



## A STUDY ON LONG-TERM FINANCIAL POSITION OF MOSCHIP TECHNOLOGIES LTD

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### **Abstract**

*This study aims to evaluate the long-term financial position of MosChip Technologies Limited by analyzing its financial ratios over an extended period. Long-term financial position ratios, such as the debt-to-equity ratio, total debt to total capital, and interest coverage ratio, provide critical insights into the company's capacity to meet long-term financial obligations, maintain a balanced capital structure, and ensure operational sustainability. By examining the financial performance of MosChip Technologies, this research seeks to assess the company's stability, identify trends in its debt management practices, and analyze its ability to generate sufficient earnings to cover its financial commitments. The analysis draws from data over multiple years, providing a comprehensive view of the company's long-term financial health. The findings will help determine whether MosChip has maintained an optimal balance between debt and equity while managing financial risks effectively, providing recommendations for future strategies to improve its financial sustainability.*

### **1. Objectives of the Study**

1. To analyze the long-term financial stability of MosChip Technologies Limited by evaluating key financial ratios such as the debt-to-equity ratio, total debt to total capital, and interest coverage ratio over the past decade.
2. To assess the capital structure of MosChip Technologies Limited, focusing on the company's ability to manage and balance its debt and equity to ensure long-term sustainability.
3. To evaluate the effectiveness of MosChip's debt management practices, including its ability to meet interest obligations and manage long-term debt levels in a fluctuating market environment.
4. To identify trends and changes in the financial performance of MosChip Technologies Limited over the years, with a focus on long-term financial health indicators such as earnings stability, cash flow generation, and risk management.
5. To provide recommendations for improving the long-term financial performance of MosChip Technologies Limited, focusing on strategies for optimizing debt management, enhancing capital structure, and ensuring financial sustainability.

### **2. Scope of the Study**

The scope of the study is designed to assess the company's ability to manage its financial obligations over an extended period, with a focus on understanding its capital structure, debt management, and overall financial sustainability. This study encompasses the following key areas:

1. Time Frame: The analysis will cover a period from 2020 to 2024, providing insights into MosChip Technologies Limited's long-term financial trends and changes over the last decade.



2. **Financial Ratios:** The study will utilize critical financial ratios to assess the company's long-term financial position. These include debt-to-equity ratio, total debt-to-capital ratio, interest coverage ratio, and long-term debt-to-total capital ratio, among others.
3. **Debt Management:** The study will explore how effectively MosChip Technologies Limited manages its long-term debt obligations, including its ability to meet interest payments and maintain an optimal balance between debt and equity.
4. **Risk and Stability Assessment:** The study will evaluate the financial risks MosChip faces due to its capital structure and debt levels and assess the stability of its financial position over the long term.
5. **Recommendations for Improvement:** Based on the findings, the study will provide recommendations for improving MosChip's long-term financial health, focusing on debt management strategies, optimizing the capital structure, and improving financial stability.

This study aims to provide a comprehensive understanding of MosChip Technologies Limited's financial standing and offer actionable insights to enhance its long-term sustainability.

### 3. Research Methodology

This study is empirical because it seeks to gain a deeper understanding of key aspects of the problem and how they relate to the study's objectives. The researcher plans to use facts and information from various secondary data sources for a thorough evaluation. From this perspective, the study also be analytical.

This empirical study aims to achieve its objectives through a comprehensive research methodology that blends quantitative approach. To begin, an extensive review of the software industry in Hyderabad will be conducted to provide an insightful overview of its historical development, key players, regulatory environment, and growth trends.

### 4. Sources of Data

This Study is based on both

- Primary Data
- Secondary Data

#### 4.1 Primary Data:

Firsthand information was gathered from finance department experts regarding their actions and observations related to collections.

#### 4.2 Secondary Data

Company annual reports

Company website ([www.moschip.com](http://www.moschip.com))

### 5 Limitations of the study

**Limited Sample Size:** The study may involve a relatively small sample of select software companies due to constraints such as data availability and access. This could affect the generalizability of the findings to the entire Indian software industry.



**Data Quality and Availability:** The accuracy and completeness of financial data, as well as the availability of data for privately held companies, may pose limitations. Data quality issues or gaps could impact the precision of the financial analysis.

**Timeframe Constraints:** The study's chosen timeframe for analysis may not capture long-term trends or cyclicalities in the software industry. This limitation could affect the interpretation of financial performance changes.

