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The Effect of Financial Leverage on Risk and Return with Special Reference to a Steel Industry at Puducherry

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ABSTRACT:

The study investigates the effect of financial leverage on risk and return in the context of a manufacturing company operating in the steel industry at Puducherry. Financial leverage, characterized using debt financing to supplement equity capital, is examined in relation to its impact on the company's risk exposure and return on investment. The research employs a mixed-method approach, combining quantitative analysis of financial data with qualitative insights from managerial perspectives. Key variables such as debt-to-equity ratios, interest coverage ratios, and profitability metrics are analyzed to assess the relationship between financial leverage, risk, and return. Additionally, interviews and surveys with company executives provide valuable insights into the decision-making processes related to capital structure management and risk mitigation strategies. The findings of this study aim to contribute to a deeper understanding of the complexities surrounding financial leverage decisions and their implications for organizational performance and stability in the steel manufacturing industry.

INTRODUCTION:

Financial Leverage

Financial leverage results from using borrowed capital as a funding source when investing to expand the firm's asset base and generate returns on risk capital. Leverage is an investment strategy of using borrowed money—specifically, the use of various financial instruments or borrowed capital—to increase the potential return of an investment. Leverage can also refer to the amount of debt a firm uses to finance assets.

DEFENITION OF FINANCIAL LEVRAGE:

Financial leverage, also called leverage or trading on equity, is a practice where individuals or businesses use loans to acquire additional assets or fund projects. After completing the project or getting the asset, the borrow pays back the principal amount and interest on the loans.

REVIEW OF LITERATURE:

1. **David Yechiam Aharon, Yossi Yagil:**

International Journal of Financial Studies 7 (1), 14, 2019

This paper investigates the direct theoretical relationship between the variance of stock returns (02E) and financial leverage (L) considering both corporate and personal taxes. Using a dataset of U.S. industrial firms, we examine the variance of stock returns as a function of the firm's financial leverage. We demonstrate that (1) the variance of stock returns is positively related to the firm's financial leverage, (2) the relationship between the variance of stock returns and financial leverage is positive when corporate and personal taxes are also considered, and (3) with regard to the relationship between the variance of stock returns and financial leverage, using market measures of the latter tends to generate a higher coefficient of determination and a more accurate approximation of the theoretical relationship between financial leverage and the variance of stock returns.

2. **MacKay and Phillips (2020):** They explored how industry affects financial structure and why financial structure varies across firms within the manufacturing industry in the USA. The findings suggest that industry factors affect individual firm decisions and financial characteristic in industries. The firm's position in the industry affects to determine the financial structure. Financial leverage depends on several factors such as the action of other firms in the industry; and its status as entrant, incumbent or exiting firms in competitive industries. It is important that financial structure, technology and risk should be determined together in industries.

3. **Werner and Jones (2021):** DER shows a proportional relationship between debt and equity. A lower DER means that total debt is relatively lower compared to total equity. The DER of a company is evaluated from a few perspectives, namely (1) the DER of comparable companies,
(2) At which business stage the company is in (new companies tend to have more debt), (3) Company's policy that considers the optimum level of debt financing. According to Bhandari (1988), a natural proxy for the risk of common equity of a firm is that firm's (DER). An increase in the DER of a firm increases the risk of its common equity, measuring risk in any reasonable way.

4. **Suleiman Daood Aloshaibat:**

International Journal of Economics and Financial Issues 11 (2), 47, 2021

This paper aimed to demonstrate the effect of financial leverage measured through the liability- to-equity ratio on financial performance measured by the return on equity and the return on assets (ROA) in Jordanian public shareholding financial companies listed on the Amman stock Market. To achieve the objectives of the study, the descriptive analytical approach and simple regression analysis were used. A total of 25 companies were selected as for the study sample. The study concluded that financial leverage affects the financial performance measured through the return on property rights in Jordanian public shareholding companies (ROE) and financial leverage does not affect financial performance measured through ROA. The study recommended that financial departments in financial institutions should identify factors that influence ROA that serve the company and work to achieve the optimal exploitation. For assets that generate additional profits to maximise the wealth of owners.

5. **Ross, Westerfield and Randolph (2023):** DER is a proxy for estimating the level of leverage of a company. A company with high DER may provide higher returns to its shareholders, in line with the risk that is faced by the company compared to other companies with lower DER. Debt to Equity = Total Debt/ Total Equity

OBJECTIVES OF THE STUDY:

- To estimate the level of financial leverage of the company.
- To show a proportional relationship between debt and equity.
- To investigate the effect on firm profitability and value.
- To examine the effect of leverage changes on stock return.

