Generate Key Takeaways The times interest earned (TIE) ratio is a financial metric used to analyze a company's capacity to meet its interest burden, calculated by dividing operating income (EBIT) by interest expense. The formula for the TIE ratio is EBIT divided by interest expense albeit some practitioners use EBITDA instead of EBIT, with EBIT being more conservative and commonly used in practice. A higher TIE ratio implies more capacity for a company to cover its interest payments, reflecting better creditworthiness and financial stability. In contrast, a lower TIE ratio suggests potential financial distress and a higher risk of default. A TIE ratio above 2.0x is generally considered acceptable, with 3.0x or higher being preferable a TIE ratio below 2.0x could signal near-term financial difficulties. How to Calculate Times Interest Earned Ratio (TIE)The times interest earned ratio (TIE) compares the operating income (EBIT) of a company relative to the amount of interest expense due on its debt obligations.Operating Income (EBIT) The operating profit of a company, after deducting cost of goods sold (COGS) and operating expenses (SG&A, R&D) from revenue.Interest Expense The cost of borrowing, where the borrower must service periodic interest payments as part of the lending agreement until the debt security reaches maturity (and the principal is repaid in-full).Conceptually identical to the interest coverage ratio, the TIE ratio formula consists of dividing the companys EBIT by the total interest expense on all debt securities.The steps to calculate the times interest earned ratio (TIE) are as follows.Step 1 Calculate Operating Income (EBIT)Step 2 Determine Interest Expense, netStep 3 Divide EBIT by Interest ExpenseTimes Interest Earned Ratio Formula (TIE)The formula for calculating the times interest earned ratio (TIE) is EBIT divided by interest expense.Times Interest Earned Ratio (TIE) = EBIT Interest ExpenseWhere:EBIT = Gross Profit Operating Expenses (Opex)Interest Expense = Interest Rate (%) Average Debt BalanceThe TIE ratio reflects the number of times that a company could pay off its interest expense using its operating income.Note, an alternative variation of the TIE ratio uses EBITDA, as opposed to EBIT, in the numerator.However, EBIT is far more common in practice because the metric is perceived as more conservative, which matters when analyzing credit risk.What is a Good TIE Ratio?As a general rule of thumb, the higher the times interest earned ratio (TIE), the better off the company is from a credit risk standpoint.Higher TIE Ratio The company likely has plenty of cash to service its interest payments and can continue to re-invest into its operations to generate consistent profits. If a company has a high TIE ratio, this signifies its creditworthiness as a borrower and the capacity to withstand underperformance due to the ample cushion (to satisfy its debt obligations) provided by its cash flows.Lower TIE Ratio On the other hand, a lower times interest earned ratio means that the company has less room for error and could be at risk of defaulting. Companies with lower TIE ratios tend to have sub-par profit margins and/or have taken on more debt than their cash flows could handle.While there arent necessarily strict parameters that apply to all companies, a TIE ratio above 2.0x is considered to be the minimum acceptable range, with 3.0x+ being preferred.But once a companys TIE ratio dips below 2.0x, it could be a cause for concern especially if its well below the historical range, as this potentially points towards more significant issues.Times Interest Earned Ratio CalculatorWell now move on to a modeling exercise, which you can access by filling out the form below. 1. Income Statement AssumptionsIn this exercise, well be comparing the net income of a company with vs. without growing interest expense payments.For Company A, well be using the following listed assumptions:Operating Income (EBIT) in Year 0 = $100mInterest Expense in Year 0 = $25mEBIT Growth = $10m / YearInterest Expense Growth = $0mNext, for Company B, well be using the following listed assumptions:Operating Income (EBIT) in Year 0 = $80mInterest Expense in Year 0 = $25mEBIT Growth = $10m per YearInterest Expense Growth = +$5m per Year2. Operating Income Calculation (EBIT)Here, Company A is depicting an upside scenario where the operating profit is increasing while interest expense remains constant (i.e. straight-lined) throughout the projection period.In contrast, Company B shows a downside scenario in which EBIT is falling by $10m annually while interest expense is increasing by $5m each year.Given the decrease in EBIT, itd be reasonable to assume that the TIE ratio of Company B is going to deteriorate over time as its interest obligations rise simultaneously with the drop-off in operating performance.3. Times Interest Earned Ratio Calculation ExampleTo calculate the times interest earned ratio, we simply take the operating income and divide it by the interest expense.For example, Company As TIE ratio in Year 0 is $100m divided by $25m, which comes out to 4.0x.Times Interest Earned Ratio (TIE), Year 0 = $100 million $25 million = 4.0xIn our completed model, we can see the TIE ratio for Company A increase from 4.0x to 6.0x by the end of Year 5. In contrast, for Company B, the TIE ratio declines from 3.2x to 0.6x in the same time horizon.In closing, we can compare and see the different trajectories in the times interest earned ratio (TIE).For a lender deciding whether to provide financing to a potential borrower or not, as well as the terms associated with the lending package if applicable, Company A would be far more likely to receive favorable terms. One important way to measure a firms financial health is by calculating its Times Interest Earned Ratio. Investors use this metric when a company has a high debt burden to analyze whether a company can meet its debt obligations. In this article, I will explain everything you need to know about this useful indicator.The Times Interest Earned Ratio (TIER) compares a companys income to its interest payments. In other words, it helps answer the question of whether the company generates enough cash to pay off its debt obligations.A high times interest earned ratio indicates that a company has ample income to cover its debt obligations, while a low TIER ratio suggests that the company may have difficulty meeting its debt payments.The ratio is calculated by dividing a companys earnings before interest and taxes (EBIT) by its interest expenses.Times Interest Earned Ratio = Earnings Before Interest and Taxes (EBIT) / Interest ExpenseEBIT simply stands for Earnings Before Interest and Taxes. In a nutshell, it indicates the companys total income before income taxes and interest payments are deducted.EBIT indicates the companys total income before income taxes and interest payments are deducted. It is used to analyze a firms core performance without deducting expenses that are influenced by unrelated factors (e.g. taxes and the cost of borrowing money to invest).Usually (but not always) a companys EBIT is equal to the Operating Income which is listed explicitly on their GAAP income statement. Heres how to calculate EBIT:EBIT = Net Income + Interest + TaxesInterest expense represents the amount of money a company pays in interest on its outstanding debt. This figure can be found on a companys income statement.Keep in mind that not all companies have debt, and as a result, not all companies will have an interest expense. For example, this would be the case if a company is financed entirely through equity, as most early ventures or growth stage companies are.Its not uncommon that practitioners will use variations of the above formula, depending on the situation. The most common variations involve:Use of cash interest expense, rather than all interest expense helpful for situations where theres significant non-cash interest from payment-in-kind debt (PIK) or original issue discount (OID) amortization Use of EBITDA, rather than EBIT EBITDA might be used since it is a quick estimation of free cash flow available for debt paydown, given D&A is non-cash Use of FCF, rather than EBIT Though not as readily accessible as EBITDA, true free cash flow (FCF) is used because it is the cash that is actually AVAILABLE for payments of interestLets break down how EBIT is calculated by looking at a practical example. Lets use Apple.As of 9/30/2022, Apples EBIT is listed as being $122,034,000 (in thousands), according to Yahoo Finance:Note that Apples EBIT is clearly stated because were using Yahoo Finance. EBIT figures are not typically a GAAP reported metric, so you will likely not find it on the companys actual financial statements.Instead, we can find these figures on the actual Income Statement (all numbers in thousands):Net Income: $99,803,000 Taxes: $19,300,000 Interest Expenses: $2,931,000Thus, all we need to do is add up our three numbers (in thousands):EBIT = $99,803,000 + $19,300,000 + $2,931,000 EBIT = $122,034,000As you can see, our calculation matches the number that appears on the Income Statement. You can perform this calculation for any company, provided you have the Net Income, Taxes, and Interest Expenses for the year in question.Now that we understand what EBIT is and how to calculate it, it is time to return to the core: the Times Interest Earned Ratio. Once you have all the required elements, the Times Interest Earned Ratio Formula is simple to calculate.Once again, we turn to Apples Income Statement to find the numbers we need to calculate the companys Times Interest Earned Ratio:EBIT = $122,034,000. Interest Expense = $2,931,000.Now that we have the required numbers, we plug them into our formula:Times Interest Earned Ratio = 122,034,000 / 2,931,000 Times Interest Earned Ratio = 41.6xBased on the above calculation, Apples Times Interest Earned Ratio was 41.6x, as of 09/30/2022. Intuitively, this means that Apples profits from a single year could have covered its interest payments for that year more than 41x over!Given that, lenders would have no worry that Apple is going to default on its interest payments. It has so much profitability in a given year that they could repay 41 years worth of interest!The Times Interest Earned Ratio helps analysts and investors determine if a company generates enough income to support its debt payments.Generally speaking, a higher Times Interest Earned Ratio is a good thing, because it suggests that the company has more than enough income to pay its interest expense. A solvent company has little risk of going bankrupt, and this is important to attract potential debt and equity investors.Higher Times Interest Earned Ratio If a company has a high TIE ratio, this signifies that it is creditworthy as a borrower and has the capacity to withstand underperformance due to its ample profits and/or cash flow cushion Lower Times Interest Earned Ratio A lower TIE ratio suggests that the company is at a higher risk of defaulting. Companies with inferior TIE ratios are likely to have smaller profit margins and/or more debt than their cash flows can handle.In theory, a Times Interest Earned Ratio of 2.5 or higher is considered acceptable, and a TIER of less than 2.5 suggests that a companys debt burden may be too high.Theres no strict criteria for what makes a good Times Interest Earned Ratio. However, many companies strive for a ratio above 2.0x. When banks are underwriting new debt issuances for LBO targets, this is often benchmark they strive for. Less aggressive underwriting might call for ratio levels of 3.0x or greater.If a company sinks below a 1.0x Times Interest Earned Ratio, this could be considered worrisome by investors (and lenders) as it most likely points to greater underlying issues of poor profitability or excessive debt burden.The Times Interest Earned Ratio is useful to get a general idea of companys ability to pay its debts. However, keep in mind that this indicator is not the only way to interpret or size a companys debt burden (nor its ability to repay it).When it comes to business, every industry has its own specificities. For example, well established oil and gas companies have very different capital expenditure requirements and debt structures than high growth software companies or automobile manufacturers.Thus, while one company may seem to have a high Times Interest Earned Ratio, it may be perfectly normal given its industry or situation (e.g. LBO investment)Further, indicators like the TIER, P/E, or P/B are generally used to compare similar companies to one another, rather than evaluate the intrinsic value of a standalone firm. If you are analyzing a given company, it can be useful to compare its indicators to its peers. DefinitionThe times interest earned ratio is a solvency ratio that indicates how well-positioned a company is to pay off the interest on its financial obligations using its current income. The times interest earned (TIE) ratio tells you how easily a company can pay the interest on its debt using its earnings. You can calculate the ratio by dividing the company's earnings before interest and taxes (EBIT) by the total interest payable on bonds and other debt. A high ratio means the company can pay its interest while a low number indicates the company could be in trouble. A number above 2 is generally considered a good ratio. A company's times interest earned ratio is a solvency ratio that indicates its ability to pay the interest on its outstanding debts.TIE is calculated by dividing EBIT by the total interest payable on debt.The higher the TIE ratio, the better, as it shows how often a company can pay its debt charges with its current earnings.A better TIE number means a company has enough cash after paying its debts to continue to invest in the business. Solvency ratios, such as the times interest earned ratio, can tell you whether a company can pay off its long-term debts.Investopedia / Julie Bang Assume, for example, that XYZ Company has $10 million in 4% debt outstanding and $10 million in common stock. The company needs to raise more capital to purchase equipment. The cost of capital for issuing more debt is an annual interest rate of 6%. The company's shareholders expect an annual dividend payment of 8% plus growth in the stock price of XYZ. The business decides to issue $10 million in additional debt. Its total annual interest expense will be (4% X $10 million) + (6% X $10 million), or $1 million annually. The company's EBIT is $3 million. This means that the TIE ratio for XYZ Company is 3, or three times the annual interest expense. Obviously, no company needs to cover its debts several times over in order to survive. However, the TIE ratio is an indication of a company's relative freedom from the constraints of debt. Generating enough cash flow to continue to invest in the business is better than merely having enough money to stave off bankruptcy. A company's capitalization is the amount of money it has raised by issuing stock or debt, and those choices impact its TIE ratio. Businesses consider the cost of capital for stock and debt and use that cost to make decisions. Companies that have consistent earnings, like utilities, tend to borrow more because they are good credit risks. As a rule, companies that generate consistent annual earnings are likely to carry more debt as a percentage of total capitalization. If a lender sees a history of generating consistent earnings, the firm will be considered a better credit risk. Utility companies, for example, generate consistent earnings. Their product is not an optional expense for consumers or businesses. Some utility companies raise a considerable percentage of their capital by issuing debt. Startup firms and businesses that have inconsistent earnings, on the other hand, raise most or all of the capital they use by issuing stock. Once a company establishes a track record of producing reliable earnings, it may begin raising capital through debt offerings as well. The times interest earned ratio shows how many times a company can pay off its debt charges with its earnings. If a company has a ratio between 0.90 and 1, it means that its earnings are not able to pay off its debt and that its earnings are less than its interest expenses. No, times interest earned is not a profitability ratio. It is a solvency ratio. The ratio does not seek to determine how profitable a company is but rather its capability to pay off its debt and remain financially solvent. If a company can no longer make interest payments on its debt, it is most likely not solvent. To improve its times interest earned ratio, a company can increase earnings, reduce expenses, pay off debt, and refinance current debt at lower rates. The times interest earned ratio looks at how well a company can furnish its debt with its earnings. It is one of many ratios that help investors and analysts evaluate the financial health of a company. 