

A STUDY ON FUNDAMENTAL AND TECHNICAL ANALYSIS OF PETROCHEMICAL INDUSTRY IN INDIA

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Abstract: The Indian petrochemical industry significantly contributes to economic growth, producing essential chemicals. This study guides investors in analyzing petrochemical stocks through fundamental and technical analysis. Fundamental analysis evaluates industry growth, company financials, management, competitive landscape, and regulations. Technical analysis examines historical price movements and trading volumes using chart patterns, moving averages, and indicators like the RSI. Focusing on companies like DCW Limited, Supreme Petrochem, Savita Oil Technologies, Panama Petrochem Ltd., Manali Petrochemicals Ltd, and Polychem Ltd, the study identifies Manali Petrochemicals Ltd. as the most promising investment. Supreme Petrochem Ltd. is recommended for holding, while high RSI values suggest selling Panama Petrochem Ltd., Savita Oil Technologies Ltd., and Polychem Ltd. Combining both analysis methods offers a comprehensive investment approach, optimizing portfolios in the competitive Indian petrochemical sector.

Keywords: Indian petrochemical industry, Fundamental analysis, Technical analysis, Company financials, Ratios, Chart patterns, Moving averages, RSI (Relative Strength Index).

I. INTRODUCTION

The Indian petrochemical industry is a significant contributor to the nation's economic growth. It produces a vast array of chemicals, plastics, and synthetic fibers used in various sectors like packaging, construction, and textiles. Investing in these stocks can be rewarding, but proper analysis is crucial. This guide will introduce you to fundamental and technical analysis techniques applicable to petrochemical stocks in India for your research.

Fundamental Analysis

Fundamental analysis focuses on a company's financial health and future prospects.

Industry Growth: Research India's overall petrochemical industry outlook. Is it projected to grow due to factors like rising disposable income and infrastructure development.

- **Company Financials:** Analyze the company's financial statements, including revenue growth, profitability (margins), debt levels, and dividend payouts.
- **Management Strength:** Evaluate the management team's experience and track record in navigating market challenges.
- **Competitive Landscape:** Assess the company's position within the industry. Does it have a strong market share and competitive advantage?
- **Government Regulations:** Stay informed about government policies and regulations that could impact the industry's profitability.

Technical Analysis

Technical analysis focuses on historical price movements and trading volume to identify potential entry and exit points for investments. Here are some common techniques:

- **Chart Patterns:** Analyze historical price charts for recurring patterns like head and shoulders or breakout patterns that might indicate future price movements.



- **Moving Averages:** Identify long-term and short-term trends by studying moving averages, which smooth out price fluctuations.
- **Technical Indicators:** Utilize technical indicators like the Relative Strength Index (RSI) or Stochastic Oscillator to gauge momentum and potential overbought or oversold conditions.

While fundamental and technical analysis differ, that can be powerful when used together. Fundamental analysis helps you understand the company's intrinsic value, while technical analysis helps you time your entry and exit points based on market sentiment.

DCW Limited

DCW Limited formerly Dhrangadhra Chemical Works Limited is a leading Indian chemical manufacturer with over 8 decades of experience. They focus on Chlor-Alkali, Soda Ash, and PVC segments, but also produce various other chemicals. They have a growing presence in specialty chemicals and are expanding their product portfolio.

Supreme Petrochem Ltd

Supreme Petrochem Ltd. (SPL) is a dominant player in the Indian petrochemical industry, particularly known for its polystyrene (PS) production.

Market Leader: Established in 1995, SPL boasts the largest production and export capacity for PS in India, holding over 50% of the domestic market share. It's also a leading PS exporter, reaching over 100 countries globally.

- **Strong Legacy:** Backed by prominent names like The Supreme Industries Ltd. and R. Raheja Investments Pvt Ltd., SPL leverages their expertise and brand reputation.
- **Growth Trajectory:** From a modest beginning, SPL has grown exponentially. They've expanded production capacity and diversified into other Styrenics products like Expandable Polystyrene (EPS).
- **Commitment to Quality:** SPL prioritizes high-quality products, employing state-of-the-art technology and adhering to international standards like ISO 9001 and 14001.

Savita Oil Technologies Ltd

Savita Oil Technologies Limited (SOTL) is a prominent Indian company engaged in the production of automotive, industrial lubricants, and a diverse range of petroleum specialty products.

