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A Comparative Study Of Financial Performance Of Dabur Ltd. And Patanjali Ltd.

[1]Mr. Pratyesh Chaudhary, [2]Ms. Sonam Rani

[1]Student, [2]Assistant Professor

[1]Amity College of Commerce & Finance

[1]Amity University Uttar Pradesh, Greater Noida Campus

Abstract: The study analyzes the financial performance of two leading players in the Indian FMCG sector. The research aims to evaluate and compare their financial health using key financial ratios such as Return on Equity (ROE), Current Ratio, Debt-to-Equity Ratio, and Asset Turnover Ratio, among others.Key findings indicate that while Dabur maintains steady profitability and better liquidity ratios, Patanjali demonstrates aggressive growth strategies with higher revenue growth but comparatively lower operational efficiency. ROE analysis highlights Dabur's consistent shareholder returns, while Patanjali's performance reflects volatility due to its rapid expansion phase. NPM underscores Dabur's efficient cost management, whereas Patanjali shows fluctuations influenced by high marketing and distribution expenses.The comparative analysis concludes with insights into the strategic strengths and challenges faced by both companies, providing valuable inputs for stakeholders and investors. This study highlights the importance of balancing growth with financial stability in a competitive market environment.

Key Words - Patanjali Ltd., Dabur Ltd., Ratio Analysis, Comparative Analysis

INTRODUCTION

Conducting financial analysis in research is crucial for several reasons, as it provides a comprehensive understanding of the financial health, viability, and performance of organizations or projects. Here's a detailed explanation of its importance:

1. Evaluating Financial Health

Financial analysis helps in assessing the overall financial condition of an organization by examining key financial statements such as the balance sheet, income statement, and cash flow statement. It enables researchers to identify strengths, weaknesses, and potential risks, providing a clear picture of liquidity, solvency, and profitability.

2. Informed Decision-Making

Accurate financial analysis supports decision-making by providing essential insights into cost structures, revenue streams, and investment opportunities. Researchers and decision-makers can use this information to allocate resources efficiently, optimize budgets, and choose between alternative projects or investments.

3. Risk Assessment and Management

Financial analysis helps in identifying financial risks, such as cash flow shortages, excessive debt, or declining profitability. By understanding these risks, organizations can implement appropriate risk management strategies to safeguard their financial stability.

4. Assessing Investment Viability

For research projects that require funding, financial analysis is essential to demonstrate potential profitability and return on investment (ROI) to investors and stakeholders. Metrics like Net Present Value (NPV), Internal Rate of Return (IRR), and payback period are commonly used to assess the feasibility of investments.

5. Comparative Analysis

Financial analysis allows researchers to perform comparative studies between companies, industries, or time periods. By using ratios and benchmarks, researchers can evaluate how well a company is performing relative to its peers and identify best practices.

1.2 ABOUT PATANJALI LTD-

Patanjali Ayurved Limited, established in 2006 by yoga guru Baba Ramdev and Acharya Balkrishna, has emerged as a formidable entity in India's Fast-Moving Consumer Goods (FMCG) sector. The company's meteoric rise is deeply intertwined with its mission to integrate traditional Ayurvedic wisdom with modern production techniques, aiming to promote health and wellness through natural products.

Founding Vision and Early Beginnings

The inception of Patanjali Ayurved was driven by a profound vision: to revitalize India's ancient Ayurvedic heritage and make it accessible to the masses. Baba Ramdev, renowned for popularizing yoga, collaborated with Acharya Balkrishna, a scholar of Ayurveda, Sanskrit, and Vedas, to establish the company. Their shared goal was to harness the science of Ayurveda in coordination with the latest technology and ancient wisdom.

Prior to the formal establishment of Patanjali Ayurved, Baba Ramdev and Acharya Balkrishna laid the foundation with the creation of Divya Pharmacy in 1995, based in Haridwar. This venture focused on producing Ayurvedic medicines and served as a precursor to the broader objectives envisioned for Patanjali Ayurved.

