

# **FINANCIAL STATEMENT ANALYSIS**

ECON F212- Fundamentals of Finance and Accounting

Under the guidance of Dr. Thota Nagaraju and Dr. Sunny Kumar Singh



## Group Number : 51

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### Allotted companies :

1. USHA Martin Ltd
2. MRF
3. Pfizer Inc.

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# **PART 1 : ACCOUNTING**

# Usha Martin Ltd.

Usha Martin Limited, headquartered in Kolkata, India, is a well-established player in the **steel and wire rope manufacturing** industry. Founded in 1961 by Basant Kumar Jhawar, the company has carved a niche for itself by specializing in the production of high-quality wire ropes. These wire ropes find applications across diverse sectors, including mining, construction, cranes, elevators, and oil and offshore industries. Usha Martin wire ropes are known for their strength, durability, and reliability, making them essential components in critical machinery and infrastructure. In addition to wire ropes, Usha Martin has diversified its product portfolio. They manufacture specialty steel wires used in various applications, such as automotive components, engineering structures, and telecommunications. Their specialty steel division caters to both domestic and international markets, contributing to the company's global presence.

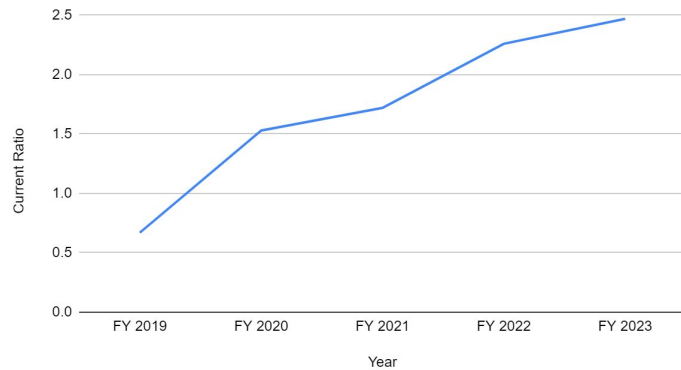
Usha Martin Limited is a **publicly listed company** incorporated on May 22, 1986. It is classified as a public limited company

Usha Martin Limited was founded by Basant Kumar Jhawar in 1961 in Kolkata, West Bengal, India. The company began as a small wire rope manufacturing unit and gradually expanded its operations over the years. Since its inception, Usha Martin has consistently adopted modern technologies in its state-of-the-art manufacturing facilities and global distribution centers, allowing it to emerge as one of the world's leading wire rope solution providers

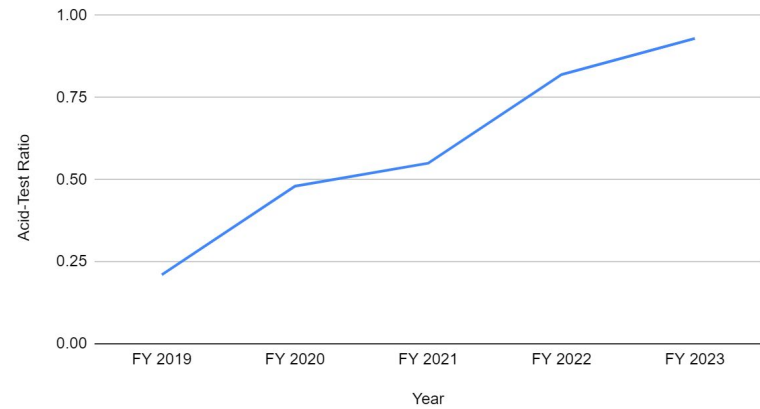
Their commitment to superior quality sets them apart, with specially designed wire ropes meeting international standards. The company boasts the widest product range, catering to critical applications across **sectors like mining, construction, and oil and offshore**. As a total solution provider, Usha Martin offers not only top-notch products but also value-added services such as socketing, cutting, and turnkey project solutions. Their after-sales service ensures customer satisfaction, while a global network of service centers facilitates seamless support worldwide. With six decades of excellence, Usha Martin continues to shape the industry landscape through innovation and customer-centric approaches.

Year*	Liquidity Ratios			
	Current Ratio	Acid-Test Ratio	Cash Ratio	Operating Cash Flow Ratio
31st March 2019	0.67	0.21	0.04	0.14
31st March 2020	1.53	0.48	0.13	0.07
31st March 2021	1.72	0.55	0.15	0.19
31st March 2022	2.26	0.82	0.23	0.17
31st March 2023	2.47	0.93	0.23	0.32
Average	1.73	0.60	0.16	0.18
Max	2.47	0.93	0.23	0.32
Min	0.67	0.21	0.04	0.07

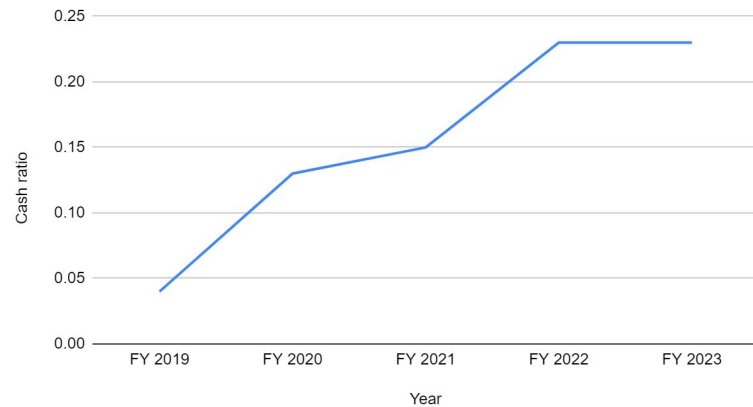
Current Ratio



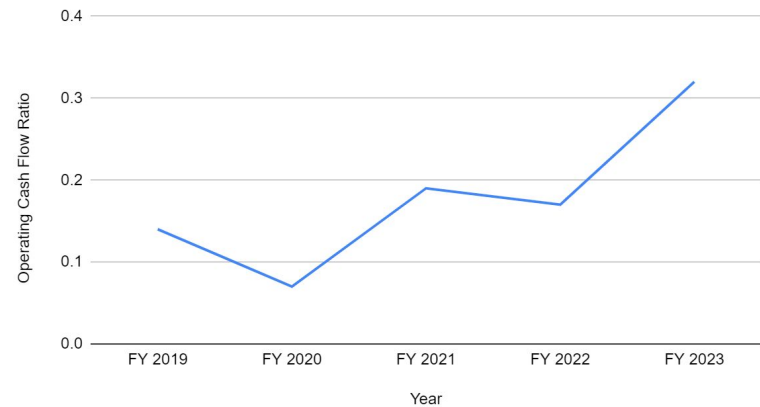
Acid-Test Ratio



Cash ratio vs Year



Operating Cash Flow Ratio vs Year





# Liquidity Ratio Trend Analysis :

**Current Ratio:** The upward trend over the years suggests **improved liquidity management**. A current ratio above 1 means the company can cover its short-term debts comfortably. Rising ratios indicate better liquidity, but excessively high ratios may imply underutilized assets. Conversely, too low a ratio could signal liquidity risk. Usha International's ratios fall within a reasonable range, balancing liquidity needs and efficient asset utilization. Usha International's ratios suggest prudent financial health.

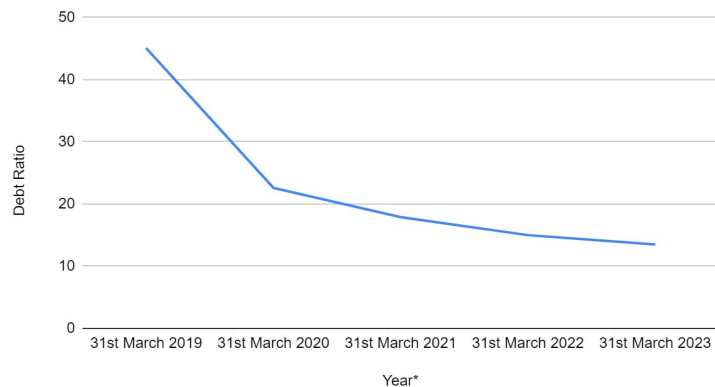
**Acid-Test Ratio:** A higher acid test ratio indicates **better immediate liquidity**. Usha Martin seems to have balanced liquidity needs while managing inventory efficiently. Usha Martin's acid test ratios, although fluctuating, indicate prudent financial management.

**Cash Ratio:** The cash ratio has consistently increased over the years, but it has generally remained very low. It has remained constant consecutively for 2022 and 2023, indicating that the company has **constant** amount of cash on hand to meet its immediate obligations.

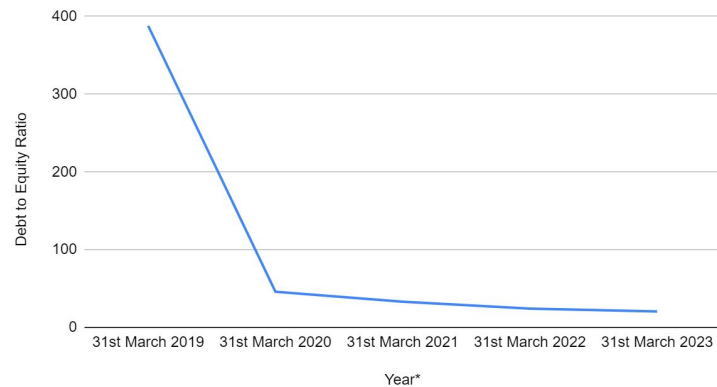
**Operating Cash Flow Ratio:** The operating cash flow ratio has been volatile over the years, with a significant drop in 2020 and a subsequent recovery in 2021. It has fluctuated a little ever since, indicating that the company's ability to generate cash from its operations has **not stabilized** yet. The ratio saw a spike in 2023 indicating an increase in the company's ability to generate cash from its operations.

Year*	Leverage Financial Ratios			
	Debt Ratio	Debt to Equity Ratio	Interest Coverage Ratio	Debt service Coverage Ratio
31st March 2019	45.07	387.96	2.42	-
31st March 2020	22.60	45.80	2.64	-
31st March 2021	17.89	33.13	4.08	1.51
31st March 2022	15.00	24.24	7.39	1.67
31st March 2023	13.49	20.47	14.73	3.5
Average	22.81	102.32	6.25	1.17
Max	45.07	387.96	14.73	3.5
Min	13.49	20.47	2.42	1.67

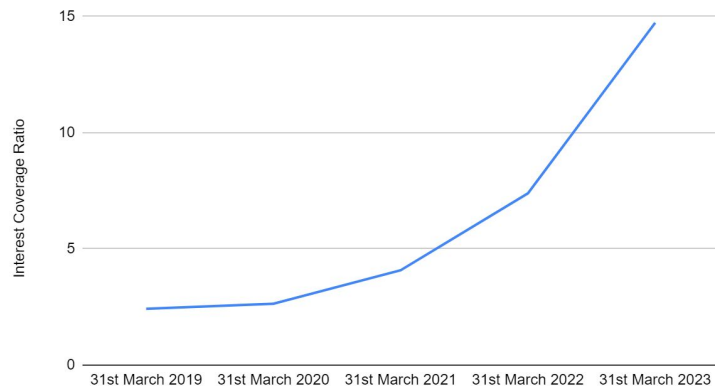
### Debt Ratio



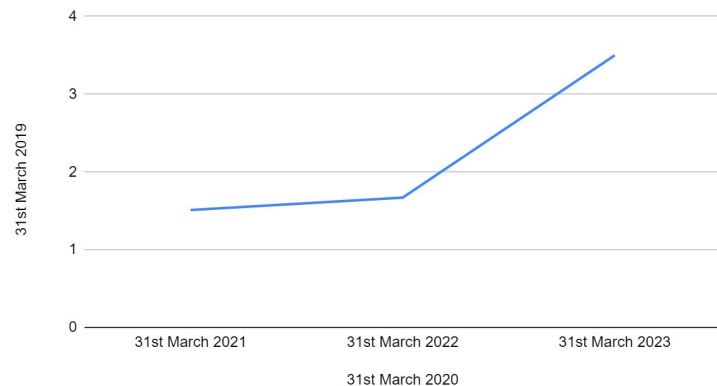
### Debt to Equity Ratio



### Interest Coverage Ratio



### Debt service Coverage Ratio



# Leverage Financial Ratio Trend Analysis:

**Debt Ratio:** The Company's Debt Ratio initially dropped and decreased slower after 2020, indicating a positive trend towards a **lower debt burden**.

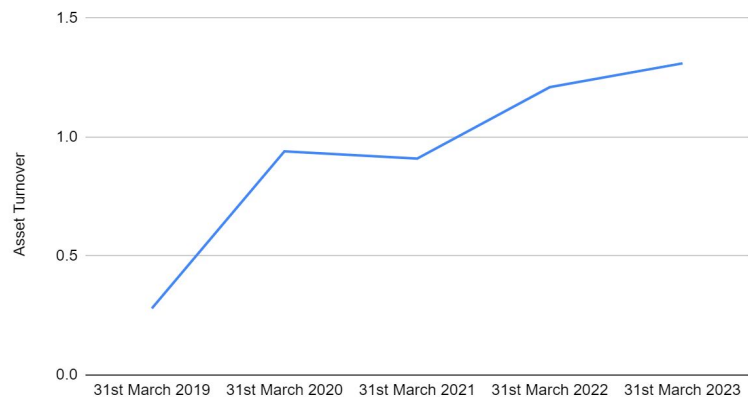
**Debt to Equity Ratio:** The Debt to Equity ratio has been **volatile** over the years where it dropped significantly in 2019-20 and then stabilized in the respective consecutive years, indicating somewhat **constant trend** towards a lower reliance on debt financing.

**Interest Coverage Ratio:** The Interest Coverage Ratio has been consistently increasing over the 5 years span. In 2023, interest coverage ratio peaked to 14.73 indicating a positive trend towards **better ability to cover interest expenses** with operating profits.

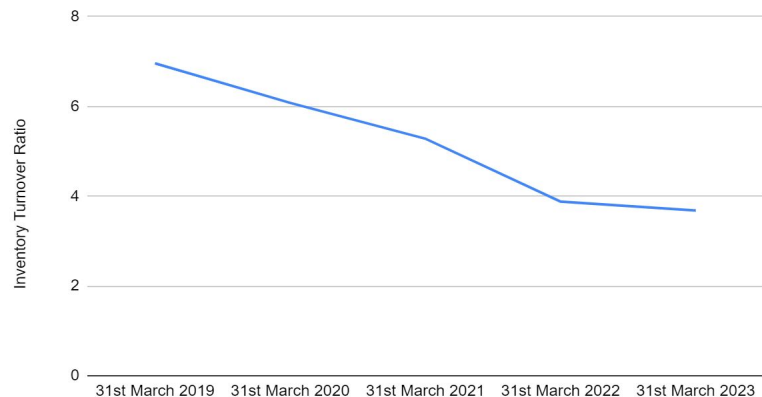
**Debt Service Coverage Ratio:** Though the data in initial years is not available, the debt service coverage ratio has been increasing from 2021 and has been increasing overall in the graph indicating a positive trend towards **better ability to meet debt service obligations** with operating cash flow

Year*	Efficiency Ratios			
	Asset Turnover Ratio	Inventory Turnover Ratio	Receivables Turnover Ratio	Days Sales in Inventory Ratio
31st March 2019	0.28	6.96	51.52	53.15
31st March 2020	0.94	6.08	8.31	103.80
31st March 2021	0.91	5.28	9.76	111.18
31st March 2022	1.21	3.88	26.43	99.04
31st March 2023	1.31	3.68	20.72	93.67
Average	1.27	-2.52	23.35	92.17
Max	1.31	18.72	51.52	103.80
Min	1.21	-47.22	8.31	53.15

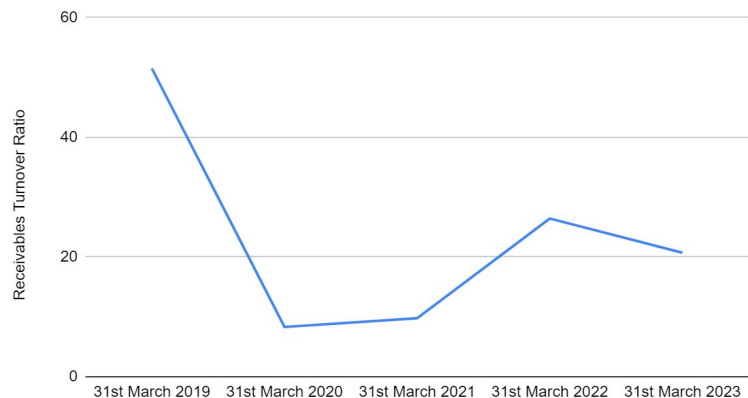
### Asset Turnover Ratio



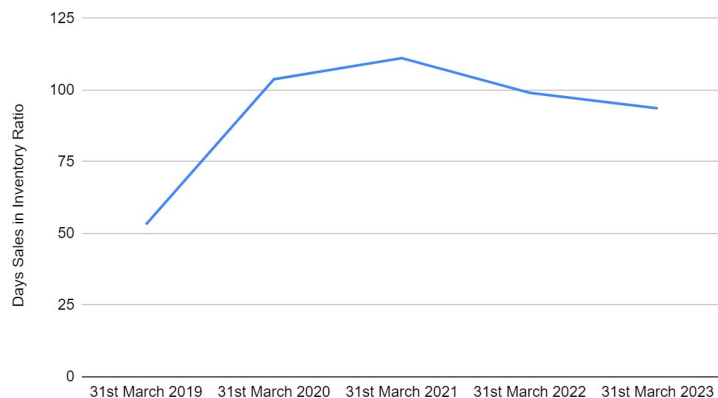
### Inventory Turnover Ratio



### Receivables Turnover Ratio



### Days Sales in Inventory Ratio



## Efficiency Ratio Trend Analysis:

**Asset Turnover Ratio:** The ratio increases sharply , stays almost the same for 2 years consecutively and increases again in 2021. It indicates it is consistently increasing it's **efficiency in using its assets** to generate sales.

