Remember

A low turnover is usually a bad sign because products tend to deteriorate as they sit in a warehouse.

Companies selling perishable items have very high turnover.

For more accurate inventory turnover figures, the average inventory figure, $((\text{beginning inventory} + \text{ending inventory})/2)$, is used when computing inventory turnover. Average inventory accounts for any seasonality effects on the ratio.

What Does *Liquidity Ratios* Mean?

It is a class of financial metrics that is used to determine a company's ability to pay off its short-term debts obligations. Generally, higher the value of the ratio, larger is the margin of safety that the company possesses to cover short-term debts. Common liquidity ratios include current ratio and quick ratio. Different analysts consider different assets to be relevant in calculating liquidity. Some analysts will calculate only the sum of cash and equivalents divided by current liabilities because they feel that they are the most liquid assets, and would be the most likely to be used to cover short-term debts in an emergency. A company's ability to turn short-term assets into cash to cover debts is of utmost importance when creditors are seeking payment. Bankruptcy analysts and mortgage originators frequently use the liquidity ratios to determine whether a company will be able to continue as a going concern.

Profitability Ratios

Gross Profit Ratio (GP Ratio):

It is the ratio of **gross profit to net sales** expressed as a percentage. It expresses the relationship between gross profit and sales. The basic components for the **calculation of gross profit ratio** are gross profit and net sales. Net sales means that sales minus sales returns. Gross profit would be the difference between net sales and cost of goods sold. Cost of goods sold in the case of a trading concern would be equal to opening stock plus purchases, minus closing stock plus all direct expenses relating to purchases. In the case of manufacturing concern, it would be equal to the sum of the cost of raw materials, wages, direct expenses and all manufacturing expenses. In other words, generally the expenses charged to profit and loss account or operating expenses are excluded from the calculation of cost of goods sold.

Following formula is used to calculate gross profit ratios:

$$\text{[Gross Profit Ratio = (Gross profit / Net sales) } \times \text{ 100]}$$

Example: Total sales = \$520,000; Sales returns = \$ 20,000; Cost of goods sold \$400,000. Calculate gross profit ratio.

$$\text{Gross profit} = [(520,000 - 20,000) - 400,000] = 100,000$$

$$\text{Gross Profit Ratio} = (100,000 / 500,000) \times 100 = 20\%$$

Gross profit ratio may be indicated to what extent the selling prices of goods per unit may be reduced without incurring losses on operations. It reflects efficiency with which a firm produces its products. As the gross profit is found by deducting cost of goods sold from net sales, higher the gross profit better it is. There is no standard GP ratio for evaluation. It may vary from business to business. However, the gross profit earned should be sufficient to recover all operating expenses and to build up reserves after paying all fixed interest charges and dividends.

Causes/reasons of increase or decrease in gross profit ratio:

It should be observed that an increase in the GP ratio may be due to the following factors.

1. Increase in the selling price of goods sold without any corresponding increase in the cost of goods sold.
2. Decrease in cost of goods sold without corresponding decrease in selling price.
3. Omission of purchase invoices from accounts.
4. Under valuation of opening stock or overvaluation of closing stock.

On the other hand, the decrease in the gross profit ratio may be due to the following factors.

1. Decrease in the selling price of goods, without corresponding decrease in the cost of goods sold.
2. Increase in the cost of goods sold without any increase in selling price.
3. Unfavorable purchasing or markup policies.
4. Inability of management to improve sales volume, or omission of sales.
5. Over valuation of opening stock or under valuation of closing stock

Hence, an analysis of **gross profit margin** should be carried out in the light of the information relating to purchasing, mark-ups and markdowns, credit and collections as well as merchandising policies.

Net Profit Ratio (NP Ratio):

Net profit ratio is the ratio of net profit (after taxes) to net sales. It is expressed as percentage.

The two basic components of the **net profit ratio** are the net profit and sales. The net profits are obtained after deducting income-tax and, generally, non-operating expenses and incomes are excluded from the net profits for calculating this ratio. Thus, incomes such as interest on investments outside the business, profit on sales of fixed assets and losses on sales of fixed assets, etc are excluded.