**External Factors:** The study may not comprehensively account for all external factors that influence financial performance, such as sudden regulatory changes, geopolitical events, or unexpected market disruptions.

## 6. About MosChip Technologies Limited (BSE:532407)

MosChip Technologies Limited, based in Hyderabad, is a leading software solutions provider with a strong focus on semiconductor and Internet of Things (IoT) technologies. Founded in 1999, the company delivers a wide range of software-driven design services, specializing in areas such as VLSI design, embedded systems, and hardware-software integration. MosChip caters to industries like automotive, aerospace, medical devices, and consumer electronics, offering end-to-end software solutions for product development. With its emphasis on innovation and advanced software technologies, MosChip continues to strengthen its position in the software industry, addressing the growing demand for IoT and semiconductor-based applications.

## 7. Review of Literature

The review of literature on financial performance and long-term financial position highlights the critical importance of financial ratios in assessing a company's sustainability and ability to meet obligations. Researchers such as Alfani and Zakaria (2013) emphasize the role of financial performance metrics, particularly long-term debt ratios and capital structure analysis, in understanding the financial health of companies. Studies like those of Bhunia, Mukhuti, and Roy (2011) further underscore the significance of liquidity and solvency ratios, which provide a comprehensive picture of how well companies manage their resources and liabilities over extended periods. The analysis of such metrics offers valuable insights into a company's ability to remain financially stable amidst changing economic conditions.

In the software industry, long-term financial analysis has gained attention due to the sector's reliance on consistent cash flow, innovation, and capital investments. Companies such as MosChip Technologies, which operate in the software-driven technology space, are particularly vulnerable to fluctuations in market conditions and capital requirements. Previous studies on the financial performance of technology firms have explored how effective capital management, debt control, and profitability influence a firm's sustainability. The review also reveals that the successful management of long-term financial obligations is crucial for maintaining competitiveness, especially for companies focused on rapid innovation and expansion in fast-evolving markets like software and IoT solutions.

## 8. Comprehensive Analyses of Data

In this section, we will perform a detailed analysis of Cyient Limited's long-term financial position by examining key financial ratios that reflect the company's capital structure and ability to manage debt. The metrics analyzed include Long-Term Debt to Total Capital, Long-Term Debt to Equity, Total Debt to Total Capital, Total Debt to Equity, and Operating Income (EBIT) to Interest Expense. These ratios



will provide insights into the company's leverage, solvency, and overall financial stability, helping to evaluate its capacity to meet long-term obligations and sustain growth while effectively managing its debt levels. Through this analysis, we aim to identify trends and patterns that will inform our understanding of Cyient's long-term financial health.

### 8.1 Long-Term Debt / Total Capital

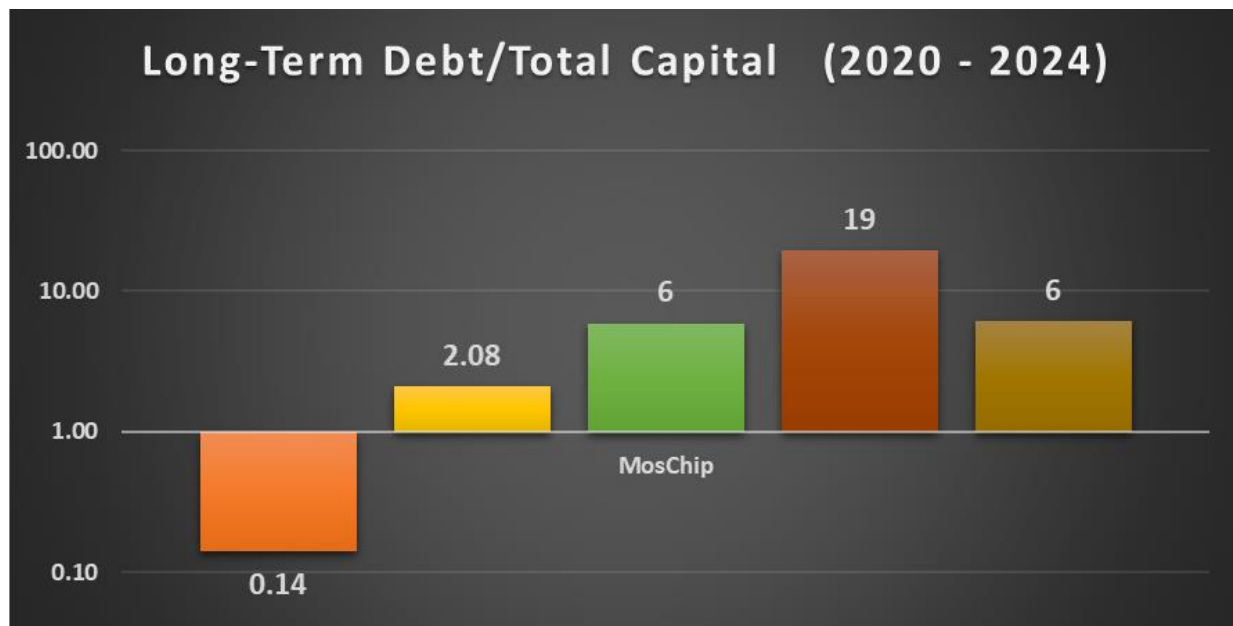
The Long-Term Debt to Total Capital ratio is calculated by dividing a company's long-term debt by its total capital, which includes both equity and debt. Long-term debt typically refers to debt obligations with a maturity period exceeding one year, such as bonds or long-term loans. Total capital represents the sum of a company's long-term debt and shareholder equity.