**Inventory Turnover Ratio:** Inventory Turnover ratio has been decreasing consistently over the years. The lower level of inventory turnover causes the company to become **slower in selling merchandise** so that it will decrease operating profit and ultimately will decrease net income.

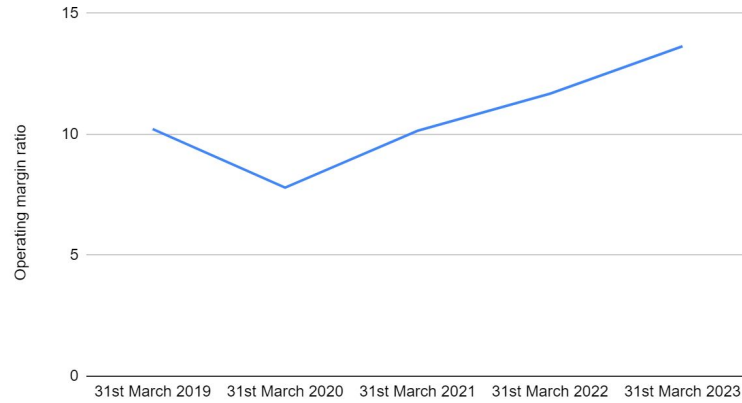
**Receivables Turnover Ratio:** Receivables Turnover ratio has been **fluctuating** over the years, it went through major dip in 2019, though it recovered eventually in 2022.

**Days Sales in Inventory Ratio:** The Days Sales in Inventory Ratio initially increased and recovered in the initial years but has been decreasing gradually from 2021. This means that the company is **taking lesser time to sell its inventory** compared to previous years.

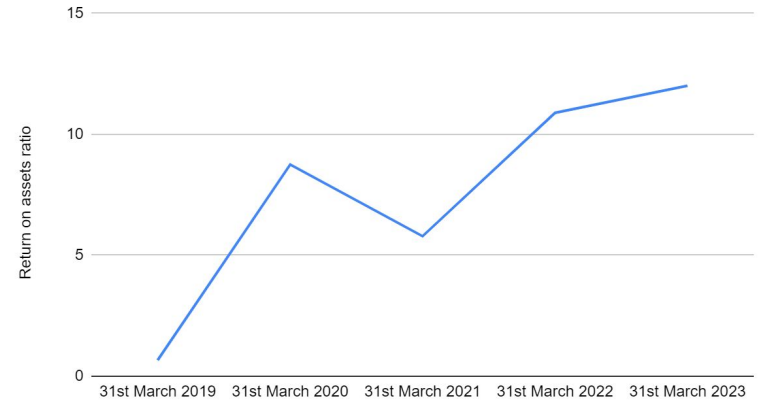
Year*	Profitability Ratios			
	Gross margin ratio	Operating margin ratio	Return on assets ratio	Return on equity ratio
31st March 2019	-	10.22	0.66	6.36
31st March 2020	-	7.80	8.75	41.69
31st March 2021	-	10.15	5.79	11.37
31st March 2022	-	11.68	10.89	18.81
31st March 2023	-	13.64	12.01	18.80
Average	-	10.70	7.42	19.41
Max	-	13.64	12.01	41.69
Min	-	7.80	0.66	6.36



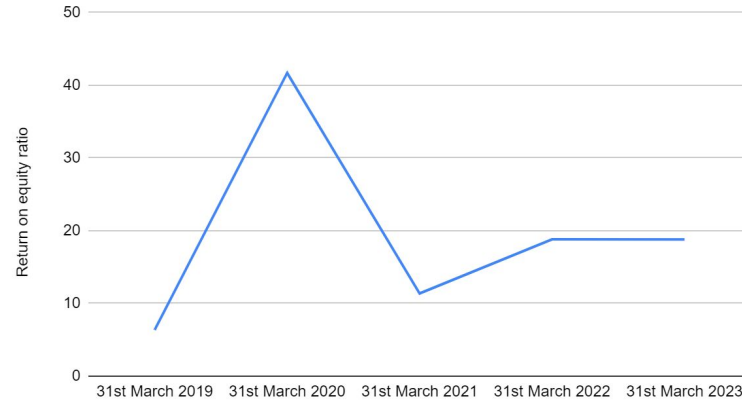
Operating margin ratio



Return on assets ratio



Return on equity ratio



## Profitability Ratio Trend Analysis :

**Gross Margin Ratio:** The information on gross margin ratio of USHA Martin Ltd. was not found anywhere including the company's annual report, Bloomberg Terminal and other such similar sources.

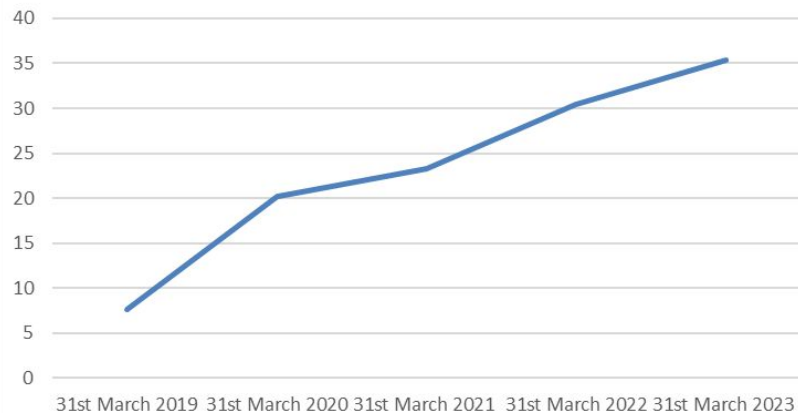
**Operating Margin Ratio:** The Operating Margin Ratio has been **increasing** since 2020 after seeing a dip in 2019-20. This means that the company is **creating more profits from its operations** to pay for its variable costs and fixed costs.

**Return on Assets Ratio:** Return on Assets has been **fluctuating** over the years. But it has been following an increasing trend overall and peaking in 2023. It indicates the **net income** of the company using the assets without including the financing is **increasing**.

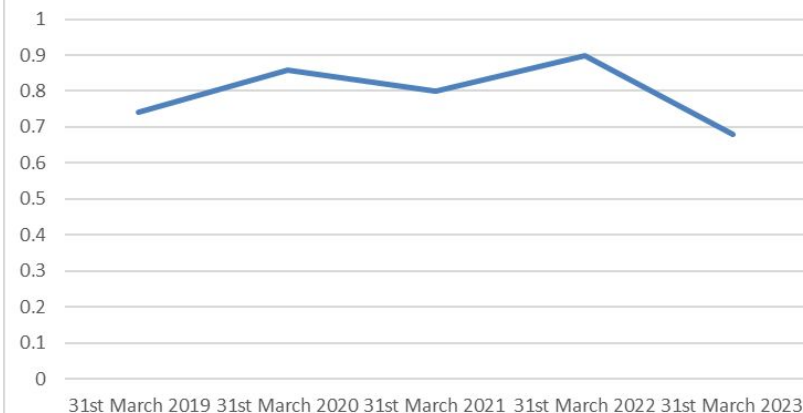
**Return on Equity Ratio:** Return on Equity has been **fluctuating** over the years. It had peaked in 2020 after which it has been constant overall

Year*	Market Value Ratios			
	Book value per share ratio	Dividend yield ratio	Earnings per share ratio	Price-earnings ratio
31st March 2019	7.56	0.74	1.93	13.24
31st March 2020	20.15	0.86	12.98	13,24
31st March 2021	23.29	0.8	3.30	23.48
31st March 2022	30.37	0.9	6.94	-
31st March 2023	35.35	0.68	7.01	-
Average	23.34	0.80	6.43	7.34
Max	35.35	0.9	12.98	23.48
Min	7.56	0.68	3.3	13.24

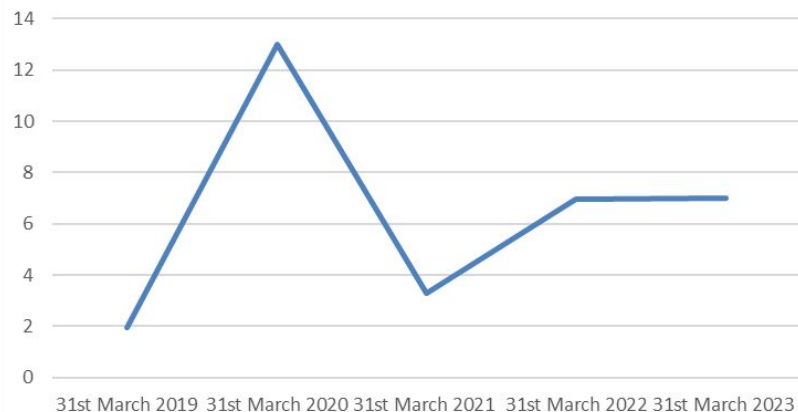
Book value per share ratio



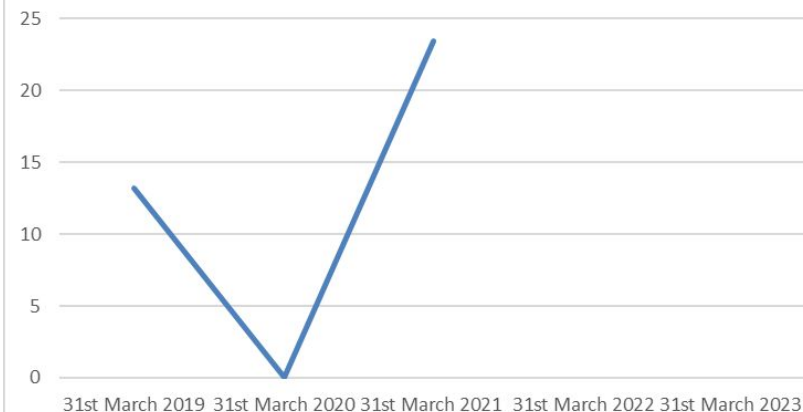
Dividend yield ratio



Earnings per share ratio



Price-earnings ratio



# Market Value Ratio Trend Analysis :

**Book Value Per Share Ratio:** The Book Value Per Share Ratio has been **steadily increasing** over the years, which means the equity accessible to common shareholders is increasing as compared to total number of outstanding shares.

**Dividend Yield Ratio:** Dividend Yield has been **fluctuating** over the years, where it reached a minimum in 2023. In the recent quarter it has reached a global minimum as compared to the last few years.

**Earnings Per Share Ratio:** Earnings Per Share Ratio has been **very volatile** over the last few years, it dropped in 2021 but it recovered in the subsequent years. It was lowest in 2019 and had a great recovery in the next year and stayed almost maintained.

**Price-Earnings Ratio:** Price-Earnings Ratio **decreased gradually** till 2020 after which it **increased again** in next year. A low P/E might indicate that the current stock price is low relative to earnings.

# MRF Ltd.

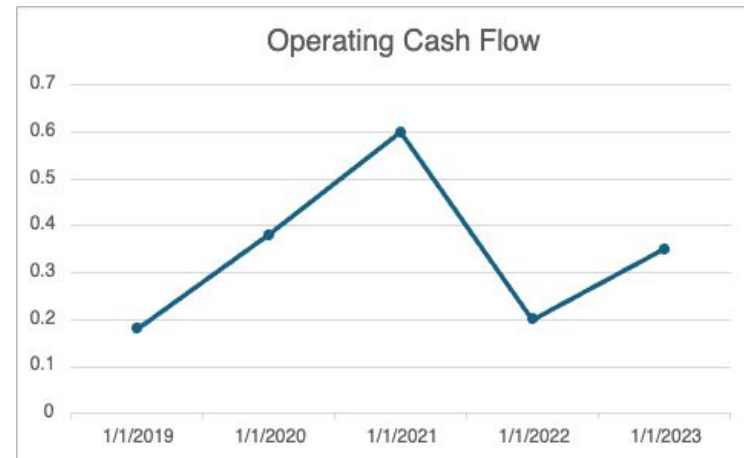
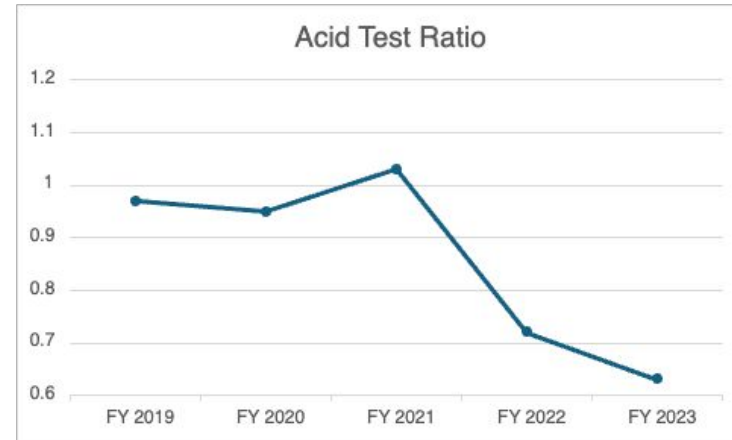
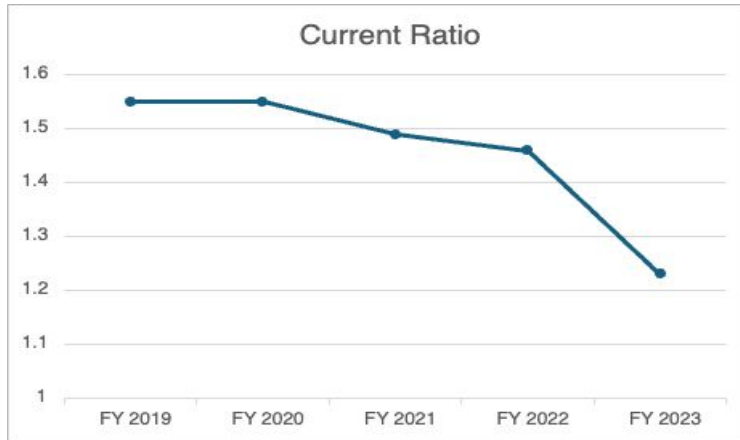
MRF Limited **manufactures and distributes tyres and tubes** for automobiles, aircrafts, motorcycles and cycles. The Company also manufactures conveyor belts, paint and coats, and hoses. MRF (Tyres), headquartered in Chennai, India, is the country's largest tyre manufacturer, tracing its origins to the Madras Rubber Factory. Producing rubber products, including tyres, treads, and tubes, MRF also offers paints, toys.

MRF Tyres is a **publicly traded company**, incorporated in India. Its stocks are primarily traded on the National Stock Exchange (NYSE) under the ticker symbol “MRF”. MRF started as a toy balloon manufacturing unit in 1946 at Tiruvottiyur, Madras (now Chennai).

The company later ventured into manufacturing of tread rubber, MRF did **many collaborations** with Industry companies such as Mansfield Tire & Rubber company based in Ohio, United States in 1952, B. F. Goodrich in 1978, Marangoni TRS in SPA, Italy, with Hasbro International, the world's largest toy maker and launched Funskool India in 1989, entered into a pact with Vapocure of Australia to manufacture paint formulations, and many more.

MRF Ltd. has achieved remarkable success since its inception, **evolving from a toy balloon unit to India's largest tyre manufacturer**. With a global presence, technical collaborations, and diverse product offerings, it has established itself as a leader in the industry, showcasing resilience, innovation, and strategic partnerships.

Year*	Liquidity Ratios			
	Current Ratio	Acid-Test Ratio	Cash Ratio	Operating Cash Flow Ratio
31st March 2019	1.55	0.97	0.53	0.18
31st March 2020	1.55	0.95	0.51	0.38
31st March 2021	1.49	1.03	0.71	0.6
31st March 2022	1.46	0.72	0.39	-0.1
31st March 2023	1.23	0.63	0.30	0.35
Average	1.46	0.86	0.49	0.282
Max	1.55	1.03	0.71	0.6
Min	1.23	0.63	0.30	-0.1





# Liquidity Ratio Trend Analysis :

**Current Ratio:** MRF Limited maintains a stable liquidity position with a current ratio consistently above 1, but there's a slight decreasing trend from 2019 to 2023. Fluctuations indicate variations in short-term asset management, while comparison with industry standards would offer valuable insights into its performance.