- **Rich History:** Established in 1961 (formerly known as Savita Chemical), SOTL boasts a strong legacy of over 60 years in the industry.
- **Product Expertise:** Their core strength lies in specialty petroleum products like transformer oils, white oils, lubricating oils, and petroleum jellies.

Panama Petrochem Ltd

Panama Petrochem Ltd. (PPL) is a well-established Indian company catering to the specialty petrochemicals segment. Here's a glimpse into what makes them a prominent player:

- **Established Presence:** Founded in 1982, PPL boasts a rich heritage of over 40 years in manufacturing and exporting specialty petroleum products.
- **Diverse Product Portfolio:** They offer a wide range of over 80 variants of specialty petrochemicals, catering to various industries. These include:
 - Mineral oils and liquid paraffins
 - Transformer oils
 - Petroleum jellies
 - Rubber process oils

Manali Petrochemicals Ltd

Manali Petrochemicals Limited (MPL) is a prominent Indian company established in 1986, specializing in the development and production of innovative polyurethane (PU) raw materials and blended systems.

- **PU Expertise:** MPL focuses on Polyurethane, a versatile material used in a wide range of industries, including appliances, automotive, furniture, footwear, paints and coatings, pharmaceuticals, and even food & fragrances.

Polychem Ltd

Polychem Ltd., established in 1956, is a leading Indian manufacturer of specialty chemicals, particularly styrene-based polymers and co-polymers. Their products cater to diverse applications in pharmaceuticals, construction, paints, and more. They are known for their ability to produce custom resins and cater to small and bulk orders.

**II. STATEMENT OF PROBLEM**

The Indian petrochemical industry is a significant contributor to the nation's GDP, but faces challenges due to fluctuating global crude oil prices, evolving government regulations, and increasing competition. Investors in this sector require a comprehensive understanding of both the industry's fundamentals and short-term price movements to make informed investment decisions. This study aims to bridge this gap by employing a combined approach of fundamental and technical analysis. By analyzing financial data, industry trends, and historical stock price movements, the study will seek to identify factors influencing the performance of petrochemical companies and their stock prices.

2.1 OBJECTIVES OF STUDY

- To assess the current state and growth prospects of the Indian petrochemical industry.
- To analyze the fundamental and technical analysis on the petrochemical industry.
- To evaluate the effectiveness of various technical indicators to identify recurring Patterns and Relative strength index (RSI), Moving averages in predicting future price movements of petrochemical stocks.

III. REVIEW OF LITERATURE**Fundamental Analysis:**

Jaouda Elleuch (2009) elucidates that a simple strategy based on past accounting information can predict future stock movements. The goal of this study is to show that simple screening based on past financial signals can help investors identify winning and losing stocks. The results demonstrate that past accounting information aids investors in creating portfolios that achieve better future returns.

Ben McClure (2004) differentiates the Discounted Cash Flow (DCF) analysis model for all future cash flows. These cash flows are projected and discounted at the Weighted Average Cost of Capital to determine their present values. These present values are then used to evaluate the feasibility of an investment proposal. If the value obtained through DCF analysis exceeds the current cost of investment, the proposal may be considered feasible from the investor's perspective.

Eli Amir (2004) investigates investor perceptions of Return on Equity and compares this component with quarterly earnings announcements. This study examines the market reaction to ROE and its components, emphasizing the importance of each component. It identifies various factors that influence ROE, providing valuable insights into investor behavior.

Technical Analysis:

David Enke (2006) verifies the relationship between neural networks and Technical Analysis (TA). It has long been recognized that market volumes provide crucial information for understanding stock price movements. This work develops equi-volume charting to analyze stocks in a volume frame rather than a time frame. Two technical indicators, Volume Adjusted Moving Average and Ease of Movement, are developed for volume charting. The study advocates using these tools for making different trading decisions.

Po-Hsuan and Chung-Ming Khan (2005) evaluate the profitability of Technical Analysis using two tests: White's Reality Check and Hansen's Superior Predictive Ability (SPA) test. This research compares these tests and provides significant contributions to the literature. It offers a framework for strategizing portfolios using these tests, enhancing the understanding of TA's profitability.

Stefan Reitz (2005) addresses the complexities of Technical Analysis by establishing a standard asset market approach informed by Bayesian learning. The research suggests that forecasting success depends on the time series properties of undisclosed fundamentals, offering a comprehensive model for understanding asset prices

IV. RESEARCH METHODOLOGY**Research design**

The present study deal with Quantitative research is the process of collecting and analysing numerical data. It can be used to find patterns and averages, make predictions, test causal relationships, and generalize results to wider network.

