

Market Dynamics and Interconnectivity of Diverse Asset Classes: A Comprehensive Analysis of Reliance Industries, Silver, Silver BeES, and Crude Oil

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Abstract - This study looks at how the market works how prices have changed over time and how big economic events affect four financial things: Crude Oil, physical Silver, Nippon India Silver ETF, which is also known as Silver BeES and the stock of Reliance Industries Limited or RIL for short. As the world economy deals with the 2026 financial situation with changing money policies, unsure politics and a move to cleaner energy it is more important than ever to understand how different types of investments behave. This is so we can make investment plans. The study uses data from 2015 to early 2026 looks at trends and checks basic economic ideas to see what makes commodities, special funds and big company stocks work. It finds out that crude oil is still a factor in making prices rise and can really hurt countries that import a lot, like India. Safe investments like silver and Silver BeES have helped protect against rising prices and have made a lot of money over the years. At the time Reliance Industries, which shows how well Indian companies are doing has been strong but also sometimes weak because of changing commodity prices and what people think about the market. This research gives an honest look at these investments offers fair ideas checks the risks and thinks about why it is necessary to spread investments across different types to manage money well. The study of Crude Oil, Silver, Nippon India Silver ETF or Silver BeES and Reliance Industries Limited stock provides a lot of information, about how these financial things work and how they can affect each other. It is important to understand how Crude Oil, Silver, Nippon India Silver ETF or Silver BeES and Reliance Industries Limited stock behave so we can make good investment decisions.

1. INTRODUCTION

The financial markets are very complicated. Everything is connected. When one type of investment moves it affects all the others. For people who study finance or work in the field watching what happens in the markets is a way to learn about the big picture of the economy managing risk and spreading investments around. Over the ten years and especially in early 2026 the global markets have been through some really big changes. There have been problems with getting things from one place to another central banks have been making decisions about money there are conflicts between countries and technology is moving really fast. In this changing world investors are always trying to find a balance between risk and return by putting their money into types of investments. Each type of investment has its special job in helping to preserve wealth and make more money.

This research paper is going to take a look at four specific investments: Crude Oil, physical Silver, the Nippon India Silver ETF, which is also known as Silver BeES and the stock of Reliance Industries Limited or RIL for short. We picked these four because they represent parts of the financial market. Crude oil is a commodity that affects how much energy costs and inflation. Physical silver is a metal that is used for industry and is also a safe place to put money. Silver BeES is a way for people to invest in commodities using digital exchanges.. Reliance Industries is a big company that does well when people are buying things and energy is affordable.

The main goal of this study is to look at how these four investments work. We want to see what happens when something changes, like the price of crude oil going up because OPEC+ cut production. How does that affect inflation in our country? What happens to the value of safe-haven investments like silver? How does it affect the stock price of a big company, like Reliance Industries? This paper will break down the history of these investments look at what makes their prices move show data and models that illustrate how they are growing and talk about how they affect the economy. We will also look at what this means for students and how they can use these insights to make investment decisions.

2. RATIONALE AND PERSONAL ENGAGEMENT

The rationale for choosing this specific combination of assets stems from a personal and academic interest in understanding how macroeconomic variables influence retail investment strategies in India. Every day, news outlets report on the rising or falling price of crude oil, but rarely do these reports deeply connect the dots to how this impacts the common retail investor holding mutual funds or specific stocks in their demat accounts. I wanted to investigate these connections systematically.

Over the past few years of observing market trends, I noticed a recurring pattern: whenever global uncertainty rises or inflation numbers exceed expectations, traditional equities often face severe sell-offs or enter consolidation phases. During these exact periods, precious metals, particularly silver, tend to experience sharp upward rallies. However, buying physical silver comes with practical challenges, including high making charges, purity concerns, and storage costs. The emergence of Exchange Traded Funds (ETFs) like Silver BeES completely revolutionized this space, democratizing access to precious metals for retail traders. Concurrently, tracking a massive conglomerate like Reliance Industries which operates the world's largest single-location oil refinery complex alongside India's largest telecom network (Jio) and retail chain provides a perfect lens through which to view the real-world corporate impact of these commodity fluctuations.

Understanding this dynamic is not merely an academic exercise; it is highly practical. For anyone looking to build a resilient financial portfolio, knowing how to hedge against the volatility of equities using non-correlated assets like silver is a fundamental skill. This research aims to formalize these observations, utilizing historical data and established financial theories to validate the relationships between these diverse asset classes.

3. AIM OF INVESTIGATION

The present study seeks to address the following issues related to the dynamics of markets.

- a) What has been the past performance and current trends in Crude Oil, Silver, Silver BeES, and Reliance Industries and what would be their performance till 2026?
- b) What are the main factors related to macro economy, geopolitics, and sectoral economics that influence the creation of the price discovery process of the four mentioned above assets?
- c) How does the investment in commodities through Silver BeES differ from investing directly into assets such as Silver?
- d) How would the rising costs of crude oil impact the Indian economy?
- e) Is it possible to predict the future performance of assets based on past trends and data?
- f) What does a student gain regarding investment from the analysis of the interconnectivity of the selected above assets?