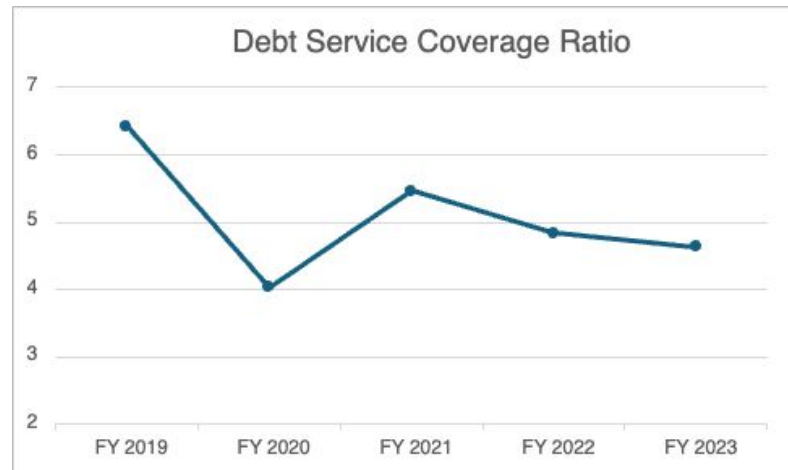
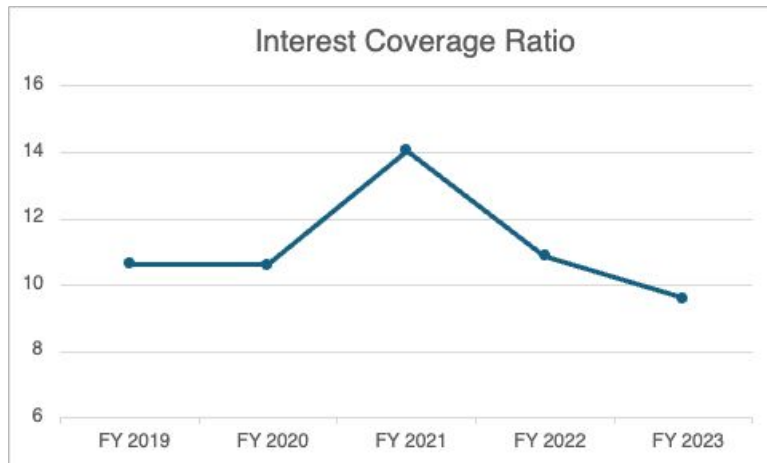
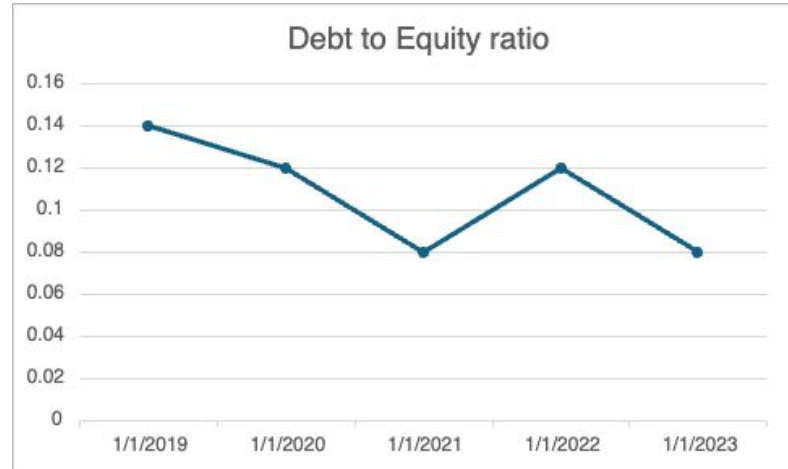
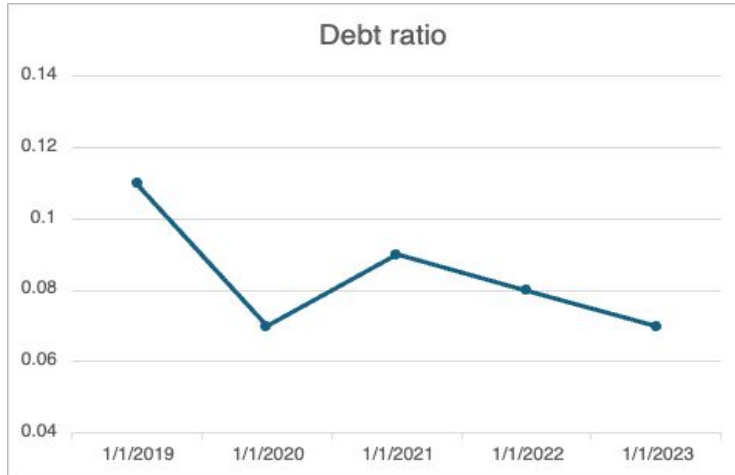
**Acid-Test Ratio:** MRF Limited's acid test ratio fluctuates from 0.63 to 1.03 over the years, indicating variable short-term liquidity. Despite volatility, the company's ratio generally suggests it may face challenges meeting immediate obligations, warranting close attention to its financial management. Comparisons with industry standards could provide further context for its performance.

**Cash Ratio:** The cash ratio has fluctuated over the years, but it has generally remained low. It has increased since 2022 Q3, indicating that the company has more cash on hand to meet its immediate obligations

**Operating Cash Flow Ratio:** the operating cash flow ratio has been more volatile, with a significant drop in 2020 and a subsequent recovery in 2021. It has remained relatively stable since then, but then dropped significantly in 2023 compared to the previous year, which may indicate a decrease in the company's ability to generate cash from its operations.

MRF Limited's **liquidity position is stable but shows fluctuations**, with a decreasing trend in the current ratio and variable short-term liquidity indicated by the acid-test ratio. The cash ratio has increased since 2022, but the operating cash flow ratio has been volatile, with a significant drop in 2023, indicating potential challenges in generating cash from operations.

Year*	Leverage Financial Ratios			
	Debt Ratio	Debt to Equity Ratio	Interest Coverage Ratio	Debt service Coverage Ratio
31st March 2019	0.11	0.14	10.65	6.43
31st March 2020	0.07	0.12	10.62	4.03
31st March 2021	0.09	0.08	14.06	5.46
31st March 2022	0.08	0.12	10.89	4.84
31st March 2023	0.07	0.08	9.61	4.63
Average	0.08	0.11	11.17	5.08
Max	0.11	0.14	14.06	6.43
Min	0.07	0.08	9.61	4.03



# Leverage Financial Ratio Trend Analysis:

**Debt Ratio:** This ratio increased from 2019 to 2020 but then declined steadily from 2021 to 2023, indicating the company has been reducing its reliance on debt financing over time.

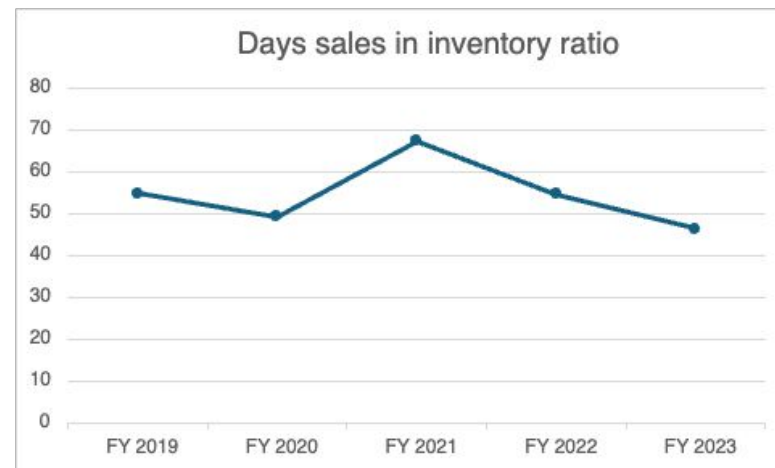
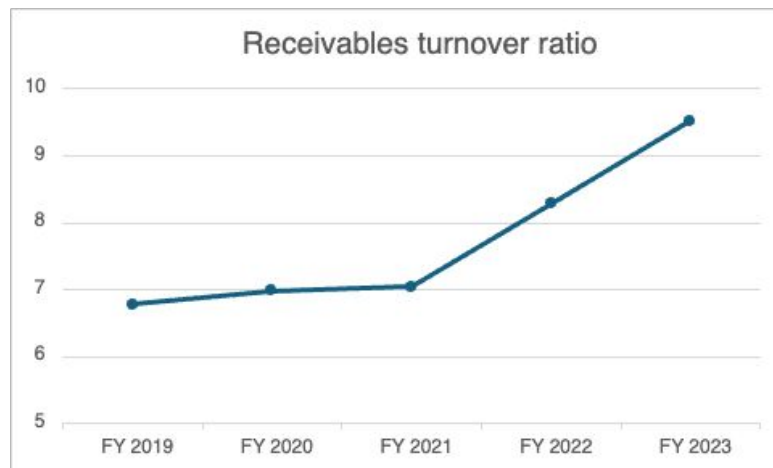
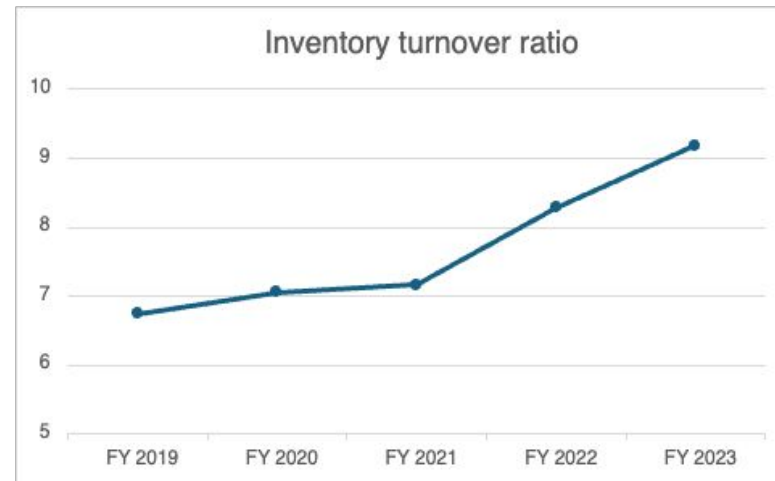
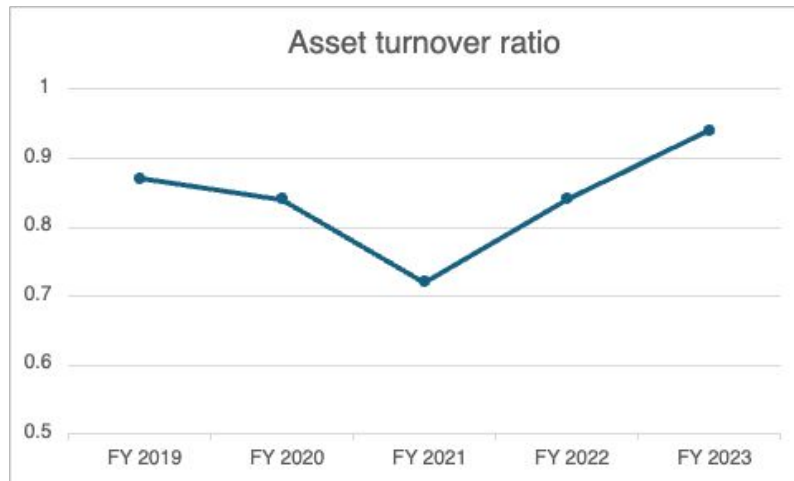
**Debt to Equity Ratio:** It followed a similar trend as the debt ratio, increasing in 2020 but then decreasing from 2021 to 2023. A lower debt-to-equity ratio suggests the company is becoming less leveraged and potentially less risky.

**Interest Coverage Ratio:** Overall, while the company's interest coverage seemed to improve initially until FY 2021, the steep drop in the ratio in the subsequent two years raises concerns about its ability to service debt obligations through earnings alone. This may increase the company's risk of potential default or require it to explore options to restructure its debt or improve profitability to maintain a healthy interest coverage level.

**Debt Service Coverage Ratio:** It measures a company's ability to service its debt obligations from its operating income. The ratio declined from 2019 to 2021 but then improved slightly in 2022 before declining again in 2023. This could indicate the company has faced some challenges in generating sufficient operating income to cover its debt obligations in recent years.

This shows a **positive trend in the company's debt structure** with a decrease in reliance on debt financing (debt & debt-to-equity ratio). However, the declining interest coverage and debt service coverage ratios raise concerns about the company's ability to meet its debt obligations in the future.

Year*	Efficiency Ratios			
	Asset Turnover Ratio	Inventory Turnover Ratio	Receivables Turnover Ratio	Days Sales in Inventory Ratio
31st March 2019	0.87	6.74	6.78	55.11
31st March 2020	0.84	7.06	6.99	49.39
31st March 2021	0.72	7.17	7.05	67.59
31st March 2022	0.84	8.28	8.28	54.89
31st March 2023	0.94	9.19	9.52	46.62
Average	0.84	7.68	7.24	54.72
Max	0.94	9.19	9.52	67.59
Min	0.72	6.74	6.78	46.62



# Efficiency Ratios Trend Analysis

**Asset Turnover Ratio:** This ratio dipped in FY 2020 but then increased steadily from FY 2021 to FY 2023, indicating improving efficiency in utilizing assets to drive sales over time.

**Inventory Turnover Ratio:** This ratio improved consistently from FY 2019 to FY 2023, suggesting better inventory management and a faster cycle of converting inventory into sales.

**Receivables Turnover Ratio:** This ratio showed a consistent upward trend from FY 2019 to FY 2023. , increasing year-over-year, implying more efficient collection of receivables and better management of credit policies.

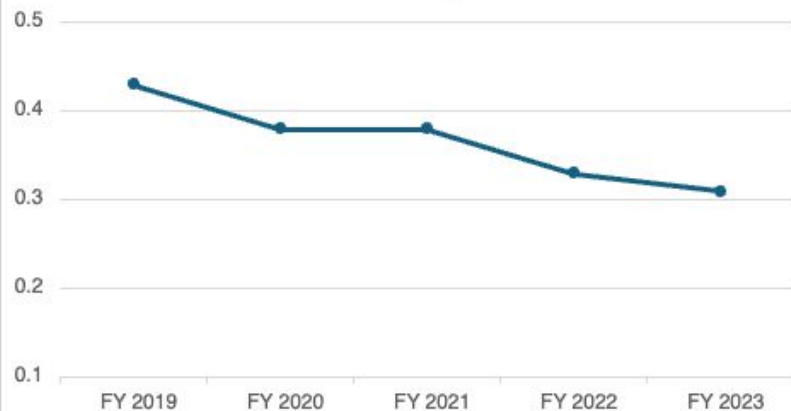
**Days Sales in Inventory Ratio:** The ratio decreased from FY 2020 to FY 2023, suggesting a reduction in the time inventory stays unsold, potentially leading to lower carrying costs and improved cash flow.

Overall, the trends in these ratios suggest the company has been making **consistent improvements in asset utilization, inventory management**, receivables collection, and reducing the cash conversion cycle. These positive developments likely contribute to better operational efficiency, freeing up working capital, and potentially driving higher profitability and cash flow generation over time.

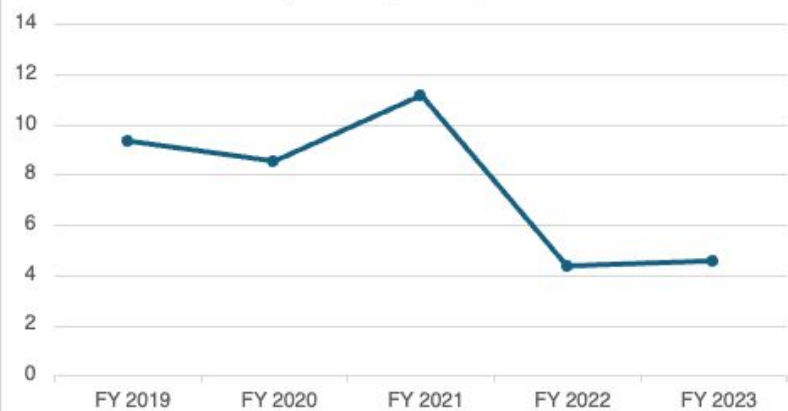
Year*	Profitability Ratios			
	Gross margin ratio	Operating margin ratio	Return on assets ratio	Return on equity ratio
31st March 2019	0.43	9.36	6.48	10.99
31st March 2020	0.38	8.57	7.51	12.34
31st March 2021	0.38	11.18	6.08	9.97
31st March 2022	0.33	4.38	2.93	4.88
31st March 2023	0.31	4.57	3.24	5.35
Average	0.36	7.61	5.25	8.71
Max	0.43	11.18	7.51	12.34
Min	0.31	4.38	2.93	4.88



### Gross margin ratio



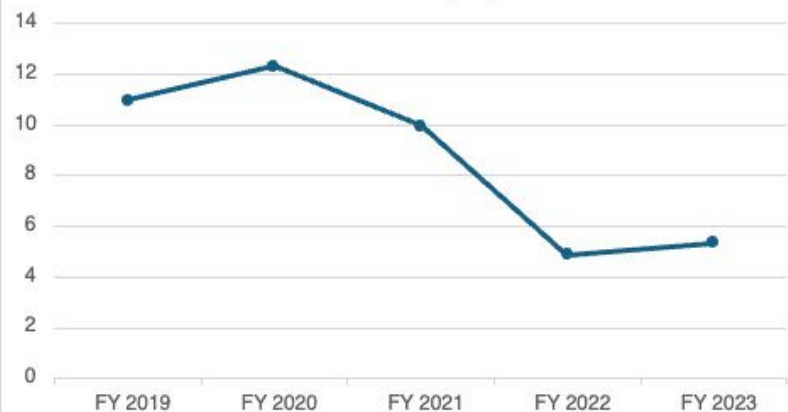
### Operating Margin Ratio



### Return on Assets Ratio



### Return on Equity Ratio



# Profitability Ratios Trend Analysis

**Gross Margin Ratio:** This ratio shows the gross profit earned on sales. It declined steadily from FY2019 to FY2023, indicating rising costs of goods sold or pricing pressure, impacting profitability margins.

**Operating Margin Ratio:** This measures operating income as a percentage of sales. The ratio peaked in FY2021 but dropped sharply in the following two years, suggesting challenges in controlling operating expenses relative to revenue.

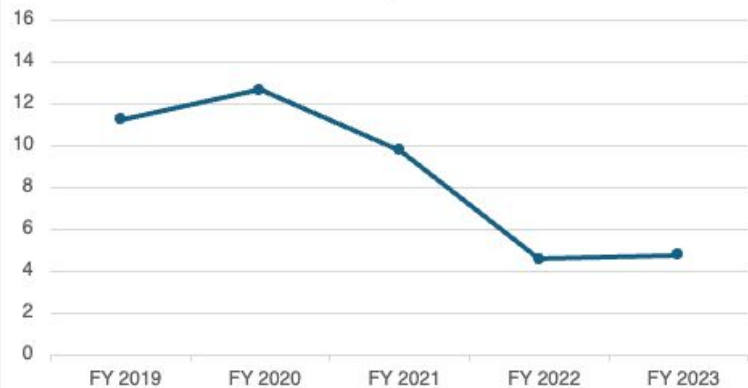
**Return on Assets Ratio:** It measures how efficiently the company utilizes its assets to generate profits. The ratio declined consistently from FY2019 to FY2023, implying a deterioration in the company's asset productivity and profitability.

**Return on Equity Ratio:** This reflects the company's profitability in relation to shareholders' equity. The ratio peaked in FY2021 but declined substantially thereafter, indicating a lower return on shareholders' investments in recent years.

