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Profitability Analysis of Top Indian Textile Companies: A Comparative Study of Pre and Post Covid Period

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Abstract: *The textile industry in India plays a vital role in economic growth and GDP contribution. This study observes the profitability of selected Indian textile companies during pre-COVID (2018-2019 and 2019-2020) and post-COVID (2021-2022 and 2022-2023) periods, excluding 2020-2021 due to pandemic disturbances. Profitability indicators such as PBT Margin, Net Profit Ratio (NPR), Return on Investment (ROI), Return on Net Worth (RONW), and Return on Assets (ROA) were analysed for six companies: Alok Industries, Vardhman Textiles, Welspun India, Trident, Grasim Industries, and Page Industries. A paired t-test was used to calculate the statistical significance of changes in profitability between the two periods. Alok Industries faced significant losses; other companies showed a temporary decline during the time of COVID-19 but showed recovery in later years. Page Industries maintained a steady profit throughout.*

Introduction

The textile industry is one of the oldest and self-sufficient industries in India. This industry plays important role in development of economy and contributes to GDP growth (Ministry of Textiles, n.d.). Secondly, to agriculture, textile sector provides various employment opportunities for over 45 million people, including both skilled and unskilled workers (Kate & Mukherjee, 2022). India is the largest producer of cotton and jute, second-largest producer of silk and Fibers which is approximately 4% of the global textile and apparel trade (Nandhakumar & Magesh, 2017). Additionally, the sector contributes 2% to India's GDP and accounts for around 13% of the country's total exports (Choudhury, 2024).

The Indian textile industry has capacity to produce a wide range of goods supplying to both domestic and global markets. However, the COVID-19 pandemic, which first occurred in India on January 27, 2020, disturbed this industry. The pandemic led to lockdowns which affected health, trade, and economy of the country. The growth of India's GDP in the fourth quarter of FY 2020 fell to 3.1% (Ministry of Statistics and Programme Implementation, 2020), as reported by the Ministry of Statistics. The textile industry is the second-largest employment generator in the country which faced challenges like shortage of working capital, raw materials, transportation, and labour (Jain, 2020).

During this pandemic, the global supply chain was impacted like cancelation of orders, unpaid invoices, and logistical hurdles. This has affected small-scale industries. Despite these challenges, the demand for PPE kits, masks, and other medical textiles provided a temporary boost to the industry (Kate & Mukherjee, 2022).

This research studies the profitability of the Indian textile industry from 2018 to 2023, except the pandemic-affected (2020-2021). Profitability indicators such as PBT Margin, Net Profit Ratio (NPR), Return on Investment (ROI), Return on Net Worth (RONW), and Return on Assets (ROA) are analysed for six companies that are Alok Industries, Vardhman Textiles, Welspun India, Trident, Grasim Industries, and Page Industries.

The research aims to assess the changes in profitability before and after the pandemic, using paired t-tests to determine the statistical significance of these changes. The findings shows that companies such as Alok Industries suffered losses, others like Vardhman Textiles, Welspun India, Trident, and Grasim Industries experienced a temporary decline but showed recovery in later years. This analysis shows long-term impact of the pandemic on the textile industry and its recovery in post-COVID period.

Literature Review

The impact of the COVID-19 epidemic on the Indian textile industry has been a topic of considerable research and analysis. The study by Choudhury (2024) shows the role of the textile sector in the Indian economy, contributions in GDP, employment, and exports. Using profitability indicators such as PBT Margin, Net Profit Ratio (NPR), Return on Investment (ROI), Return on Net Worth (RONW), and Return on Assets (ROA), Choudhury's study evaluated the financial performance of six textile companies during pre- and COVID-19 periods. The research concluded that while companies like Page Industries successfully maintained profitability during the pandemic, others like Alok Industries faced severe losses which showed impact across the sector.