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Join us at HFC Grill for a truly family-owned culinary haven, where every meal is an opportunity to share the joy of exceptional dining and create cherished moments. The Times Interest Earned (TIE) ratio stands as a critical indicator of a companys ability to meet its debt obligations. This solvency metric reveals whether a business generates sufficient operating income to cover its interest expensesa fundamental concern for investors, creditors, and management alike. Unlike many financial ratios that focus on profitability or operational efficiency, the TIE ratio directly addresses debt sustainability, providing early warning signs of potential financial distress. This comprehensive guide explores everything you need to know about the Times Interest Earned ratio: how to calculate it, interpret its results, understand its limitations, and apply it effectively in financial analysis and decision-making. Copied The Times Interest Earned ratio, also known as the interest coverage ratio, measures a companys ability to pay its debt-related interest expenses from its operating income. As the name suggests, it indicates how many times over a company could pay its interest obligations with its available earnings before interest and taxes (EBIT). This solvency ratio serves as a crucial indicator of financial health by addressing a fundamental question: Can a company comfortably meet its interest obligations without risking financial distress? The TIE ratio provides insights into: A companys short-term financial viability The margin of safety for debt holders Managements capacity to take on additional debt The risk of default or bankruptcy Financial flexibility during economic downturns While profitability ratios tell you if a company makes money and efficiency ratios reveal how well it uses resources, the TIE ratio specifically focuses on debt servicing capabilitya critical consideration for any business with interest-bearing obligations. Copied The formula for calculating the Times Interest Earned ratio is straightforward: Times Interest Earned Ratio = EBIT Interest Expense Where: EBIT (Earnings Before Interest and Taxes) represents a companys operating profit before accounting for interest and income tax expenses Interest Expense is the total cost of interest payable on all debt obligations during the period EBIT (Earnings Before Interest and Taxes) EBIT represents a companys operating profit and can be calculated in two ways: From the income statement: Net Income + Interest Expense + Tax Expense From operations: Revenue Operating Expenses (excluding interest and taxes) EBIT is used rather than net income because it isolates the earnings available for interest payment before accounting for tax expenses and interest itself. This provides a clearer picture of the companys debt servicing capability from operations. This figure represents all interest costs incurred on outstanding debt, including: Long-term bond interest Short-term loan interest Credit line interest Interest on financial leases Interest expense is typically found as a separate line item on the income statement or detailed in the financial statement notes. Lets calculate the Times Interest Earned ratio for a hypothetical manufacturing company: Company As Financial Data: Net Income: $500,000 Interest Expense: $200,000 Income Tax Expense: $300,000 Step 1: Calculate EBIT EBIT = Net Income + Interest Expense + Income Tax Expense EBIT = $500,000 + $200,000 + $300,000 = $1,000,000 Step 2: Calculate the TIE ratio TIE Ratio = EBIT Interest Expense TIE Ratio = $1,000,000 $200,000 = 5.0 The TIE ratio of 5.0 indicates that Company A could pay its interest obligations 5 times over with its current operating earningsa relatively comfortable position. Copied The interpretation of the TIE ratio focuses on assessing how comfortably a company can cover its interest obligations: While specific benchmarks vary by industry and economic conditions, general guidelines include: TIE Ratio below 1.5: High risk of financial distress or default, as the company generates barely enough earnings to cover interest expenses TIE Ratio between 1.5 and 3: Moderate risk level with limited financial flexibility TIE Ratio between 3 and 5: Generally acceptable coverage indicating reasonable financial health TIE Ratio above 5: Strong interest coverage suggesting robust financial position and significant debt capacity However, a TIE ratio that is extremely high (e.g., above 10) might indicate that the company is under-leveraged and potentially missing growth opportunities by not utilizing debt financing optimally. Want to find companies with exceptional interest coverage? InvestingPros advanced stock screener lets you filter companies by Interest Coverage Ratio to identify financially resilient businesses. Different industries have different capital intensities and risk profiles that affect normal TIE ratios: Utilities and Telecommunications: These capital-intensive industries with stable cash flows typically operate with lower TIE ratios (2-4) due to high infrastructure costs and regulatory environments that provide revenue stability Technology and Software: Often maintain higher TIE ratios (8+) due to lower capital requirements and higher business volatility Manufacturing: Typically aims for moderate TIE ratios (3-6) balancing capital needs with earnings stability Retail: Generally requires higher TIE ratios (4-8) to compensate for thin margins and business cyclicality Industry benchmarks should serve as starting points rather than absolute standards when evaluating a specific companys TIE ratio. InvestingPro Offers TIE Benchmark Data Examining TIE ratio trends over time often provides more valuable insights than single-period measurements: Steadily increasing TIE: May indicate improving operational efficiency or deliberate deleveraging Gradually declining TIE: Could signal deteriorating operational performance or aggressive debt expansion Volatile TIE: Suggests earnings instability or inconsistent debt management practices Sudden drop in TIE: Warrants immediate attention as it may precede financial distress Industry analysts typically examine 3-5 year trends to distinguish between short-term fluctuations and fundamental changes in debt servicing capability. InvestingPro provides historical financial data that allows you to track Interest Coverage Ratio trends over multiple quarters and years. This historical perspective is crucial for identifying companies with consistently strong financial health versus those experiencing temporary improvements. Copied While valuable, the TIE ratio has several important limitations analysts should consider: Cash Flow vs. Accrual Accounting: EBIT is an accrual-based measure that may not reflect actual cash available for interest payments. A company might report healthy EBIT but still face cash flow challenges. Principal Repayments Not Considered: The ratio only measures interest coverage, ignoring principal repayment obligations that may be substantial, especially for companies with balloon payment structures. Non-Interest Debt Obligations Excluded: Many companies have significant non-interest financial commitments like operating leases, pension obligations, or preferred dividends that arent captured in this ratio. Seasonal or Cyclical Businesses: Companies with highly seasonal or cyclical earnings may have periods of strong coverage followed by weaker periods, making single-period TIE ratios potentially misleading. Accounting Method Variations: Different accounting treatments for items like depreciation, R&D expenses, or one-time charges can significantly impact EBIT calculations, affecting TIE ratio comparability. Copied The Times Interest Earned ratio is part of a family of financial metrics that assess a companys ability to meet various obligations: The Fixed Charge Coverage Ratio extends the TIE concept by including other fixed payment obligations: Fixed Charge Coverage Ratio = (EBIT + Fixed Charges) (Interest Expense + Fixed Charges) Fixed charges typically include lease payments, preferred dividends, and scheduled principal repayments. This provides a more comprehensive view of a companys ability to meet all fixed financial obligations. The DSCR focuses on cash flow rather than earnings: DSCR = Operating Cash Flow Total Debt Service Where Total Debt Service includes both interest and principal payments. This cash-focused approach addresses some limitations of the accrual-based TIE ratio. This variation uses Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) instead of EBIT: EBITDA Coverage Ratio = EBITDA Interest Expense By adding back depreciation and amortization, this ratio considers a cash flow proxy thats often used in capital-intensive industries or for companies with significant non-cash charges. Copied The Times Interest Earned ratio serves different purposes for various financial stakeholders: For lenders and credit analysts, the TIE ratio helps: Assess default risk before extending credit Set interest rates and terms based on risk level Monitor compliance with loan covenants Evaluate debt capacity for additional financing Compare risk profiles across potential borrowers Many loan agreements include TIE ratio covenants requiring borrowers to maintain minimum coverage levels, often between 1.5 and 3.0 depending on industry and company size. Equity and bond investors use the TIE ratio to: Gauge financial risk as part of fundamental analysis Identify potential bankruptcy risks before they become critical Evaluate managements approach to financial leverage Compare financial stability across industry competitors Assess a companys ability to sustain dividend payments A decreasing TIE ratio might signal to investors that a company faces growing financial stress, potentially leading to reduced dividends, limited growth investment, or in extreme cases, restructuring. Corporate finance teams utilize the TIE ratio for: Capital structure planning and optimization Evaluating capacity for additional debt financing Assessing the impact of proposed expansions or acquisitions Setting internal financial policy guidelines Balancing growth investments with financial stability For example, a company with a TIE ratio of 8.0 might determine it has sufficient cushion to increase debt financing for a strategic acquisition, while one with a ratio of 2.0 might prioritize strengthening its balance sheet before pursuing significant expansion. Copied To illustrate the practical value of the Times Interest Earned ratio, consider these examples from different industries: A regulated electric utility reports: EBIT: $800 million Interest Expense: $300 million TIE Ratio: 2.67 While this TIE might seem low by general standards, its typical for utilities due to their capital-intensive nature and stable regulated revenues. Investors would compare this to industry peers rather than applying general benchmarks. A growing software firm reports: EBIT: $50 million Interest Expense: $2 million TIE Ratio: 25.0 This exceptionally high TIE ratio indicates minimal default risk but might suggest the company is under-leveraged. Shareholders might question whether more debt financing could accelerate growth and enhance equity returns. An automobile manufacturer shows these historical TIE ratios: 2022: 5.2 2021: 4.8 2020: 1.8 2019: 4.3 The dramatic drop in 2020 reflects industry-wide challenges during economic disruption, while the recovery in 2021-2022 shows returning financial health. This example demonstrates why examining trends and understanding industry cycles matters for proper ratio interpretation. Copied The Times Interest Earned ratio serves as an essential tool in financial analysis, providing crucial insights into a companys debt servicing capability and overall financial health. By measuring how many times a company can cover its interest obligations with available operating earnings, this metric helps lenders assess default risk, investors evaluate financial stability, and management teams make sound capital structure decisions. While no single financial ratio provides a complete picture, the TIE ratio offers a straightforward yet powerful gauge of solvency that complements other metrics in comprehensive financial analysis. When properly calculated and interpreted within industry contexts and alongside trend analysis, it serves as an early warning system for potential financial distress and a valuable indicator of debt capacity. For investors and analysts seeking to deepen their financial analysis capabilities, tools like InvestingPro offer comprehensive ratio calculators, industry benchmarks, and historical trend data that make applying metrics like the Times Interest Earned ratio more accessible and insightful. By incorporating this knowledge into your investment research or corporate financial planning, you can make more informed decisions about company financial health and debt sustainability.DefinitionThe times interest earned ratio is a solvency ratio that indicates how well-positioned a company is to pay off the interest on its financial obligations using its current income. The times interest earned (TIE) ratio tells you how easily a company can pay the interest on its debt using its earnings. You can calculate the ratio by dividing the company's earnings before interest and taxes (EBIT) by the total interest payable on bonds and other debt. A high ratio means the company can pay its interest while a low number indicates the company could be in trouble. A number above 2 is generally considered a good ratio. 