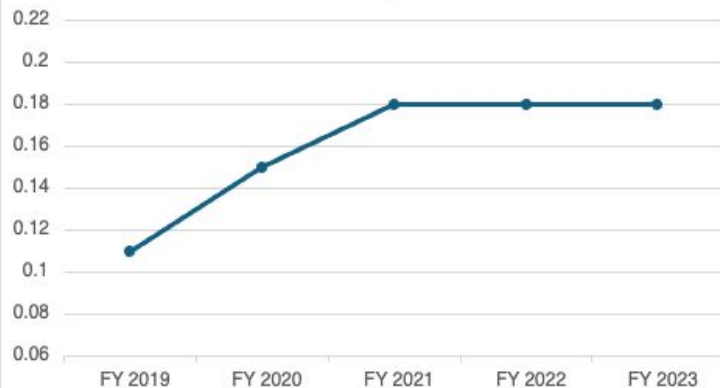
These trends in these ratios suggest the company has **faced profitability pressures**, with declining gross margins, operating margins, asset productivity, and returns on equity over the period shown. These could be areas of concern for management to address.

Year*	Market Value Ratios			
	Book value per share ratio	Dividend yield ratio	Earnings per share ratio	Price-earnings ratio
31st March 2019	11.29	0.11	2,751.45	19.71
31st March 2020	12.71	0.15	2,561.60	25.94
31st March 2021	9.82	0.18	3,213.38	24.86
31st March 2022	4.61	0.18	1,675.48	50.02
31st March 2023	4.82	0.18	1,693.99	56.21
Average	8.65	0.16	2,379.18	35.35
Max	12.71	0.18	3,213.38	56.21
Min	4.61	0.11	1,675.48	19.71

### Book Value per Share Ratio



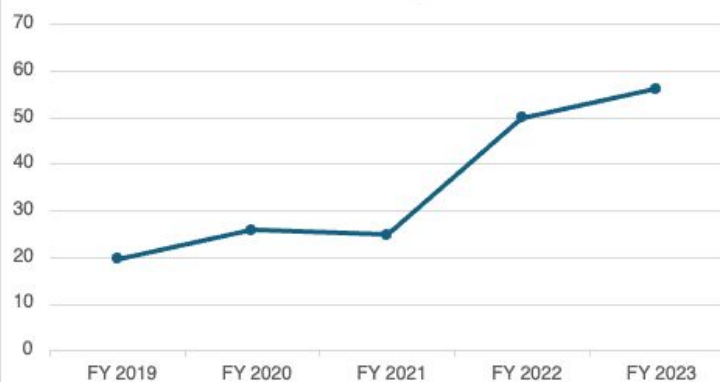
### Dividend yield ratio



### Earnings per Share Ratio



### PriceEarnings Ratio



# Market Values Trend Analysis

**Book Value per Share Ratio:** The Book Value per Share Ratio indicates the equity value available to shareholders per share. It increased from FY 2019 to FY 2020 but then declined steadily until FY 2023, suggesting a reduction in the company's net asset value attributable to each outstanding share.

**Dividend Yield Ratio:** The dividend yield ratio shows the dividend payout per share relative to the market price. It declined in FY 2020 but then improved through FY 2022 before dropping again in FY 2023, indicating fluctuations in the dividend yield offered to shareholders.

**Earnings per Share Ratio:** The Earnings per Share ratio measures the portion of a company's profit allocated to each outstanding share. It peaked in FY 2021 but then declined sharply in the following two years, signaling a deterioration in the company's profitability on a per-share basis.

**Price/Earnings Ratio:** The P/E ratio reflects the market's valuation of a company relative to its earnings. It increased significantly from FY 2021 to FY 2023, suggesting the stock price has become more expensive relative to the company's earnings during this period.

The above ratios highlight some **potential concerns**, including declining book value, fluctuating dividend yields, falling earnings per share, and a rising P/E ratio, which could impact shareholder value and investor sentiment towards the company.

# Pfizer Inc.

Pfizer is a global pharmaceutical company renowned for its contributions to healthcare and medical innovation. Pfizer's primary focus lies in researching, developing, manufacturing, and marketing a wide range of **pharmaceutical products** across various therapeutic areas. The company is dedicated to discovering and delivering innovative medicines that improve patients' lives, aiming to address some of the most pressing healthcare challenges worldwide.

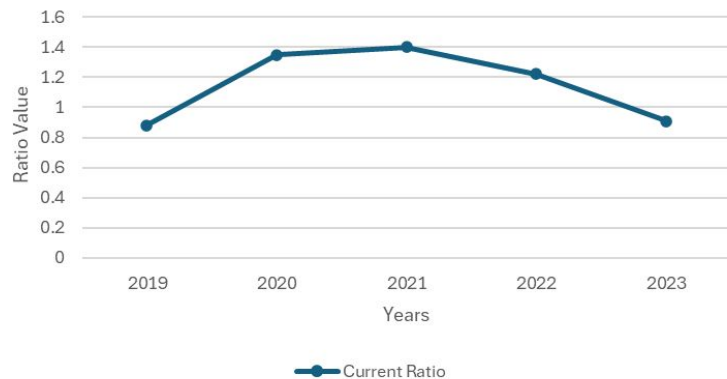
Pfizer is a **publicly traded company**. Its stocks are primarily traded on the New York Stock Exchange (NYSE) under the ticker symbol "PFE". In addition to the NYSE, Pfizer shares may also be traded on other global stock exchanges like the London Stock Exchange (LSE), Euronext Paris, SIX Swiss Exchange, and the Tokyo Stock Exchange (TSE).

Pfizer was started by cousins Charles Pfizer and Charles Erhart in 1849. The duo German immigrants founded the company in Brooklyn, New York. Initially a modest fine chemicals business, Pfizer started by producing santonin, an anti-parasitic medication. The company's early success was marked by innovation and dedication to quality, attributes that laid the foundation for its future growth. Over the years, Pfizer expanded its focus to include the development of various pharmaceutical products, leveraging advancements in science and technology to address unmet medical needs. Through **strategic acquisitions, partnerships, and groundbreaking research**, Pfizer evolved into one of the world's leading pharmaceutical companies.

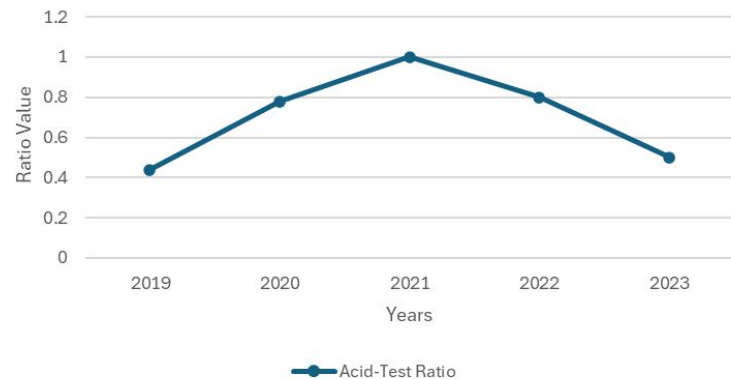
Pfizer is a titan of the pharmaceutical industry, a shining example of greatness due to its constant search of new ideas, steadfast dedication to enhancing global health, and long history of ground-breaking discoveries. With a rich history spanning **more than 150 years**, Pfizer has continuously pushed the limits of medical research, developing groundbreaking treatments that have reduced suffering and saved countless lives all around the world.

Year	Liquidity Ratios			
	Current ratio	Acid-Test Ratio	Cash Ratio	Operating Cash Flow Ratio
31st March 2019	0.88	0.44	0.26	0.36
31st March 2020	1.35	0.78	0.47	0.46
31st March 2021	1.40	1.00	0.73	0.95
31st March 2022	1.22	0.80	0.54	0.69
31st March 2023	0.91	0.50	0.27	0.19
Average	1.15	0.70	0.45	0.53
Max	1.40	1.00	0.73	0.95
Min	0.88	0.44	0.26	0.19

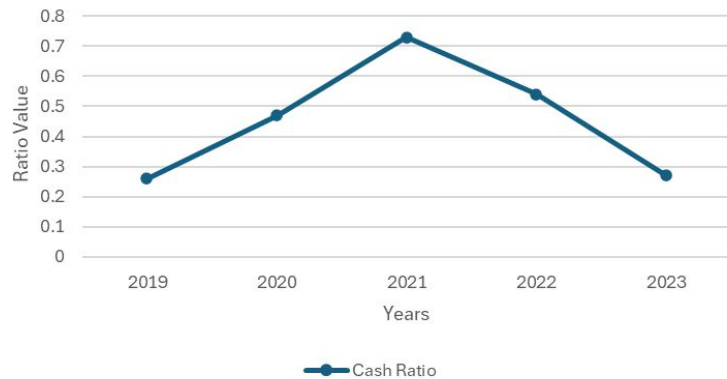
### Current Ratio



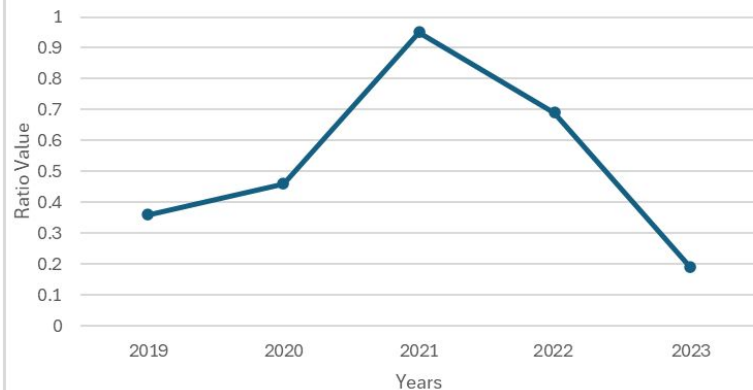
### Acid-Test Ratio



### Cash Ratio



### Operating Cash Flow Ratio





# Liquidity Ratio Trend Analysis:

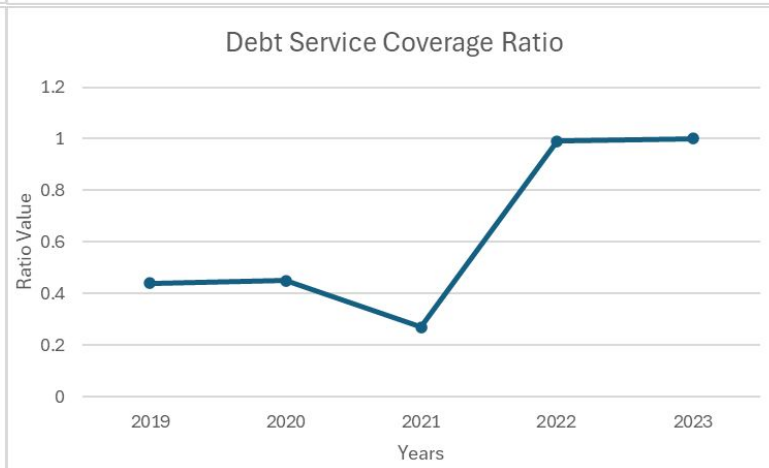
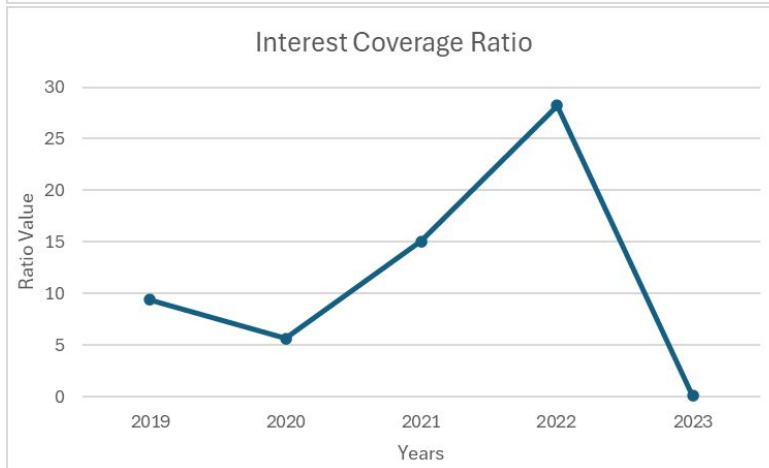
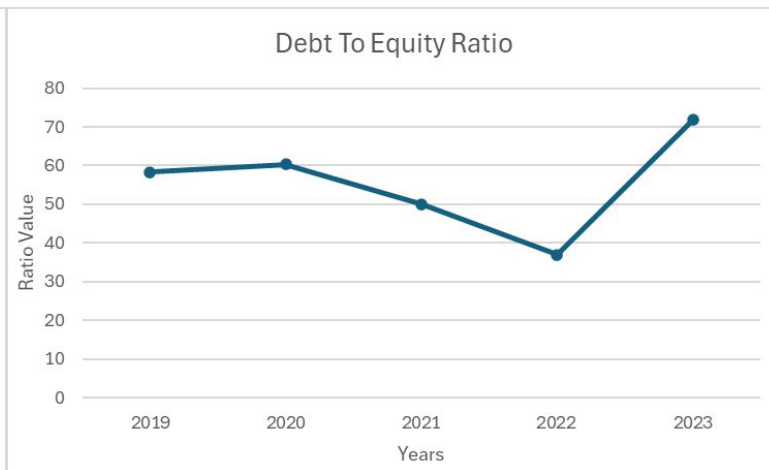
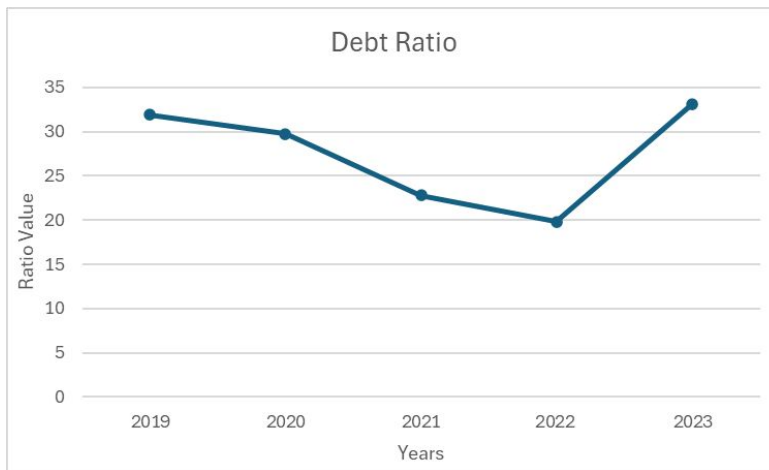
**Current Ratio:** From 31st March 2019 to 31st March 2023, Pfizer's current ratio fluctuated. It started at 0.88 in 2019, increased to 1.35 in 2020, and then continued to fluctuate, reaching 0.91 in 2023. The increase in the current ratio from 2019 to 2020 suggests an improvement in Pfizer's short-term liquidity. However, the subsequent decrease indicates potential challenges in maintaining this liquidity position.

**Acid-Test Ratio:** Pfizer's acid-test ratio started at 0.44 in 2019, increased to 1.00 in 2021, and then decreased to 0.50 in 2023. The increase in the acid-test ratio from 2019 to 2021 indicates an improvement in Pfizer's ability to meet short-term obligations using its most liquid assets. However, the subsequent decrease suggests a potential decline in liquidity and raises concerns about the company's ability to cover short-term liabilities without relying on inventory.

**Cash Ratio:** Pfizer's cash ratio started at 0.26 in 2019, increased to 0.73 in 2021, and then decreased to 0.27 in 2023. The increase in the cash ratio from 2019 to 2021 indicates an improvement in Pfizer's ability to cover short-term liabilities with its cash reserves. However, the subsequent decrease suggests a potential decline in the company's cash position relative to its short-term liabilities.

**Operating Cash Flow Ratio:** Pfizer's operating cash flow ratio started at 0.36 in 2019, increased to 0.95 in 2021, and then decreased to 0.19 in 2023. The increase in the operating cash flow ratio from 2019 to 2021 suggests an improvement in Pfizer's ability to cover short-term liabilities with its operating cash flow. However, the subsequent decrease indicates potential challenges in maintaining this ability, possibly due to changes in operating cash flow or increased short-term liabilities.

Year	Leverage Financial Ratios			
	Debt ratio	Debt to Equity Ratio	Interest Coverage Ratio	Debt Service Coverage Ratio
31st March 2019	31.89	58.29	9.42	0.44
31st March 2020	26.76	60.26	5.64	0.45
31st March 2021	22.81	49.97	15.05	0.27
31st March 2022	19.80	• 36.99	28.23	0.99
31st March 2023	33.13	71.86	0.10	1.00
Average	26.88	55.47	11.69	0.63
Max	33.13	71.86	28.23	1
Min	19.80	36.99	0.10	0.27



# Leverage Financial Ratios Trend Analysis:

**Debt Ratio**: Pfizer's debt ratio has fluctuated over the years, decreasing from 2019 to 2022 and then increasing in 2023. This indicates a decrease in the proportion of assets financed by debt from 2019 to 2022, followed by an increase in 2023.

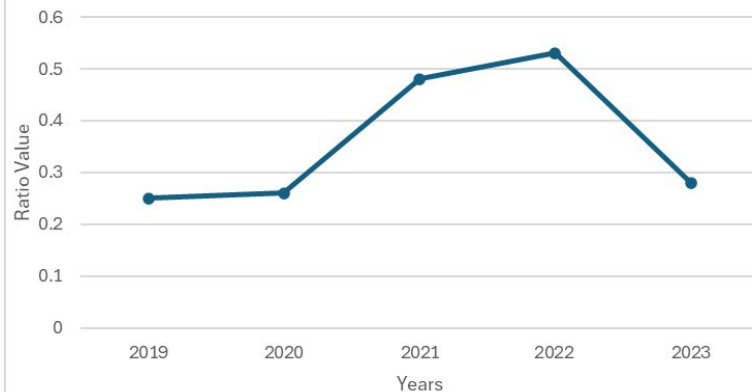
**Debt to Equity Ratio**: Pfizer's debt to equity ratio has shown fluctuations, decreasing from 2019 to 2022 and then increasing in 2023. This indicates a decrease in reliance on debt financing relative to equity financing from 2019 to 2022, followed by an increase in 2023.

**Interest Coverage Ratio**: Pfizer's interest coverage ratio was relatively high in 2019 and 2020, indicating that the company's earnings comfortably covered its interest expenses. However, it decreased significantly in 2021 and 2023. This indicates a decrease in the company's ability to cover interest payments with operating earnings in 2021 and 2023.