4. BACKGROUND AND THEORETICAL FRAMEWORK

For a proper analysis of the dynamics of these assets, it is necessary to rely on theories that have been developed in finance and economics. The dynamics of commodities and stocks in various market environments have been explained by various authors.

4.1 Modern Portfolio Theory (MPT) and Asset Allocation

As introduced by Harry Markowitz, Modern Portfolio Theory states that a portfolio consisting of more than one asset could be created such that it would deliver maximum returns at a certain degree of risk. The fundamental principle behind MPT is to invest in non-correlated or even negatively correlated assets. In terms of the present research, if one opts to create a portfolio that consists only of stocks (such as RIL), he will be subjected to the risk that pertains to the entire market. However, if he includes commodities such as Silver or Silver BeES, the variance (or the risk) associated with his portfolio can be lowered.

4.2 The Safe Haven and Flight to Quality Theories

Safe-haven refers to an investment asset expected to maintain or gain value when faced with market instability. The name has always been linked to the metal gold. Silver, which is also a valuable metal has a lot of the same qualities that make it a good asset to invest in. People call this idea the "flight to quality" theory. It is what happens when investors get nervous because of problems tensions, between countries and rising prices. When this happens they sell assets that're risky like stocks and put their money into safer things that they can touch. Silver prices went up a lot in 2024, 2025 and the beginning of 2026. This was mostly because investors were doing this and prices were not going

down even though inflation was staying high. Silver prices are still affected by this investor strategy and Silver is still a choice. Silver is what people turn to when they want an investment.

4.3 Cost-Push Inflation and Commodity Super cycles

This example represents classic cost-push inflation. When the price of oil increases because of limited supply like when OPEC+ makes cuts or there are problems in the Middle East it affects everything. The cost of getting things from one place to another making things and the materials used to make them will all go up over the world. Companies have to decide if they want to make money or if they want to charge more for things, which makes the prices that people pay go up.

A commodities supercycle is when the prices of some things like oil and metals stay really high for a long time much higher than they normally are. This usually happens for, around ten years or more. It is because there is not enough of something and a lot of people want it. Crude oil and silver are two things that can have a supercycle. It is useful to know if a supercycle is happening in the oil and silver markets because it helps us figure out what might happen in the future.

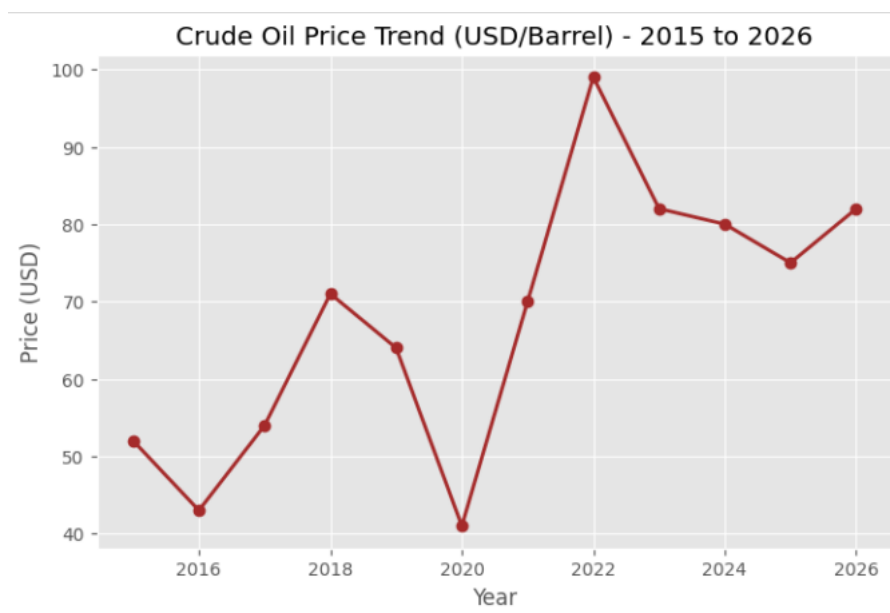
5. IN-DEPTH ASSET ANALYSIS

This section provides a detailed breakdown of each asset class, exploring their unique characteristics, historical performance, and primary market drivers.

5.1 Crude Oil Dynamics

Crude oil is really important for the world. It is mostly. Sold as Brent Crude and West Texas Intermediate. The price of oil is something that a lot of people pay attention to. This is different from company shares, which are valued based on how money they are expected to make in the future. The price of oil is based on how much of it is available now and how much people want to buy it now. The Organization of the Petroleum Exporting Countries and their friends have a say in what the price of crude oil is. Crude oil prices are entirely dependent on what's happening with supply and demand right now. The Organization of the Petroleum Exporting Countries and their allied countries have a lot of influence, over oil.