Growth Trajectory and Product Diversification

From its modest beginnings, Patanjali Ayurved experienced exponential growth, rapidly expanding its product portfolio to include a wide array of offerings. The company's products span various categories, including:

- **Personal Care**: Products such as soaps, shampoos, and dental care items.
- **Food and Beverages**: Items like ghee, honey, juices, and other consumables.
- **Healthcare**: A range of Ayurvedic medicinal products addressing various health concerns.
- **Home Care**: Products like detergents and cleaners.

This extensive diversification allowed Patanjali to cater to a broad consumer base, emphasizing affordability and natural ingredients. By 2016, the company was recognized as one of the fastest-growing FMCG firms in India, with revenues surpassing ₹10,000 crore.

Manufacturing and Distribution Network

Patanjali's manufacturing units and headquarters are situated in the industrial area of Haridwar, Uttarakhand, with its registered office located in New Delhi.

The company has established a vast distribution network, encompassing over 56,000 retail outlets across India by 2018. This extensive reach ensured that Patanjali's products were accessible to consumers nationwide, challenging established multinational corporations in the FMCG sector.

Strategic Collaborations and Market Position

To further its market penetration, Patanjali collaborated with major retail chains, including the Future Group, enhancing its product availability. Such partnerships facilitated the company's rapid ascent in the FMCG landscape, positioning it as a formidable competitor to established brands.

Vision and Mission

Patanjali's overarching vision is to promote health and wellness through the integration of Ayurveda and Yoga, aiming to create a healthier society by combining traditional Indian knowledge with modern practices.

The company's mission encompasses several key objectives:

- **Health and Well-being**: Propagating Yoga and Pranayam scientifically for the welfare of humanity, aiming for the complete eradication of physical illnesses and mental unrest.
- **Educational Initiatives**: Establishing institutions like the University of Patanjali to integrate ancient Vedic knowledge with contemporary science, promoting a harmonious lifestyle through the amalgamation of science and spirituality.
- **Environmental Stewardship**: Through entities like Patanjali Bio Research Institute, the company aims to transform global agriculture with innovative organic solutions, fostering sustainability for healthier ecosystems and communities.

Challenges and Criticisms

Despite its successes, Patanjali has faced challenges, including criticisms over product quality, regulatory compliance, and the authenticity of certain Ayurvedic claims. The company has also been scrutinized for its rapid expansion and the ability to maintain consistent quality across its diverse product range.

Recent Developments and Future Outlook

In recent years, Patanjali has continued to diversify its offerings, venturing into sectors like dairy products and fashion with the launch of 'Patanjali Paridhan'. The company has also expressed intentions to expand globally, aiming to introduce its range of products to international markets.

Financially, Patanjali reported revenues of ₹30,000 crore for the fiscal year 2019–20, with projections indicating continued growth. The company's emphasis on natural and Ayurvedic products aligns with the global shift towards wellness and sustainable living, positioning it well for future expansion.

1.3 ABOUT DABUR LTD-

Dabur India Limited, established in 1884 by Dr. S.K. Burman in Kolkata, is one of India's leading multinational consumer goods companies, specializing in Ayurvedic products and natural consumer goods.

The company's name, "Dabur," is derived from the Devanagari rendition of "Daktar Burman," reflecting its founder's commitment to healthcare.

Founding Vision and Early Beginnings

Dr. S.K. Burman, an Ayurvedic practitioner, started Dabur with the mission of making health care products accessible to the masses. In the late 19th century, he formulated Ayurvedic medicines for diseases like cholera,

constipation, and malaria, distributing them on his bicycle across Bengal. His dedication to providing effective and affordable healthcare solutions laid the foundation for Dabur's enduring legacy.

Evolution and Expansion

Over the decades, Dabur expanded its operations and product offerings:

- **1896**: Established its first production unit at Garhia to meet the growing demand for its products.
- **1919**: Set up its first research and development unit to ensure quality and innovation in Ayurvedic medicine.
- **1972**: Shifted operations to Delhi, setting up a new manufacturing plant in Faridabad.
- **1979**: Commenced commercial production at the Sahibabad factory, one of the largest facilities for Ayurvedic medicines, and launched the Dabur Research & Development Centre (DRDC).
- **1994**: Went public, with shares issued at a high premium and oversubscribed 21 times, reflecting market confidence.