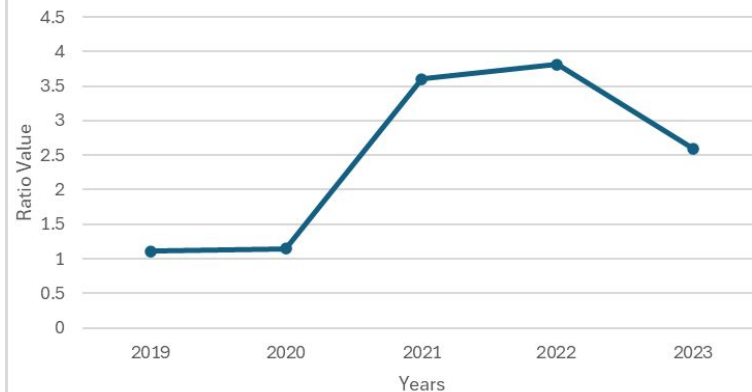
**Debt Service Coverage Ratio**: Pfizer's debt service coverage ratio fluctuated over the years. It increased significantly from 2019 to 2022, indicating an improvement in the company's ability to cover its debt service obligations with operating cash flow. Then, it remained stable at 1 in 2023. This indicates an improvement in financial health and the ability to service debt from 2019 to 2022, followed by stability in 2023.

Year	Efficiency Ratios			
	Asset Turnover Ratio	Inventory Turnover Ratio	Receivables Turnover Ratio	Day Sales in Inventory Ratio
31st March 2019	0.25	1.11	5.53	396.33
31st March 2020	0.26	1.15	5.70	382.41
31st March 2021	0.48	3.60	8.38	114.86
31st March 2022	0.53	3.81	8.95	136.66
31st March 2023	0.28	2.60	5.29	209.25
Average	0.36	2.45	6.77	247.90
Max	0.53	3.81	8.95	396.33
Min	0.25	1.11	5.29	114.86

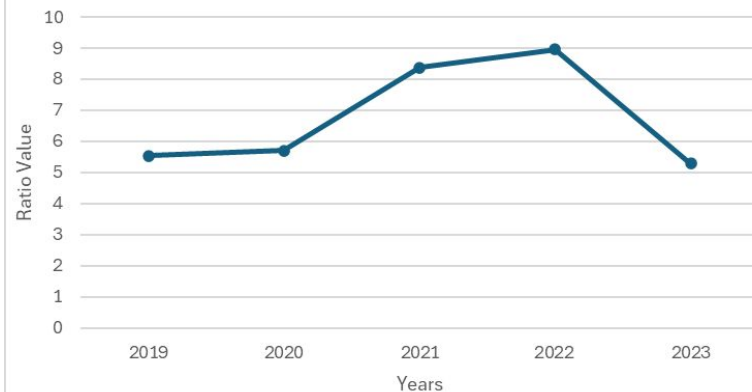
### Asset Turnover Ratio



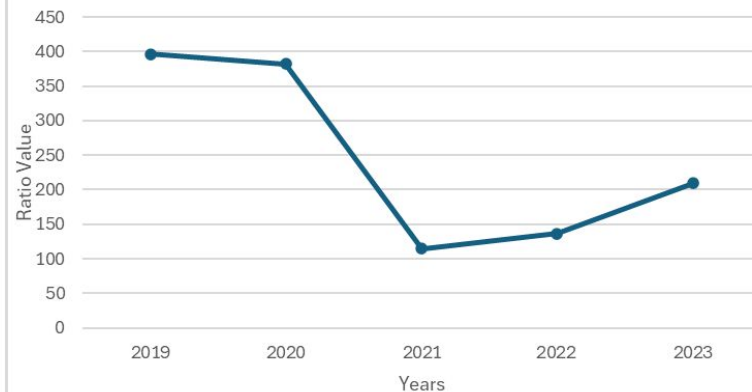
### Inventory Turnover Ratio



### Receivables Turnover Ratio



### Day Sales in Inventory Ratio



# Efficiency Ratios Trend Analysis:

**Asset Turnover Ratio:** Pfizer's asset turnover ratio has fluctuated over the years. It increased from 2019 to 2021, indicating an improvement in the company's ability to generate sales from its total assets. However, it decreased in 2022 and further in 2023. This suggests a decrease in the efficiency of asset utilization in generating sales in those years.

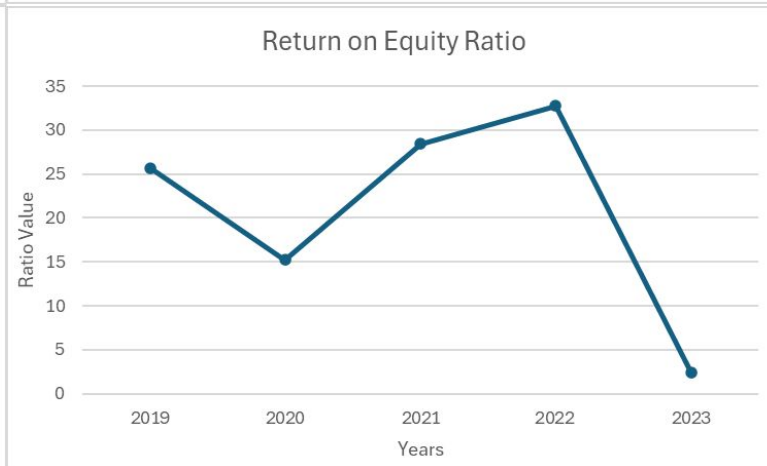
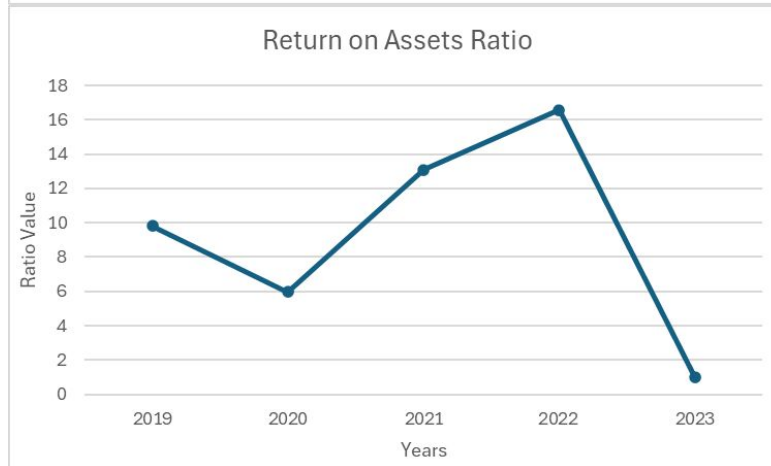
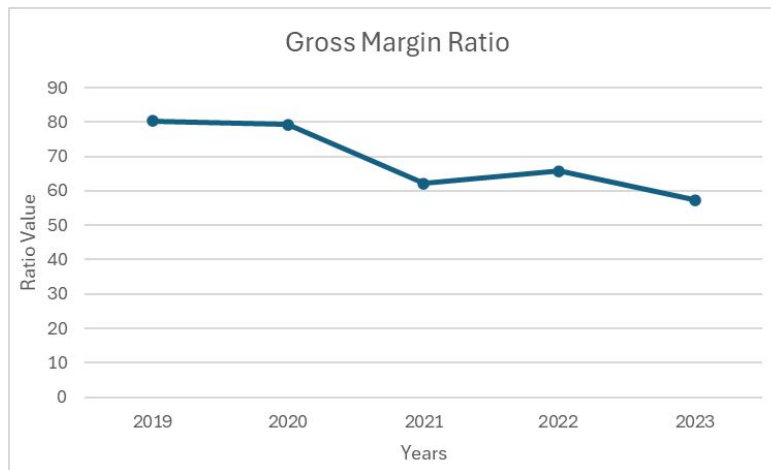
**Inventory Turnover Ratio:** Pfizer's inventory turnover ratio has shown fluctuations as well. It increased steadily from 2019 to 2022, indicating an improvement in inventory management efficiency and the company's ability to sell its inventory. However, it decreased significantly in 2023. This suggests a decrease in the efficiency of inventory turnover and potentially slower sales relative to inventory levels.

**Receivables Turnover Ratio:** Pfizer's receivables turnover ratio has varied over the years. It increased steadily from 2019 to 2022, indicating an improvement in the company's ability to collect receivables from customers. However, it decreased in 2023. This suggests a decrease in the efficiency of receivables turnover and potentially slower collection of receivables.

**Day Sales in Inventory Ratio:** Pfizer's day sales in inventory ratio have shown fluctuations over the years. It decreased steadily from 2019 to 2021, indicating a decrease in the number of days it takes to sell inventory. However, it increased in 2022 and further in 2023. This suggests an increase in the number of days required to sell inventory, potentially indicating slower inventory turnover and sales.

Year	Profitability Ratios			
	Gross Margin Ratio	Operating Margin Ratio	Return on Assets Ratio (in %)	Return on Equity Ratio (in %)
31st March 2019	80.31	36.22	9.80	25.69
31st March 2020	79.26	19.49	5.98	15.21
31st March 2021	62.08	23.91	13.09	28.43
31st March 2022	65.77	34.83	16.57	32.74
31st March 2023	57.34	0.38	1.00	2.42
Average	69.05	22.97	9.29	20.90
Max	80.31	36.22	16.57	32.74
Min	57.34	0.38	1.00	2.42





# Profitability Ratios Trend Analysis:

**Gross Margin Ratio:** The company's gross margin ratio decreased from 80.31% in 2019 to 57.34% in 2023. This indicates a decrease in the profitability of the company's core operations over the years.

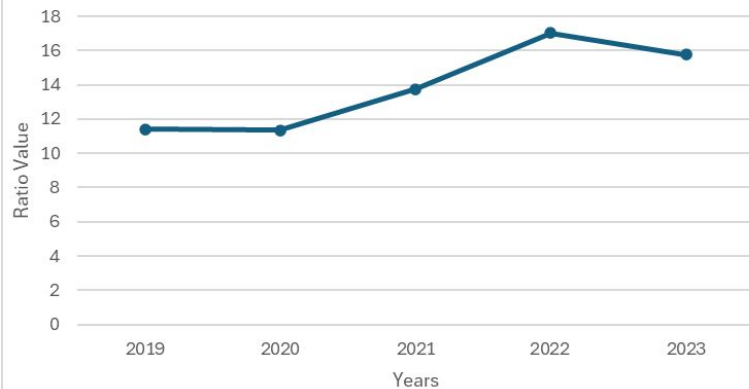
**Operating Margin Ratio:** The company's operating margin ratio fluctuated over the years, reaching a peak of 36.22% in 2019 and dropping sharply to 0.38% in 2023. This indicates a significant decrease in the company's operating profitability and efficiency.

**Return on Assets (ROA) Ratio:** The company's ROA ratio decreased from 9.80% in 2019 to 1.00% in 2023. This indicates a decline in the company's ability to generate profit relative to its asset base over the years.

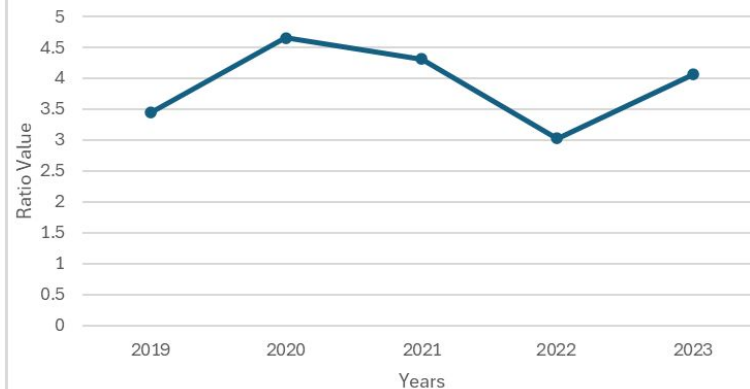
**Return on Equity (ROE) Ratio:** The company's ROE ratio decreased from 25.69% in 2019 to 2.42% in 2023. This indicates a significant decrease in the company's ability to generate profit relative to shareholder equity over the years.

Year	Market Value Ratios			
	Book Value per Share Ratio	Dividend Yield Ratio (in %)	Earnings per Share Ratio	Price-Earnings Ratio
31st March 2019	11.41	3.44	2.88	20.50
31st March 2020	11.36	4.65	1.73	10.90
31st March 2021	13.74	4.31	3.92	19.40
31st March 2022	17.03	3.03	5.59	11.70
31st March 2023	15.77	4.06	0.38	7.88
Average	13.63	3.90	2.90	14.08
Max	17.03	4.65	5.59	20.50
Min	11.36	3.03	0.38	7.88

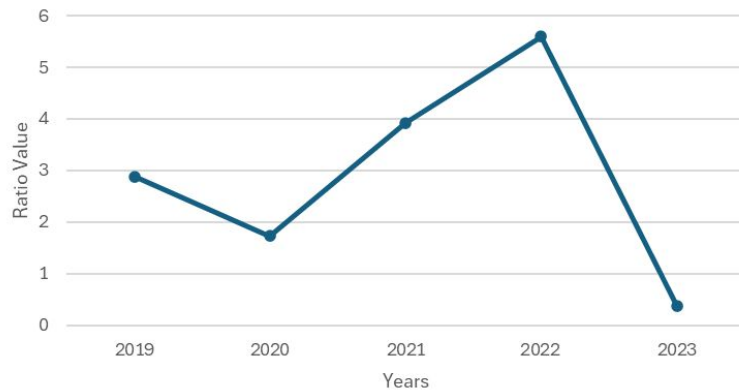
Book Value Per Share Ratio



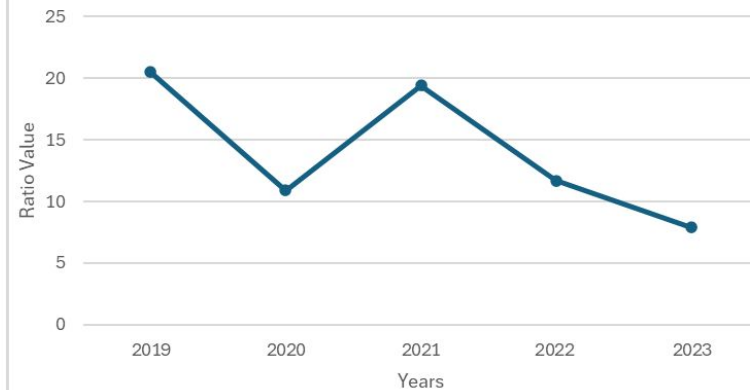
Dividend Yield Ratio



Earnings Per Share Ratio



Price-Earnings Ratio



# Market Value Ratios Trend Analysis:

**Book Value per Share Ratio:** The book value per share ratio has shown fluctuations over the years, starting at 11.41 in 2019, decreasing slightly in 2020, increasing in 2021 and 2022, and then decreasing again in 2023. This indicates changes in the company's net asset value per share over time.

**Dividend Yield Ratio (%)**: The dividend yield ratio has also varied over the years, increasing from 2019 to 2020, decreasing in 2021, and then increasing again in 2022 before decreasing in 2023. This indicates changes in the dividend payout relative to the stock price and suggests fluctuations in dividend policy or market sentiment.

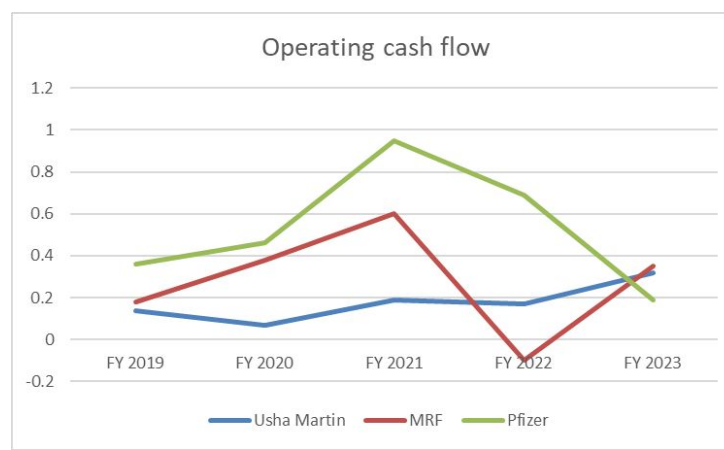
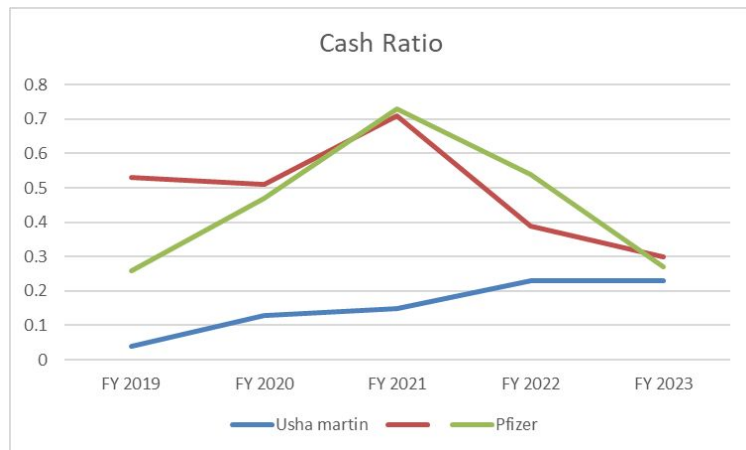
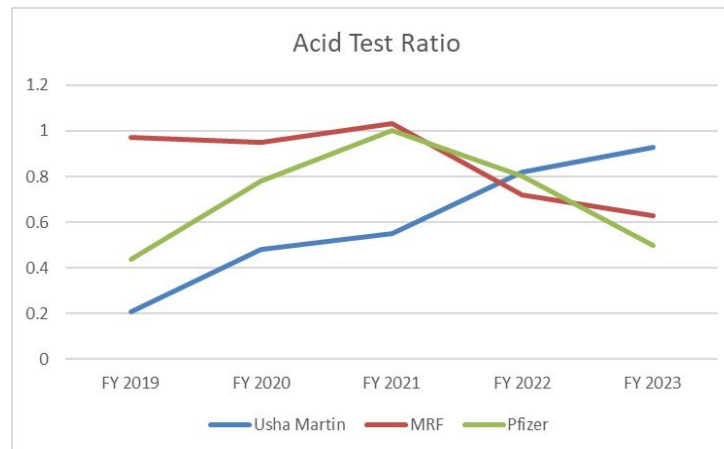
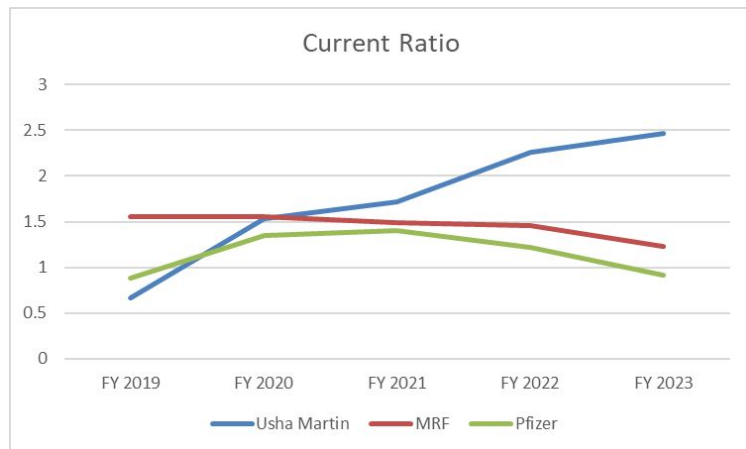
**Earnings per Share Ratio:** The earnings per share ratio have shown significant fluctuations over the years, decreasing from 2019 to 2020, increasing sharply in 2021 and 2022, and then decreasing substantially in 2023. This indicates changes in the company's profitability per share over time, possibly influenced by changes in revenue, expenses, or extraordinary items.