In the last decade, there were many significant price fluctuations of the crude oil commodity. In 2020, amid the strict lockdown restrictions due to the coronavirus pandemic, prices went down to historically low levels as a result of the demand shock. As the global economy was gradually recovering and opening up, another major supply/demand discrepancy caused prices to go up sharply and rise to record highs above \$90 per barrel. By 2026, the price dynamics has leveled off, resulting in volatility. It should be noted that the demand for oil is being affected by economic slowdown in key economies and increased demand for electric vehicles. Nevertheless, geopolitical events and production cuts by OPEC+ prevent prices from falling below \$70-85 per barrel.



Graph1: The historical trend of Crude Oil shows significant cyclical volatility, heavily influenced by external macroeconomic shocks and geopolitical interventions.

5.2 The Silver Market and Industrial Demand

Silver is a distinctive metal because it acts both as a precious metal suitable for investing in and making jewelry as well as an industrially valuable metal due to its conductivity. Over the past few years, there has been tremendous growth in the industrial demand for silver. Silver is used in solar cells, electronic devices in EVs, and 5G communication technology.

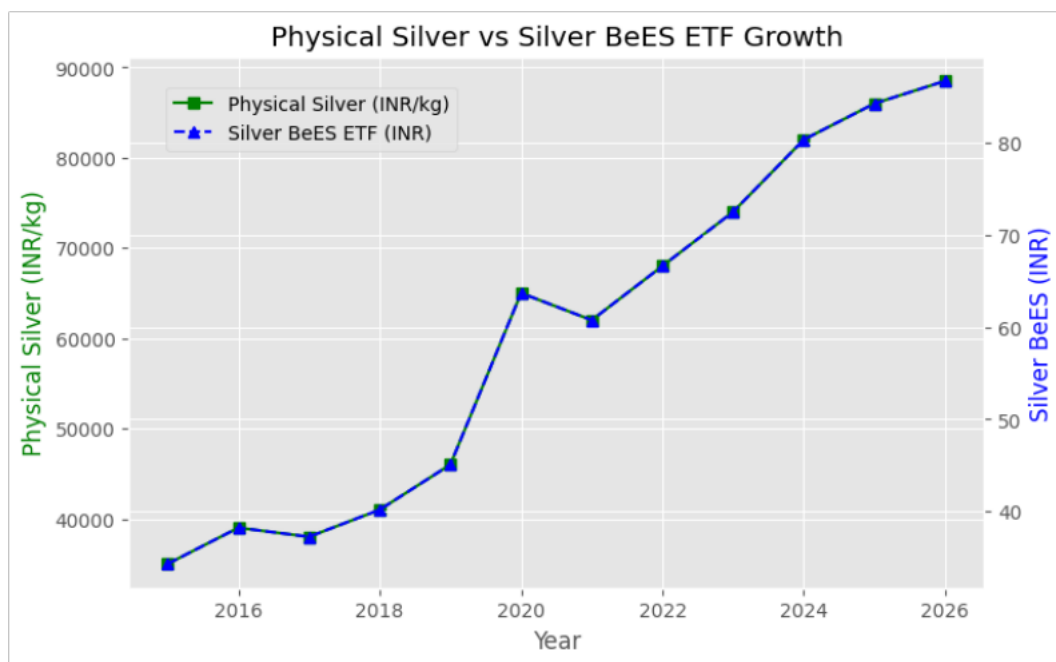
With the world moving towards renewables and sustainable energies, the demand-supply ratio for silver has been persistently favorable in terms of structural demand surpassing mine supplies, resulting in consecutive market shortages.

As a result, silver has been enjoying a massive structural bull run for many years. What was once trading at ₹40,000 per kilogram back in the early 2010s has more than doubled in value by 2026 to cross the ₹85,000-₹88,000 mark in India. The twin force of growth, as an inflation hedge for investors, and being indispensable as a metal for advanced technologies makes silver among the best assets in this decade.

5.3 Silver BeES: The Financialization of Precious Metals

While physical silver is attractive, purchasing bullion or coins involves significant friction costs, including GST, making charges, and the necessity for secure storage (bank lockers). Enter the Nippon India Silver ETF, commonly traded under the ticker symbol Silver BeES. Silver BeES is an exchange-traded fund that tracks the domestic price of physical silver. It trades on the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) just like any standard equity share.

The introduction and widespread adoption of Silver BeES represents a major shift in retail investing. It allows investors to buy silver in fractional amounts (often starting around ₹80 to ₹90 per unit in 2026) directly into their demat accounts. This provides instant liquidity, high transparency, and zero storage risk. The tracking error the slight deviation between the ETF's performance and actual physical silver prices has remained minimal, making it an highly efficient instrument for portfolio hedging.