#### Formula

$$\text{Long-Term Debt to Total Capital Ratio} = \text{Long-Term Debt} / \text{Total Capital}$$

**Table No 9.1 - Long-Term Debt / Total Capital**

Year	MosChip
2020	0.14
2021	2.08
2022	6
2023	19
2024	6
Mean	6.73
SD	7.55
CAGR	46%
CV %	112%



The analysis of MosChip's Long-Term Debt to Total Capital ratio from 2020 to 2024 shows substantial changes in the company's financial structure. In 2020, the ratio stood at 0.14, indicating



minimal reliance on long-term debt, which reflects a conservative financial strategy or a preference for equity financing. However, this changed dramatically in 2021 when the ratio rose to 2.08, suggesting a more aggressive approach to financing.

The trend of increasing debt continued in 2022, with the ratio climbing to 6 and peaking at 19 in 2023. This significant rise indicates that MosChip may have taken on considerable debt to fund expansion or new projects, amplifying the impact of long-term debt on its capital structure. While higher debt can enhance returns on equity if investments perform well, it also elevates financial risk, as the company must meet its obligations regardless of its performance.

In 2024, the ratio decreased to 6, a significant reduction from the peak in 2023, indicating that MosChip may have paid down some debt or raised additional equity. Despite this decline, the average ratio over the five years remains elevated at 6.73, highlighting the company's increased dependence on long-term debt compared to earlier periods.

The standard deviation of 7.55 and a coefficient of variation (CV) of 112% reveal considerable volatility in the long-term debt to total capital ratio, suggesting inconsistent financial practices. Such fluctuations could be attributed to varying market conditions, strategic decisions, or external pressures impacting MosChip's capital structure.

With a compound annual growth rate (CAGR) of 46%, the data reflects a rapid increase in long-term debt relative to capital over the analysis period. While this growth may signify strategic investments, it necessitates careful debt management to avoid excessive leverage, which could strain cash flow and limit future borrowing capacity. Overall, MosChip must closely monitor its borrowing strategies to ensure financial stability while pursuing growth objectives.