**Price-Earnings Ratio:** The price-earnings ratio has also varied over the years, decreasing from 2019 to 2020, increasing in 2021 and 2022, and then decreasing again in 2023. This ratio reflects the market's valuation of the company's earnings and indicates changes in investor sentiment or expectations about future earnings growth.

## COMPARATIVE ANALYSIS OF ALL 3 COMPANIES

- Usha Martin Ltd.
- MRF Ltd.
- Pfizer Ltd.

## Liquidity Ratio :



# Liquidity Ratio Analysis :

**Current Ratio:** Usha Martin has the highest average current ratios of 1.73 respectively among the 3 companies, which is well above the industry average of 1.0. Pfizer has the lowest average current ratio of 1.15. The companies in the graph have shown either increasing or constant or decreasing growth of current ratio. Usha Martin has an increasing growth rate while, Pfizer has decreasing or almost constant growth rate in current ratio.

**Acid-Test Ratio:** MRF has the highest average acid test ratio of 0.86, which is way above the industry average of 0.06. Usha Martin has the lowest average acid test ratio of 0.6, indicating that it has a lower proportion of quick assets to meet its short-term obligations as compared to the other two companies. Most of the companies in the graph have shown either increasing or decreasing growth of Acid-Test ratio, MRF even though it has the highest average Acid test ratio, has shown a decreasing trend in its ratio value.

**Cash Ratio:** MRF has the highest average cash ratio of 0.49, which is well above the industry average of 0.07. Usha Martin has the lowest cash ratio average of 0.16, which suggests that it has less cash to meet its short-term liabilities as compared to the other two companies. Usha Martin has shown constant ratio value while MRF, Pfizer has shown a sharp decline from the year 2021.

**Operating Cash Flow Ratio:** Pfizer has the highest average operating cash flow ratio of 0.53, which is well above the industry average of 0.10. Usha Martin has the lowest average operating cash ratio of 0.17, which indicates that Pfizer has a better ability to generate operating cash flow to meet their short-term obligations as compared to Usha Martin. The companies have shown decreasing ratio value while Usha Martin has been constant.



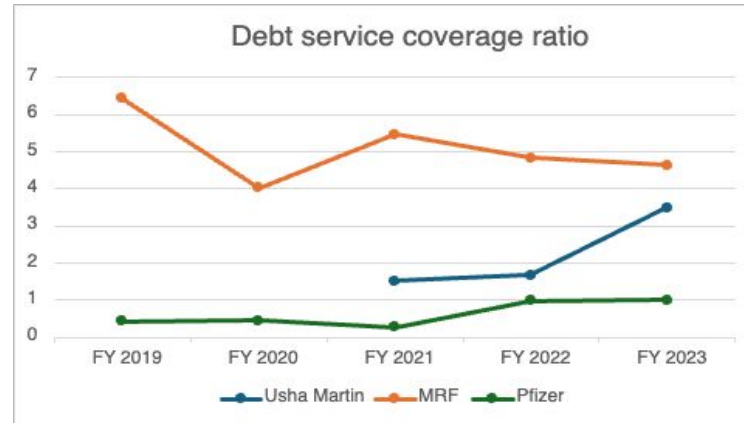
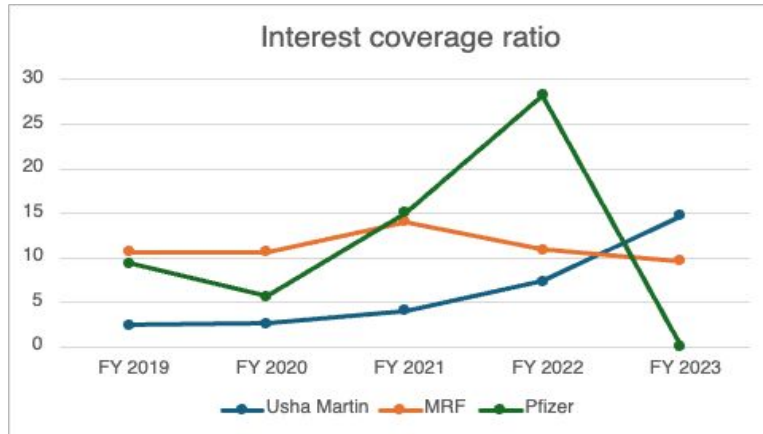
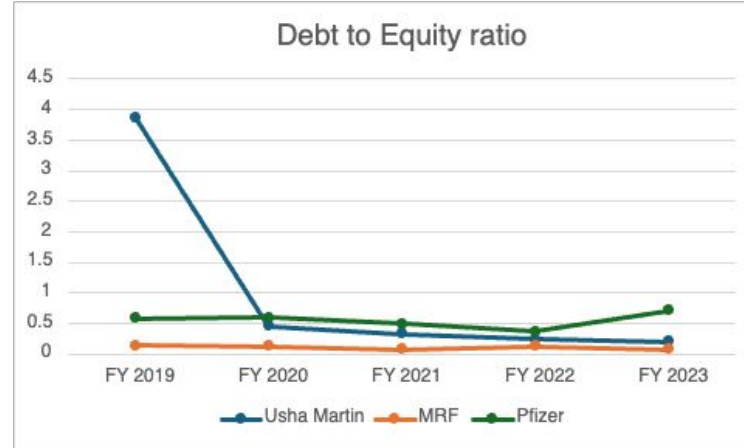
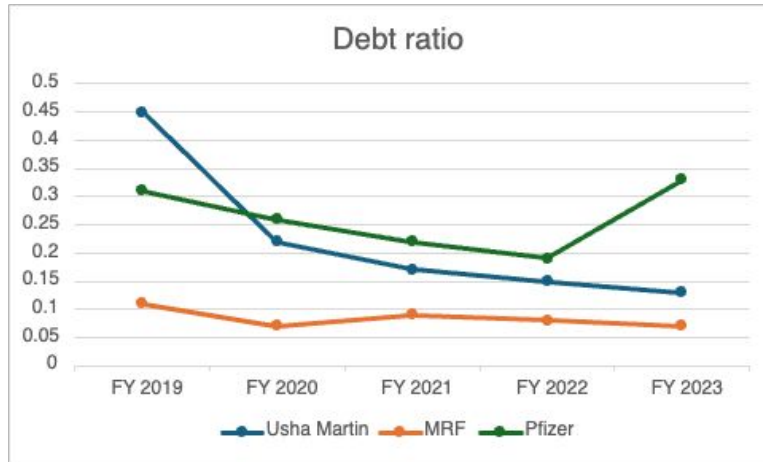
# Economic Inferences :

Overall, **MRF has the strongest liquidity position** among the three companies, with a consistently good current ratio, high acid test ratio, and high operating cash flow ratio. Pfizer also has a very good Operating cash flow and cash ratio while Usha Martin has the lowest averages in most of these ratios.

In comparison to the industry standard, a current ratio of at least 2:1 is generally considered healthy, while an Acid-Test ratio of 1:1 is considered satisfactory. Looking at the data, MRF maintained a current ratio of above 1:1 in all the years, indicating that they have sufficient current assets to meet their current liabilities. However, all three companies have a fluctuating acid test ratio.

In conclusion, while all three companies have **maintained a satisfactory liquidity position** over the years, **MRF stands out** with the highest average liquidity ratio and consistent maintenance of a higher current ratio and acid test ratio compared to the other two companies.

# Leverage Ratio:



# Leverage Financial Ratio Analysis

**Debt ratio:** Usha Martin has the highest debt ratio among the three companies across all years shown. Pfizer's debt ratio remains relatively stable, while MRF's debt ratio shows an increasing trend, surpassing Pfizer's in the later years.

**Debt to Equity ratio:** Usha Martin has the highest debt to equity ratio, indicating a higher level of leverage compared to the other two companies. MRF and Pfizer have considerably lower debt to equity ratios, with Pfizer's being the lowest across most years.

**Interest coverage ratio:** Pfizer appears to have the highest interest coverage ratio, suggesting a strong ability to cover interest expenses from operating profits. MRF's interest coverage ratio fluctuates more but remains higher than Usha Martin's in most years.

**Debt service coverage ratio:** MRF has the highest debt service coverage ratio, indicating a strong capacity to service debt obligations. Usha Martin's ratio is the lowest among the three companies, suggesting potential challenges in meeting debt service requirements. Pfizer's ratio lies between MRF and Usha Martin.

## Economic Inferences :

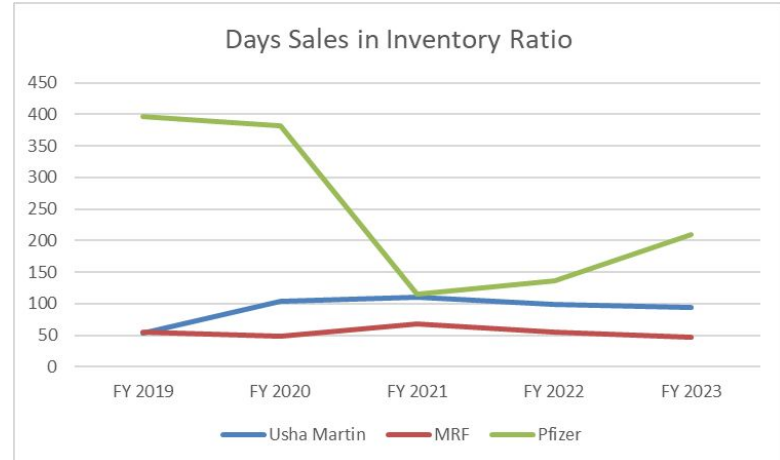
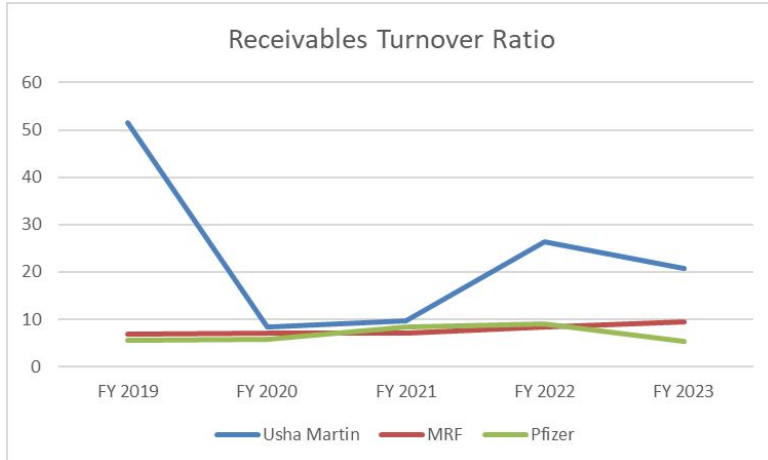
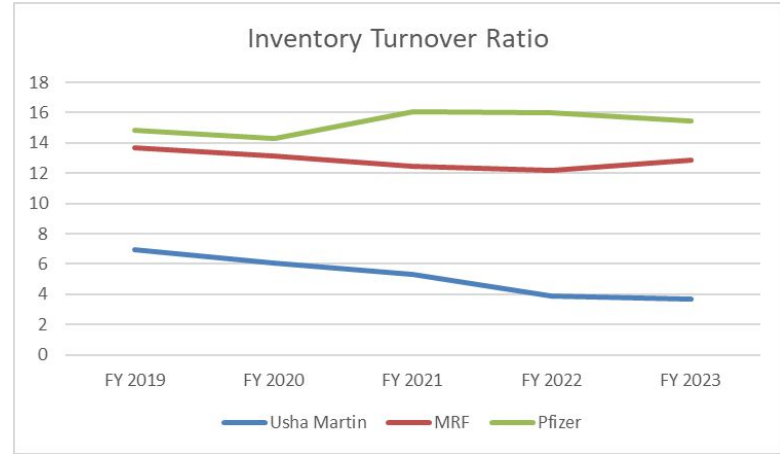
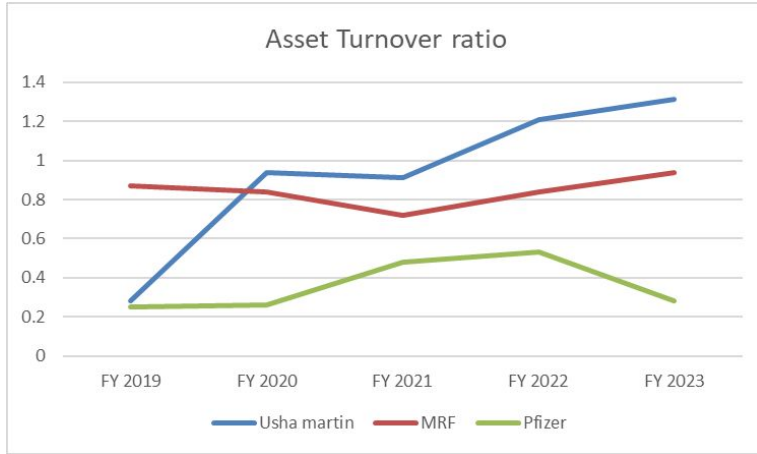
Usha Martin, the steel and wire rope manufacturer, exhibits concerning debt levels with the highest debt ratio and debt-to-equity ratio among the three companies. This high leverage, coupled with its relatively low interest coverage and debt service coverage ratios, suggests potential difficulties in servicing debt obligations and raises questions about its financial stability within the capital-intensive steel industry.

Pfizer, the pharmaceutical company, maintains a moderate and stable debt ratio, reflecting a more conservative capital structure. Its low debt-to-equity ratio and strong interest coverage ratio align with industry norms for well-established pharmaceutical firms that generate substantial cash flows from their product portfolios. However, Pfizer's debt service coverage ratio is lower than expected, indicating potential room for improvement in managing debt obligations.

MRF, the tire manufacturer, demonstrates a relatively conservative approach to debt financing, with a low debt-to-equity ratio across most years. Its high debt service coverage ratio suggests a strong capacity to service debt obligations, which is crucial in the capital-intensive automotive industry. However, MRF's increasing debt ratio and fluctuating interest coverage ratio raise some concerns about its ability to maintain optimal debt levels and efficiently service interest expenses in the long run.

Overall, while Pfizer and MRF exhibit debt and coverage ratios generally aligned with industry standards, **Usha Martin's high leverage and weaker coverage ratios raise red flags** about its financial health and ability to manage debt obligations effectively within the cyclical steel industry.

# Efficiency Ratio :



# Efficiency Ratio Analysis:

**Asset Turnover Ratio:** We can see that Usha Martin has the highest average asset turnover ratio of 0.93 indicating that the company is more efficient in generating sales from its assets compared to the other two companies. Pfizer has the lowest average asset turnover ratio of 0.3 ,amongst the three companies. All the companies have shown an increasing trend in this ratio.

**Inventory Turnover Ratio:** We can see that MRF has the highest inventory turnover ratio average of 7.6, which is almost double the industry average of 3.56 indicating that the company is better at selling its inventory compared to Pfizer with the lowest ratio average of 2.5, even lower than the average.

**Receivables Turnover Ratio:** In terms of receivables turnover ratio average, Usha Martin again has the highest average of 23.3 which is more than two times the industry average of 9.06, indicating that the company collects its receivables more quickly than Pfizer with the lowest ratio average of 6.77..

**Days Sales in Inventory Ratio:** Looking at the days sales in inventory ratio, Pfizer has the highest average ratio value of 247.9 which is way more than the industry average of 60.8, indicating that the company takes the longest time to sell its inventory compared to MRF which has the lowest ratio value average of 54.72

## Economic Inferences :

Companies with high asset turnover ratios are generally considered more efficient in utilizing their assets to generate revenue.