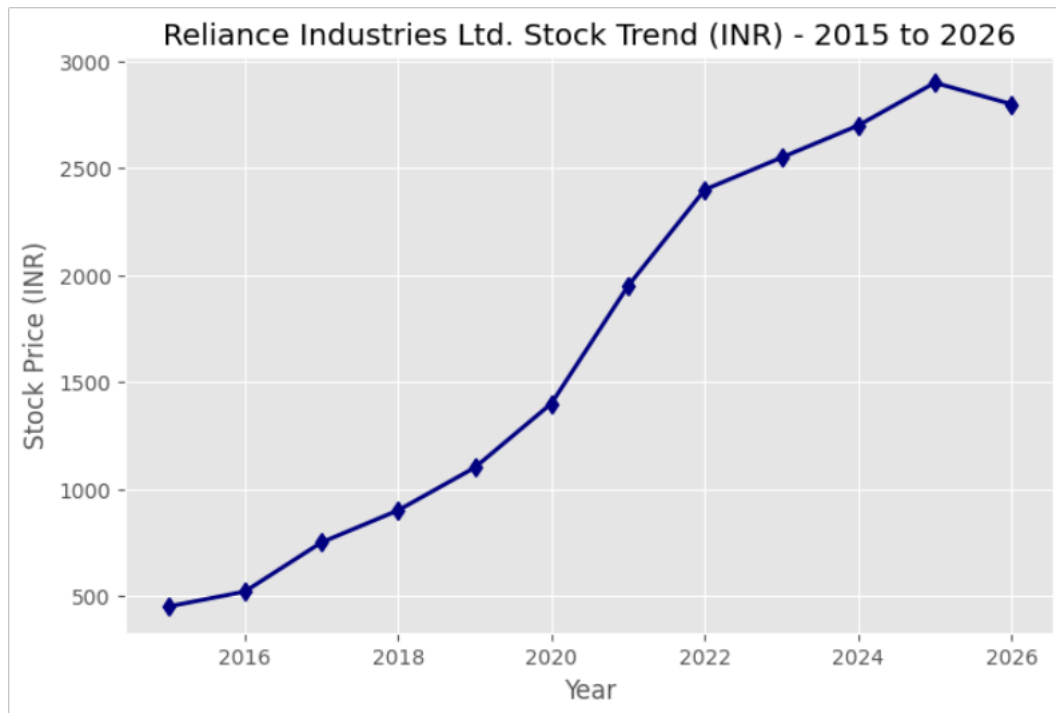
Graph 2: This chart illustrates the tight correlation between physical silver prices in INR and the net asset value (NAV) of the Silver BeES ETF, demonstrating the ETF's effectiveness as a tracking instrument.

5.4 Reliance Industries Limited (RIL) Performance

Reliance Industries Limited is the company in India that people can buy shares of. When we look at Reliance Industries Limited it is like looking at a version of the Indian economy because Reliance Industries Limited does so many things in three main areas: Oil to Chemicals, Digital Services with Jio Platforms and Retail with Reliance Retail. For a time Reliance Industries Limited stock has helped many Indian investors make a lot of money because the company puts its money in the right places and expands quickly into areas where people are spending more money.

Reliance Industries Limited does not do well when the overall economy is not doing well. This is because Reliance Industries Limited still makes a lot of its money from refining and petrochemicals so when the price of crude oil changes it affects the money Reliance Industries

Limited makes from refining. At the start of 2026 even though Reliance Industries Limited is strong in the term the stock price went down by 8 percent from its recent high and stayed between ₹1,450 and ₹1,550. This happened because big investors were selling their shares to make a profit there was not much money available to invest and people were waiting to see how Reliance Industries Limited did in the last quarter. Even though the stock price goes up and down sometimes big investors think Reliance Industries Limited will do well in the term because it has successfully changed from a company that mostly dealt with energy to a company that does many things in technology and consumer products, including Digital Services, with Jio Platforms and Retail with Reliance Retail.



Graph 3: The stock trajectory of Reliance Industries demonstrates immense long-term wealth creation, punctuated by periods of consolidation aligning with broader market corrections and shifts in global energy markets.

6. STUDENT-LEVEL CRITICAL ANALYSIS

Today analytical perspective, observing the interplay between Crude Oil, Silver, Silver BeES, and Reliance Industries offers profound insights into practical portfolio management. The most critical takeaway is the inherent danger of over-concentration. An investor who placed all their capital into Reliance Industries in late 2025 would be facing a frustrating 8% drawdown in early 2026. However, an investor who understood the macroeconomic environment might have recognized the persistent inflationary pressures and allocated a portion of their portfolio to Silver BeES. The 40%+ year-over-year gains in silver would have easily offset the temporary losses in the equity portion of the portfolio, stabilizing the overall net worth.

This clearly demonstrates that asset allocation is not merely an academic theory; it is a vital defensive mechanism. Furthermore, analyzing these assets teaches us about market narratives versus fundamental realities. While the mainstream media often focuses solely on the daily price ticks of stocks like Reliance, the underlying tectonic plates of the market are driven by macro forces like crude oil supply and industrial silver demand. Students of finance must learn to look past the immediate headlines of stock corrections and analyze the broader commodity cycles that dictate global liquidity and inflation.