Product Portfolio and Market Presence

Dabur's diverse product range includes:

- **Personal Care**: Skin care, hair care, and oral hygiene products.
- **Health Supplements**: Products like Chyawanprash and honey.
- **Foods**: Fruit juices and other beverages.

The company derives approximately 60% of its revenue from the consumer care business, 11% from the food business, and the remaining from its international business unit.

Vision and Mission

Dabur's vision is "Dedicated to the health & well-being of every household," aiming to contemporize Ayurveda and make it relevant for the new generation.

The company operates on seven principles: Ownership, Passion for Winning, Teamwork, Integrity, People Development, Consumer Focus, and Innovation.

Recent Developments

In 2022, Dabur acquired a 51% stake in Badshah Masala, an Indian spices company, for ₹588 crore, expanding its presence in the culinary segment.

I. LITERATURE REVIEW

Isnin, M., & Zulfa, I. (2024). This study is conducted by author to understand the Predicted increase in gold price every year with impact on economic factors and the findings of this study is hat gold prices are expected to increase annually, significantly influenced by various economic factors such as inflation rates, currency fluctuations, and global economic conditions.

Khatri, H., & Chhikara, K. S. (2024). This study was conducted by authors to understand the factors influencing gold prices in India and identifies trends that highlight the interplay between economic indicators and market dynamics and findings of this research is fluctuations in gold prices are significantly affected by inflation rates, currency value, and global market trends, providing insights for investors and policymakers.

Gaywala, D., Bhadoriya, S., & Bhatt, M. (2024). This study was conducted by authors to understand the macroeconomic factors affecting gold prices in India and the findings of research is gold is the safest form of investment during period of economic uncertainty with factor of influence inflation rate, exchange rates and geopolitical concerns.

Chang, X. (2024). This study was conducted by the authors to understand the effects of inflation in gold price and its effect on financial market and the findings of this research is there is positive effect of fluctuations in gold price on financial market which help make more informed risk management strategies.

Kaya, A. (2023). This study was conducted by authors to understand the volatility and determinants of gold prices using the EGARCH model dynamics and findings of this research is macroeconomic factors such as interest rates and inflation significantly influence gold price fluctuations.

Andriyana, Y., Nalita, Y., Tantular, B., Mindra Jaya, I. G. N., & Falah, A. N. (2023). This study was conducted by authors to forecast global gold prices using a Bayesian nonparametric quantile generalized additive model and findings of this research is that this approach provides more accurate predictions compared to traditional forecasting methods by effectively capturing the nonlinear relationships in the data.

Mainal, S., Mohd Selamat, A. H., Abd Majid, N. D. S., & Noorzee, K. N. I. (2023). This study is conducted by author to understand the factors influencing the price of gold in Malaysia and findings of this research is indicators such as inflation, exchange rates, and global market trends, highlighting their significant impact on local gold price fluctuations.

Bhalerao, N. (2023). This study was conducted by the authors to understand the factors effecting gold price in Indian market and the findings of this research is a significant relationship seen between exchange rates, crude oil prices, BSE SENSEX and silver prices with gold price.

Sembakalakshmi, S. J., & Adhi Krishnaa, N. (2023). This study was conducted by the authors to understand the effect of fluctuation in gold prices on customer buying behaviour and the findings of this research is there is an inversely proportional relationship between change in gold prices and tendency of customer buying behaviour.

Hidmark, P., & Wijk, J. (2023). This study was conducted by the authors to understand the main driving force behind gold price and the findings of this research is that in US real yield (TIPS rate) and inflation rate are two main factors behind gold price.