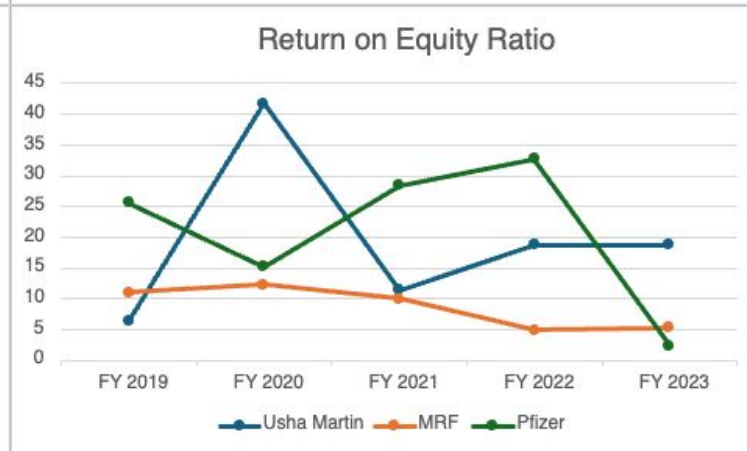
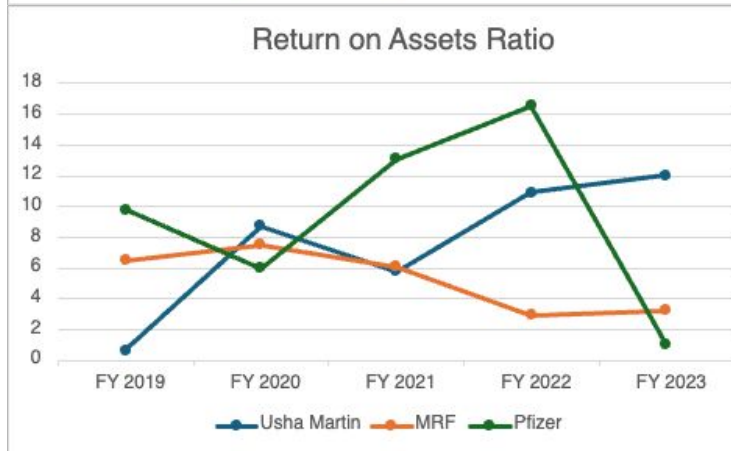
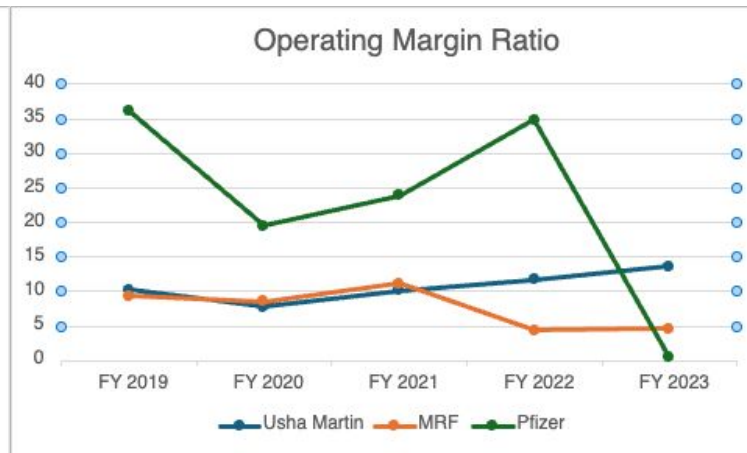
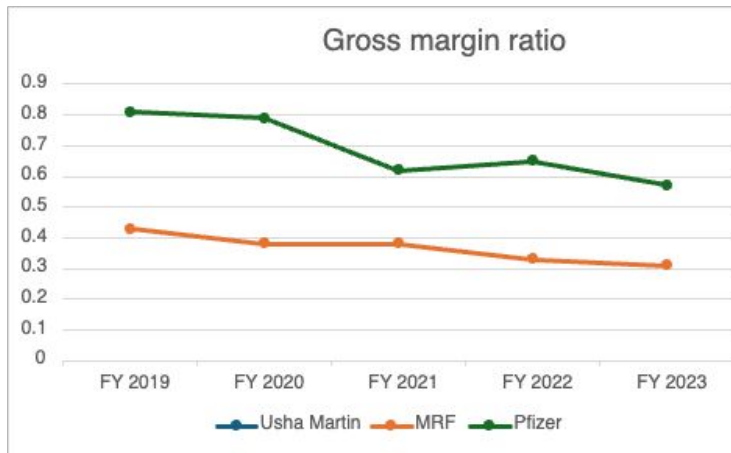
Usha Martin's exceptional performance in inventory and receivables turnover suggests strong working capital management.

Pfizer's lower inventory turnover ratio may prompt a closer look at its inventory management practices. Pfizer's extended days sales in inventory may raise concerns about its inventory holding practices and potential impacts on working capital.

The analysis of debt ratios alongside efficiency ratios can provide a more comprehensive view of a company's risk profile. High debt ratios, combined with efficient asset utilization, may mitigate some financial risks, but careful monitoring is essential.

Overall, the economic inferences drawn from this comparative analysis suggest that **Usha Martin is a more efficient company in terms of generating revenue from its assets and inventory management** compared to MRF and Pfizer. And Pfizer seems to be the least efficient. Analysis should be supplemented with additional financial and non financial data to provide a comprehensive picture of each company's financial performance

# Profitability Ratio :





## Profitability Ratio Analysis:

**Gross Margin Ratio:** Pfizer maintains the highest gross margin ratio, indicating strong profitability from its sales. MRF's gross margin ratio is consistently above Usha Martin but lower than Pfizer's. Usha Martin's gross margin ratio shows a declining trend, suggesting potential challenges in maintaining profitability on sales.

**Operating Margin Ratio:** Pfizer outperforms the other two companies in terms of operating margin ratio, reflecting efficient cost management. MRF's operating margin ratio improved significantly in FY 2023, surpassing Usha Martin's level. Usha Martin's operating margin ratio remains relatively low, indicating higher operating costs compared to revenues.

**Return on Assets Ratio:** MRF demonstrates the highest return on assets, indicating efficient utilization of its assets to generate profits. Pfizer's return on assets ratio fluctuated over the years but remained higher than Usha Martin's. Usha Martin's return on assets ratio shows a declining trend, suggesting challenges in effectively utilizing its assets.

**Return on Equity Ratio:** MRF exhibits the highest return on equity ratio, indicating superior profitability for its shareholders. Usha Martin's return on equity ratio is significantly lower than the other two companies, reflecting lower profitability for its shareholders. Pfizer's return on equity ratio declined in FY 2023 but remained higher than Usha Martin's level.

## Economic Inferences :

Pfizer, a pharmaceutical giant, demonstrates robust profitability metrics, including high gross margins and operating margins, indicating efficient cost management and strong pricing power. Its performance is consistent with industry leaders in the pharmaceutical sector, known for their ability to generate substantial profits from patented drugs.

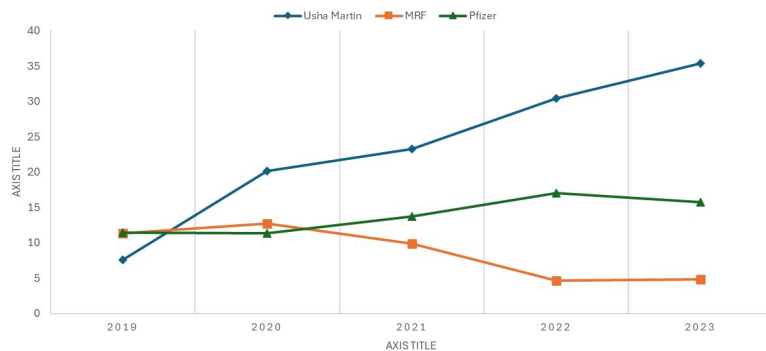
MRF, a tire manufacturer, exhibits impressive profitability ratios, particularly in terms of return on assets and return on equity. This suggests efficient asset utilization and strong profitability for shareholders, aligning with the performance expected from well-managed companies in the capital-intensive automotive industry.

Usha Martin, a steel and wire rope manufacturer, lags behind the other two companies in most profitability metrics. Its declining gross margins, low operating margins, and decreasing returns on assets and equity raise concerns about its ability to maintain profitability. This performance falls short of industry standards in the highly competitive and cyclical steel industry, where cost efficiency and asset optimization are crucial.

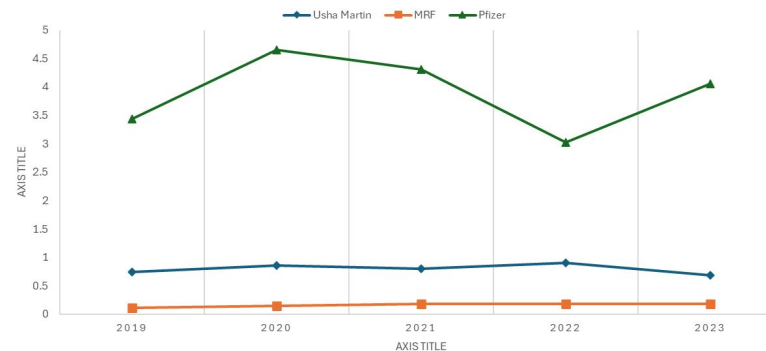
Overall, the profitability ratios highlight **Pfizer and MRF as industry outperformers, while Usha Martin's declining profitability raises questions** about its competitive positioning and operational efficiency within its respective industry.

# Market Value Ratio Analysis:

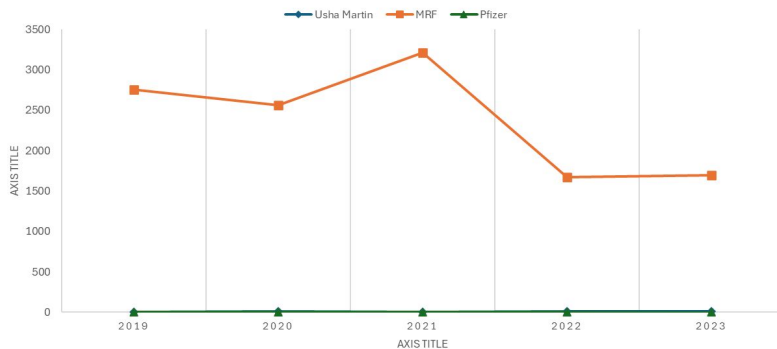
## BOOK VALUE PER SHARE RATIO



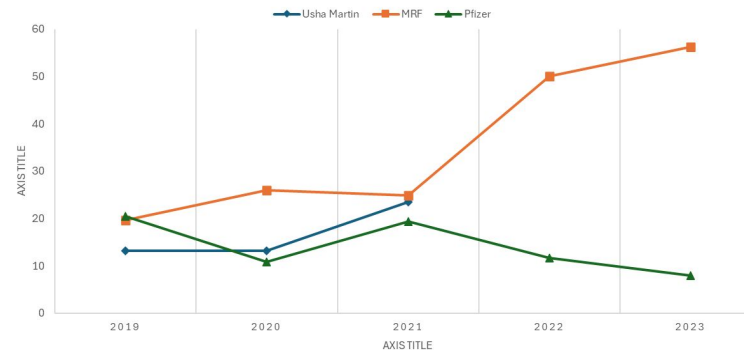
## DIVIDENDS YIELD RATIO



## EARNINGS PER SHARE RATIO



## PRICE-EARNINGS RATIO



# Market Value Ratio Analysis

**Book Value per Share Ratio:** Usha Martin Ltd. has the highest average book value of 23.34 when compared to MRF and Pfizer, both of which have much lower values of 8.65 and 13.63 respectively. Usha Martin has a linearly increasing curve, with Pfizer having a slightly lower trend increase with fluctuations. MRF, however, starts off with an average book value of 11.49, which gradually decreases to the low value of 4.82.

**Dividend Yield Ratio:** Pfizer maintains the highest average ratio of 3.898% compared to Usha Martin and MRF, which have lower values of 0.796% and 0.156% respectively. Pfizer's ratio fluctuates but generally stays at a higher level compared to the other companies.

**Earnings per Share Ratio:** MRF maintains an extremely high average earnings per share ratio of 2379.18, much larger than the industry average. However, while Pfizer and Usha have tiny fluctuations in share prices, MRF has a dramatic fall in share price after 2021, when the earnings per share ratio drops from 3213.38 to 1675.48 the very next year.

**Price-Earning Ratio:** The P/E ratio of MRF fluctuated the most significantly over the five years, starting at around 19.71 in 2019, reaching a high of around 56.21 in 2023. Pfizer and Usha Martin experience fluctuations in their ratios, attaining a peak at 2021 and gradually decreasing.

## Economic Inferences :

The **high average book value per share ratio of Usha Martin Ltd.** compared to MRF and Pfizer suggests that Usha Martin has a stronger asset backing per share. This may be attributed to factors such as efficient asset management and sound financial health. The linearly increasing curve of Usha Martin indicates **steady growth in asset value** over time, reflecting positive performance and potential investor confidence. Conversely, MRF's decreasing trend in book value per share may indicate challenges or changes in the company's asset structure over the years.

**Pfizer's high average dividend yield ratio** suggests a robust dividend payout relative to its share price, which could be influenced by consistent profitability and a shareholder-friendly dividend policy. On the other hand, **Usha Martin and MRF have lower dividend yield ratios**, indicating relatively lower dividend payouts compared to their share prices. This might be due to differing capital allocation strategies or industry dynamics impacting profitability.

MRF's exceptionally high average earnings per share ratio indicates strong profitability, potentially driven by efficient operations, market dominance, or innovation. However, the dramatic fall in MRF share price after 2021, leading to a significant drop in the earnings per share ratio, could be influenced by various factors such as changes in market conditions, business performance, or investor sentiment.

The fluctuations in the price-earnings ratio (P/E ratio) of MRF, Pfizer, and Usha Martin suggest changing investor perceptions and market dynamics over the years. MRF's significant fluctuations may be influenced by factors such as shifts in market sentiment, changes in earnings expectations, or variations in stock valuation methodologies. Pfizer and Usha Martin's fluctuations in P/E ratios may also be impacted by industry-specific factors, economic conditions, or company-specific events affecting earnings and share prices.

## Conclusion :

In summary, MRF emerges as the frontrunner in liquidity, consistently maintaining strong current and acid-test ratios, indicative of its robust short-term financial health. Pfizer closely follows with commendable liquidity metrics, although it adopts a more conservative debt structure compared to Usha Martin, which struggles with weaker liquidity positions and higher leverage, posing concerns about its financial stability within the steel industry.

Efficiency ratios highlight Usha Martin's prowess in asset turnover, suggesting efficient asset utilization and strong working capital management. However, Pfizer may need to refine its inventory management practices for better turnover ratios. On the profitability front, Pfizer and MRF demonstrate dominance, while Usha Martin grapples with declining metrics, signaling potential challenges in maintaining profitability.

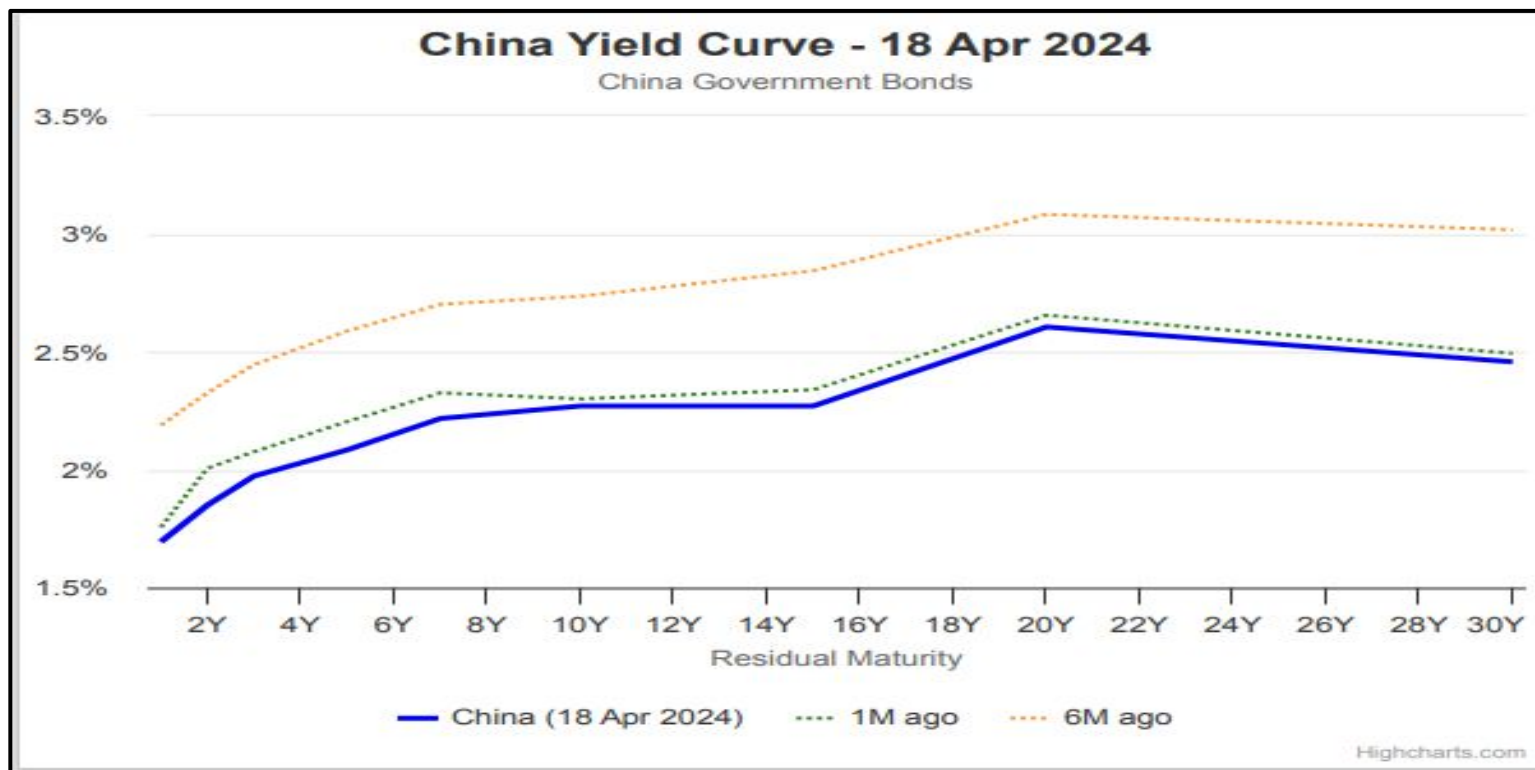
Valuation metrics shed light on Usha Martin's substantial asset backing per share and Pfizer's shareholder-friendly dividend policy, emphasizing their respective strengths. Meanwhile, MRF's impressive earnings per share ratio underscores its profitability, albeit with fluctuations influenced by market dynamics.

In conclusion, while **MRF leads in liquidity and profitability, closely followed by Pfizer, Usha Martin faces hurdles in both areas**. This underscores the importance for each company to implement strategic initiatives aimed at enhancing financial stability and operational efficiency within their respective industries.