The availability of instruments like Silver BeES is a tremendous advantage for the modern retail investor. It completely removes the barrier to entry for commodity trading. Previously, trading crude oil or silver required opening specialized futures and options (F&O) accounts, putting up large margins, and dealing with contract expiries and rollover costs. Today, a college student can buy a single unit of Silver BeES with leftover pocket money, gaining instant, unleveraged exposure to global silver markets. This democratization of finance is a powerful tool for early wealth building.

7. CURRENT TRENDS AND FUTURE OUTLOOK (2026-2030)

Looking ahead, the trajectories of these asset classes will likely continue to be defined by several overlapping global megatrends.

Crude Oil: The long-term outlook for crude oil is heavily contested. While immediate geopolitical tensions may cause short-term price spikes, the overarching global push towards decarbonization, renewable energy, and electric vehicle adoption poses an existential threat to long-term oil demand. We may see crude oil enter a period of structural decline toward the end of the decade, punctuated by severe but brief volatility as OPEC+ attempts to manage the market's descent.

Silver and Silver BeES: The outlook for silver remains exceptionally bullish. The very technologies intended to replace crude oil specifically solar panels and EVs are heavily dependent on silver. As governments worldwide mandate green energy transitions, industrial silver demand is structurally guaranteed to remain elevated. Consequently, Silver BeES is likely to remain a core holding for both retail and institutional portfolios seeking exposure to the green energy transition without taking on specific company risks.

Reliance Industries: RIL is uniquely positioned to navigate this transition. Having recognized the shifting energy landscape, the conglomerate is actively investing billions in its New Energy division, building giga-factories for solar panels, batteries, and green hydrogen. As the company successfully pivots away from its traditional reliance on crude oil refining revenues toward sustainable energy, retail dominance, and digital services, the stock is expected to break out of its current consolidation phase. Institutional analysts project significant upward re-rating for RIL once these new investments begin generating substantial free cash flows.

8. CALCULATIONS:

- Price of share of ONGC (In Rupees)

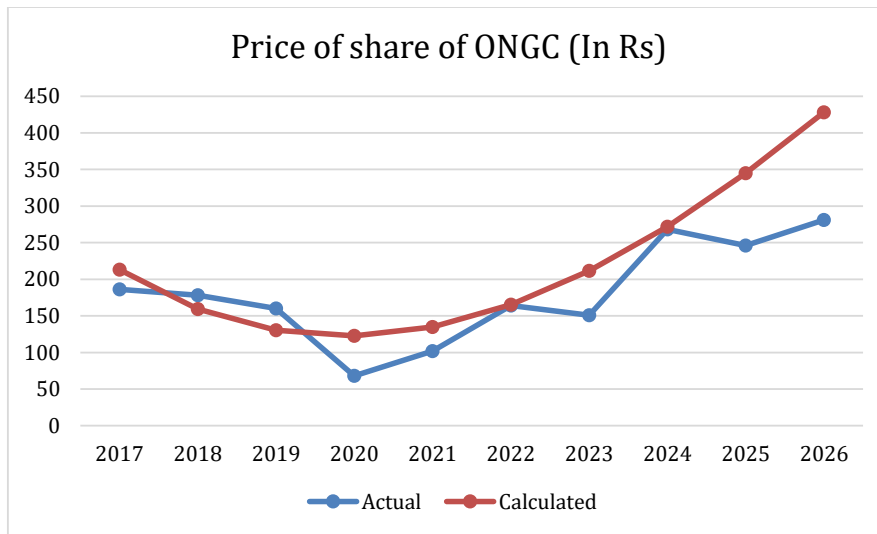
Year	Price of share of ONGC (In Rs)
2017	186
2018	178
2019	160
2020	68
2021	102
2022	164
2023	151
2024	268
2025	246
2026	281

Table 1: Price of share of ONGC (In Rs) from 2017 to 2025

Again considering x = 2017 as 1, 2018 as 22026as 10. Taking y as Price of share of ONGC (In Rupees)

We plotted a graph and try to draw different graphs by hand fitting, converting maximum numbers of points.

We get cubic equation.



Formula: $y = -0.21 * x^3 + 12.62 * x^2 - 89.41 * x + 290.2$

Where “y” represents Price of share of ONGC (In Rupees) from 2017 to 2025 and “x” represents 1, 2, 3..... (1 represents 2017, 2 represents 2018 and so on)

- Price of share of Reliance (In Rupees)

Year	Price of share of Reliance (In Rs)
2017	297
2018	397
2019	613
2020	501
2021	909
2022	1195
2023	1056
2024	1486
2025	1275
2026	1348