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If a company has a ratio between 0.90 and 1, it means that its earnings are not able to pay off its debt and that its earnings are less than its interest expenses. No, times interest earned is not a profitability ratio. It is a solvency ratio. The ratio does not seek to determine how profitable a company is but rather its capability to pay off its debt and remain financially solvent. If a company can no longer make interest payments on its debt, it is most likely not solvent. To improve its times interest earned ratio, a company can increase earnings, reduce expenses, pay off debt, and refinance current debt at lower rates. The times interest earned ratio looks at how well a company can furnish its debt with its earnings. It is one of many ratios that help investors and analysts evaluate the financial health of a company. The higher the ratio, the better, as it indicates how many times a company could pay off its debt with its earnings. $499 $499 $399 $299 $499 $499 $39 $39 $39 $99 Have you ever bitten off more than you can chew?It happens to the best of us with projects, responsibilities, or forkfuls of salad. One goal of banks and loan providers is to ensure you dont do so with money or, more specifically, with debts used to fund your business operations.In a perfect world, companies would use accounting software and diligence to know their position and not consider a hefty new loan or expense they couldnt safely pay off. But even a genius CEO can be a tad overzealous and watch as compound interest capsizes their boat.The times interest earned (TIE) formula was developed to help lenders qualify new borrowers based on the debts theyve already accumulated. It gave the investors an idea of shareholder's equity metric and interest accumulated to decide if they could fund them further. If your current revenue is just enough to keep your debts in check and the lights on in your office you are not a logical or responsible bet for a potential lender (e.g., investors, creditors, loan officers).With the interest formula, these lenders can measure your financial fitness as it relates to these matters based on information from your income statements. The amounts used in the equation are: A) your earnings before interest and taxes and B) your interest expense, or the current cumulative interest compiled from your debts.How to calculate the times interest earned ratio?To use this formula, you must be an established business that has a source capital stream and an active transactional accounting period. It can be calculated by referring to your income statement, the row under the revenue column, and the "total interest paid". The total interest is an expense that determines all your liabilities to venture capitalists and moneylenders. The formula for TIE becomes:TIE ratio:Earnings before interest and taxes (EBIT) / total interest expense In services industries, the formula could also be TIE ratio:Earnings before interests, taxes, and amortization (EBITA) / interest expenseThe higher the TIE, the better the chances you can honor your obligations. A TIE ratio of 5 means you earn enough money to afford 5 times the amount of your current debt interest and could probably take on a little more debt if necessary.A low TIE suggests that you have more outstanding than your current capital. Capital can include shareholder equity, current assets, accounts receivable, and sales revenue. Not having enough EBITA can burn your profit margins and restrict cash flow.A TIE ratio of 2.5 is considered the dividing line between fiscally fit and not-so-safe investments. Lenders make these decisions on a case-by-case basis, contingent on their standard practices, the size of the loan, and a candidate interview, among other things. But the times interest earned ratio formula is an excellent metric to determine how well you can survive as a business. Earn more money and pay your debts before they bankrupt you, or reconsider your business model.What is earnings before interest and taxes (EBIT)?Your companys earnings before interest and taxes (EBIT) are pretty much what they sound like. This number measures your revenue, taking all expenses and profits into account, before subtracting what you expect to pay in taxes and interest on your debts.Simply put, your revenues minus your operating costs and expenses equals your EBIT. Expenses include things like building fees and the cost of goods sold.EBIT ExampleExample: If you bring in $10,000 this month and your overall expenses total $2,000, your EBIT for this month is $8,000. Your EBIT for the year is then projected at $96,000.Ultimately, you must allocate a percentage for your varied taxes and any interest collected on loans or other debts. Your net income is the amount youll be left with after factoring in these outflows. Any chunk of that income invested in the company is referred to as retained earnings.What is interest expense?Besides a zero-interest period on a credit card or a few bucks between friends, loans, and lines of credit come with an interest rate, that is, an amount tacked on every month or year based on a predetermined percentage of the total or the balance.If you have three loans generating interest and dont expect to pay those loans off this month, you must plan to add to your debts based on these different interest rates. This additional amount tacked onto your debts is your interest expense.Interest expense example and time interest earned ratio derivationIf you have a $10,000 line of credit with a 10 percent monthly interest rate, your current expected interest will be $1,000 this month. If you have another loan of $5,000 with a 5 percent monthly interest rate, you will owe $250 extra after the interest is processed. Your total interest expense for this month, then, is $1,250. For the year, its projected at $15,000.So long as you make dents in your debts, your interest expenses will decrease month to month. But at a given moment, this amount can be hundreds or thousands of dollars piling onto your plate, in addition to your regular payments and other business expenses. The times interest earned formula is calculated on your gross revenue that is registered on your income statement, before any loan or tax obligations. This is also known as EBIT or EBITA. The ratio is not calculated by dividing net income with total interest expense for one particular accounting period. It is only a supporting metric of the financial stability and cash arm of your business which determines that you have the ability to clear off your liabilities with whatever you earn.Examples of times interest earned ratioSo lets say you own a family deli. Lets call it, Hold the Mustard.The deli is doing well, making an average of $10,000 a month after expenses and before taxes and interest. This is an EBIT of $120,000 for the year. You took out a loan of $20,000 last year for new equipment and its currently at $15,000 with an annual interest rate of 5 percent. You have a company credit card for random necessities, with a current balance of $5,000 and an annual interest rate of 15 percent.Due to Hold the Mustards success, your family is debating a major renovation that would cost $100,000. To fund this you are considering a loan with a local bank.Calculating interest expenseYour companys statement of income will likely calculate the interest expense for you, but here is a breakdown of how that number is reached:Loan #1:Current balance = $15,000Annual interest = 5 percentInterest for this year = $750Credit card:Current balance = $5,000Annual interest = 15 percentInterest for the year = $750Total interest expense: $750 + $750 = $1,500Calculating total interest earnedWhen you sit down with the financial planner to determine your TIE ratio, they plug your EBIT and your interest expense into the TIE formula.$120,000 (EBIT) $1,500 (Interest Expense) = 80 (TIE ratio)Based on the times interest earned formula, Hold the Mustard has a TIE ratio of 80, which is well above acceptable. This bodes well for your potential loan. As we previously discussed, there is a lot more than this basic equation that goes into a lenders decision. But you are on top of your current debts and their respective interest rates, and this will absolutely play into the lenders decision process.Additional TIE exampleThe deli down the street is your fierce rival, regularly insulting Hold the Mustard and stealing your customers with flashy promotions. Lets call them, Dill With It.Their food isnt even that good.Dill With It makes $20,000 a month before taxes and interest. Thats an EBIT of $240,000 for the year. But theyve got debt stacked high as the dirty dishes in their sink.Dills founders are still paying off the startup loan they took at opening, which was $1,000,000. The balance is $800,000 with an annual interest of 10 percent. Last year they went to a second bank, seeking a loan for a billboard campaign. The balance is $30,000 with a 15 percent annual interest. The founders each have company credit cards they use to furnish their houses and take vacations. The total balance on those credit cards is $50,000 with an annual interest rate of 20 percent.Calculating business interest expenseHeres a breakdown of this companys current interest expense, based on its varied debts.Loan No. 1:Current balance = $800,000Annual interest = 10 percentInterest for this year = $80,000Loan No. 2Current balance = $40,000Annual interest = 15 percentInterest for the year = $6,000Credit cards:Current balance = $50,000Annual interest = 20 percentInterest for the year = $10,000Total interest expense: $80,000 + $6,000 + $10,000 = $96,000Calculating business times interest earnedNow the sleazeballs at Dill With It want to take out a third loan, to buy and demolish the green space next to their building to make way for a parking lot. Because, of course they do.When they arrive at the loan servicing office, their clerk takes information from their income statement and plugs it into the times interest earned formula.$240,000 (EBIT) $96,000 (Interest Expense) = 2.5 (TIE ratio)Based on this TIE ratio hovering near the danger zone lending to Dill With It would probably not be deemed an acceptable risk for the loan office. Again, there is always more that goes into a decision like this, but a TIE ratio of 2.5 or lower is generally a cause for concern among creditors.If they are declined, Dill With It might have to deal with it.Limitations of the TIE RatioThere is no generalized way of calculating a TIE ratio because it varies from industry to industry. It basically is a supporting metric that determines if you are eligible to stake equity or grow a business with more funding. Here are some limitations of the TIE ratio:Focuses on the short term: TIE only gives an idea of the rate of operating cash flow in a company and total expenditures to moneylenders but for the short term.It doesn't take into account due accounts receivables, future income, and other parameters that add up to the financial stability.Accounting dependence:It relies on EBIT or EBITA, which estimates the amount saved before clearing interest expenses. It is not a real accounting figure that determines the company's cash flow.Industry specificity:TIE can vary based on the nature of the business or business model. For software as a service (SaaS), the TIE measure could be entirely different from that of a tangible product-led company.Ignores upcoming debt:Businesses seek debt and dilute equity as a part of growth and this measure does not consider all the deals and moneylender contracts.Sensitivity to earnings fluctuations:A temporary drop in earnings or financial shortfall can completely upturn the TIE ratio and damage a company's income statement.Times interest earned ratio alongside other metricsTo have a detailed view of your company's total interest expense, here are other metrics to consider apart from times interest earned ratio.Debt-to-Equity Ratio: This ratio measures how much a company finances itself with debt compared to shareholder equity.Current Ratio: This ratio assesses a company's ability to meet short-term obligations with current assets.Cash Flow Statement: The cash flow statement is an important ratio that provides a clearer picture of a company's actual cash generation compared to EBIT or EBITA.By analyzing TIE in conjunction with these metrics, you get a better understanding of the company's overall financial health and debt management strategy.Impact of Economic DownturnsAs economic downturns have a significant impact on all accounting operations of a business, it also possesses the ability to turn a good TIE ratio into a low TIE ratio, which hinders business growth. The onset of recessions, layoffs, demand inelasticity, pandemics, or lower sales and profits could result in much lower EBIT, which would essentially be all of the sales revenue you have earned for a short time period. Lower EBIT would imply a weak financial muscle. This means that you will not find your business able to satisfy moneylenders and secure your dividends. More expenditure means less TIE, and ultimately means that you need loan extensions or a mortgage facility if you want to keep on surviving in the business world. Downturns like these also make it hard for companies to convert their sales into cash, hindering their ability to meet debt obligations even with a good TIE ratio.Address your debtsYou cant just walk into a bank and be handed $1 million for your business. With that said, its easy to rack up debt from different sources without a realistic plan to pay them off. If you find yourself with a low times interest earned ratio, it should be more alarming than upsetting. Even if it stings at first, securing a strategy to earn more sales revenue and work hard to maintain a positive net cash flow can salvage your interest payments and put you in a position to curb outstanding debts.Learn more about how to prep yourself for an SBA loan that can help grow your business and have cash reserves so that you can build better product experiences.This article was originally published in 2019. It has been updated with new information. . Share copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt remix, transform, and build upon the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution You must give appropriate credit , provide a link to the license, and indicate if changes were made . You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. 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This ratio measures how effectively a company can cover its interest expenses using its operating income.Formula and Calculation StepsThe Times Interest Earned (TIE) ratio assesses a companys ability to meet its debt obligations. To calculate this ratio, start by identifying the companys earnings before interest and taxes (EBIT), which is typically listed as operating income on the income statement. EBIT is calculated by subtracting operating expenses from gross profit.Next, locate the total interest expense on the income statement, which represents the cost of borrowing. Divide EBIT by the total interest expense to find the TIE ratio. For example, if a company has an EBIT of $500,000 and an interest expense of $100,000, the TIE ratio is 5. This means the company earns five times its interest obligations, indicating a strong ability to meet its debt commitments.Interpreting the RatioThe TIE ratio serves as a measure of a companys financial strength, particularly its ability to manage debt. A higher ratio usually signals a strong financial position, suggesting the firm can easily meet its interest obligations. For investors and creditors, this indicates lower risk, as the company is less likely to default on its debt. For instance, a TIE ratio of 8 shows the company can cover its interest expenses eight times over, reflecting a solid financial cushion.On the other hand, a lower TIE ratio raises concerns about financial stability. A ratio below 1 indicates the company cannot generate enough earnings to cover its interest expenses, signaling potential insolvency. For example, a TIE ratio of 0.8 suggests the company can only cover 80% of its interest obligations, which could deter investors or lead creditors to reconsider lending terms.Factors That Can Influence the RatioSeveral factors influence the TIE ratio. Economic conditions, such as changes in interest rates, directly affect interest expenses. A rise in interest rates increases borrowing costs, potentially lowering the TIE ratio if earnings remain unchanged. Companies with variable-rate debt are especially vulnerable to such shifts, making it vital for financial managers to anticipate and hedge against rate fluctuations.Operational performance also plays a role. Strong revenue growth can boost EBIT and improve the TIE ratio, while declining sales or operational inefficiencies can reduce it. Strategic decisions, like cost-cutting or investing in revenue-generating projects, can also impact EBIT and the TIE ratio. Managers must balance short-term financial improvements with long-term growth objectives.Regulatory changes can further affect the TIE ratio. For example, tax reforms can alter deductions and credits for interest expenses, influencing net income. The Tax Cuts and Jobs Act of 2017, which limited interest deductions, illustrates how legislation can reshape financial metrics. Companies must stay informed about regulatory developments to adjust their financial strategies and maintain compliance.Industry DifferencesThe TIE ratio varies widely across industries due to differences in financial structures and risk profiles. In capital-intensive sectors like manufacturing or utilities, companies often carry significant debt to fund infrastructure