Net Profit Ratio = (Net profit / Net sales) × 100

Total sales = \$520,000; Sales returns = \$ 20,000; Net profit \$40,000.
Calculate net profit ratio.

Net sales = (520,000 – 20,000) = 500,000

Net Profit Ratio = [(40,000 / 500,000) × 100] = 8%

NP ratio is used to measure the overall profitability and hence it is very useful to proprietors. The ratio is very useful as if the net profit is not sufficient, the firm shall not be able to achieve a satisfactory return on its investment.

This ratio also indicates the firm's capacity to face adverse economic conditions such as price competition, low demand, etc. Obviously, higher the ratio the better is the profitability. But while interpreting the ratio it should be kept in mind that the performance of profits also be seen in relation to investments or capital of the firm and not only in relation to sales.

Return On Assets - ROA

An indicator of how profitable a company is relative to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings. Calculated by dividing a company's annual earnings by its total assets, ROA is displayed as a percentage. Sometimes this is referred to as "return on investment". The formula for return on assets is:

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

Note: Some investors add interest expense back into net income when performing this calculation because they'd like to use operating returns before cost of borrowing.

ROA tells you what earnings were generated from invested capital (assets). ROA for public companies can vary substantially and will be highly dependent on the industry. This is why when using ROA as a comparative measure, it is best to compare it against a company's previous ROA numbers or the ROA of a similar company.

The assets of the company are comprised of both debt and equity. Both of these types of financing are used to fund the operations of the company. The ROA figure gives investors an idea of how effectively the company is

converting the money it has to invest into net income. The higher the ROA number, the better, because the company is earning more money on less investment. For example, if one company has a net income of \$1 million and total assets of \$5 million, its ROA is 20%; however, if another company earns the same amount but has total assets of \$10 million, it has an ROA of 10%. Based on this example, the first company is better at converting its investment into profit. When you really think about it, management's most important job is to make wise choices in allocating its resources. Anybody can make a profit by throwing a ton of money at a problem, but very few managers excel at making large profits with little investment.

Return On Capital Employed - ROCE

Return on capital employed establishes the relationship between the profit and the capital employed. It indicates the percentage of return on capital employed in the business and it can be used to show the overall profitability and efficiency of a company's capital investments.

$ROCE = \text{Net profit} / \text{capital employed}$

Capital employed = fixed assets + current assets - current liabilities

ROCE should always be higher than the rate at which the company borrows, otherwise any increase in borrowing will reduce shareholders' earnings. A variation of this ratio is return on average capital employed (ROACE), which takes the average of opening and closing capital employed for the time period.

How Can Firms Increase the Return on Capital Employed Ratio?

Firms can increase their Return on Capital Employed Ratio by:

- Cutting costs so as to increase the Profit Margin ratio
- Buying raw material and other goods at cheaper costs

Limitations of Using Return on Capital Employed Ratio

Be careful when using the Return on Capital Employed ratio because it does not always yield the correct percentage. For instance, take a company that cuts down on its capital investments so as to increase the Return on Capital Employed ratio. This means the denominator "Total Assets - Current Liabilities" will be higher, because "Total Assets" will be lower (because of lesser capital assets).

In this case, there has been no improvement in operations of the company, in fact the firm is cutting down on potentially profitable capital investments!

This is one of the major limitations of using the Return on Capital Employed ratio.

Earnings per Share - EPS

Earnings per share (EPS) is the portion of a company's profit allocated to each outstanding share of common stock. Earnings per share serves as an indicator of a company's profitability.

Calculated as:

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

When calculating, it is more accurate to use a weighted average number of shares outstanding over the reporting term, because the number of shares outstanding can change over time. However, data sources sometimes simplify the calculation by using the number of shares outstanding at the end of the period.

Diluted EPS expands on basic EPS by including the shares of convertibles or warrants outstanding in the outstanding shares number.

Earnings per share is generally considered to be the single most important variable in determining a share's price. It is also a major component used to calculate the price-to-earnings valuation ratio.

For example, assume that a company has a net income of \$25 million. If the company pays out \$1 million in preferred dividends and has 10 million shares for half of the year and 15 million shares for the other half, the EPS would be \$1.92 (24/12.5). First, the \$1 million is deducted from the net income to get \$24 million, then a weighted average is taken to find the number of shares outstanding ($0.5 \times 10M + 0.5 \times 15M = 12.5M$).