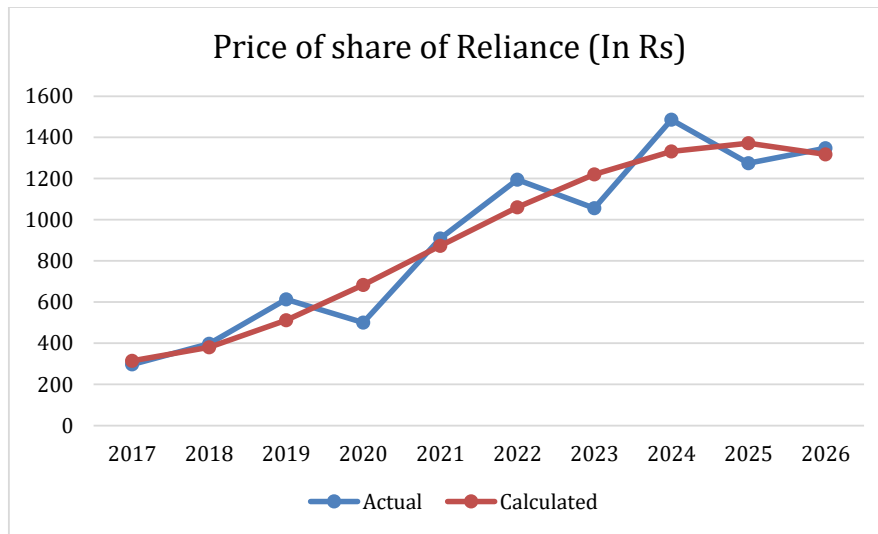
Table 2: Price of share of Reliance (In Rs) from 2017 to 2025

Again considering x = 2017 as 1, 2018 as 22026 as 10.

Taking y as Price of share of Reliance (In Rupees)

We plotted a graph and try to draw different graphs by hand fitting, converting maximum numbers of points.

We get cubic equation.



Formula: $y = -3.76 * x^3 + 54.52 * x^2 - 70.9 * x + 335.03$

Where “y” represents Price of share of Reliance (In Rupees) from 2017 to 2025 and “x” represents 1, 2, 3..... (1 represents 2017, 2 represents 2018 and so on)

- Petrol Price per litre In India (In Rupees)

Year	Petrol Price per litre In India (In Rs)
2017	65
2018	76
2019	75
2020	75
2021	100
2022	105
2023	97
2024	100
2025	105
2026	96

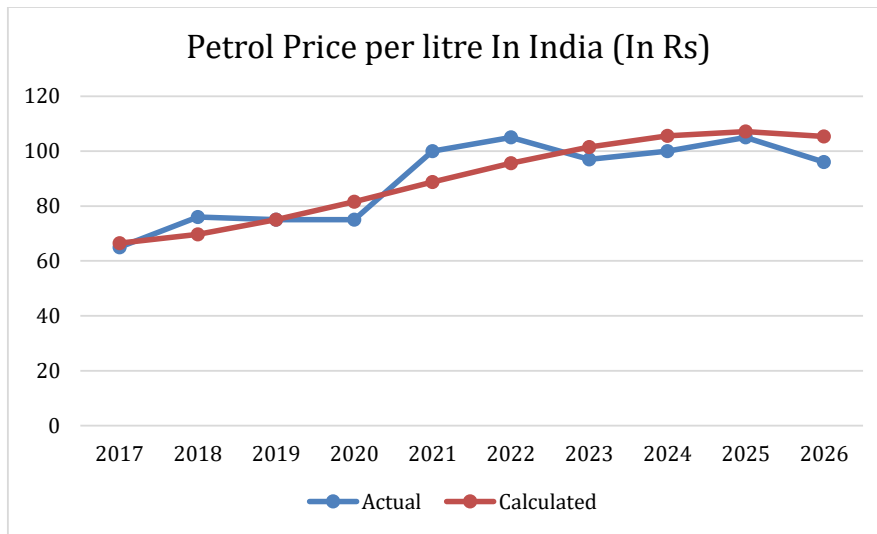
Table 3: Petrol Price per litre In India (In Rupees) from 2017 to 2025

Again considering x = 2017 as 1, 2018 as 22026 as 10.

Taking y as Petrol Price per litre In India (In Rupees)

We plotted a graph and try to draw different graphs by hand fitting, converting maximum numbers of points.

We get cubic equation.



Formula: $y = -0.128 * x^3 + 1.8 * x^2 - 1.27 * x + 66.08$

Where “y” represents Petrol Price per litre In India (In Rupees) from 2017 to 2025 and “x” represents 1, 2, 3..... (1 represents 2017, 2 represents 2018 and so on)

- Crude Oil WTI Future (In Dollars)

Year	Crude Oil WTI Future (In Dollars)
2017	51
2018	65
2019	60
2020	21
2021	60
2022	108
2023	76
2024	83
2025	71
2026	100