Kriti Kate and Mukherjee (2022) emphasized that despite challenges, the Indian textile sector managed to recover by offering diverse products and strategic shifts such as manufacturing PPE kits and masks. Similarly, Jain (2020) observed negative impact of the pandemic on global business, which subsequently affected local markets and domestic revenues.

Nandhakumar and Magesh (2017) provided knowledge into government initiatives like setting up integrated textile parks and introducing technology funds which could help in overall sector growth. Such initiatives played an important role in helping the sector recover during the pandemic. Moreover, Gupta (2017) highlighted the differences in financial ratios, such as Return on Capital Employed and Net Profit Margin, providing a format for understanding variability in performance across different firms.

Objectives of the Study

The primary objectives of this study are:

- To assess the profitability of selected Indian textile companies during the pre-COVID (2018-2019 and 2019-2020) and post-COVID (2021-2022 and 2022-2023) periods.
- To determine the financial performance of selected Indian textile companies, excluding the pandemic year 2020-2021.
- To assess whether the COVID-19 pandemic had a statistically impacted the profitability metrics of selected Indian textile companies, using paired t-tests.
- To analyse changes in profitability indicators such as PBT Margin, Net Profit Ratio (NPR), Return on Investment (ROI), Return on Net Worth (RONW), and Return on Assets (ROA) in pre- and post-COVID periods.

Research Methodology

Sources of Data

This study uses secondary data collected from reliable sources, including:

- **Official websites of the selected Companies**:
- Vardhman Textiles Ltd.
- Welspun India Ltd.

- Alok Industries Ltd.
- Trident Ltd.
- Grasim Industries Ltd.
- **Ministry of Textiles**: https://texmin.nic.in
- Annual financial reports of the selected companies
- Books, research papers, articles, and journals related to the textile industry

Period of Study

The study spans five years, focusing on pre-COVID (2018-19 and 2019-20) and post-COVID (2021-22 and 2022-23) periods, while excluding the pandemic-affected year 2020-2021 due to significant disruptions.

Research Sample

The study examines six prominent Indian textile companies:

- Vardhman Textiles Ltd.
- Welspun India Ltd.
- Alok Industries Ltd.
- Trident Ltd.
- Page Industries Ltd.
- Grasim Industries Ltd.

Data Analysis Tools

The profitability of the selected companies is analysed using the following financial ratios:

- PBT Margin
- Net Profit Ratio (NPR)
- Return on Investment (ROI)
- Return on Net Worth (RONW)
- Return on Assets (ROA)

Paired **t-tests** are used to statistically assess whether differences in profitability metrics exist between the pre- and post-COVID periods.

Hypothesis of the Study

To achieve the study's objectives, the following hypotheses are proposed:

For Profit Before Tax (PBT) Margin

- **Null Hypothesis (H0):** There is no significant difference in the PBT Margin of selected Indian textile companies between the pre-COVID and post-COVID periods.
- **Alternative Hypothesis (H1)**: There is a significant difference in the PBT Margin of selected Indian textile companies between the pre-COVID and post-COVID periods.

For Net Profit Ratio (NPR)

- **Null Hypothesis (H0):** There is no significant difference in the NPR of selected Indian textile companies between the pre-COVID and post-COVID periods.
- **Alternative Hypothesis (H1):** There is a significant difference in the NPR of selected Indian textile companies between the pre-COVID and post-COVID periods.

For Return on Capital Employed (ROCE)

- **Null Hypothesis (H0):** There is no significant difference in the ROCE of selected Indian textile companies between the pre-COVID and post-COVID periods.
- **Alternative Hypothesis (H1):** There is a significant difference in the ROCE of selected Indian textile companies between the pre-COVID and post-COVID periods.

For Return on Assets (ROA)

- **Null Hypothesis (H0):** There is no significant difference in the ROA of selected Indian textile companies between the pre-COVID and post-COVID periods.
- **Alternative Hypothesis (H1):** There is a significant difference in the ROA of selected Indian textile companies between the pre-COVID and post-COVID periods.