Collection of Data

- ✓ **Secondary data**

Financial Statement are collected from respected organization. They are, DCW Ltd, Manali Petrochemical Ltd, Panama Petrochem Ltd, Savita Oil Technology Ltd, Supreme Petrochem Ltd, Polychem Ltd through websites, journals and Project reports.

Time period

This study is made of a period of 5 accounting years 2019-2023.

V. FINDINGS**Fundamental Analysis:**

1. Current Ratio: Manali Petrochemicals Ltd holds the best liquidity position with the highest mean current ratio of 2.756.
2. Liquidity Ratio: Manali Petrochemicals Ltd. has the highest mean Quick Ratio of 2.282, indicating strong liquidity.
3. Net profit Margin: Manali Petrochemicals Ltd. exhibits the highest mean Net Profit Margin at 13.38%, indicating robust profitability.
4. Gross profit Margin: Manali Petrochemicals Ltd. leads with the highest mean Gross Profit Margin of 17.586%, indicating superior cost efficiency.
5. Return on Asset: DCW showed the lowest mean ROA at 2.886%.
6. Manali Petrochemicals Ltd had the highest payout ratio in 2023 at 59.24%
7. Market Ratio: Savita Oil Technologies Ltd consistently exhibited the highest mean market ratio at 93.888, peaking at 180.51 in 2021.
8. P E Ratio: DCW exhibited significant fluctuations, with extreme values in 2019 and 2021, 180.45%.
9. Dividend Yield ratio: Savita Oil Technologies Ltd consistently provided the highest dividend yields (**9.3**), peaking in 2020.
10. Dupont Analysis: Supreme Petrochem Ltd consistently achieved the highest ROE, **29.602%** peaking in 2020.

Technical Analysis:**Moving average:**

1. DCW Ltd Moving average generally increases until it peaks at 56.2 in Dec 2023.
2. Manali Petrochemical Ltd fluctuates slightly but generally increases until it peaks at 72.2 in December 2023.
3. Panama Petrochem Ltd generally increases until it peaks at 344 in March 2024.
4. Savita Oil Technologies Ltd generally increases until it peaks at 471.6 in March 2024.
5. Supreme Petrochem Ltd increases until it peaks at 659 in March 2024.
6. Polychem Ltd slightly increases until it peaks at 2772 in March 2024.

Relative Strength Index (RSI):

1. Dcw Ltd Shows the RSI signal is hold the shares (57.98)
2. Manali Petrochemical Ltd Shows the RSI signal is hold the shares (58.85)
3. Panama Petrochem Ltd shows the RSI signal is Sell the shares (72.45)
4. Savita Oil Technologies Ltd shows the RSI signal is Sell the shares (89.67)
5. Supreme Petrochem Ltd shows the RSI signal is hold the shares (69.42)
6. Polychem Ltd shows the RSI signal is Sell the shares (78.54)

VI. SUGGESTIONS

Based on the analyses, Manali Petrochemicals Ltd stands out as a strong investment candidate due to its robust liquidity, profitability, and high dividend payouts. Consider investing in this company for stable returns. DCW's volatility and lower ROA suggest caution, so monitor it if you're already invested but be wary of new investments. Supreme Petrochem Ltd's high ROE and positive moving average trends make it a solid hold. Conversely, high RSI values indicate that Panama Petrochem Ltd, Savita Oil Technologies Ltd, and Polychem Ltd are overbought, suggesting it may be prudent to sell these shares.

Investment Recommendations

- **Manali Petrochemicals Ltd:** Stands out as the strongest investment candidate due to its robust liquidity, profitability, and high dividend payouts. Investors seeking stable returns should consider investing in this company.



- **DCW Ltd:** Its volatility and lower ROA suggest caution. Current investors should monitor closely, but new investments should be approached with caution.
- **Supreme Petrochem Ltd:** High ROE and positive moving average trends make it a solid hold for investors.
- **Panama Petrochem Ltd, Savita Oil Technologies Ltd, and Polychem Ltd:** High RSI values indicate these stocks are overbought, suggesting it may be prudent to sell these shares to capitalize on current high valuations.

VII. CONCLUSIONS

Combining fundamental and technical analysis provides a comprehensive view of the investment landscape in the Indian petrochemical industry. This approach enables investors to understand the intrinsic value of companies and time their entry and exit points based on market sentiment. By leveraging these insights, investors can make informed decisions to optimize their portfolio and achieve better returns in the dynamic petrochemical sector.

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