RESEARCH METHODOLOGY:

Research methodology is a way of explaining how a researcher intends to carry out their research. It's a logical, systematic plan to resolve a research problem. A methodology details a researcher's approach to the research to ensure reliable, valid result that address their aim and objectives. It encompasses what data they're going to collect and where from, as well as how it's being collected and analysed.

Research methodology is the specific procedures or techniques used to identify, select, process, and analysed information about the topic. In research paper; The methodology section allows the reader to critically evaluate a study's overall validity and reliability.

TYPES OF RESEARCH: DESCRIPTIVE RESEARCH

TYPES OF DATA USED FOR ANALYSIS: SECONDARY DATA
DATA COLLECTION PERIOD: FROM 2020 TO 2022

DETAIL OF DATA COLLECTED:

BALANCE SHEET

STATEMENT OF PROFIT AND LOSS

RESEARCH TOOLS USED (OBJECTIVE WISE):

OBJECTIVE	**RATIOS ANALYSIS**
i	Equity multiplier ratio Debt to capital ratio
ii	Debt ratio Equity ratio Debt to Equity ratio
iii	Return on asset ratio EBIT Margin
iv	Financial leverage index ratio Return on equity ratio. DuPont analysis

1. **Equity Multiplier:**

   =TOTAL ASSETS/TOTAL STOCKHOLDERS

   - This ratio measures the proportion of a company's assets financed by equity compared to debt. A higher equity multiplier indicates higher financial leverage.

2. **Debt-to-Capital Ratio:**

   = TOTAL DEBT /TOTAL CAPITAL

   - This ratio measures the percentage of a company's capitalization that comes from debt. Higher ratios indicate higher leverage.

3. **Debt Ratio:**

   =TOTAL LIABILITY/ TOTAL ASSET

- The debt ratio shows the proportion of a company's assets financed by debt.

A higher debt ratio signifies higher financial leverage.

4. **Equity Ratio:**

=SHAREHOLDER'S EQUITY/TOTAL ASSET

- It demonstrates the proportion of a company's assets that are financed by equity. A higher equity ratio indicates a stronger position in terms of equity financing.

5. **Debt-to-Equity Ratio:**

= TOTAL LIABILITIES/ SHAREHOLDER'S EQUITY

- This ratio measures the relationship between debt and equity. A higher ratio indicates a larger proportion of debt relative to equity financing.

6. **Return on Assets (ROA):**

=NET INCOME/TOTAL ASSETS

- This ratio measures how effectively a company utilizes its assets to generate profit. Leverage can affect ROA by amplifying returns on assets financed by debt.

7. **EBIT margin:**

=EBIT/TOTAL REVENUE

-This ratio measures the proportion of revenue that translates into operating profit before interest and taxes.

8. **Financial Leverage Index:**

=TOTAL ASSETS/ TOTAL EQUITY

- A higher financial leverage index might indicate higher leverage, and a negative relationship with stock returns might suggest increased financial risk.

9. **Return on Equity (ROE):**

=NET INCOME/SHAREHOLDER'S EQUITY

- ROE measures the return generated on shareholders' equity. Financial leverage can impact ROE by magnifying returns on equity using debt.

10. **Dupont analysis:**

ROE= Net profit margin X Asset turnover X Equity multiplier

-Dupont analysis decomposes ROE into three components, including the impact of financial leverage through the equity multiplier

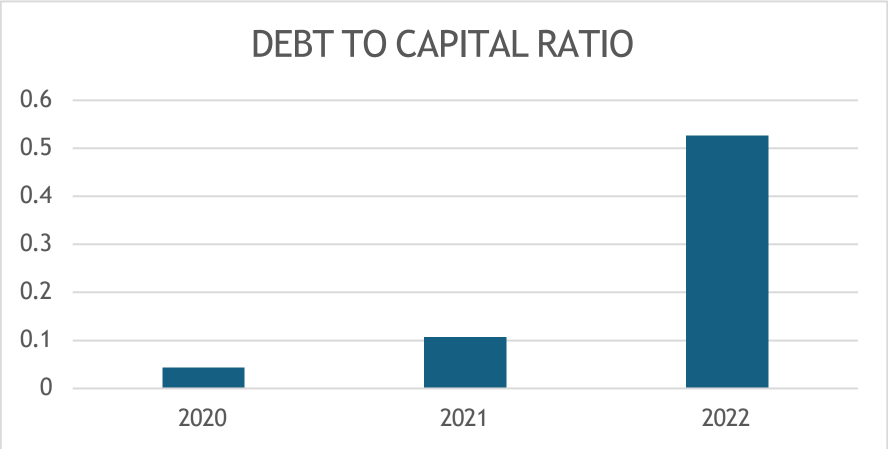
-An investor can use this analysis to compare the efficiency of tow similar firms.