and equipment. These industries typically have lower TIE ratios because of higher interest expenses. For example, a utility company with stable, regulated income streams might have a TIE ratio of 2 or 3, which is acceptable given its predictable cash flow and lower business volatility.By contrast, technology firms, known for rapid growth and innovation, often exhibit higher TIE ratios. These companies rely more on equity financing or retained earnings, reducing their debt and interest expenses. A tech company with a TIE ratio of 10 or more demonstrates strong earnings relative to its debt obligations, reflecting a conservative approach to leveraging. However, the dynamic nature of the tech industry requires continual reinvestment, which can shift financial strategies and future TIE ratios. Evaluating a company's debt repayment abiltiy Over 2 million + professionals use CFI to learn accounting, financial analysis, modeling and more. Unlock the essentials of corporate finance with our free resources and get an exclusive sneak peek at the first module of each course. Start Free The Times Interest Earned (TIE) ratio measures a companys ability to meet its debt obligations on a periodic basis. This ratio can be calculated by dividing a companys EBIT by its periodic interest expense. The ratio shows the number of times that a company could, theoretically, pay its periodic interest expenses should it devote all of its EBIT to debt repayment.The TIEs main purpose is to help quantify a companys probability of default. This, in turn, helps determine relevant debt parameters such as the appropriate interest rate to be charged or the amount of debt that a company can safely take on.A high TIE means that a company likely has a lower probability of defaulting on its loans, making it a safer investment opportunity for debt providers. Conversely, a low TIE indicates that a company has a higher chance of defaulting, as it has less money available to dedicate to debt repayment.How to Calculate the Times Interest Earned RatioThe Times Interest Earned ratio can be calculated by dividing a companys earnings before interest and taxes (EBIT) by its periodic interest expense. The formula to calculate the ratio is:Where:Earnings Before Interest & Taxes (EBIT) represents profit that the business has realized, without factoring in interest or tax paymentsInterest Expense represents the periodic debt payments that a company is legally obligated to make to its creditorsGenerally speaking, the higher the TIE ratio, the better. However, a company with an excessively high TIE ratio could indicate a lack of productive investment by the companys management. An excessively high TIE suggests that the company may be keeping all of its earnings without re-investing in business development through research and development or through pursuing positive NPV projects. This may cause the company to face a lack of profitability and challenges related to sustained growth in the long term.Times Interest Earned Ratio ExampleHarrys Bagels wants to calculate its times interest earned ratio in order to get a better idea of its debt repayment ability. Below are snippets from the business income statements:From CFIs Income Statement TemplateThe red boxes highlight the important information that we need to calculate TIE, namely EBIT and Interest Expense.Using the formula provided above, we arrive at the following figures:Here, we can see that Harrys TIE ratio increased five-fold from 2015 to 2018. This indicates that Harrys is managing its creditworthiness well, as it is continually able to increase its profitability without taking on additional debt. If Harrys needs to fund a major project to expand its business, it can viably consider financing it with debt rather than equity.To better understand the financial health of the business, the ratio should be computed for a number of companies that operate in the same industry. If other firms operating in this industry see TIE multiples that are, on average, lower than Harrys, we can conclude that Harrys is doing a relatively better job of managing its degree of financial leverage. In turn, creditors are more likely to lend more money to Harrys, as the company represents a comparably safe investment within the bagel industry.Additional ResourcesThank you for reading CFIs guide to Times Interest Earned. To learn more about related topics, check out the following free CFI resources: Explore Programs This category covers almost any topic in Finance. Accounting, US GAAP, Forex, CFA, CMA, Financial Modeling, Valuation, Investment Banking, Project Finance, PE, Credit Risk, Mergers, Stock Market, Financial Institutions etc. A library of 550+ Courses and 300+ Test Series to choose from. All courses| bundles| learning paths| test series are curated and updated by industry experts. Enroll and You get One year access with all future updates. This category covers Cloud computing, R, devops, SEO, Big data, hadoop, machine learning, tensorflow, pandas, NLP, AI, Tableau, Analytics, CouchDB, Azure, SQl, AWS, Hive, Cassandra, Apache Storm, Kafka, Docker, Matplotlib, Predictive modeling, saleforce, SAS, Pyspark, Forecasting, deep learning and many more. A library of 400+ Courses and 550+ Test Series to choose from. All courses| bundles| learning paths| test series are curated and updated by industry experts. Enroll and You get One year access with all future updates. Learn programming and web development in this category. 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The course is well-structured, with each module building upon the previous one, creating a seamless learning experience. I recently completed a free online Excel course and it was a fantastic experience! The content was well-structured, easy to follow, and packed with practical tips. The interactive exercises helped me grasp key concepts effectively. Overall, a valuable resource for anyone looking to enhance their Excel skills without spending a dime. Highly recommended! EDUCBA's Statistics course for Analytics is exceptionally practical, offering a comprehensive and easily digestible introduction to essential statistical concepts. The course seamlessly blends theory with real-world applications, providing a highly informative learning experience that equips beginners with valuable analytical skills. Highly recommended for those seeking a solid foundation in statistics. I found this course to be very indepth. It covered all the facets of model building with very useful suggestions and guidelines. It was a very detailed model. With this learning, i will be able to independently build other models now. Thank you. I recently completed the Oracle SQL courses offered by EDUCBA, and I must say that it has been an incredible learning experience. EDUCBA's comprehensive Oracle SQL curriculum provides an excellent foundation for anyone seeking to master this powerful database language. The course material is structured in a logical and progressive manner, starting from the basics and gradually building up to more advanced concepts. Each topic is explained thoroughly and accompanied by clear examples and real-life scenarios, which greatly enhances the understanding and application of Oracle SQL. The Data Science Fundamentals online course that I recently completed. Overall, I found the course to be highly valuable and informative. The content was well-structured and provided a solid foundation for understanding key concepts in data science. I recently took a course on SQL, and I must say that I am quite impressed with the level of instruction and the depth of the material covered. The course was well-structured and presented in a way that was easy to follow, even for someone with no prior experience in SQL. This video provided clear and concise explanations of Photoshop, making it easy for me to understand and apply the concepts to my practical life. I appreciated the speaker's engaging presentation style and felt that I benefited greatly from the information presented. Overall, this is a great resource for anyone looking to learn the basics of Photoshop. The video that I recently watched was an absolutely breathtaking experience. From the very start, I was completely captivated by the stunning visuals and the mesmerizing soundtrack. The production value was top-notch, and every single detail was executed flawlessly. The video was not only visually stunning, but it was also incredibly informative and educational. I learned so much from watching it, and I was amazed by the amount of research that must have gone into producing such a high-quality piece. Throughout the video, I found myself completely engrossed in the content. I couldn't take my eyes off the screen, and I was completely absorbed by every single second. It was one of those rare experiences where time seemed to stand still, and I was completely lost in the moment. Overall, I would highly recommend this video to anyone who is looking for an incredible viewing experience. Whether you're looking for stunning visuals, captivating storytelling, or educational content. It was an exciting course. It taught me the basics of JAVA 8.0 and also how to use Netbeans IDE and how to operate on it!! Hope this type of courses appear more in my future!! 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A model attribution edit summary is Content in this edit is translated from the existing German Wikipedia article at [[:de:Zinsdeckungsgrad]]; see its history for attribution.You may also add the template {{Translated|de|Zinsdeckungsgrad}} to the talk page.For more guidance, see Wikipedia:Translation.Times interest earned (TIE) or interest coverage ratio is a measure of a company's ability to honor its debt payments. It may be calculated as either EBIT or EBITDA divided by the total interest expense.Times-Interest-Earned = EBIT or EBITDA/Interest Expense[1]When the interest coverage ratio is smaller than one, the company is not generating enough cash from its operations EBIT to meet its interest obligations. The company would then have to either use cash on hand to make up the difference or borrow funds. Typically, it is a warning sign when interest coverage falls below 2.5x.The times interest earned ratio indicates the extent of which earnings are available to meet interest payments.A lower times interest earned ratio means less earnings are available to meet interest payments and that the business is more vulnerable to increases in interest rates and being unable to meet their existing outstanding loan obligations.Financial ratioFinancial leverageEBITEBITDADebt service coverage ratioEBITDA considered to be a better measure of Interest Coverage ratio.^ Bragg, Steven. "New Financial Leadership Manual - Appendix B: Performance Measurement Checklist (Pages: 456-464)". John Wiley & Sons, Inc. doi:10.1002/9781118268360.app2. {{cite journal}}: Cite journal requires |journal= (help)Free Video Tutorial Explaining The Concept Of Interest Coverage Ratio And Other Coverage RatiosChapter 10 Analysis of Financial StatementsInterest Coverage Ratio Rule of ThumbThis economics-related article is a stub. You can help Wikipedia by expanding it.vteRetrieved from " free encyclopedia that anyone can edit.110,331 active editors 7,023,308 articles in EnglishGame Boy, platform of Donkey Kong LandDonkey Kong Land is a platform game developed by Rare and published by Nintendo for the Game Boy (pictured). Released on June26, 1995, it condenses the side-scrolling gameplay of Donkey Kong Country with a different level design and boss fights. The player controls Donkey Kong and Diddy Kong as they recover their stolen banana hoard from King K. Rool. Development began in 1994: Rare's Game Boy programmer, Paul Machacek, developed Land as an original game rather than a port of Country, believing that it would be a better use of resources. Land features pre-rendered graphics converted to sprites through a compression technique. Rare retooled Country's gameplay to account for the lower-quality display, and David Wise and Graeme Norgate converted the soundtrack to the Game Boy's sound chip. Critics praised it as successfully translating Country's gameplay, visuals, and music to the Game Boy. Land was rereleased for the Nintendo 3DS and the Nintendo Switch. (Fullarticle...)Recently featured: History of education in Wales (17011870)White dwarfBattle of GroixArchiveBy emailMore featured articlesAboutErena So... that a Hong Kong porn actress (pictured) once invited her cyberbullies to talk?... that the manga Doing Time is based on the author's experiences while incarcerated for three years in a Japanese prison?... that Minnesota Pioneer editor James M. Goodhue called a judge "absentee", after which the judge's brother stabbed him?... that the average transit time of water through the Wharepapa Arthur Marble Aquifer is eight years?... that Leon Hatziioannou played for two different Canadian football teams within 48 hours?... that Heimito von Doderer's novel The Strudlhof Steps was not allowed to be published until the author had undergone denazification?... that Lotus L. Kang "tans" sheets of photographic film before using them in her art?... that a Doctor Who episode was still in post-production in the month before it aired?... that artist Samantha Nye unsuccessfully auditioned for The All-New Mickey Mouse Club by performing a Rick Astley song?ArchiveStart a new articleNominate an articleTrifid and Lagoon nebulaeThe Vera C. Rubin Observatory in Chile releases the first light images (example shown) from its new 8.4-meter (28ft) telescope.In basketball, the Oklahoma City Thunder defeat the Indiana Pacers to win the NBA Finals.An attack on a Greek Orthodox church in Damascus, Syria, kills at least 25 people.The United States conducts military strikes on three nuclear facilities in Iran.In rugby union, the Crusaders defeat the Chiefs to win the Super Rugby Pacific final.Ongoing: Gaza warIranIsrael warRussian invasion of UkrainetimelineSudanese civil wartimelineRecent deaths: Maria VoceWes HildrethLucien NedziAnne BurrellFrederick W. SmithRon TaylorNominate an articleJune 26Douglas Skymaster plane "Amana"1740 War of Jenkins' Ear: Spanish troops stormed the British-held strategically crucial position of Fort Mose in Spanish Florida.1945 At a conference in San Francisco, delegates from 50nations signed a charter establishing the United Nations.1950 A Douglas DC-4 Skymaster aircraft (pictured) crashed after departing from Perth, becoming the worst aviation accident in Australia's peacetime history.2010 A G20 summit, the largest and most expensive security operation in Canadian history, began in downtown Toronto.2015 The U.S. Supreme Court ruled in Obergefell v. Hodges that the right of same-sex couples to marry is guaranteed by the Fourteenth Amendment.Robert the Lotharingian (d.1095)George IV of the United Kingdom (d.1830)Walter C. Root (d.1925)Pavel Belyayev (b.1925)More anniversaries: June 25June 26June 27ArchiveBy emailList of days of the yearAboutAtacamite is a copper halide mineral: a copper(II) chloride hydroxide with the chemical formula Cu2Cl(OH)3. It was first described in 1802 by Dmitri Alekseyevich Golitsyn from deposits in Chile's Atacama Desert, after which it is named. Atacamite is a comparatively rare mineral, formed from primary copper minerals in the oxidation or weathering zone of arid climates. It has also been reported as a volcanic sublimate from fumarole deposits, as sulfide alteration products in black smokers. This photograph shows a specimen of atacamite, on a malachite matrix, from the Mount Gunson Mines in South Australia. The picture was focus-stacked from 42 separate images.Photograph credit: Ivar LeidusRecently featured: Turban Head eagleSpringbokGeraldine UlmarArchiveMore featured picturesCommunity portal The central hub for editors, with resources, links, tasks, and announcements.Village pump Forum for discussions about Wikipedia itself, including policies and technical issues.Site news Sources of news about Wikipedia and the broader Wikimedia movement.Teahouse Ask basic questions about using or editing Wikipedia.Help desk Ask questions about using or editing Wikipedia.Reference desk Ask research questions about encyclopedic topics.Content portals A unique way to navigate the encyclopedia.Wikipedia is written by volunteer editors and hosted by the Wikimedia Foundation, a non-profit organization that also hosts a range of other volunteer projects: CommonsFree media repository MediaWikiWiki software development Meta-WikiWikimedia project coordination WikibooksFree textbooks and manuals WikidataFree knowledge base WikinewsFree-content news WikiquoteCollection of quotations WikisourceFree-content library WikispeciesDirectory of species WikiversityFree learning tools WikivoyageFree travel guide WiktionaryDictionary and thesaurusThis Wikipedia is written in English. Many other Wikipedias are available; some of the largest are listed below. 