Prof. Anitha B. M. D' Silva, Ms. Vaishnavi N., Ms. Bhoomika Bhat, & Mr. A. Raghavendra. (2023). This study was conducted by the authors to understand the impact of change in inflation rates on gold, silver and interest rates and the findings of this research is gold prices show weak correlation with inflation rates while silver prices show positive correlation, and interest rates show strong positive relation on it.

Changani, J. (2023). This study was conducted by the authors to understand the factors influencing gold prices movement from a time series perspective and the findings of this research is gold prices are significantly affected by economic indicators, currency value fluctuations and geopolitical events.

M, N., & Marisetty, N. (2023). This study was conducted by the authors to understand the various factors that influence gold prices in India and findings of this research is inflation, crude oil prices, BSE Sensex, exchange rates, and repo rate are key factors behind the change in gold prices in India.

Liya, A., Qin, Q., Kamran, H. W., Sawangchai, A., Wisetsri, W., & Raza, M. (2021). This research was conducted by author to understand the macroeconomic indicators influence gold price management and findings of this research is factors such as inflation, interest rates, and currency fluctuations significantly influence gold prices

Panchal, N. (2021). This study was conducted by the authors to understand the dynamic relationship between gold prices and stock market prices in context of Indian market and the findings of this research is during normal market condition gold price and stock market prices in India have negative correlation and during fall in market there is a positive correlation between the two variables.

Chai, J., Zhao, C., Hu, Y., & Zhang, Z. G. (2021). This study was conducted by the authors to understand the structural analysis and forecast of gold price returns and findings of this research is in USA crude oils return and VIX show gives positive impact on gold price returns, US dollar value having negative impact on gold price returns and SLT-ETS model being most accurate for gold price returns forecasting.

Hajiyani, A. A. (2021). This study was conducted by the authors to understand the accuracy of forecasting of gold prices in India using ARIMA model and findings of this research is ARIMA (1,1,1) model is most accurate in forecasting future gold prices in Indian market.

Shaikh, I., & Vallabh, P. (2021). This study was conducted by the authors to understand the impact of policy uncertainty on gold price in India and findings of this research is positive relation between policy uncertainty on gold price in India.

Robinson, Z. (2019). This research was conducted by author to understand the behaviour of gold prices using a structural VAR model and findings of this research is that gold prices are significantly influenced by macroeconomic variables such as interest rates and inflation.

Qian, Y., Ralescu, D. A., & Zhang, B. (2019). This study was conducted by the authors to understand the factors affecting global gold prices and findings of this research is dollar index, federal funds rate, exchange rate, oil price, and S&P 500 negatively impact gold prices, while the Consumer Price Index (CPI) has a positive effect on global gold prices.

Kaur, A., & Gupta, K. (2019). This study was conducted by the authors to understand the relationship between crude oil prices and gold prices in context of Indian market and findings of this study is there is a positive moderate correlation between gold prices and crude oil prices.

Cheng, Q., Jiao, J., Chen, H., & Xu, F. (2019). This study is conducted by author to understand the Application of impulse response method in identifying the causes of gold price fluctuation and findings of this research is that the impulse response method effectively identifies the key factors contributing to gold price fluctuations, revealing that macroeconomic variables such as interest rates and inflation have significant and varying impacts on gold prices over time.

Liu, D., & Li, Z. (2017). This study is conducted by author to understand the gold price forecasting and related influence factors analysis based on random forest and findings of this research is that the random forest model provides accurate forecasts of gold prices and identifies key influencing factors, such as economic indicators and market sentiment, demonstrating the model's effectiveness in capturing complex relationships in the data for better predictive performance.

Seshaiah, S. V., Sarma, I. R. S., & Tiwari, A. K. (2017). This study was conducted by authors to understand the gold market in India and its price determinant and findings of this research is that gold prices are primarily influenced by gold itself with negligible impact from oil prices, exchange rates, trade deficits, and fiscal deficits.

Balcilar, M., Gupta, R., & Pierdzioch, C. (2017). This study was conducted by authors to understand the relationship between gold prices and exchange rates and findings of this research is gold-price fluctuations can predict exchange-rate returns and volatility, while exchange-rate movements predict gold volatility but not gold returns.