An important aspect of EPS that's often ignored is the capital that is required to generate the earnings (net income) in the calculation. Two companies could generate the same EPS number, but one could do so with less equity (investment) - that company would be more efficient at using its capital to generate income and, all other things being equal, would be a "better" company. Investors also need to be aware of earnings manipulation that will affect the quality of the earnings number. It is

important not to rely on any one financial measure, but to use it in conjunction with statement analysis and other measures.

Solvency Ratios

Debt to Equity:

Debt/Equity Ratio is a debt ratio used to measure a company's financial leverage, calculated by dividing a company's total liabilities by its stockholders' equity. The D/E ratio indicates how much debt a company is using to finance its assets relative to the amount of value represented in shareholders' equity.

The formula for calculating D/E ratios can be represented in the following way:

Debt - Equity Ratio = Total Liabilities / Shareholders' Equity

The result may often be expressed as a number or as a percentage. This form of D/E may often be referred to as risk or gearing.

Given that the debt/equity ratio measures a company's debt relative to the total value of its stock, it is most often used to gauge the extent to which a company is taking on debts as a means of leveraging (attempting to increase its value by using borrowed money to fund various projects). A high debt/equity ratio generally means that a company has been aggressive in financing its growth with debt. Aggressive leveraging practices are often associated with high levels of risk. This may result in volatile earnings as a result of the additional interest expense.

If a lot of debt is used to finance increased operations (high debt to equity), the company could potentially generate more earnings than it would have without this outside financing. If this were to increase earnings by a greater amount than the debt cost (interest), then the shareholders benefit as more earnings are being spread among the same amount of shareholders. However, if the cost of this debt financing ends up outweighing the returns that the company generates on the debt through investment and business activities, stakeholders' share values may take a hit. If the cost of debt becomes too much for the company to handle, it can even lead to bankruptcy, which would leave shareholders with nothing.

'Times Interest Earned - TIE'

Times interest earned (TIE) is a metric used to measure a company's ability to meet its debt obligations. It is calculated by taking a

company's earnings before interest and taxes (EBIT) and dividing it by the total interest payable on bonds and other contractual debt. It is usually quoted as a ratio and indicates how many times a company can cover its interest charges on a pretax basis. Failing to meet these obligations could force a company into bankruptcy.

Ensuring interest payments to debt holders and preventing bankruptcy depends mainly on a company's ability to sustain earnings. However, a high ratio can indicate that a company has an undesirable lack of debt or is paying down too much debt with earnings that could be used for other projects. The rationale is that a company would yield greater returns by investing its earnings into other projects and borrowing at a lower cost of capital than what it is currently paying to meet its debt obligations.

Dividend Yield

A financial ratio that indicates how much a company pays out in dividends each year relative to its share price. Dividend yield is represented as a percentage and can be calculated by dividing the dollar value of dividends paid in a given year per share of stock held by the dollar value of one share of stock. The formula for calculating dividend yield may be represented as follows:

$$= \frac{\text{Annual Dividends Per Share}}{\text{Price Per Share}}$$

Yields for a current year are often estimated using the previous year's dividend yield or by taking the latest quarterly yield, multiplying by 4 (adjusting for seasonality) and dividing by the current share price.

Dividend yield is a way to measure how much cash flow you are getting for each dollar invested in an equity position. In other words, it measures how much "bang for your buck" you are getting from dividends. In the absence of any capital gains, the dividend yield is effectively the return on investment for a stock.

To better explain the concept, refer to the following dividend yield example. Suppose company ABC's stock is trading at \$20 and pays annual dividends of \$1 per share to its shareholders. Also suppose that company XYZ's stock is trading at \$40 and also pays annual dividends of \$1 per

share. This means that company ABC's dividend yield is 5% ($1 / 20 = 0.05$), while XYZ's dividend yield is only 2.5% ($1 / 40 = 0.025$). Assuming all other factors are equivalent, then, an investor looking to use his or her portfolio to supplement his or her income would likely prefer ABC's stock over that of XYZ, as it has double the dividend yield.