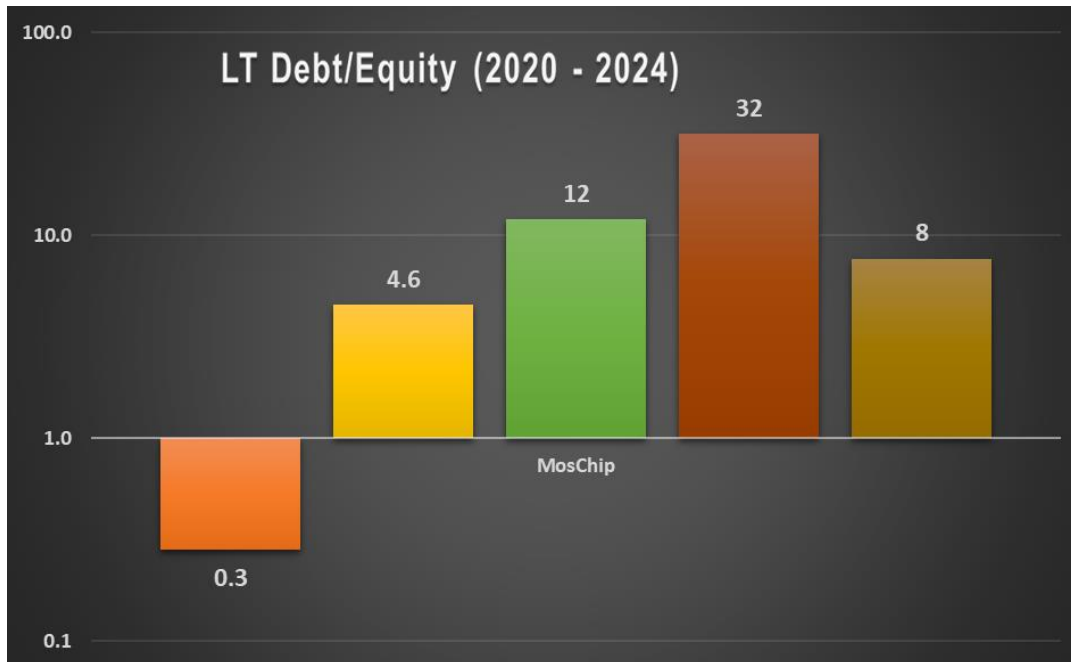
### 8.2 LT Debt/Equity

The Long-Term Debt to Equity ratio is a financial measure that compares a company's long-term debt to its shareholders' equity. It helps assess the extent to which a company's operations are financed by long-term debt relative to equity.

Formula: Long-term debt / Equity

**Table No 9.2 - Long-Term Debt / Equity**

Year	MosChip
2020	0.3
2021	4.6
2022	12
2023	32
2024	8
Mean	11.26
SD	12.26
CAGR	39%
CV %	109%



The analysis of MosChip's Long-Term Debt to Equity ratio from 2020 to 2024 reveals significant changes in the company's capital structure, indicating a trend toward increased leverage. In 2020, the ratio was 0.3, reflecting a conservative financial strategy with minimal reliance on long-term debt. This approach provided a strong equity base, enabling the company to navigate challenges without excessive financial strain.

In 2021, the Long-Term Debt to Equity ratio surged to 4.6, marking a pivotal shift in MosChip's financing strategy. This increase suggests a greater reliance on debt to fuel operations or investments, highlighting a more aggressive approach to growth. While this can enhance potential returns, it also introduces increased financial risk, indicating the company's confidence in future cash flows to service the debt.

The upward trend continued into 2022, with the ratio escalating to 12. This substantial rise implies that MosChip was leveraging significant amounts of debt for expansion. Such high leverage can amplify returns but raises concerns about the company's ability to meet financial obligations during adverse conditions. The situation became increasingly precarious as the ratio reached 32 in 2023, reflecting an extremely high level of financial leverage.

In 2024, the ratio fell to 8, suggesting a strategy to manage debt levels more effectively. While this decrease indicates some effort to strengthen the equity base, it still reflects a high reliance on long-term debt relative to equity. The mean ratio of 11.26 highlights a trend toward increased financial leverage, while the standard deviation of 12.26 points to substantial volatility in MosChip's capital structure.

Overall, MosChip's Long-Term Debt to Equity ratio has shifted dramatically from a conservative stance in 2020 to a highly leveraged position by 2023. This rapid increase in leverage raises questions about financial risk management and the sustainability of the company's growth strategy. Moving



forward, it will be crucial for MosChip to balance leveraging for growth with manageable debt levels to safeguard its long-term financial health.