For Return on Net Worth (RONW)

- **Null Hypothesis (H0):** There is no significant difference in the RONW of selected Indian textile companies between the pre-COVID and post-COVID periods.
- **Alternative Hypothesis (H1): There** is a significant difference in the RONW of selected Indian textile companies between the pre-COVID and post-COVID periods.

Statistical Analysis

The paired t-test evaluates the mean differences in profitability metrics, assessing whether the COVID-19 pandemic significantly impacted the financial performance of the selected textile companies. A p-value less than 0.05 indicates a statistically significant difference, confirming the impact of the pandemic on profitability.

Findings And Discussions

Profit Before Margin (%) Tax (PBT)

Table 1: T-test

	Pre Covid	*Post Covid*
Mean	18.49833333	12.53416667
Variance	350.5391767	32.42967417
Observations	6	6
Pearson Correlation	-0.590026655	
Hypothesized Mean Difference	0	
df	5	
t Stat	0.647675773	
P(T<=t) one-tail	0.27287722	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.545754439	
t Critical two-tail	2.570581836	

The analysis of pre- and post-COVID Profit Before Tax Margins revealed:

- **Observation**: The average of Profit Before Tax margin increased from 12.48% in the pre-COVID period to 16.49% in the post-COVID period which is showing a positive trend.
- **Statistical Test Results**
  - The paired t-test generated a t-statistic of 0.6477, which is less than the critical value (2.5706).
  - The p-value of 0.5457 exceeded the significance level of 0.05 which indicates no statistically significant difference.

Interpretation: While the increase in Profit Before Tax margin is observed, the difference is **not statistically significant**. This suggests that the improvements might be due to external factors, such as cost optimization measures carried during the recovery period.

Net Profit Ratio (NPR)

Table 2: T-test

	Pre Covid	*Post Covid*
Mean	16.0225	9.399167
Variance	386.5855875	22.69997
Observations	6	6
Pearson Correlation	-0.639390593	
Hypothesized Mean Difference	0	
df	5	
t Stat	0.705329617	
P(T<=t) one-tail	0.256049242	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.512098484	
t Critical two-tail	2.570581836	

The paired t-test results for NPR show:

- **Observation**: The average NPR increased from 9.73% (pre-COVID) to 12.67% (post-COVID) which indicates a slight recovery.
- **Statistical Test Results**
  - The t-statistic of 0.7053 is smaller than the critical value (2.5706) and the p-value of 0.5121 is greater than 0.05.

Interpretation: The increase in NPR, though observed, is **not statistically significant**. This trend might be related to uneven recovery across companies, varying product demand, or differences in market positioning. This lack of significance suggests that the changes were not directly by COVID-19 but possibly by other macroeconomic factors.

Return on Capital Employed (ROCE)

Table 3: T-test

	Pre Covid	*Post Covid*
Mean	18.70166667	18.245
Variance	513.7749067	149.7986
Observations	6	6
Pearson Correlation	0.968091361	
Hypothesized Mean Difference	0	
df	5	
t Stat	0.099481443	
P(T<=t) one-tail	0.462310748	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.924621496	
t Critical two-tail	2.570581836	

For ROCE, the analysis indicates:

- **Observation**: The mean ROCE rose significantly, from 13.45% (pre-COVID) to 20.445% (post-COVID) which shows improvement in capital effectiveness.
- **Statistical Test Results**
  - The t-statistic of 0.0995 is much smaller than the critical value (2.5706), and the p-value of 0.9246 is significantly greater than 0.05.

Interpretation: Despite the rise in ROCE, the results show **no statistical significance**. This suggests that the improvement in capital utilization may have been influenced by temporary factors, such as specific company level strategies, rather than a sector-wide trend.