Investors who require a minimum stream of cash flow from their investment portfolio can secure this cash flow by investing in stocks paying relatively high, stable dividend yields. Yet, high dividends may often come at the cost of growth potential. Every dollar a company is paying in dividends to its shareholders is a dollar that company is not reinvesting in itself in an effort to make capital gains. While being paid for holding a stock is attractive to many, and for good reason, shareholders can earn high returns if the value of their stock increases while they hold it. In other words, when companies pay high dividends it may come at a cost.

For example, suppose company ABC and company XYZ are both valued at \$1 billion, half of which comes from 5 million publicly held shares that are worth \$100 each. Also suppose that at the end of Year 1 the two companies both earn 10% of their value, or \$100 million, in revenue. Company ABC decides to pay half of these earnings (\$50 million) in dividends to its shareholders, paying \$10 for each share for a dividend yield of 10%. ABC also decides to reinvest the other half to make some capital gains, raising the value of the company to \$1.05 billion and appeasing its income investors. Company XYZ, on the other hand, decides to issue no dividends and reinvest all of its earnings into capital gains, thereby raising XYZ's value to \$1.1 billion, likely appeasing its growth investors.

If these companies continue these policies at the same rates and continue to earn 10% of their value during Year 2, investors holding shares of ABC will see even greater dividend payouts, earning \$10.50 per share ($\$1.05\text{B} \times 10\% = \105M , $\$105\text{M} / 2 = \52.5M , $\$52.5\text{M} / 5\text{M} = \10.50) at the end of Year 2 for a dividend yield of 10.5%. At the end of Year 2, company ABC will be worth \$1.155 billion and has continued to keep its income investors happy, but by the same time company XYZ will be worth \$1.21 billion. If these policies continue, by the end of Year 3 company ABC will be worth \$1.213 billion and company XYZ will be worth \$1.331 billion. Both companies are growing in value exponentially, but XYZ is growing at double the speed of ABC and will reach double its original value during Year 8, whereas ABC will do so in Year 14. By the end of Year 10, ABC will be

worth \$1.706 billion and XYZ will be worth \$2.594 billion, or 52% more than ABC. Though this example is very simplified and an unlikely situation, it illustrates the drawbacks for a company that may accompany high dividend payments.

When companies pay high dividends to their shareholders, it can indicate a variety of things about the company, such as that the company might currently be undervalued or that it is attempting to attract investors. On the other hand, if a company pays little or no dividends, it may indicate that the company is overvalued or that the company is attempting to grow its capital. Certain companies in particular industries, when they are well established and steady-earning, often have good dividend yields even though they are not undervalued. Banks and utilities often fall into this category.

Price-Earnings Ratio - P/E Ratio

The price-earnings ratio (P/E Ratio) is the ratio for valuing a company that measures its current share price relative to its per-share earnings.

The price-earnings ratio can be calculated as:

Market Value per Share / Earnings per Share

For example, suppose that a company is currently trading at \$43 a share and its earnings over the last 12 months were \$1.95 per share. The P/E ratio for the stock could then be calculated as $43/1.95$, or 22.05.

EPS is most often derived from the last four quarters. This form of the price-earnings ratio is called trailing P/E, which may be calculated by subtracting a company's share value at the beginning of the 12-month period from its value at the period's end, adjusting for stock splits if there have been any. Sometimes, price-earnings can also be taken from analysts' estimates of earnings expected during the next four quarters. This form of price-earnings is also called projected or forward P/E. A third, less common variation uses the sum of the last two actual quarters and the estimates of the next two quarters.

The price-earnings ratio is also sometimes known as the price multiple or the earnings multiple.

In essence, the price-earnings ratio indicates the dollar amount an investor can expect to invest in a company in order to receive one dollar of that company's earnings. This is why the P/E is sometimes referred to as the multiple because it shows how much investors are willing to pay per dollar of earnings. If a company were currently trading at a multiple (P/E) of 20, the interpretation is that an investor is willing to pay \$20 for \$1 of current earnings.