1,000,000+ articles DeutschEspaolFranaisItalianoNederlandsPolskiPortugusSvenskaTing Vit 250,000+ articles Bahasa IndonesiaBahasa MelayuBn-lm-gCataletinaDanskEestiEsperantoEuskaraMagyarNorsk bokmlRomnSimple EnglishSloveninaSrpskiSrpskohrvatskiSuomiTrkeOzbekcha 50,000+ articles AsturianuAzrbaycancaBosanskiFryskGaeilgeGalegoHrvatskiKurdLatvieuLietuviNorsk nynorskShqipSlovenina Retrieved from " 2Calendar yearYearsMillennium2ndmillenniumCenturies17thcentury18thcentury 19thcenturyDecades1720s1730s1740s 1750s1760sYears1737173817391740 17411742l743vteOctober 9: The Batavia Massacre by the Dutch East India Company of at least 5,000 Chinese Indonesians begins in what is now Jakarta.1740 by topicArts and scienceArchaeologyArchitectureArtLiteraturePoetryMusicScienceCountriesCanadaDenmarkFranceGreat BritainIrelandJapanNorwayRussiaScotlandSpainSwedenLists of leadersState leadersColonial governorsReligious leadersBirth and death categoriesBirthsDeathsEstablishments and disestablishments categoriesEstablishmentsDisestablishmentsWorks categoryWorksvte1740 in various calendarsGregorian calendar1740MDCCXLAb urbe condita2493Armenian calendar1189 Assyrian calendar6490Balinese saka calendar16611662Bengali calendar11461147Berber calendar2690British Regnal year13Geo.214Geo.2Buddhist calendar2284Burmese calendar1102Byzantine calendar72487249Chinese calendar (EarthGoat)4437 or 4230to (MetalMonkey)4438 or 4231Coptic calendar14561457Discordian calendar2906Ethiopian calendar17321733Hebrew calendar55005501Hindu calendars- Vikram Samvat17961797- Shaka Samvat16611662- Kali Yuga48404841Holocene calendar11740Igbo calendar740741Iranian calendar11181119Islamic calendar11521153Japanese calendarGenbun 5()Javanese calendar16641665Julian calendarGregorian minus 11 daysKorean calendar4073Minguo calendar172 before ROC172Nanakshahi calendar272Thai solar calendar22822283Tibetan calendar(female Earth-Goat)1866 or 1485 or 713to(male Iron-Monkey)1867 or 1486 or 714Wikimedia Commons has media related to 1740.1740 (MDCCXL) was a leap year starting on Friday of the Gregorian calendarand a leap year starting on Tuesday of the Julian calendar, the 1740th year of the Common Era (CE) and Anno Domini (AD) designations, the 740th year of the 2ndmillennium, the 40th year of the 18thcentury, and the 1st year of the 1740s decade. As of the start of 1740, the Gregorian calendar was 11 days ahead of the Julian calendar, which remained in localized use until 1923. Calendar year January 8 All 237 crewmen on the Dutch East India Company ship Rooswijk are drowned when the vessel strikes the shoals of Goodwin Sands, off of the coast of England, as it is beginning its second voyage to the Indies. The wreckage is discovered more than 250 years later, in 2004.[1]February 20 The North Carolina General Assembly incorporates the town of Newton as Wilmington, North Carolina, named for Spencer Compton, 1st Earl of Wilmington and patron of Royal Governor Gabriel Johnston.March 16 King Edward of the Miskito Indians signs a treaty making his kingdom, located on the coast of modern-day Nicaragua, a protectorate of Great Britain.[2]March 25 Construction begins on Bethesda Orphanage for boys near Savannah, Georgia, founded by George Whitefield.April 8 War of the Austrian Succession: The Royal Navy captures the Spanish ship of the line Princesa off Cape Finisterre and takes her into British service.May 31 Frederick II becomes King in Prussia upon the death of his father, Frederick William I.June 1 Plantation Act 1740 or Naturalization Act 1740 of the Parliament of Great Britain comes into effect providing for Protestant alien immigrants (including Huguenots, and also Jews) residing in the American colonies for 7 years to receive British nationality.June 16 Pour le Mrite first awarded in Prussia as a military honour.June 26 War of Jenkins' Ear: Siege of Fort Mose A Spanish column of 300 regular troops, free Black militia and Indian auxiliaries storms Britain's strategically crucial position of Fort Mose, Florida.July 7 Adam Smith sets out from Scotland to take up a scholarship at Balliol College, Oxford.[3]July 11 Pogrom: Jews are expelled from Little Russia.August 1 The song Rule, Britannia! is first performed at Cliveden, the country home of Frederick, Prince of Wales, in England.[4]August 17 Pope Benedict XIV succeeds Pope Clement XII, as the 247th pope.September 8 Hertford College, Oxford, England, is founded for the first time.[5]October 922 Batavia Massacre: Troops of the Dutch East India Company massacre 5,00010,000 Chinese Indonesians in Batavia.[6]October 20 Maria Theresa inherits the hereditary dominions of the Habsburg monarchy (Austria, Bohemia, Hungary and modern-day Belgium) under the terms of the Pragmatic Sanction of 1713 on the death of her father, Charles VI. Her succession to the Holy Roman Empire is contested widely because she is a woman, but she will reign for 40 years.November 6 Samuel Richardson's popular and influential epistolary novel, Pamela; or, Virtue Rewarded, is published anonymously in London.November 14 The University of Pennsylvania is officially established.December 16 Frederick II of Prussia invades the Habsburg possession of Silesia, starting the War of the Austrian Succession.Enfield, North Carolina, is founded.Spain begins construction on Fort Matanzas in the Matanzas Inlet, approximately 15 miles (24km) south of St. Augustine, Florida.The fairy-tale Beauty and the Beast by French novelist Gabrielle-Suzanne Barbot de Villeneuve was published.February 4 Carl Michael Bellman, Swedish poet, composer (d. 1795)February 15 Juan Andrs, Spanish Jesuit (d. 1817)February 16 Giambattista Bodoni, Italian publisher and engraver (d. 1813)February 17 John Sullivan, American General in the American Revolutionary War, delegate in the Continental Congress (d. 1795)March Johann van Beethoven, German musician, father of Ludwig van Beethoven (d. 1792)March 16 Johann Jacob Schweppe, German-born inventor, founder of the Schweppes Company (d. 1821)April 7 Haym Salomon, Polish-Jewish American financier of the American Revolution (d. 1785)April 14 Anna Strong, Patriot spy during the American Revolutionary War (d. 1812)May 7 Nikolai Arkharov, Russian police chief (d. 1814)Marquis de SadeJune 2 Marquis de Sade, French author, for whom sadism is named (d. 1814)June 24 Juan Ignacio Molina, Spanish-Chilean Jesuit priest, naturalist, historian, translator, geographer, botanist, ornithologist and linguist (d. 1829)June 27 James Woodforde, English clergyman and diarist (d. 1803)July 27 Jeanne Bar, French explorer (d. 1803)August 23 Emperor Ivan VI of Russia (d. 1764)August 26 Joseph-Michel Montgolfier, French inventor (d. 1810)September 12 Johann Heinrich Jung, German writer (d. 1817)September 23 Empress Go-Sakuramachi of Japan (d. 1813)September 25 Hercules Mulligan, tailor and spy during the American Revolutionary War (d. 1825)October 29 James Boswell, Scottish author (d. 1795)October 31 Philip James de Loutherbourg, English artist (d. 1812)December Elisabeth Olin, Swedish opera singer (d. 1828)Ali Pasha of Ioannina, Albanian ruler (d. 1822)Margaret Bingham, Countess of Lucan, born Margaret Smith, English portrait miniature painter and writer (d. 1814)[7]John Milton, American politician and officer of the Continental Army (d. 1817) (earliest estimated date of birth)Septimanie d'Egmont, French salonist (d. 1773)Pope Clement XIIFrederick William I, King in PrussiaSaint Theophilus of CorteCharles VI, Holy Roman EmperorAnna, Empress of RussiaJanuary Louise lisabeth de Joybert, politically active Canadian governors' wife (b. 1673)January 5 Antonio Lotti, Italian composer (b. 1667)January 17 Matthias Buchinger, German artist (b. 1674)January 20 Niccol Comneno Papadopoli, Italian jurist of religious law and historian (b. 1655)January 21 Nicholas Trott, colonial magistrate, South Carolina Chief Justice (b. 1663)January 27 Louis Henri, Duke of Bourbon, Prime Minister of France (b. 1692)January 29 Richard Lumley, 2nd Earl of Scarbrough (b. 1686)February 6 Pope Clement XII (b. 1652)[8]February 23 Massimiliano Soldani Benzi, Italian artist (b. 1656)February 29 Pietro Ottoboni, Italian cardinal (b. 1667)March 23 Olof Rudbeck the Younger, Swedish scientist and explorer (b. 1660)April 28 Bajirao I, Great Maratha warrior and Prime Minister of Marartha Empire (b.1700)April 23 Thomas Tickell, English writer (b. 1685)May 17 Jean Cavalier, French Protestant rebel leader (b. 1681)May 31 Frederick William I, King in Prussia (b. 1688)June 1 Samuel Werenfels, Swiss theologian (b. 1657)June 6 Alexander Spotswood, British governor of Virginia Colony (b. 1676)June 17Theophilus of Corte, Italian Roman Catholic priest, preacher and missionary, canonized (b. 1676)William Wyndham, English politician (b. 1687)June 18 Piers Butler, 3rd Viscount Galmoye, Anglo-Irish nobleman (b. 1652)July 2 Thomas Baker, English antiquarian (b. 1656)October 5 Johann Philipp Baratier, German scholar (b. 1721)October 11 Princess Magdalena Augusta of Anhalt-Zerbst, Duchess of Saxe-Gotha-Altenburg (b. 1679)October 20 Charles VI, Holy Roman Emperor (b. 1685)October 28 Anna, Empress of Russia (b. 1693)December 1 John Abernethy, Irish Protestant minister (b. 1680)December 20 Richard Boyle, 2nd Viscount Shannon, British military officer and statesman (b. 1675)December 30 John Senex, English geographer (b. ca. 1678)[9]^ Wendy van Duivenvoorde, Dutch East India Company Shipbuilding: The Archaeological Study of Batavia and Other Seventeenth-Century VOC Ships (Texas A&M University Press, 2015) p145^ "Mosquito Coast", in Historical Dictionary of the British Empire, ed. by Kenneth J. Panton (Rowman & Littlefield, 2015) p384^ "On this day in 1740..." Adam Smith Institute. July 7, 2010. Retrieved November 19, 2019.^ Williams, Hywel (2005). Cassell's Chronology of World History. London: Weidenfeld & Nicolson. p.308. ISBN0-304-35730-8.^ Hamilton, Sidney Graves (1903). Hertford College. University of Oxford college histories. London: Robinson.^ "Image: Bird's eye view of Batavia showing the massacre of the Chinese". Archived from the original on September 21, 2009. Retrieved November 12, 2006.^ This article incorporates text from a publication now in the public domain:Stephen, Leslie, ed. (1886). "Bingham, Margaret". Dictionary of National Biography. Vol.5. London: Smith, Elder & Co. ^ "Clement XII | pope". Encyclopedia Britannica. Retrieved April 22, 2021.^ "The Historical Theater in the Year 400 AD, in Which Both Romans and Barbarians Resided Side by Side in the Eastern Part of the Roman Empire". World Digital Library. 1725. Retrieved July 27, 2013.Retrieved from " 3One hundred years, from 1601 to 1700Millennia2ndmillenniumCenturies16thcentury17thcentury18thcenturyTimelines16thcentury17thcentury18thcenturyState leaders16thcentury17thcentury18thcenturyDecades1600s1610s1620s1630s1640s1650s1660s1670s1680s1690sCategories:Births Deaths Establishments DisestablishmentsvteThe 17th century lasted from January 1, 1601 (represented by the Roman numerals MDCI), to December 31, 1700 (MDCC).It falls into the early modern period of Europe and in that continent (whose impact on the world was increasing) was characterized by the Baroque cultural movement, the latter part of the Spanish Golden Age, the Dutch Golden Age,[1] the French Grand Sicle dominated by Louis XIV, the Scientific Revolution, the world's first public company and megacorporation known as the Dutch East India Company, and according to some historians, the General Crisis.From the mid-17th century, European politics were increasingly dominated by the Kingdom of France of Louis XIV, where royal power was solidified domestically in the civil war of the Fronde. The semi-feudal territorial French nobility was weakened and subjugated to the power of an absolute monarchy through the reinvention of the Palace of Versailles from a hunting lodge to a gilded prison, in which a greatly expanded royal court could be more easily kept under surveillance. With domestic peace assured, Louis XIV caused the borders of France to be expanded. It was during this century that the English monarch became increasingly involved in conflicts with the Parliament - this would culminate in the English civil war and an end to the dominance of the English monarchy.A scene on the ice, Dutch Republic, first half of the 17th centuryBy the end of the century, Europeans were masters of logarithms, electricity, the telescope and microscope, calculus, universal gravitation, Newton's Laws of Motion, air pressure, and calculating machines due to the work of the first scientists of the Scientific Revolution, including Galileo Galilei, Johannes Kepler, Ren Descartes, Pierre Fermat, Blaise Pascal, Robert Boyle, Christiaan Huygens, Antonie van Leeuwenhoek, Robert Hooke, Isaac Newton, and Gottfried Wilhelm Leibniz. It was also a period of development of culture in general (especially theater, music, visual arts and philosophy). Some of the greatest inventions took place in this century.It was during this period that the European colonization of the Americas began in earnest, including the exploitation of the silver deposits, which resulted in bouts of inflation as wealth was drawn into Europe.[2] Also during this period, there would be a more intense European presence in Southeast Asia and East Asia (such as the colonization of Taiwan). These foreign elements would contribute to a revolution in Ayutthaya. The Mataram Sultanate and the Aceh Sultanate would be the major powers of the region, especially during the first half of the century.[2]In the Islamic world, the gunpowder empires the Ottoman, Safavid, and Mughal grew in strength as well. The southern half of India would see the decline of the Deccan Sultanates and extinction of the Vijayanagara Empire. The Dutch would colonize Ceylon and endure hostilities with Kandy. The end of the 17th century saw the first major surrender of Ottoman territory in Europe when the Treaty of Karlowitz ceded most of Hungary to the Habsburgs in 1699.In Japan, Tokugawa Ieyasu established the Tokugawa shogunate at the beginning of the century, beginning the Edo period; the isolationist Sakoku policy began in the 1630s and lasted until the 19th century. In China, the collapsing Ming dynasty was challenged by a series of conquests led by the Manchu warlord Nurhaci, which were consolidated by his son Hong Taiji and finally consummated by his grandson, the Shunzhi Emperor, founder of the Qing dynasty.[3] Qing China spent decades of this century with economic problems (results of civil wars between the Qing and former Ming dynasty loyalists), only recovering well at the end of the century.The greatest military conflicts of the century were the Thirty Years' War,[4] DutchPortuguese War,[5] the Great Turkish War, the Nine Years' War, MughalSafavid Wars, and the Qing annexation of the Ming.For a chronological guide, see Timeline of the 17th century.Main articles: 1600s, 1610s, 1620s, 1630s, and 1640sPersian Ambassador during his entry into Krakw for the wedding ceremonies of King Sigismund III of Poland in 1605.1601: 4th Spanish Armada; in the Battle of Kinsale, England defeats Irish and Spanish forces, driving the Gaelic aristocracy out of Ireland and destroying the Gaelic clan system.16011603: The Russian famine of 16011603 kills perhaps one-third of Russia.