Return on Assets (ROA)

Table 4: T-test

	Pre Covid	*Post Covid*
Mean	7.898333333	8.5775
Variance	69.50890667	36.4076975
Observations	6	6
Pearson Correlation	0.91708322	
Hypothesized Mean Difference	0	
df	5	
t Stat	-0.45032181	
P(T<=t) one-tail	0.335666134	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.671332267	
t Critical two-tail	2.570581836	

The ROA analysis yielded the following:

- **Observation**: The average ROA increased from 7.28% pre-COVID to 10.915% post-COVID, indicating improved asset utilization.
- **Statistical Test Results**
  - The t-statistic of -0.4503 and the p-value of 0.6713 confirm a lack of statistical significance.

Interpretation: The increase in Return on Assets suggests that companies may have improved their asset usage during the recovery phase. However, the lack of statistical significance implies that these changes were not consistent across the sector and cannot be absolutely attributed to the pandemic.

Return on Net Worth (RONW)

Table 5: T-test

	Pre Covid	*Post Covid*
Mean	11.49083333	14.6
Variance	395.5049942	120.1946
Observations	6	6
Pearson Correlation	0.950474594	
Hypothesized Mean Difference	0	
df	5	
t Stat	-0.756932981	
P(T<=t) one-tail	0.241606078	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.483212155	
t Critical two-tail	2.570581836	

The paired t-test for RONW highlights:

- **Observation**: The mean RONW increased from 11.45% to 15.64% post-COVID, showing potential recovery in investor returns.
- **Statistical Test Results**
  - The t-statistic of -0.7569 and a p-value of 0.4832, indicate that the increase is **not statistically significant**.

Interpretation: The results suggest that shareholder gains remained largely stable during the epidemic, with variations potentially driven by financial strategies or pre-existing conditions. The lack of significance implies that the changes in RONW were not regularly experienced across the industry.

Overall Summary of Results

A consolidated analysis of all profitability metrics is presented in Table 6 below:

Table 6

Profitability Metric	t Stat	t Critical (Two-Tail)	p-value (Two-Tail)	Statistical Significance
PBT Margin	0.6477	2.5706	0.5457	Not Significant
Net Profit Ratio (NPR)	0.7053	2.5706	0.5121	Not Significant
Return on Capital Employed (ROCE)	0.0995	2.5706	0.9246	Not Significant
Return on Assets (ROA)	-0.4503	2.5706	0.6713	Not Significant
Return on Net Worth (RONW)	-0.7569	2.5706	0.4832	Not Significant

The findings indicate that none of the profitability metrics experienced statistically significant changes between the pre-COVID and post-COVID periods. This suggests that the Indian textile sector showed remarkable strength during the epidemic. Factors such as government policies, variation into medical textiles, and operational changes may have contributed to the stability observed in profitability metrics.