-Managers can use to identify strengths and weakness of the firm.

DATA ANALYSIS AND INTERPRETATION RATIO ANALYSIS

1. **DEBT TO CAPITAL RATIO:**

YEAR	TOTAL DEBT	TOTAL CAPITAL	DEBT TO CAPITAL RATIO
2020	46.87	1067.45	0.0439%
2021	267.65	2508.67	0.1066%
2022	11,570.06	21,997.89	0.5259%

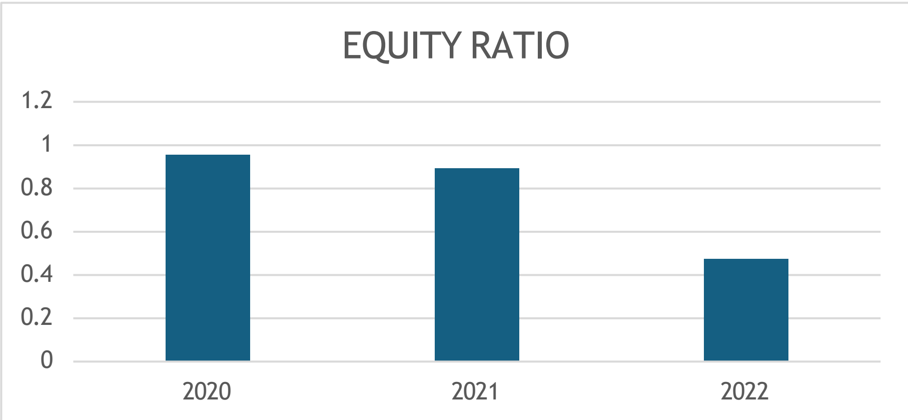


INFERENCE:

As the above table the debt to capital ratio is higher in the year 2020 is 0.5259% and the lowest is the year is 2022 is 0.439%. The debt to capital ratio measures the percentage of a company’s capitalisation that comes from debt. This ratio shows that in 2020 the firm uses high debt than equity it carries a higher risk of insolvency and in 2022 they are having more owned capital than borrowed capital generally has a low debt than equity. Also, this chart shows that it was in increasing trend, and it was not good for the company.

2. **EQUITY RATIO:**

YEAR	SHAREHOLDERS EQUITY	TOTAL ASSETS	EQUITY RATIO
2020	1020.43	1067.43	0.9559%
2021	2241.02	2508.67	0.8933%
2022	10,427.83	21,997.89	0.4740%

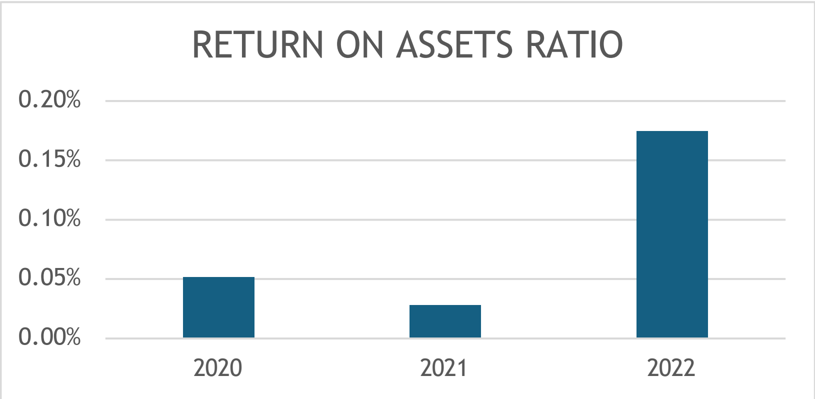


INFERENCE:

As the above table the equity ratio is higher in the year 2020 is 0.9559% and the lowest in the year 2022 is 0.4740%. The equity ratio demonstrates the proportion of a company's assets that are financed by equity. In 2020 the equity ratio is higher that indicates they use more of funding from equity than they do from debt and a low equity ratio indicates they primarily used debt to acquire assets, which has a greater financial risk. This chart shows that it was in decreasing trend it was partially good for the firm.