[6]1602: Matteo Ricci produces the Map of the Myriad Countries of the World (, Kny Wngu Qunt), a world map that will be used throughout East Asia for centuries.1602: The Dutch East India Company (VOC) is established by merging competing Dutch trading companies.[7] Its success contributes to the Dutch Golden Age.1603: Elizabeth I of England dies and is succeeded by her cousin King James VI of Scotland, uniting the crowns of Scotland and England.1603: Tokugawa Ieyasu takes the title of shgun, establishing the Tokugawa shogunate. This begins the Edo period, which will last until 1868.1603: In Nagasaki, the Portuguese Jesuit missionary Joo Rodrigues publishes Nippo Jisho, the first dictionary of Japanese to a European (Portuguese) language.1605: The King of Gowa, a Makassarese kingdom in South Sulawesi, converts to Islam.Tsar Michael I of Russia reigned 1613164516051627: The reign of Mughal emperor Jahangir after the death of emperor Akbar.1606: The Long Turkish War between the Ottoman Empire and Austria is ended with the Peace of ZsitvatorokAustria abandons Transylvania.1606: Treaty of Vienna ends an anti-Habsburg uprising in Royal Hungary.1606: Willem Janszoon captained the first recorded European landing on the Australian continent, sailing from Bantam, Java, in the Duyfken.1607: Flight of the Earls (the fleeing of most of the native Gaelic aristocracy) occurs from County Donegal in the west of Ulster in Ireland.1607: Iskandar Muda becomes the Sultan of Aceh for 30 years. He will launch a series of naval conquests that will transform Aceh into a great power in the western Malay Archipelago.1610: The PolishLithuanian Commonwealth army defeats combined RussianSwedish forces at the Battle of Klushino and conquers Moscow.1610: King Henry IV of France is assassinated by Franois Ravaillac.1611: The Pontifical and Royal University of Santo Tomas, the oldest existing university in Asia, is established by the Dominican Order in Manila[8]1611: The first publication of the King James Bible.1612: The first Cotswold Olympic Games, an annual public celebration of games and sports begins in the Cotswolds, England.1613: The Time of Troubles in Russia ends with the establishment of the House of Romanov, which rules until 1917.16131617: PolishLithuanian Commonwealth is invaded by the Tatars dozens of times.[9]James I of England and VI of Scotland ruled in the first quarter of the 17th century1613: The Dutch East India Company is forced to evacuate Gresik due to the Mataram siege in neighboring Surabaya. The dutch negotiates with Mataram and is allowed to set up a trading post in Jepara.16141615: The Siege of Osaka (last major threat to Tokugawa shogunate) ends.1616: The last remaining Moriscos (Moors who had nominally converted to Christianity) in Spain are expelled.1616: English poet and playwright William Shakespeare dies.1618: The Defenestration of Prague.1618: The Bohemian Revolt precipitates the Thirty Years' War, which devastates Europe in the years 161848.1618: The Manchus start invading China. Their conquest eventually topples the Ming dynasty.1619: European slaving reaches America when the first Africans are brought to the present-day United States.1619: The Dutch East India Company storm Jayakarta and withstand a months-long siege by the combined English, Bantenese and Jayakartan forces. They are relieved by Jan Pieterszoon Coen and a fleet of ships from Ambon. The dutch destroys Jayakarta and builds its new headquarters, Batavia, on top of it.16201621: PolishOttoman War over Moldavia.1620: Bethlen Gabor allies with the Ottomans and an invasion of Moldavia takes place. The Polish suffer a disaster at Cecora on the River Prut.1620: The Mayflower sets sail from Plymouth, England to what became the Plymouth Colony in New England.The 1622 massacre was instrumental in causing English colonists to view all natives as enemies1621: The Battle of Chocim: Poles and Cossacks under Jan Karol Chodkiewicz defeat the Ottomans.1622: Jamestown massacre: Algonquian natives kill 347 English settlers outside Jamestown, Virginia (approximately one-third of the colony's population)[10][11] and burn the Henricus settlement.16241642: As chief minister, Cardinal Richelieu centralises power in France.1626: St. Peter's Basilica in the Vatican completed.1627: Aurochs go extinct.[12]16281629: Sultan Agung of Mataram launches a failed campaign to conquer Dutch Batavia.1629: Abbas I, the Safavids king, died.1629: Cardinal Richelieu allies with Swedish Protestant forces in the Thirty Years' War to counter Ferdinand II's expansion.1630: Birth of Shivaji at Shivneri fort, in present day Maharashtra, India, who later founded Maratha Empire in year 1674.[13]1631: Mount Vesuvius erupts.1632: Battle of Ltzen, death of king of Sweden Gustav II Adolf.Battle of Nrdlingen (1634). The Catholic Imperial army, bolstered by professional Habsburg Spanish troops won a great victory in the battle over the combined Protestant armies of Sweden and their German allies1632: Taj Mahal building work started in Agra, India.1633: Galileo Galilei arrives in Rome for his trial before the Inquisition.16331639: Japan transforms into "locked country".1634: Battle of Nrdlingen results in Catholic victory.1636: Harvard University is founded in Cambridge, Massachusetts.1637: Shimabara Rebellion of Japanese Christians, rnin and peasants against Edo.1637: The first opera house, Teatro San Cassiano, opens in Venice.1637: Qing dynasty attacked the Joseon dynasty.1639: Naval Battle of the Downs Republic of the United Provinces fleet decisively defeats a Spanish fleet in English waters.1639: Disagreements between the Farnese and Barberini Pope Urban VIII escalate into the Wars of Castro and last until 1649.16391651: Wars of the Three Kingdoms, civil wars throughout Scotland, Ireland, and England.16401668: The Portuguese Restoration War led to the end of the Iberian Union.The inauguration of the Royal Academy of Turku in 1640.1641: The Irish Rebellion, by Irish Catholics who wanted an end to discrimination, greater self-governance, and reverse ownership of the plantations of Ireland.1641: Ren Descartes publishes Meditationes de prima philosophia Meditations on First Philosophy.1642: Beginning of English Civil War, conflict will end in 1649 with the execution of King Charles I, the abolition of the monarchy and the establishment of the supremacy of Parliament over the king.1643: L'incoronazione di Poppea, Monteverdi1644: The Manchu conquer China ending the Ming dynasty. The subsequent Qing dynasty rules until 1912.16441674: The Mauritanian Thirty-Year War.16451669: Ottoman war with Venice. The Ottomans invade Crete and capture Canea.16471652: The Great Plague of Seville.1648: The Peace of Westphalia ends the Thirty Years' War and the Eighty Years' War and marks the ends of Spain and the Holy Roman Empire as major European powers.Map of Europe in 1648 at the end of the Thirty Years' War16481653: Fronde civil war in France.16481657: The Khmelnytsky Uprising a Cossack rebellion in Ukraine which turned into a Ukrainian war of liberation from Poland.16481667: The Deluge wars leave PolishLithuanian Commonwealth in ruins.16481669: The Ottomans capture Crete from the Venetians after the Siege of Candia.1649: King Charles I is executed for high treason, the first and only English king to be subjected to legal proceedings in a High Court of Justice and put to death.16491653: The Cromwellian conquest of Ireland.Main articles: 1650s, 1660s, 1670s, 1680s, 1690s, and 1700sThe Night Watch or The Militia Company of Captain Frans Banning Cocq, 1642. Oil on canvas; on display at the Rijksmuseum, Amsterdam1651: English Civil War ends with the Parliamentarian victory at the Battle of Worcester.16561661: Mehmed Kprl is Grand Vizier.16551661: The Northern Wars cement Sweden's rise as a Great Power.1657: Sambhaji, the second King of Maratha Empire and eldest son of King Shivaji was born at Purandar Fort on 14 May.[citation needed]1658: After his father Shah Jahan completes the Taj Mahal, his son Aurangzeb deposes him as ruler of the Mughal Empire.1659: King Shivaji killed Adil Shahi dynasty's general Afzal Khan at Pratapgad fort on 9 November.[14]1660: The Commonwealth of England ends and the monarchy is brought back during the English Restoration.1660: The Royal Society is founded.1660: The Bruneian Civil War begins1661: The reign of the Kangxi Emperor of China begins.1663: Ottoman war against Habsburg Hungary.1664: The Battle of St. Gotthard: count Raimondo Montecuccoli defeats the Ottomans. The Peace of Vasvar intended to keep the peace for 20 years.1665: Maratha King Shivaji signed the Treaty of Purandar with Mughal general Jai Singh I after Battle of Purandar.[citation needed]1665: Robert Hooke discovers cells using a microscope.1665: Portugal defeats the Kongo Empire at the Battle of Mbwila.Taj Mahal, completed by 1653 and commissioned by Shah Jahan, one of the Wonders of the World16651667: The Second Anglo-Dutch War fought between England and the United Provinces.1666: The Great Fire of London.1666: Shivaji visited Aurangzeb at Agra Fort and forced him into house arrest. Shivaji later escaped and returned to the Maratha kingdom.[citation needed]1667: The Raid on the Medway during the Second Anglo-Dutch War.16671668: The War of Devolution: France invades the Netherlands. The Peace of Aix-la-Chapelle (1668) brings this to a halt.16671699: The Great Turkish War halts the Ottoman Empire's expansion into Europe.16721673: Ottoman campaign to help the Ukrainian Cossacks. 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Dutch spectacle-maker Hans Lippershey tries to obtain a patent on one, spreading word of the invention.1610: The Orion Nebula is identified by Nicolas-Claude Fabri de Peiresc of France.1610: Galileo Galilei and Simon Marius observe Jupiter's Galilean moons.1611: King James Bible or 'Authorized Version' first published.1612: The first flintlock musket likely created for Louis XIII of France by gunsmith Marin Bourgeois.1614: John Napier introduces the logarithm to simplify calculations.1616: Niccol Zucchi describes experiments with a bronze parabolic mirror trying to make a reflecting telescope.1620: Cornelis Drebbel, funded by James I of England, builds the first 'submarine' made of wood and greased leather.1623: The third English dictionary, English Dictionarie, is published by Henry Cockeram, listing difficult words with definitions.1628: William Harvey publishes and elucidates his earlier discovery of the circulatory system.1637: Dutch Bible published.1637: Teatro San Cassiano, the first public opera house, opened in Venice.1637: Pierre de Fermat formulates his so-called Last Theorem, unsolved until 1995.1637: Although Chinese naval mines were earlier described in the 14th century Huolongjing, the Tian Gong Kai Wu book of Ming dynasty scholar Song Yingxing describes naval mines wrapped in a lacquer bag and ignited by an ambusher pulling a rip cord on the nearby shore that triggers a steel-wheel flint mechanism.1642: Blaise Pascal invents the mechanical calculator called Pascal's calculator.1642: Mezzotint engraving introduces grey tones to printed images.1643: Evangelista Torricelli of Italy invents the mercury barometer.1645: Giacomo Torelli of Venice, Italy invents the first rotating stage.1651: Giovanni Riccioli renames the lunar maria.1656: Christiaan Huygens describes the true shape of the rings of Saturn.1657: Christiaan Huygens develops the first functional pendulum clock based on the learnings of Galileo Galilei.1659: Christiaan Huygens first to observe surface details of Mars.1662: Christopher Merret presents first paper on the production of sparkling wine.1663: James Gregory publishes designs for a reflecting telescope.1669: The first known operational reflecting telescope is built by Isaac Newton.1676: Antonie van Leeuwenhoek discovers Bacteria.1676: First measurement of the speed of light.1679: Binary system developed by Gottfried Wilhelm Leibniz.1684: Calculus independently developed by both Gottfried Wilhelm Leibniz and Sir Isaac Newton and used to formulate classical mechanics.^ "Exchange History NL 400 years: the story". 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ISBN0-7486-3887-3Detail of a 17th-century Tekke Turkmen carpetChang, Chun-shu, and Shelley Hsueh-lun Chang. Crisis and Transformation in Seventeenth-Century China (1998).Langer, William. An Encyclopedia of World History (5th ed. 1973); highly detailed outline of events online freeReid, A. J. S. Trade and State Power in 16th & 17th Century Southeast Asia (1977).Spence, J. D. The Death of Woman Wang: Rural Life in China in the 17th Century (1978).Clark, George. The Seventeenth Century (2nd ed. 1945).Hampshire, Stuart. The Age of Reason the 17th Century Philosophers, Selected, with Introduction and Interpretive Commentary (1961).Hugon, Ccile (1997) [1911]. "Social Conditions in 17th-Century France (1649-1652)". In Halsall, Paul (ed.). Social France in the XVII Century. London: Methuen. pp.171172, 189. ISBN9780548161944. Archived from the original on 23 August 2016. Retrieved 7 August 2021.Lewitter, Lucian Ryszard. "Poland, the Ukraine and Russia in the 17th Century." 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Past & Present 16 (1959): 3164.Wikimedia Commons has media related to 17th century.Vistorica: Timelines of 17th century events, science, culture and personsRetrieved from " 4The following pages link to 17th century External tools(link counttransclusion countsorted list) See help page for transcluding these entriesShowing 50 items.View (previous 50 | next 50) (20 | 50 | 100 | 250 | 500)Astrology (links | edit)Alessandro Scarlatti (links | edit)Aurochs (links | edit)Bagpipes (links | edit)Drink (links | edit)List of decades, centuries, and millennia (links | edit)Kaohsiung (links | edit)Suffolk (links | edit)Waltz (links | edit)20th century (links | edit)15th century (links | edit)16th century (links | edit)18th century (links | edit)1624 (links | edit)1626 (links | edit)1642 (links | edit)1661 (links | edit)1756 (links | edit)1791 (links | edit)1608 (links | edit)1743 (links | edit)14th century (links | edit)1788 (links | edit)1st century (links | edit)13th century (links | edit)1787 (links | edit)4th century (links | edit)12th century (links | edit)11th century (links | edit)1564 (links | edit)1648 (links | edit)1572 (links | edit)1623 (links | edit)1662 (links | edit)1640s (links | edit)1770s (links | edit)1780s (links | edit)1789 (links | edit)1782 (links | edit)1707 (links | edit)1700s (decade) (links | edit)1597 (links | edit)1690 (links | edit)1764 (links | edit)1760s (links | edit)1742 (links | edit)1735 (links | edit)1730s (links | edit)1740s (links | edit)1790s (links | edit)View (previous 50 | next 50) (20 | 50 | 100 | 250 | 500)Retrieved from " WhatLinksHere/17th_century"All BlogsFinancial Statement Analysis ResourcesTimes Interest Earned RatioSolvency RatiosInsolvency TestsInsolvency TestAltman Z ScoreBeneish M-ScoreSolvency RatiosBOOT CAMP - Financial Modeling (6 Hrs)Boot Camp: LEARN Financial Modeling in Just 6 Hours!Table Of ContentsTimes Interest Earned Ratio is a solvency ratio that evaluates the ability of a firm to repay its interest on the debt or the borrowing it has made. It is calculated as the ratio of EBIT (Earnings before Interest & Taxes) to Interest Expense. A higher ratio is favorable as it indicates the Company is earning higher than it owes and will be able to service its obligations. In contrast, a lower ratio indicates the company may not be able to fulfill its obligation. Thus, it shows how many times of the earnings made by the business will be enough to cover the debt repayment and make the company financially stable and sustainable.Times interest earned ratio measures a company's ability to pay off debt. A higher percentage is better, while a lower ratio means it may struggle to pay debt. The formula's numerator includes EBIT, which stands for operating income before taxes. In addition, it represents the business's income after deducting the necessary expenses for its operation. The denominator in this calculation represents the total interest