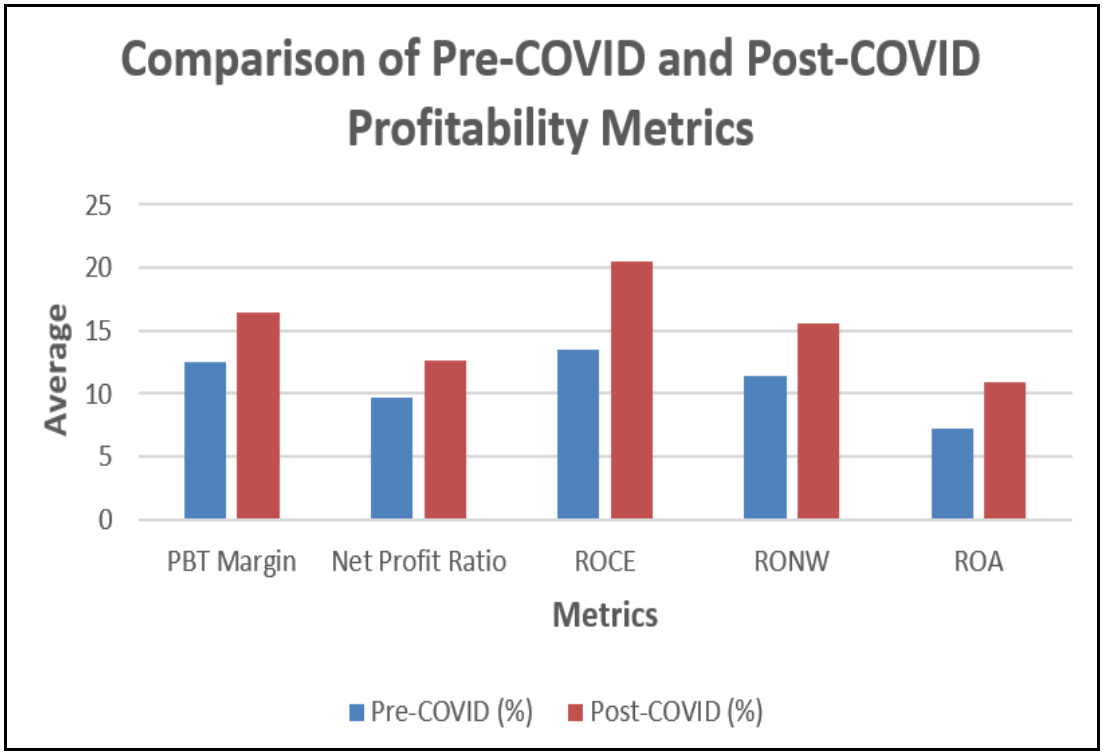

Chart 1

The chart illustrates the comparison of average profitability metrics—PBT Margin, Net Profit Ratio (NPR), Return on Capital Employed (ROCE), Return on Net Worth (RONW), and Return on Assets (ROA)—between the pre-COVID (2018–2020) and post-COVID (2021–2023) periods for the selected Indian textile companies.

Key Observations

- **Return On Capital Employed** shows the most considerable improvement, increasing from an average of **13.45%** pre-COVID to **20.445%** post-COVID. This growth highlights enhanced capital effectiveness, likely driven by operational adjustments and strategic recovery measures adopted during the post-pandemic period.
- Metrics such as **Profit Before Tax Margin** and **Net Profit Ratio** reflect moderate improvements, indicating a slight recovery in profitability. For example, Profit Before Tax Margin increased from **12.48%** to **16.49%,** while Net Profit Ratio increased from **9.73%** to **12.67%.**
- Both **Return on Net Worth** and **Return on Asset** also demonstrated upward trends, signaling better returns on shareholder equity and assets, respectively.

However, despite these visible trends, the results of the paired t-tests indicate that none of these changes are statistically significant at a 5% significance level. This suggests that the observed differences may not necessarily be attributed to the pandemic but could be due to external factors or inherent variability in the data.

Limitations

The study focuses on six companies, which may not fully represent the challenges faced by smaller companies. Additionally, profitability metrics alone may not portray the complete financial picture, as metrics like liquidity and solvency were not analyzed.

Conclusion

The COVID-19 pandemic brought about first-time challenges for the Indian textile industry. However, this study demonstrates that the sector displayed remarkable flexibility during this period. By analyzing key profitability metrics—PBT Margin, Net Profit Ratio (NPR), Return on Capital Employed (ROCE), Return on Net Worth (RONW), and Return on Assets (ROA)—for six prominent companies, the study highlights the industry-wide trends.

Implications

The findings emphasize the importance of diversification and government support in ensuring stability during crises. While large companies have shown recovery, smaller companies and Small Medium-sized Enterprises may require targeted assistance to navigate similar disruptions in the future.

Recommendations for Future Research

Future studies could expand the scope by including more companies, particularly Small and medium sized enterprises**,** and examining additional metrics like cash flow and debt ratios. Exploring the role of technology and digital transformation in maintaining profitability during crises could also provide valuable insights.

In conclusion, the Indian textile industry's ability to withstand the disruptions caused by COVID-19 highlights its resilience and adaptability. With continued innovation, strategic planning, and policy support, the sector is well-positioned to drive economic growth and remain a critical component of India's industrial landscape.

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