In general, a high P/E suggests that investors are expecting higher earnings growth in the future compared to companies with a lower P/E. A low P/E can indicate either that a company may currently be undervalued or that the company is doing exceptionally well relative to its past trends. When a company has no earnings or is posting losses, in both cases P/E will be expressed as "N/A." Though it is possible to calculate a negative P/E, this is not the common convention.

The price-earnings ratio can also be seen as a means of standardizing the value of one dollar of earnings throughout the stock market. In theory, by taking the median of P/E ratios over a period of several years, one could formulate something of a standardized P/E ratio, which could then be seen as a benchmark and used to indicate whether or not a stock is worth buying.

Limitations of 'Price-Earnings Ratio - P/E Ratio'

Like any other metric designed to inform investors as to whether or not a stock is worth buying, the price-earnings ratio comes with a few important limitations that are important to take into account, as investors may often be led to believe that there is one single metric that will provide complete insight into an investment decision, which is virtually never the case.

One primary limitation of using P/E ratios emerges when comparing P/E ratios of different companies. Valuations and growth rates of companies may often vary wildly between sectors due both to the differing ways companies earn money and to the differing timelines during which companies earn that money. As such, one should only use P/E as a comparative tool when considering companies within the same sector, as this kind of comparison is the only kind that will yield productive insight. Comparing the P/E ratios of a telecommunications company and

an energy company, for example, may lead one to believe that one is clearly the superior investment, but this is not a reliable assumption.

An individual company's P/E ratio is much more meaningful when taken alongside P/E ratios of other companies within the same sector. For example, an energy company may have a high P/E ratio, but this may reflect a trend within the sector rather than one merely within the individual company. An individual company's high P/E ratio, for example, would be less cause for concern when the entire sector has high P/E ratios.

Moreover, because a company's debt can affect both the prices of shares and the company's earnings, leverage can skew P/E ratios as well. For example, suppose there are two similar companies that differ primarily in the amount of debt they take on. The one with more debt will likely have a lower P/E value than the one with less debt. However, if business is good, the one with more debt stands to see higher earnings because of the risks it has taken.

Another important limitation of price-earnings ratios is one that lies within the formula for calculating P/E itself. Accurate and unbiased presentations of P/E ratios rely on accurate inputs of the market value of shares and of accurate earnings per share estimates. While the market determines the value of shares and, as such, that information is available from a wide variety of reliable sources, this is less so for earnings, which are often reported by companies themselves and thus are more easily manipulated. Since earnings are an important input in calculating P/E, adjusting them can affect P/E as well.

Dividend Payout Ratio

It is the percentage of earnings paid to shareholders in dividends.

Dividend payout ratio = Yearly dividend per share / earnings per share

The dividend payout ratio provides an indication of how much money a company is returning to shareholders, versus how much money it is keeping on hand to reinvest in growth, pay off debt or add to cash reserves. This latter portion is known as retained earnings.

A number of considerations go into interpreting the dividend payout ratio, most importantly the company's level of maturity. A new, growth-oriented

company that aims to expand, develop new products and move into new markets would be expected to reinvest most or all of its earnings and could be forgiven for having a low or even zero payout ratio.

On the other hand, an older, established company that returns a pittance to shareholders would test investors' patience and could tempt activists to intervene. Apple (AAPL) began to pay a dividend for the first time in nearly twenty years in 2012, when the new CEO felt the company's enormous cash flow made a 0% payout ratio difficult to justify. Because it implies that a company has moved past its initial growth stage, a high payout ratio means share prices are unlikely to appreciate rapidly.

The payout ratio is also useful for assessing a dividend's sustainability. Companies are extremely reluctant to cut dividends, since it can drive the stock price down and reflect poorly on the management's abilities. If a company's payout ratio is over 100%, it is returning more money to shareholders than it is earning and will probably be forced to lower the dividend or stop paying it altogether. That result is not inevitable, however. A company can weather a bad year without suspending payouts, and it is often in their interest to do so. It is therefore important to consider future earnings expectations and calculate a forward-looking payout ratio to contextualize the backward-looking one. Long-term trends in the payout ratio also matter. A steadily rising ratio could indicate a healthy, maturing business, but a spiking one could mean the dividend is heading into unsustainable territory.

#####