### 8.3 Total Debt / Total Capital

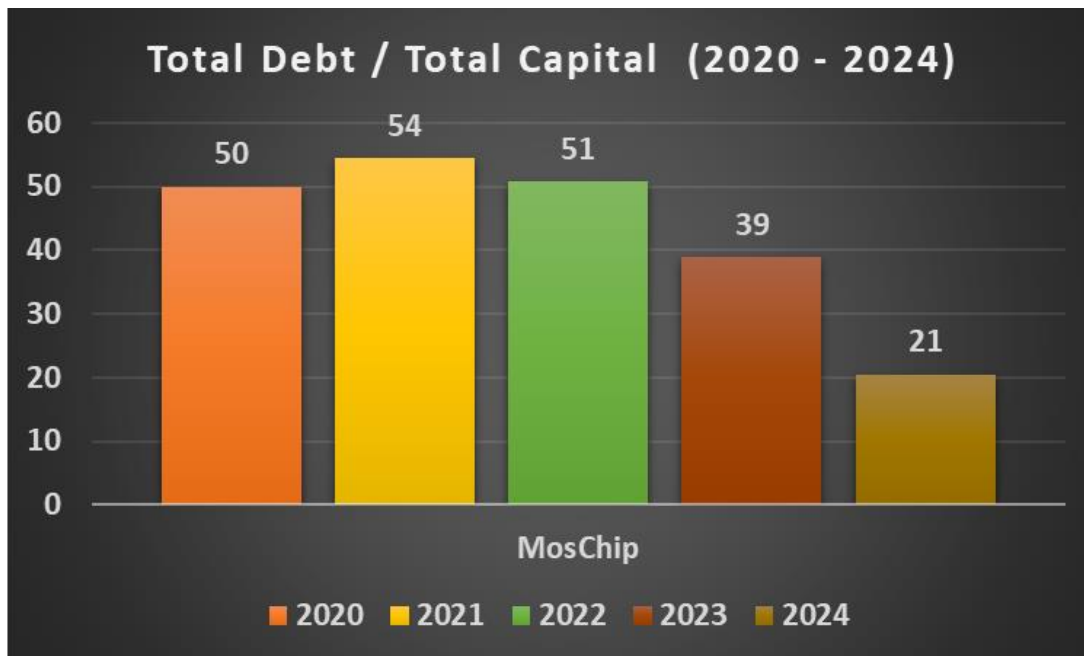
The Total Debt to Total Capital ratio, often simply called the Debt-to-Capital ratio, is a financial metric used to evaluate a company's financial structure and risk. It's calculated by dividing the total debt of a company by its total capital, which includes both debt and equity.

Formula:

$$\text{Total Debt to Total Capital} = \text{Total debt} / \text{Total capital}$$

**Table No 9.3 - Total Debt / Total Capital**

Year	MosChip
2020	50
2021	54
2022	51
2023	39
2024	21
Mean	42.93
SD	13.82
CAGR	-9%
CV %	32%



The analysis of MosChip's Total Debt to Total Capital ratio from 2020 to 2024 reveals a notable trend in the company's capital structure. In 2020, the ratio was at a high of 50, indicating a substantial reliance on debt as part of the overall capital. This suggests that MosChip was leveraging a significant amount of debt to finance its operations, which can be indicative of a growth strategy but also raises concerns regarding financial risk.



The following years showed a gradual decline in the ratio, with values of 54 in 2021, 51 in 2022, and dropping to 39 in 2023. This downward trend reflects a strategic move towards reducing debt levels in relation to total capital, which can enhance the company’s financial stability and reduce its risk profile. The decrease in the ratio may also suggest that MosChip was focusing on improving its equity position or reducing outstanding debts, thereby strengthening its balance sheet.

By 2024, the ratio fell to 21, indicating a significant reduction in the company's reliance on debt financing. This sharp decline could signal a successful debt repayment strategy or an increase in equity capital, leading to a healthier capital structure. The average ratio over the five-year period stands at 42.93, highlighting a transition towards a more conservative approach to debt management compared to the initial years of the analysis.

The standard deviation of 13.82 indicates moderate volatility in the Total Debt to Total Capital ratio, suggesting that while there were fluctuations, the company has generally managed to stabilize its debt levels over the period. The coefficient of variation (CV) of 32% further supports this observation, demonstrating that while the ratio has varied, it has remained relatively consistent compared to other companies with higher CVs.

The compound annual growth rate (CAGR) of -9% illustrates the overall reduction in the company's debt relative to its total capital. This negative growth rate signifies a deliberate effort to de-leverage and improve financial health. Overall, MosChip's trend towards a lower Total Debt to Total Capital ratio reflects a strategic focus on risk management and sustainable growth, positioning the company for long-term stability.