# **PART 2 : FINANCE**

# Q.1.

## 1. CHINA





## **Shape of the curve: Positive yield curve**

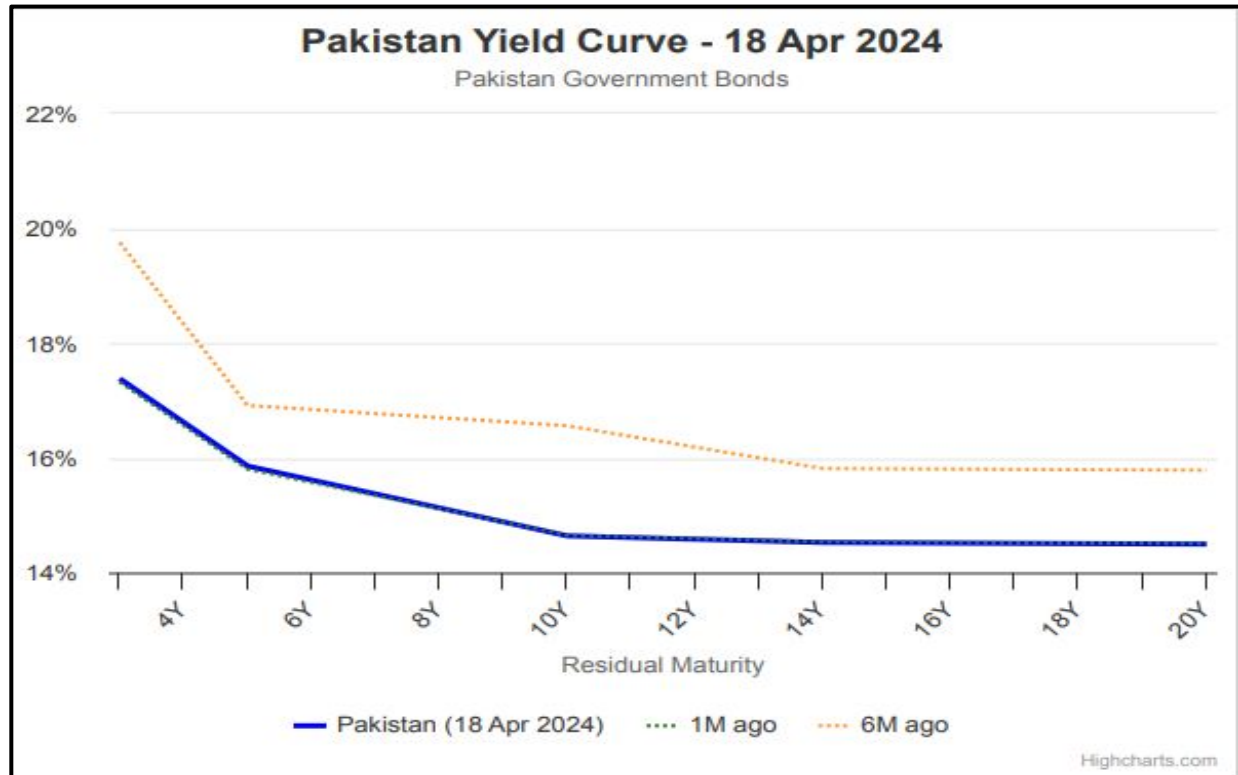
A positive yield curve is a sign that the economy is doing well. It means that short-term interest rates are lower than long-term rates, which suggests that investors believe the economy will grow and they will get better returns by investing in longer-term bonds.

When this happens, people tend to put more money into short-term bonds, which makes their yields go down. The expectation of economic growth encourages businesses and consumers to invest more in things like expanding businesses or buying houses, which boosts overall spending and helps the economy grow.

Central banks' policies and people's desire for safety can also affect the yield curve. If central banks are expected to keep interest rates low or if there's a lot of uncertainty in the world, investors might prefer the safety of longer-term bonds, which can also influence the yield curve. Global economic factors, such as trade tensions or how well the world economy is doing, can also play a part in shaping local yield curves.

A positive yield curve usually has positive effects on the economy. It can lead to higher GDP growth because businesses and consumers are spending more confidently. It also tends to boost consumer confidence and can help keep inflation in check. However, sometimes central banks might still decide to use policies that make it easier for people and businesses to borrow money, even when the yield curve is positive, as a way to support economic growth further.

## 2. PAKISTAN



## **Shape of the curve: Inverted curve**

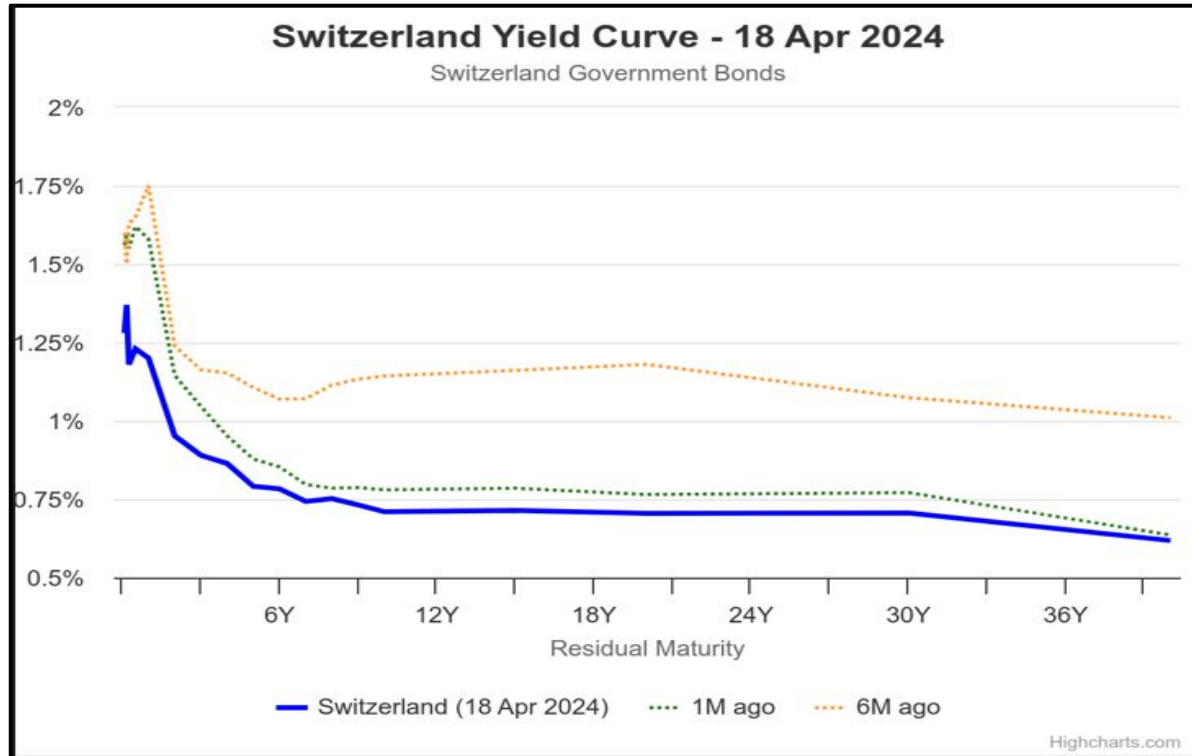
An inverted yield curve happens when short-term interest rates are higher than long-term rates. This often suggests there might be an economic downturn coming. When this occurs, investors might prefer to put their money into safer options like longer-term bonds instead of short-term ones.

To try to deal with the uncertain economy, central banks might lower short-term interest rates. This can make the inversion worse because investors might feel safer putting their money into longer-term assets, causing a "flight to safety."

Things happening globally, like trade problems and how the world economy is doing, can also mess with local yield curves. This can make things like GDP growth, how confident consumers feel, and inflation go down.

To tackle these economic challenges, central banks might decide to use "accommodative monetary policy," which basically means they try to make it easier for people and businesses to borrow money.

### 3. SWITZERLAND



## **Shape of the curve: Inverted curve**

The yield curve is generally downward sloping, which suggests that as the maturity of the bonds increases, the expected return decreases. The curve's shape can be influenced by various economic factors such as inflation expectations, monetary policy, and investor sentiment.

The Swiss yield curve, currently inverted, signifies that long-term interest rates are lower than short-term rates. While it doesn't guarantee specific outcomes, it does raise several important points. First, an inverted curve has historically preceded economic recessions, serving as a warning sign.

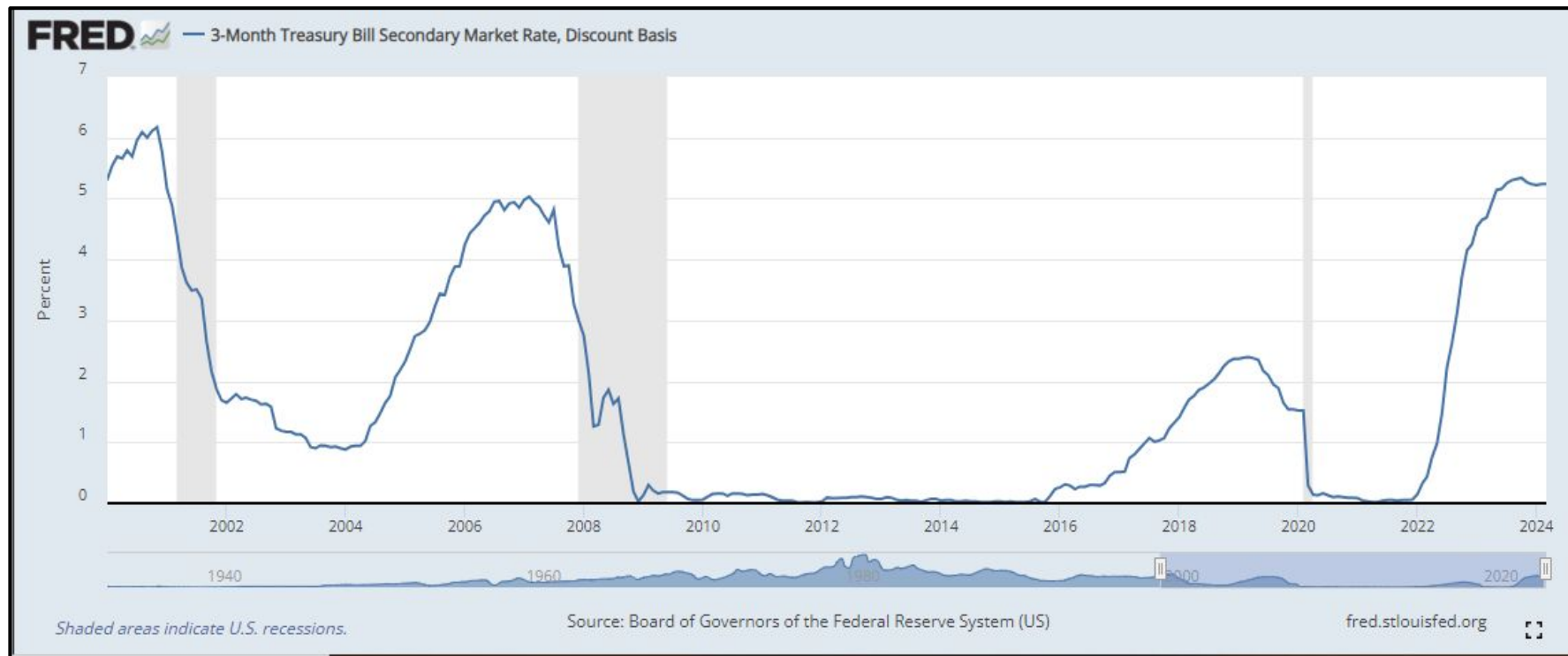
Banks may face profitability challenges due to squeezed net interest margins. Investor sentiment becomes cautious, potentially affecting stock markets. The Swiss National Bank's policies and global economic factors also play a role. Policymakers may respond to the inversion with adjustments to interest rates or fiscal measures. Overall, it's essential to consider the broader economic context beyond the yield curve alone .

The yield curve can also be affected by monetary policy. For instance, if the central bank raises interest rates, the yield curve might steepen as investors demand higher returns to compensate for the increased cost of borrowing.

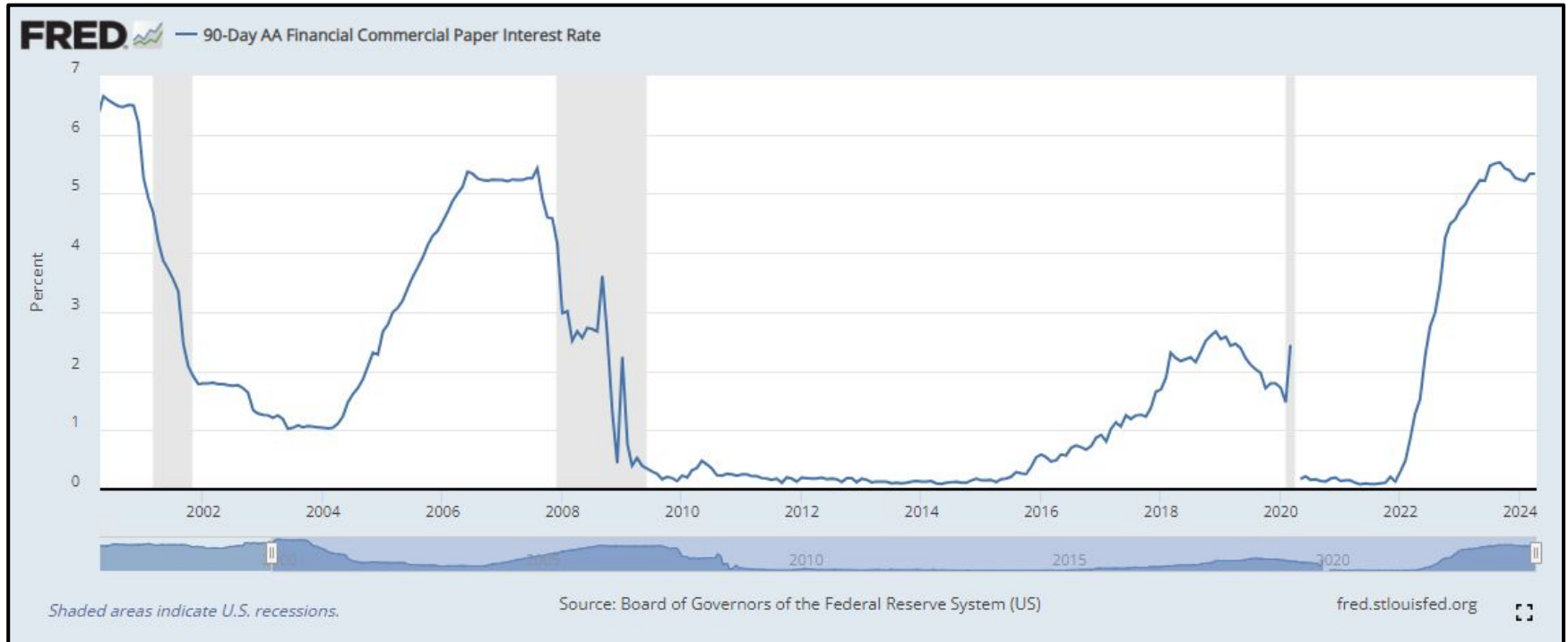
The difference in yield between short-term and long-term bonds is often referred to as the risk premium. A steeper curve can indicate a higher risk premium, which might reflect higher risk in the economy.

Q 2.

## 1. 3 MONTH TREASURY BILL YIELD :



## 2. 90 DAY AA FINANCIAL COMMERCIAL PAPER :



- In this analysis, we have compared the yield of a 3-month T-Bill with another money market security known as Financial Commercial Paper. Both securities have a maturity period of 90 days or approximately 3 months. The graphs displayed above illustrate the percentage interest rates for each security over the course of multiple years.
- A Treasury Bill (T-Bill) represents a brief financial commitment supported by the U.S. government, typically maturing in one year or less (in this instance, we are considering a 3-month period). On the other hand, an AA-rated commercial paper is a form of short-term debt security issued by reputable corporations and banks with a strong credit rating of AA
- The comparison between the two graphs reveals that T-bill yields are generally lower than AA financial commercial paper yields due to the safety associated with T-bills being backed by the U.S. government, while AA financial commercial paper is considered riskier as it is issued by corporations, leading investors to seek higher yields to offset the increased risk..
- The AA financial commercial paper yield experienced a significant disruption in 2020, primarily attributed to the impact of the COVID-19 pandemic, while the T-Bill remained unaffected by this crisis.



- The surge in T-bill yields can be attributed to several factors. First, the Reserve Bank of India (RBI) tightened liquidity by infusing ₹50,000 crore into the banking system through a 14-day variable rate repo auction in February 2023. As liquidity became scarcer, investors demanded higher interest rates on short-term government paper. Second, expectations of further rate hikes by the central bank influenced investor behavior. Persistent inflationary pressures and concerns about additional rate increases contributed to the rise in yields. Third, the Indian government chose to borrow an extra ₹50,000 crore via T-bills instead of dated securities, increasing supply and impacting yields. Overall, a combination of liquidity conditions, inflation expectations, and rate hike possibilities led to the upward trend in T-bill yields over the past year.
- **Change due to economic conditions :** The risk premium on AA financial commercial paper money market security (versus the T-bill) can change over time due to a variety of factors, including changes in economic conditions, changes in the creditworthiness of the issuer, and changes in the supply and demand for the security. The risk premium on risky money market securities has generally increased over the past year due to the economic uncertainty caused by the COVID-19 pandemic. Investors have become more risk-averse, and as a result, they are demanding a higher yield to compensate for the additional risk. Like mentioned in the previous point, the surge might also be due to changes in economic condition of a nation
- In conclusion, the yield on AA Financial commercial paper with a similar maturity is likely to be higher than the yield on a T-bill due to the **difference in credit risk** between the two securities. The risk premium on a specific risky money market security (versus the T-bill) can change over time due to a variety of factors, including changes in economic conditions, changes in the creditworthiness of the issuer, and changes in the supply and demand for the security.

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