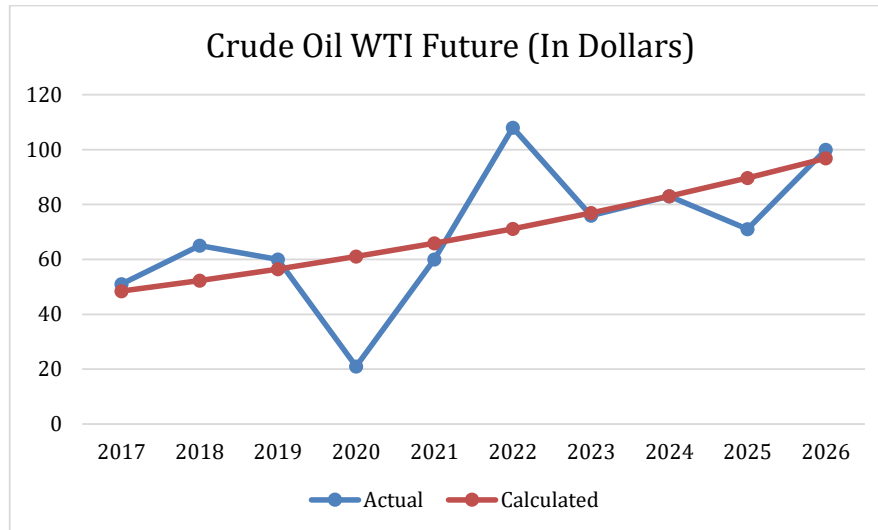
Table 4: Crude Oil WTI Future (In Dollars) from 2017 to 2025

Again considering x = 2017 as 1, 2018 as 22026 as 10.

Taking y as Crude Oil WTI Future (In Dollars)

We plotted a graph and try to draw different graphs by hand fitting, converting maximum numbers of points.

We get cubic equation.



Formula: $y = -0.15 * x^3 + 1.73 * x^2 + 0.65 * x + 64$

Where “y” represents Crude Oil WTI Future (In Dollars) from 2017 to 2025 and “x” represents 1, 2, 3..... (1 represents 2017, 2 represents 2018 and so on)

- Silver Price per kg (In Dollars)

Year	Silver Price per kg (In Dollars)
2017	18
2018	16
2019	15
2020	14
2021	24.3
2022	25.1
2023	24.1
2024	24.9
2025	34.2
2026	88.4

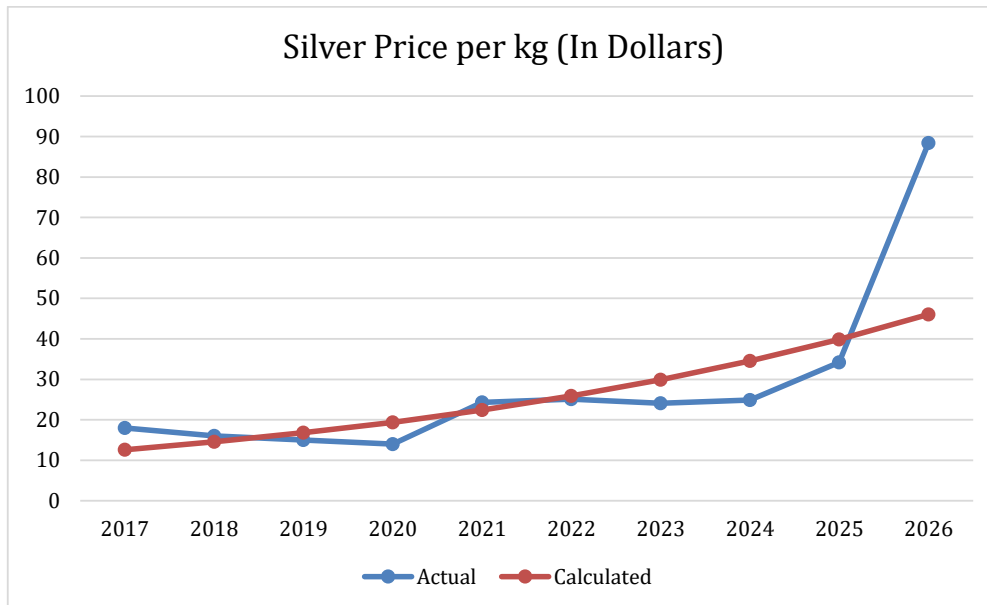
Table 5: Silver Price per kg (In Dollars) from 2017 to 2025

Again considering x = 2017 as 1, 2018 as 22026 as 10.

Taking y as Silver Price per kg (In Dollars)

We plotted a graph and try to draw different graphs by hand fitting, converting maximum numbers of points.

We get exponential equation.



Formula: $y = 10.9 * (1.155)^x$

Where “y” represents Silver Price per kg (In Dollars) from 2017 to 2025 and “x” represents 1, 2, 3..... (1 represents 2017, 2 represents 2018 and so on)

- Silver Bees stock (In Dollars)

Year	Silver Bees stock (In Dollars)
2020	61
2021	67.6
2022	59.7
2023	79.4
2024	99.3
2025	161.3
2026	215