#### 8.4 Total Debt/Equity

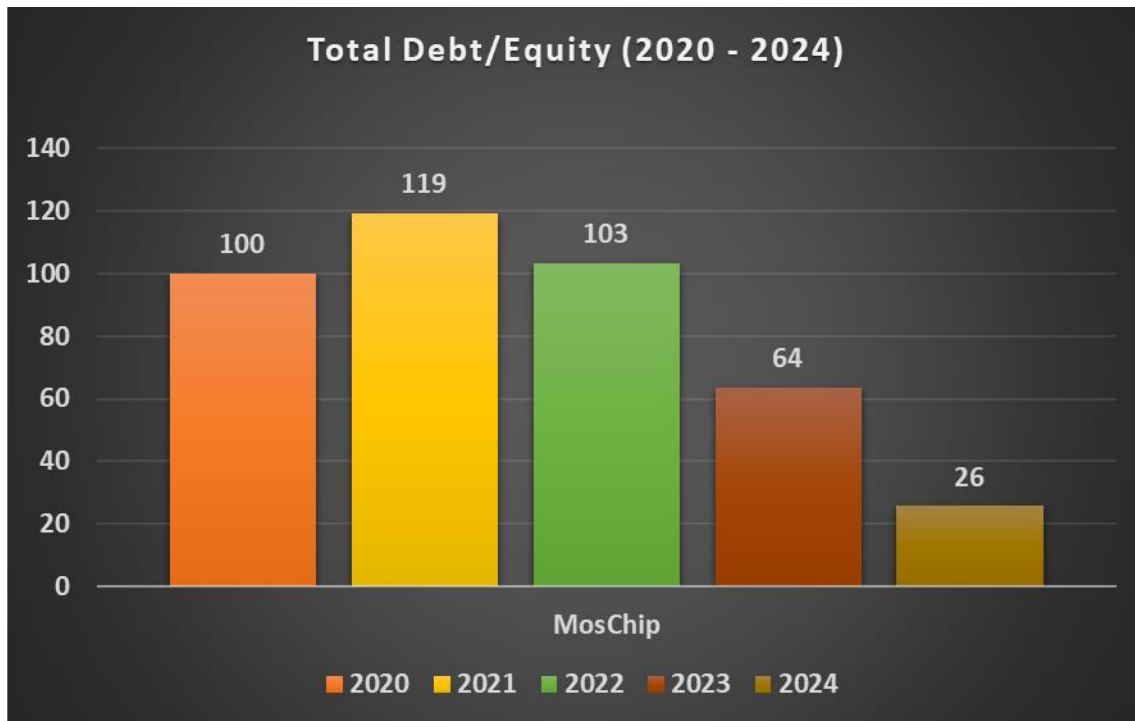
The Total Debt to Equity ratio, also known as the Debt-to-Equity ratio, is a financial metric used to assess a company's financial leverage. It's calculated by dividing a company's total debt by its total equity.

Formula : Total Debt / Total Equity

**Table No 9.4 - Total Debt / Total Equity**

Year	MosChip
2020	100
2021	119
2022	103
2023	64
2024	26
Mean	82.45
SD	37.66
CAGR	-13%
CV %	46%





The analysis of MosChip's Total Debt to Total Equity ratio from 2020 to 2024 highlights a significant shift in the company's capital structure. In 2020, the ratio stood at 100, indicating that the company had an equal amount of debt and equity financing. This level of leverage suggests a reliance on debt to support operations, which may reflect a growth-oriented strategy or an approach to capitalize on market opportunities.

In the subsequent years, the ratio showed fluctuations, with values of 119 in 2021 and 103 in 2022, indicating a slight increase in debt relative to equity. However, this upward trend was followed by a notable decline, with the ratio dropping to 64 in 2023 and further to 26 in 2024. This substantial reduction indicates a strategic move towards decreasing leverage and improving the company's equity position, thereby enhancing financial stability.

The average ratio over the five-year period is 82.45, suggesting that while MosChip has historically maintained a balanced approach to debt and equity, recent years have seen a conscious effort to shift towards a more equity-driven capital structure. The significant drop in the ratio by 2024 reflects a successful strategy to reduce debt levels and strengthen the company's financial foundation.

With a standard deviation of 37.66, the Total Debt to Total Equity ratio demonstrates considerable volatility over the period, indicating that MosChip's financial leverage has fluctuated significantly. The coefficient of variation (CV) of 46% supports this observation, showing a moderate level of variation that suggests changing financial strategies and market conditions impacting the company's capital structure.

The compound annual growth rate (CAGR) of -13% underscores the overall decline in the debt-to-equity ratio, highlighting the company's proactive steps to manage its debt load. This reduction in leverage positions MosChip for greater financial resilience and flexibility in future endeavors. Overall,



the data indicates a deliberate shift towards a more conservative capital structure, enhancing the company's long-term financial health and stability.

### 8.5 Operating Income (EBIT) / Interest Expense

The Interest Coverage Ratio is a financial metric used to assess a company's ability to meet its interest obligations on outstanding debt. It measures the extent to which a company's earnings before interest and taxes (EBIT) can cover its interest expenses. In other words, it indicates how easily a company can pay the interest on its debt using its operating profits.