Lucey, B. M., Sharma, S. S., & Vigne, S. A. (2016). This study was conducted by authors to understand the relationship between gold prices and inflation across the USA, UK, and Japan and findings of this research is while gold has historically provided protection against increases in money supply in the US and UK, its relationship with official inflation rates has varied significantly over time, particularly showing a break in the mid-1990s in the USA, with mixed results for Japan.

Mariyam, P. A. (2016). This study was conducted by authors to understand the persistent demand for gold in India despite rising prices and its impact on consumer purchasing decisions and findings of this research is a significant majority of respondents (63%) agreed that rising gold prices influence their buying decisions, yet most (52%) do not postpone purchases even when prices increase.

Bukowski, S. I. (2016). This study was conducted by authors to understand the main factors influencing gold prices in international markets, based on economic and financial theories and findings of this research is gold prices are significantly affected by the US$/EUR exchange rate, S&P 500 log returns, brent crude oil prices, and the yield-to-maturity of US 10-year Treasury bonds.

Shehnaz, S. R., & Kumar, S. S. (2016). This study was conducted by authors to understand the relationship between gold prices and the Nifty index and findings of this research is gold prices significantly influence the Nifty index.

Pierdzioch, C., Risse, M., & Rohloff, S. (2015). This study is conducted by author to develop a real-time boosting approach for forecasting gold price fluctuations, seeking to improve the accuracy of predictions by leveraging advanced statistical techniques and the findings of this research is that the boosting approach significantly enhances the forecasting accuracy of gold prices compared to traditional methods, demonstrating its effectiveness in capturing the dynamics of gold price movements and providing valuable insights for investors and policymakers.

II. RESEARCH GAP

Granularity of Data: Limited frequency of data collection (approximately yearly or half yearly intervals) may overlook short-term fluctuations in gold prices and influencing factors. Potential for missing significant trends or events that occur within shorter time frames. Therefore, this report has considered smaller time frames of 30 days period providing a better understanding of effect of independent variable on dependent variable.

Scope of Independent Variables: The study focused on a specific set of independent variables, potentially excluding other relevant factors. Therefore, this report has included all considerable independent variables.

Data Sources: Reliance on secondary data from various web domains raises concerns about the accuracy and reliability of the data. Potential bias in data collection due to the choice of sources, which may present information in a way that aligns with specific narratives. Therefore, this report has considered only reliable sources for data collection.

III. RESEARCH METHODOLOGY

4.1 Hypothesis formulation

Null hypothesis: - There is no significant relationship between independent variables and dependent variable.

Alternative hypothesis: - there is significant relationship between independent variables and dependent variables.

4.2 Research design

A quantitative study utilizing descriptive and correlational analysis of secondary data from January 2019 to December 2023 to examine the relationship between gold prices and various economic factors in India through hypothesis testing and multiple linear regression analysis.

Quantitative Research: A research method that focuses on gathering numerical data and analysing it through statistical techniques to draw conclusions.

Descriptive Analysis: A method of analysing data to summarize and describe its main features, often using measures like averages and percentages.

Correlational Analysis: A statistical technique used to determine the relationship or association between two or more variables without implying causation.

Regression Analysis: A statistical method for modelling the relationship between a dependent variable and one or more independent variables to predict outcomes.

4.3 Data collection

Secondary data- data collected from various yet reputed and reliable web domains

4.4 Screening techniques

Manual screening- manually data was identified and collected for web page

4.5 Limitation

Not being able to input more granular data (significant gap in interval scale [30days approx.], which could have been reduced to 7 days(weekly) or daily bases.

4.6 Variable used

Dependent variable: Gold price- The dependent variable in this study is the price of gold, which is influenced by various economic factors. It serves as the primary focus of the analysis, with the aim of understanding how different independent variables affect its fluctuations.

Independent variable:

Crude oil/barrel price- This variable represents the market price of crude oil per barrel, which can impact gold prices due to the interconnectedness of energy costs and commodity pricing. Changes in crude oil prices can influence inflation and currency values, thereby affecting gold prices.