3. RETURN ON ASSETS RATIO:

YEAR	NET INCOME	TOTAL ASSETS	RETURN ON ASSETS RATIO
2020	0.55	1067.43	0.0515%
2021	0.70	2508.67	0.0279%
2022	38.43	21,997.89	0.1746%

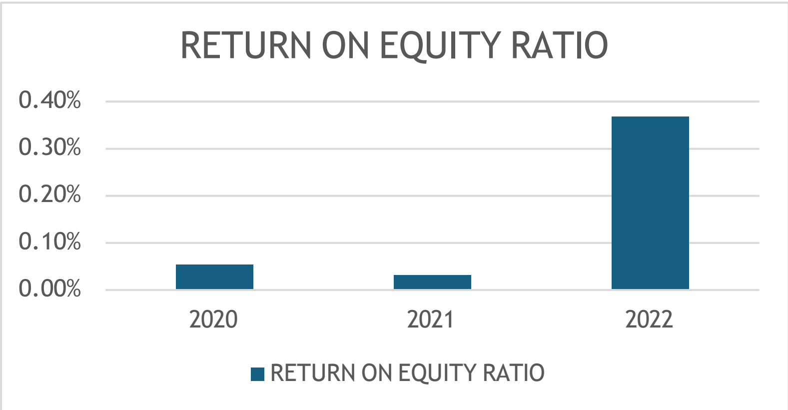


INFERENCE:

As the above table the return on assets is higher in the year 2022 is 174.69% and the lowest in the year 2021 is 27.903%. The return on asset ratio shows how effectively a company utilizes its assets to generate profit. The higher ROA in 2022 is good because they can able to earn more money with smaller investment. Simply a higher ROA has more asset efficiency. A lower ROA indicates there is room for improvement and the firm must improve their performance. The chart shows that value was decreased compared to the year 2020 and 2021 and was increased in the year 2022 and it was good for them.

4. RETURN ON EQUITY RATIO:

YEAR	NET INCOME	SHAREHOLDERS EQUITY	RETURN ON EQUITY RATIO
2020	0.55	1020.43	0.0538%
2021	0.70	2241.02	0.0312%
2022	38.43	10,427.83	0.3685%



INFERENCE:

As the above table the return on equity ratio is higher in the 2022 is 368.533% and the lowest in the year 2021 is 31.235%. The return on equity (ROE) measures the return generated on shareholder's equity. Financial leverage can impact ROE by magnifying return on equity using debt. In 2022 ROE is higher, it indicates that they are converting its equity financing into profits. In 2021 ROE is lower, it indicates that the firm become less efficient at creating profits and increasing shareholders value. The chart shows that it was slightly decreasing compared to the year 2020 to 2021 and highly increased from the year 2021 to 2022.

SUGGESTION:

1. Conduct a thorough risk assessment specific to the major project, considering market conditions, industry risks, and project-specific factors. Evaluate how financial leverage may amplify or mitigate these risks.
2. Determine the optimal level of debt for the major project by considering the cost of debt, interest rates, and the project's expected cash flows. Striking the right balance between equity and debt can enhance returns while managing financial risk.
3. Consider diversification strategies to mitigate risks associated with financial leverage. Diversifying revenue streams or sourcing funds from various lenders can help distribute risks more effectively.
4. Regularly review and adapt the financial structure based on changing market conditions and project dynamics. Flexibility in adjusting the capital structure can enhance the company's ability to navigate uncertainties effectively.

CONCLUSION:

After conducting a thorough study on the effect of financial leverage on risk and return at Pondy SG Steels and Alloys Private Limited, several key conclusions emerge. Firstly, it is evident that the company's optimal leverage ratio requires a delicate balance, where the benefits of increased returns must be weighed against the risks associated with higher financial leverage. Considering the company's sensitivity to interest rates, it is imperative to implement effective interest rate management strategies to mitigate interest rate risk and uphold profitability. Additionally, project-specific risk analysis is crucial to identify and mitigate risks influenced by financial leverage, ensuring the successful execution of major projects. Maintaining adequate liquidity levels is essential to meet debt obligations and withstand economic downturns, thereby reducing the risk of financial distress. Continuous monitoring of key financial metrics enables the company to promptly identify emerging risks and take proactive measures to address them.

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