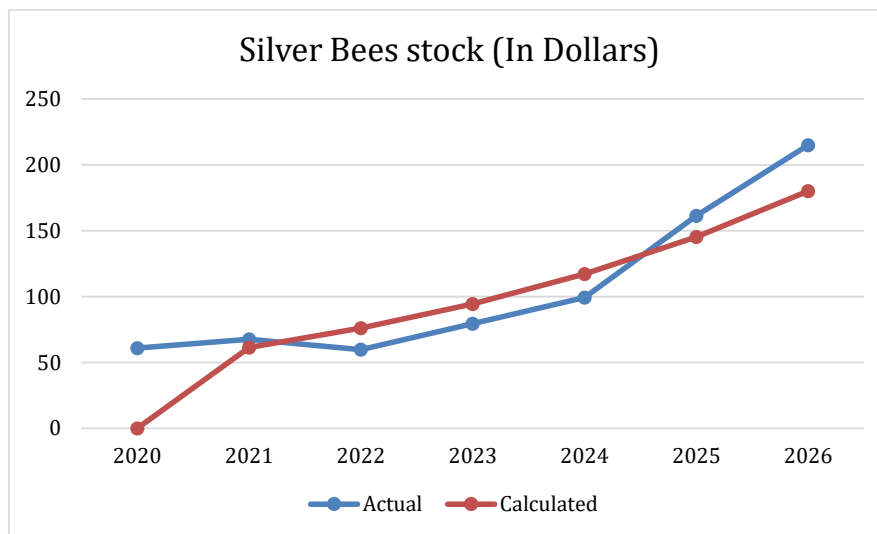
Table 6: Silver Price per kg (In Dollars) from 2017 to 2025

Again considering x = 2020 as 1, 2021 as 22026 as 7.

Taking y as Silver Bees stock (In Dollars)

We plotted a graph and try to draw different graphs by hand fitting, converting maximum numbers of points.

We get exponential equation.



$$\text{Formula: } y = 39.95 * (1.24)^x$$

Where "y" represents Silver Bees stock (In Dollars) from 2020 to 2026 and "x" represents 1, 2, 3..... (1 represents 2020, 2 represents 2021 and so on)

9. CONCLUSION

This comprehensive study has mapped the interconnected dynamics of Crude Oil, physical Silver, the Silver BeES ETF, and Reliance Industries stock. Through historical data analysis, trend modeling, and macroeconomic framework application, it is evident that these assets do not exist in vacuums; they are deeply entwined components of the global economic machine.

Summary of Key Findings and Insights:

- 1) Crude oil acts as a primary catalyst for global macroeconomic shifts, dictating inflation rates, central bank policies, and the operating costs of large corporations. Its persistent volatility requires continuous monitoring by serious investors.
- 2) Silver has firmly established itself not merely as a precious metal safe-haven, but as a critical industrial commodity driving the green energy revolution, resulting in powerful multi-year price rallies.
- 3) The Silver BeES ETF has revolutionized domestic retail investing by providing a frictionless, highly liquid, and secure method to track physical silver prices, enhancing formal financial participation.
- 4) Reliance Industries, despite experiencing short-term equity market corrections, remains a fundamentally robust proxy for India's economic growth, actively transitioning its business model to adapt to the post-oil global economy.

10. BALANCED VIEW AND RISK ASSESSMENT:

A balanced investment perspective requires acknowledging the distinct risks inherent in each asset class. Equities like RIL offer superior long-term compounding growth and dividend yields but are subject to severe near-term volatility driven by earnings reports and market sentiment. Commodities like Crude Oil are prone to unpredictable geopolitical shocks, making them highly speculative for direct retail trading. Silver, while currently riding a strong bullish thesis, can suffer from extended periods of price stagnation if global manufacturing data contracts. Silver BeES mitigates physical holding risks but still subjects the investor to the underlying volatility of the metal and minor tracking errors.

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Final Reflections:

For a student entering the world of finance, the ultimate lesson derived from studying these four distinct assets is the necessity of holistic market awareness. True financial literacy requires understanding the cause-and-effect relationships across different asset classes. By strategically blending growth-oriented equities like Reliance with the defensive, inflation-hedging properties of Silver ETFs, an investor can construct an all-weather portfolio capable of withstanding the inevitable economic storms generated by volatile global commodities.

11. BIBLIOGRAPHY

- 1) J.P. Morgan Global Research. (2026). Oil Price Forecast and Commodities Outlook. Retrieved from [jpmorgan.com](https://www.jpmorgan.com)
- 2) Reuters. (2026). Explainer: How persistently high oil prices could impact India's vulnerable economy. Retrieved from [reuters.com](https://www.reuters.com)
- 3) Nippon India Mutual Fund. (2025). Silver ETF (Silver BeES) Scheme Information and Tracking Data. Retrieved from mf.nipponindiaim.com
- 4) Motilal Oswal Financial Services. (2026). How Rising Crude Oil Prices Hit the Indian Stock Market. Retrieved from [motilaloswal.com](https://www.motilaloswal.com)
- 5) The Economic Times. (2026). Reliance Industries shares slip, time to buy before Q3 results. Retrieved from [economictimes.com](https://www.economictimes.com)
- 6) Fortune India. (2026). Macroeconomic impacts of crude oil falling to \$50 by June 2026. Retrieved from [fortuneindia.com](https://www.fortuneindia.com)
- 7) TradingView Data Analytics. (2025). Nippon India Silver ETF Historical NAV & Performance metrics. Retrieved from [tradingview.com](https://www.tradingview.com)

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