expenses, while EBIT divided by the total interest expenses indicates how frequently a company can meet its interest obligations.The times interest earning ratio is an important financial metric that is commonly used by the management of the company as well as its investors, creditors and shareholders to understand the debt repayment capacity based on its earnings. It helps to calculate the number of times of the earnings made by the business that is required to repay the debts and clear the financial obligation.It is necessary to keep track of the ability of the entity to cover its interest expense because it gives an idea about the financial health. A high times interest earned ratioequation will indicate a good level of earnings that it more than the interest to be repaid. A strong balance sheet is what every investor desires in order to take a positive investment decision about a company. It not only increases the faith and trust of investors but also raises the chance of the business to obtain more credit from lenders since they are sure to get back the money they decide to lend.However, this is not the only criteria that is used to judge the creditworthiness off an entity. It should be used in combination with other internal and external factors that influence the business. It should also be noted that this metric of goodtimes interest earned ratio can also be used assess the level up to which the management can plan to borrow so that it can handle its credit obligations easily without putting any unnecessary pressure on the company resources which can be utilized effectively for more productive purposes.The formula used for the calculation of times interest earned ratioequation is given below. Let us try to analyse the same in detail.Times Interest Earned Ratio Formula=EBIT/Total Interest ExpenseThe Times interest earned is easy to calculate and use.The numerator of the formula has EBIT, which is nothing but operating income before taxes, and this is the income generated purely from business after deducting the expenses that are incurred necessary to run that business. The denominator is the firm's total interest expense of the firm, which is a burden for the firm. When EBIT is divided by total interest expenses, it can be interpreted as how many times the firm is earning to cover its interest obligation.Lets see some simple to advanced practical examples to understand it better.Company XYZ has operating income before taxes of $150,000, and the total interest cost for the firm for the fiscal year was $30,000. You must compute Times Interest Earned Ratio based on the above information.SolutionWe can use the below formula to calculate Times Interest Earned RatioEBIT: 150000 Total Interest Expense: 30000Calculation of Times Interest Earned Ratio can be done using the below formula as,Times Interest Earned Ratio will be -Times Interest Earned Ratio = 5 times.Hence, the times' interest earned ratio is five times for XYZ.DHFL, one of the listed companies, has been losing its market capitalization in recent years as its share price has started deteriorating. From the average price of 620 per share, it has come down to 49 per share market price. The Analyst is trying to understand the reason for the same, and initializing wants to compute the solvency ratios.You are required to compute Times Interest Earned Ratio from March 09 till March 18.SolutionHere we are not given direct operating income, and hence we need to calculate the same per below:We shall add sales and other income and deduct everything else except for interest expenses.Calculation of EBIT for Mar -09Similarly, we can calculate EBIT for the remaining year.Calculation of Times Interest Earned Ratio can be done using the below formula as,Times Interest Earned Ratio will be -Times Interest Earned Ratio = 1.25Similarly, we can calculate for the remaining years.Excel Industries have been facing liquidity crunches, and recently it has received an order for $650 million, but they lack funds to fulfill the order. The Debt to Equity Ratio (DE) is 2.50 already, and it wants to borrow more to fulfill the order. However, the Bank has asked the company to maintain a DE ratio maximum of 3 and Times Interest Earned Ratio at least 2, and at present, it is 2.5. It currently pays $12 million as interest, and if the new borrowing puts up additional pressure of $4 million, would the firm be able to maintain the Bank's condition?You are required to compute Times Interest Earned Ratio post new 100% debt borrowing.SolutionFirst, we need to develop EBIT, which shall be a reverse calculation.Use the following data for calculation of times interest earned ratioTime Interest Earned Ratio: 2.5 Total Interest Expenses: 12000000Calculation of EBIT2.5 = EBIT / 12,000,000EBIT = 12,000,000 x 2.5Calculation of Times Interest Earned Ratio can be done using the below formula as,=30000000/16000000Times Interest Earned Ratio will be -Times Interest Earned Ratio= 1.88Therefore, the firm would be required to reduce the loan amount and raise funds internally as the Bank will not accept the Times Interest Earned Ratio.We note from the above chart that Volvo's Times Interest Earned has been steadily increasing over the years. It is a good situation due to the company's increased capacity to pay the interests.It is necessary to understand the implications of a goodtimes interest earned ratio and what is means for the entity as a whole. For that we need to study the details given below.Analysts should consider a time series of the ratio. A single point ratio may not be an excellent measure as it may include one-time revenue or earnings. Companies with consistent earnings will have a consistent ratio over a while, thus indicating its better position to service debt. However, as per the times interest earned ratioanalysis, smaller companies and startups which do not have consistent earnings will have a variable ratio over time. Thus, lenders do not prefer to give loans to such companies. Hence, these companies have higher equity and raise money from private equity and venture capitalists. The banks and financial lenders often look at various financial ratios to determine the solvency of the Company and whether it will be able to service its debt before taking on more debt. The banks often look at the debt ratio, debt-equity ratio, and Times interest earned ratio. The negative ratio indicates that the Company is in serious financial trouble.There are various ways and means to improve or increase the ratio, which will also mean an increase in the creditworthiness and betterment of financial condition of the company. Some of the strategies adopted in the times interest earned ratioanalysis are as follows:Reducing interest payments This will include various things like keeping a control over borrowing and trying to grow by utilising the resources already existing in the business. This will also include negotiation with lenders to relax the terms of repayment, reduce the interest rate provide longer maturites, which will help in lowering the debt burden. Increase earnings- In order to boost revenue, the company should try to meet the customer demand through better and higher range of product offering, understand the competition and design strategies, increase customer base, improve quality and bring innovation. Cost saving This is important to increase the profitability because even if the sales is high, if the cost is not under control, this will eat away the revenue earned, leaving behind very little amount to repay debt and meet business expenses. Pricing The products should be strategically prices so that it is able to attract customer and meet the market demand in an affordable way. On the other hand, it should also be able to withstand competition and earning revenue at par or more than its competitors. Multiple Revenue streams It is always better to spread a business in different directions of fields from where revenue will flow in and in turn increase the ratio. This will also ensure better management of market fluctuations. Good financial management A robust financial planning, management and forecasting will help in increasing the revenue and profits and meet challenges easily.Although a good measure of solvency, the averagetimes interest earned ratio has its disadvantages. Let us have a look at the flaws and disadvantages of calculating the Times interest earned ratio:Earnings Before Interest and tax used in the numerator is an accounting figure that may not represent enough cash generated by the Company. The ratio could be higher, but this does not indicate the Company has actual cash to pay the interest expense. The amount of interest expense used in the ratio's denominator is again an accounting measurement. It may include a discount or premium on the sale of the bonds and may not include the actual interest expense to be paid. To avoid such issues, it is advisable to use the interest rate on the face of the bonds. The averagetimes interest earned ratio only considers the interest expenses. It does not account for principal payments. The principal payments may be huge and lead the Company to insolvency. Further, the Company may be bankrupt or have to refinance at the higher interest rate and unfavorable terms. Thus, while analyzing the solvency of the Company, other ratios like debt-equity and debt ratio should also be considered.What does a negative times interest earned ratio mean? If a company has a low or negative times interest ratio, it means that debt service might consume a significant portion of its operating expenses. Conversely, if a company's debt payments consistently surpass its revenue, it can prevent defaulting on obligations, such as paying salaries, accounts payable, and income tax. How is the time interest earned ratio used in credit analysis? Lenders use the TIE ratio as part of their credit analysis to assess a company's creditworthiness. A higher TIE ratio generally indicates a lower credit risk, which may result in more favorable lending terms and conditions for the borrower. What does a low times-interest-earned ratio mean? A lower times interest earned ratio indicates that fewer earnings are accessible to fulfill interest payments. To avoid bankruptcy, a company must fulfill these responsibilities. This ratio is a reference for lenders and borrowers in assessing a company's debt capacity. The times interest earned ratio (TIE) measures a companys ability to make interest payments on all debt obligations. This metric is also known as the interest coverage ratio.Times interest earned ratio formulaThe times interest earned formula is EBIT (companys earnings before interest and taxes) divided by total interest expense on debt. Debts may include notes payable, lines of credit, and interest obligations on bonds.TIE helps lenders understand the financial health of a business it is considering lending funds to.How to calculate the times interest earned ratioTo calculate the ratio, locate earnings before interest and taxes (EBIT) in the multi-step income statement, and interest expense. A multi-step income statement provides more detail than a traditional income statement, and includes EBIT.Why is times interest earned important?Businesses can raise capital by issuing equity, debt, or both. If a company raises capital using debt, management must determine if the business can generate sufficient earnings to make all interest payments on debt.Companies may use other financial ratios to assess the ability to make debt repayment.Using the debt service coverage ratioCompanies are obligated to pay both interest and principal on debt. The debt service coverage ratio determines if a company can pay all interest and principal payments (also called debt service). The formula is (net operating income / debt service).Working with the net debt to EBITDA ratioFirms also use the net debt to EBITDA ratio to determine if the business can repay all financial obligations. Note the following:Net debt is defined as short-term debt plus long-term debt less cash and cash equivalents.Cash and cash equivalents include cash, and assets that can be easily converted into cash, such as commercial paper and some other types of marketable securities.EBITDA refers to earnings before interest, taxes, depreciation, and amortization.A companys financial health depends on the total amount of debt, and the current income (earnings) the firm can generate. If the ratio is 3, for example, net debt is three times EBITDA.Reducing net debt and increasing EBITDA improves a companys financial health.Importance of default riskIf any interest or principal payments are not paid on time, the borrower may be in default on the debt. A default impacts your ability to borrow in the future. If the debt is secured by company assets, the borrower may have to give up assets in the event of a default.Fluctuations in the economy can impact default risk. If a business takes on additional debt after an increase in interest rates, the total annual interest expense will be higher. If operating expenses increase, current earnings may decline, and the firms creditworthiness may be affected.Use accounting software to easily perform all of these ratio calculations. Using Excel spreadsheets for calculations is time consuming and increases the risk of error.Times interest earned ratio exampleAssume that East Coast Construction generates $12 million in EBIT during 2022, and that the business pays $3 million in interest expense. TIE is ($12 million EBIT / $3 million interest expense), or 4.In 2023, East Coast takes on more debt to finance a business expansion. However, the company only generates $10 million in EBIT during 2022, and the business pays $4 million in interest expense. TIE is ($10 million / $4 million), or 2.5.What are solvency ratios?Solvency ratios determine a firms ability to meet all long-term obligations, including debt payments. TIE is a solvency ratio.Planning for cash paymentsKeep in mind that earnings must be collected in cash to make interest payments. While the TIE ratio does not account for cash, managers must collect sufficient cash to make interest payments.Cash management ratiosLiquidity ratios analyze current assets and current liabilities, and current liabilities include interest payments due within a year. Working capital is a liquidity metric that is calculated as current assets less current liabilities, and businesses strive to maintain a positive working capital balance.These two liquidity ratios are used to monitor cash collections, and to assess how quickly cash is paid for purchases.Accounts receivable turnover ratio: This ratio measures how quickly a business collects cash from credit sales. The accounts receivable turnover ratio is (net credit sales) / (average accounts receivable). This article explains why the ratio is important.Accounts payable turnover ratio: This ratio measures how quickly a business pays its total supplier purchases. The accounts payable turnover ratio is (net credit purchases) / (average accounts payable). You can read more about the ratio in this article.Company founders must be able to generate earnings and cash inflows to manage interest expenses.How to interpret the times interest earned ratioA high TIE ratio means that the business is generating more than enough earnings to pay all interest expenses. If the TIE ratio decreases, the company may be generating lower earnings or issuing more debt (or both).In the example above, East Coast generated $2 million less in EBIT during 2023 vs. 2022. Interest expense increased by $1 million during the same period. As a result, the TIE declined from 4 in 2022 to 2.5 in 2023.A lender may hesitate to loan to a business with a declining TIE. If earnings are decreasing while interest expense is increasing, it will be more difficult to make all interest payments.Companies that can generate consistent earnings, such as many utility companies, may carry more debt on the balance sheet. Lenders are interested in the number of times a business can increase earnings without taking on more debt, and this situation