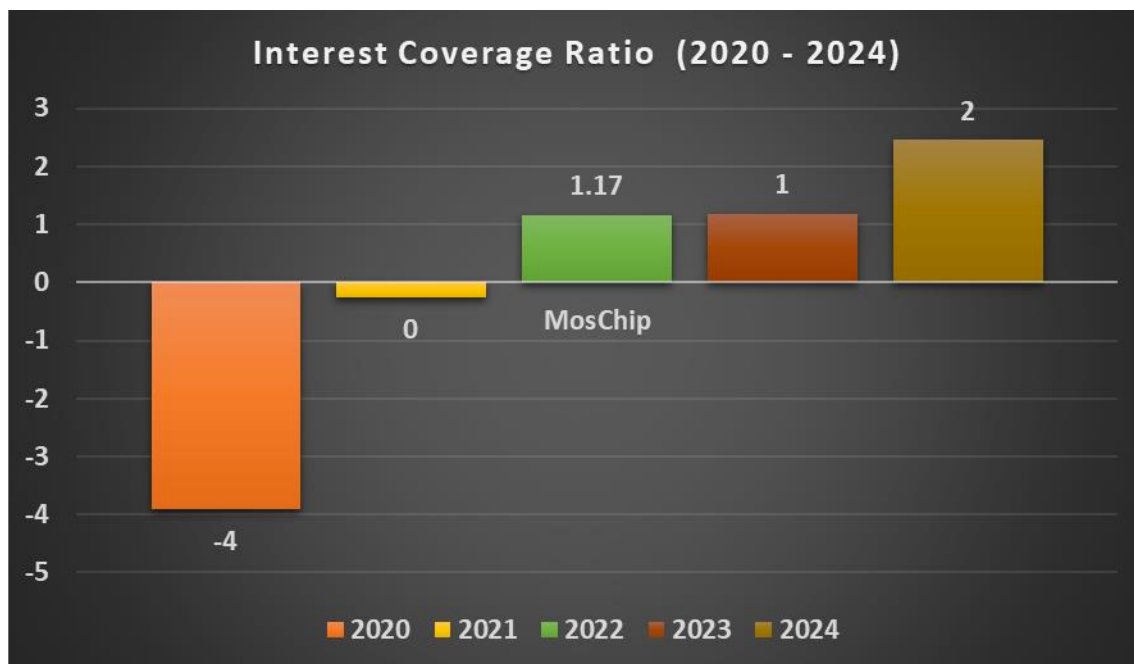
The formula for calculating the Interest Coverage Ratio is:

$$\text{Interest Coverage Ratio} = \text{EBIT} / \text{Interest Expense}$$

**Table NO 9.5 - EBIT / Interest Expense**

Year	MosChip
2020	-4
2021	-0.27
2022	1.17
2023	1
2024	2
Mean	0.13
SD	2.45
CAGR	# #
CV %	1925%

CV = Coefficient of variation ; SD= Standard Deviation; CAGR= Compound Annual Growth  
 # # means calculation not possible due to value is negative/not available at base year





The analysis of MosChip's Operating Income (EBIT) to Interest Expense ratio from 2020 to 2024 reveals significant fluctuations in the company's ability to cover its interest obligations. In 2020, the ratio was -4, indicating that the company's operating income was not only insufficient to cover interest expenses but also resulted in a negative value. This scenario suggests that MosChip faced considerable challenges in generating enough operating income to meet its financial obligations during this period, raising concerns about its financial stability.

The following year, 2021, saw the ratio drop to -0.27, indicating that the company was still unable to cover its interest expenses. This persistent inability to generate positive EBIT raises questions about the effectiveness of the company's operational strategies and overall financial health. The lack of operating income relative to interest expenses may have heightened the company's financial risk, limiting its ability to invest in growth or manage cash flow effectively.

In 2022, the ratio improved to 1.17, indicating that MosChip began generating enough operating income to cover its interest expenses. This positive change reflects a potential turnaround in the company's operational performance, possibly due to increased revenues or improved cost management strategies. However, the ratio decreased slightly to 1 in 2023, suggesting that the company's ability to meet its interest obligations remained marginal and vulnerable to fluctuations in operating income.