improves the TIE ratio.Many well-established businesses can produce more than enough earnings to make all interest payments, and these firms can produce a good TIE ratio.What's considered a good times interest earned ratio?Determining if your firms TIE ratio is financially healthy depends on your industry and your capital structure.Capital-intensive businesses require a large amount of capital to operate. Banks, for example, have to build and staff physical bank locations and make large investments in IT. Manufacturers make large investments in machinery, equipment, and other fixed assets.If your firm must raise a large amount of capital, you may use both equity and debt, and debt generates interest expense. Lenders are interested in companies that generate consistent earnings, which is why the TIE ratio is important.This 2020 report from the Federal Reserve reports that the median interest coverage ratio (ICR) for publicly listed nonfinancial corporations is 1.59. As mentioned above, TIE is also referred to as the interest coverage ratio.This source provides the 2021 median ICR ratio for a number of industries, based on publicly traded U.S. companies that submit financial statements to the SEC. To determine a financially healthy ratio for your industry, research industry publications and public financial statements.Companies may use earnings to pay dividends to shareholders, or retain earnings to fund business operations. Ideally, a business should generate enough earnings to pay for interest expenses and to fund other needs. A TIE ratio of 2 or higher is a good starting point.How to improve the times interest earned ratioYou can improve the TIE ratio by using automation, increasing earnings, and lowering costs.1. Use spend management softwareSpend management encompasses organization-wide spending, accounting for invoice (accounts payable) and non-invoice (T&E) spend. Spend management software gives businesses a more comprehensive overview of cash flow and expenses, and Rho fully automates the process for you.2. Increase EBITBusinesses can increase EBIT by reviewing business operations in order to increase profit margins.3. Consider price increasesIf some of your products or services are in high demand, you may be able to increase prices while maintaining the same level of sales.4. Evaluate all costsReview all of the costs you incur, and identify areas where costs can be reduced. Evaluate your suppliers, and consider adding more vendors. If you can purchase a product through multiple suppliers, you can force the suppliers to compete for your business and offer lower prices.Attempt to negotiate better terms on leases and other fixed costs to lower total expenses.5. Create a collection policyCreate and enforce a formal collection process to avoid incurring bad debt expenses, which decrease earnings.Successful businesses have a formal process to follow up on late payments. For example, your firm may email customers when an invoice is 30 days old and call clients if an invoice reaches 45 days old. Non-responsive customers should be sent to collections for more follow-up.6. Reduce interest expensesYou can reduce interest expenses by refinancing existing debts. Another strategy is to use available cash flow to pay down debt faster and eliminate some of your interest expense.When should you use times interest earned?Any business that raises capital by issuing debt should monitor the time interest earned ratio. Managers should review the ratio at least monthly. Before taking on additional debt, consider how the TIE ratio will be impacted.FAQ: Times interest earned ratioHere are some frequently asked questions and answers about the times interest earned ratio:How is the times interest earned ratio calculated?The times interest earned formula is EBIT (earnings before interest and taxes) divided by total interest expense on debts. Debts may include notes payable, lines of credit, and interest expense on bonds.What does the times interest earned ratio measure?The times interest earned ratio measures a companys ability to make interest payments on all debt obligations.Is a higher times interest earned ratio good?Yes. A higher times interest earned ratio means that the business is generating more earnings, or that the business has reduced total interest expense or both.Wrap-Up: All about the times interest earned ratioMonitoring the times interest earned ratio can help you make informed decisions about generating sufficient earnings to make interest payments, and decisions about taking on more debt. Rhos platform is an ideal solution for managing all expenses and payments.Rhos AP automation helps process payables in a single workflow from invoice to payment with integrated accounting, and Rho fully automates expense management.If:End-to-end functionality to manage AP and to forecast cash flowsAbility to invest excess cash in government securities with 2-3 business day liquidity on U.S. TreasuriesA scalable platform that grows as you growAll wrapped up in unbeatable pricing and reliable customer support sounds nice to you,Then, you should consider Rho.Schedule time with a Rho payments expert today!Competitive data was collected as of February 26th, 2024, and is subject to change or update.Rho is a fintech company and not a bank. Banking services provided by Webster Bank, N.A., Member FDIC.Times Interest Earned Formula(Table of Contents) Times interest earned coverage ratio is calculated by dividing the earnings before interest and taxes (operating profit) by the interest expenses. Interest expenses are the total interest payable on the total debt by the company in the balance sheet.The EBIT is reported in the income statement and comes after EBITDA and deducting depreciation. Total interest expense is reported in the companys income statement during quarterly or annual filings. Times Interest Earned Formula: Times Interest Earned =EBIT /Interest Expenses Lets take an example to understand the calculation of the Times Interest Earned formula in a better manner. Example #1Suppose a companys quarterly EBIT is Rs350 crore, and the total interest expense is Rs 50 crore; then calculate the times interest earned ratio.Solution:The calculation for the Times Interest Earned ratio is as below:Times Interest Earned =EBIT /Interest ExpensesTimes Interest Earned = 350 / 50Times Interest Earned = 7A Times interest earned ratio of 7 signifies that the company can generate operating profit, seven times over the total interest liability for the period. Lenders and investors analyzing the company are always looking for a higher ratio, as a lower ratio signifies that the company is facing a liquidity crisis, which can also lead to a solvency crisis.Example #2Below is the snapshot of quarterly results for reliance industries. We can see that the operating profit or EBIT for industries for a quarter is Rs 17341 crore. And the interest expense or finance cost for the period is Rs 4,119 crore.Calculate the times interest earned ratio for the company.Source: RilSolution: The calculation for the Times Interest Earned ratio is as below:Times Interest Earned =EBIT /Interest ExpensesTimes Interest Earned = 17341 /

4119Times Interest Earned = 4.21This signifies that the company can generate operating profit four times the total interest liability for the period.Example #3Below is the snapshot of the quarterly result for Tata Steel. We can see that the operating profit or EBIT for industries for the quarter is Rs 5800 crore. And the net interest expense or finance cost for the period is Rs 1116 crore. Calculate the times interest earned ratio for the company.Source:Tata SteelsSolution: The calculation for the Times Interest Earned ratio is as below:Times Interest Earned =EBIT /Interest ExpensesTimes Interest Earned= 5800 / 1116Times Interest Earned = 5.20This signifies that the company can generate operating profit five times over the total interest liability for the period.Explanation ofTimes Interest Earned FormulaThe times interest earned formula, or interest coverage, is a ratio used to assess how well a companys operating profit covers its interest expenses. Interest expenses represent the companys obligations to repay lenders who have provided funds for business expansion. These expenses primarily arise from long-term debt. This ratio is also called a solvency ratio because it indicates the companys ability to meet its debt obligations. If a company fails to generate sufficient operating profit to cover interest payments, creditors may demand bankruptcy proceedings and the liquidation of assets to repay the debt. Creditors prefer a higher ratio, indicating the company can meet interest payments using income from regular business operations. The ratio expresses how often the operating profit covers the interest cost as an absolute number rather than a percentage.Relevance and UsesThe Times Interest Earned formula is crucial for creditors to assess a companys credit health. It calculates how often a companys operating profit can cover its total interest expenses within a specific timeframe. This ratio, considered a solvency ratio, primarily focuses on the interest accrued from long-term debt. It enables lenders to evaluate whether the company can repay its debt and fulfill interest obligations using regular business operations. Reliance Industries Times Interest Earned ratio is 4, indicating that the company generates operating income four times higher than its interest payments to lenders. Creditors and investors use this ratio to gauge the companys financial strength. A higher ratio is preferable from their perspective, as it signifies a stronger position.Conversely, a lower ratio suggests liquidity challenges and, in certain cases, potential solvency issues for the company. If a company fails to earn sufficient operating income through its regular business activities, it will struggle to meet interest payments, resulting in a liquidity crunch. This may force the company to sell assets or acquire additional debt to service its existing interest obligations, eventually leading to a solvency crisis.Times Interest Earned Formula CalculatorYou can use the following Times Interest Earned Calculator. Times Interest Earned Formula = Recommended ArticlesThis has been a guide to Times Interest Earned formula. Here we discuss How to Calculate Times Interest Earned along with practical examples. We also provide Times Interest Earned Calculator with a downloadable Excel template. You may also look at the following articles to learn more In the world of finance, understanding a companys health goes beyond superficial metrics. Among the myriad financial ratios available, the Times Interest Earned (TIE) Ratio stands out as a pivotal metric for investors and creditors alike.This article delves into what is times interest earned ratio, unraveling its meaning, calculation process, and significance in financial analysis.What is Times Interest Earned Ratio?The Times Interest Earned Ratio, at its core, serves as a barometer for a companys ability to meet its debt obligations. It reflects how many times a company can cover its interest expenses with its earnings before interest and taxes (EBIT).A higher TIE Ratio indicates a companys strong financial standing, showcasing its capability to easily manage its interest payments. Conversely, a lower ratio might signal financial distress, pointing to possible challenges in covering debt-related expenses.How to Calculate the TIE Ratio?Grasping the TIE Ratio requires understanding its calculation. The formula is straightforward: TIE Ratio = EBIT / Interest Expenses. Here, EBIT represents earnings before interest and taxes, essentially the companys operating profit. Interest expenses denote the cost incurred from outstanding debts. To illustrate, if a companys EBIT is $500,000 and its interest expenses are $125,000, the TIE Ratio would be 4. This means the company can cover its interest expenses 4 times over with its earnings. Interpreting the Times Interest Earned RatioInterpretation of the TIE Ratio can vary, but general guidelines assist in understanding its implications.A high TIE Ratio is usually a positive sign. It suggests that a company generates sufficient earnings to comfortably handle its interest payments, often seen as financially stable and less risky.On the other hand, a low TIE Ratio raises red flags. It indicates a companys earnings might not suffice to cover interest expenses, hinting at potential financial struggles or even bankruptcy.The Importance of TIE Ratio in Financial AnalysisThe TIE Ratios true value shines in its application within financial analysis. Investors leverage this metric to gauge a companys risk level before making investment decisions.A robust TIE Ratio convinces investors of a companys financial health, potentially leading to more substantial investments.Creditors, too, rely on this ratio. It helps them assess the risk of lending to businesses. A high TIE Ratio suggests a low risk of default, making a company an attractive lending prospect.Limitations of the Times Interest Earned RatioWhile the TIE Ratio provides crucial insights, it is not without its limitations. It focuses solely on a companys ability to pay interest, neglecting other financial obligations such as principal repayments or operational expenses.Moreover, the ratio does not factor in cash flow, which can be a critical element in assessing a companys financial health. Critics of the TIE Ratio recommend using it in conjunction with other metrics for a more rounded analysis.Case StudyConsider Tech Innovations Corp., a company famed for its cutting-edge tech products. Their EBIT stood at $1 million, with interest expenses at $200,000, resulting in a TIE Ratio of 5. This high ratio played a pivotal role in attracting investors, bolstering the companys capital for future projects.It also secured favorable loan terms from creditors, further enhancing its growth trajectory. This real-world example underscores the TIE Ratios utility in shaping financial decisions and investment outcomes.Frequently Asked QuestionsHow often should the TIE Ratio be calculated for accurate financial analysis?The TIE Ratio should be evaluated periodically, typically on an annual basis, to track a companys financial stability and debt management ability over time. However, significant financial events may warrant more frequent calculations.Can the TIE Ratio predict financial distress or bankruptcy accurately?While a low TIE Ratio can indicate potential financial distress, it should not be used as a sole predictor of bankruptcy. A comprehensive analysis, including other financial ratios and metrics, is necessary for accurate predictions.How does the TIE Ratio vary across different industries?The ideal TIE Ratio can significantly vary by industry due to differences in operating margins and capital structures. High-capital industries may have lower typical TIE Ratios compared to service-based sectors.Is there a direct correlation between the TIE Ratio and a companys stock performance?Theres no direct correlation, as the stock market is influenced by numerous factors beyond a companys TIE Ratio. However, a healthy TIE Ratio may contribute to investor confidence, potentially impacting stock performance indirectly.ConclusionThe Times Interest Earned Ratio, a testament to the intricacies of financial analysis, offers a lens through which investors and creditors can assess a companys capability to manage its debts. By evaluating a companys TIE Ratio, stakeholders gain insights into its financial stability and risk level.However, its crucial to consider this ratio as part of a broader analysis, acknowledging its limitations and complementing it with other financial metrics. The TIE Ratio, when employed effectively, becomes an invaluable tool in the financial decision-making arsenal, guiding towards informed and strategic investment choices.

What does times interest earned show. What does the times interest earned ratio tell us. What is times interest earned. Times intrest earned meaning. What does times interest earned indicate.