By 2024, the ratio increased to 2, demonstrating a more robust capacity to cover interest expenses with operating income. This significant improvement indicates that MosChip has made strides in enhancing its operational efficiency and profitability, providing a more comfortable cushion for managing interest payments. However, the average ratio over the five years is only 0.13, highlighting the overall precariousness of the company's financial position during this period.

The standard deviation of 2.45 and the coefficient of variation (CV) of 1925% point to extreme volatility in the company's ability to cover interest expenses. This high degree of variation suggests that MosChip's operational performance has been inconsistent, possibly influenced by market conditions, strategic decisions, or external factors. The dramatic swings in the ratio emphasize the need for the company to focus on stabilizing its operating income to ensure financial sustainability and reduce reliance on debt financing in the future.

## Findings

1. **Long-Term Debt to Total Capital Ratio:** MosChip's long-term debt to total capital ratio exhibited a dramatic increase from 0.14 in 2020 to a peak of 19 in 2023, indicating a significant reliance on long-term debt during this period. The average ratio over five years stands at 6.73, reflecting a trend toward higher financial leverage. However, there was a notable decrease to 6 in 2024, suggesting some level of debt reduction or capital restructuring.
2. **Total Debt to Total Capital Ratio:** The total debt to total capital ratio showed a decline from 50 in 2020 to 21 in 2024, with an average of 42.93. This downward trend indicates a reduction in the overall debt load relative to capital, suggesting improved financial stability. The negative CAGR of -9% reinforces the idea of decreasing reliance on debt financing.
3. **Total Debt to Total Equity Ratio:** The total debt to total equity ratio decreased from 100 in 2020 to 26 in 2024, with an average of 82.45. This decline illustrates a significant improvement in equity financing relative to total debt, indicating a more balanced capital structure over the



period. The negative CAGR of -13% further emphasizes a move towards reduced financial leverage.

4. **Operating Income (EBIT) to Interest Expense Ratio:** This ratio showed extreme volatility, starting at -4 in 2020, indicating MosChip's inability to cover interest expenses. It improved to 2 by 2024, suggesting an enhancement in operating efficiency and profitability. However, the mean of 0.13 highlights that, on average, the company has struggled to consistently generate enough operating income to meet its interest obligations.
5. **Volatility Metrics:** The standard deviation and coefficients of variation across these ratios indicate significant fluctuations in MosChip's financial metrics, particularly in its ability to cover interest expenses (CV of 1925%) and reliance on debt. This volatility suggests that the company's financial management has faced considerable challenges over the observed period.

### **Suggestions**

1. **Debt Management Strategy:** MosChip should implement a comprehensive debt management strategy to optimize its capital structure. This includes evaluating the need for long-term borrowing and exploring alternatives like equity financing to maintain a balanced ratio of debt to capital.
2. **Focus on Profitability:** Enhancing operational efficiency should be a priority to improve the operating income relative to interest expenses. The company may consider cost-cutting measures, streamlining operations, or investing in more profitable projects to boost EBIT.
3. **Financial Risk Assessment:** Conduct regular financial risk assessments to monitor the impact of rising debt levels on cash flow and overall financial health. This will help in anticipating challenges and adjusting strategies accordingly to mitigate risks.
4. **Strategic Investment Planning:** MosChip should engage in careful investment planning to ensure that any new projects financed by debt are likely to generate returns exceeding the cost of capital. This will help to maintain financial stability and manage interest expenses effectively.
5. **Regular Performance Reviews:** Establish a system of regular performance reviews and financial reporting to track key ratios closely. This will allow for timely adjustments to financial strategies based on real-time data and market conditions.

### **Conclusions**

The analysis of MosChip's financial ratios from 2020 to 2024 reveals a period of significant financial restructuring characterized by fluctuating reliance on debt and varying levels of operating income. While the long-term debt and total debt ratios indicate a trend toward increased financial leverage, the downward trajectory in total debt relative to capital signals improvements in financial stability. However, the operating income to interest expense ratio indicates that the company has struggled to consistently generate sufficient income to cover its financial obligations, highlighting a critical area for improvement.



The high volatility in the financial metrics suggests that MosChip's management must prioritize stabilizing its operational performance and enhancing profitability. By implementing effective debt management and strategic investment planning, the company can improve its financial structure while ensuring the ability to meet interest obligations. Ultimately, with a focused approach on operational efficiency and prudent financial management, MosChip can navigate its path toward sustainable growth and financial stability.

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### Websites

1. [www.moschip.com](http://www.moschip.com)
2. <https://www.sebi.gov.in>