Forex- USD-INR- The exchange rate between the US Dollar and the Indian Rupee is crucial, as gold is often priced in Dollars. A weaker Rupee against the Dollar typically leads to higher gold prices in India, making this variable significant in the analysis.

Sensex Avg. Closing value- The BSE SENSEX is a stock market index that reflects the performance of major companies in India. Its average closing value serves as an indicator of market sentiment, which can influence investor behaviour towards gold as a safe-haven asset during market volatility.

GST implied over the considered period- The Goods and Services Tax (GST) rate applicable to gold transactions can affect its market price. Changes in GST rates can directly impact the cost of gold for consumers, influencing demand and pricing dynamics.

Gold Tariff upon import- This variable refers to the import duties imposed on gold, which can significantly affect its market price. Higher tariffs can lead to increased gold prices in the domestic market, impacting consumer purchasing behaviour.

National inflation rate- The inflation rate measures the rate at which the general level of prices for goods and services rises, eroding purchasing power. Higher inflation often leads to increased demand for gold as a hedge against currency devaluation, influencing its price.

Repo rates- The repo rate is the interest rate at which the central bank lends money to commercial banks. Changes in repo rates can affect liquidity in the economy and influence investment decisions, including those related to gold.

4.7. Techniques (tools) of analysis used

Descriptive statistics- This technique summarizes and describes the main features of the data collected, providing insights into the central tendency, variability, and distribution of the variables involved in the study.

Coefficient correlation- This technique summarizes and describes the main features of the data collected, providing insights into the central tendency, variability, and distribution of the variables involved in the study.

Multiple linear regression- This technique summarizes and describes the main features of the data collected, providing insights into the central tendency, variability, and distribution of the variables involved in the study.

4.8 Tools used for analysis

Microsoft Excel- Excel is a powerful spreadsheet software that was utilized for data organization, analysis, and visualization. It provides various functions and tools for performing statistical analyses, including descriptive statistics, correlation calculations, and regression modelling, making it suitable for this study.

4.9 Standard values

Correlation Coefficient: +1 means a perfect positive correlation, -1 means a perfect negative correlation, 0 means no linear correlation.

Multiple R (Correlation Coefficient): R = 1 indicates a perfect positive linear relationship. R = 0 indicates no linear relationship. R = -1 indicates a perfect negative linear relationship.

R-Squared (R^2): $R^2 = 0$ means the model explains none of the variability in the dependent variable. $R^2 = 1$ means the model explains all the variability in the dependent variable.

Significance F: A low significance F (typically less than 0.05) suggests that the model is statistically significant, meaning the independent variables significantly predict the dependent variable. A high significance F (greater than 0.05) suggests that the model is not statistically significant.

P value: A low p-value (typically less than 0.05) suggests that the predictor has a statistically significant relationship with the dependent variable. A high p-value (greater than 0.05) suggests that the predictor is not significant, and you may consider removing it from the model.

When to Accept or Reject Hypotheses: Reject H_0 (indicating a significant result) if: Significance F < 0.05 (for the overall model), or p-value for a predictor < 0.05 (for individual predictors). Fail to reject H_0 (indicating no significant result) if: Significance F > 0.05 (for the overall model), or p-value for a predictor > 0.05.

IV. RESULT AND DISCUSSION

Objective: To know the descriptive statistics of the selected variables.

5.1 Results of Descriptive Statics of Study Variables

Table 5.1: Descriptive Statics

Particular	Sample Size	Minimum	Maximum	Mean	Std. Deviation
Gold	60	2870.33	5426.382	4271.11	689.928
Crude oil	60	1403.55	9573.620	5515.54	1828.426
Forex	60	68.76	83.267	75.93	4.491
SENSEX	60	31255	65828	50173.25	10677.03
GST Rates	60	0.03	0.03	0.03	2.45E-17
Tariff Charges	60	0.075	0.15	0.104	0.0288
Inflation	60	0.21	0.078	0.055	0.0143
Repo Rates	60	0.4	0.065	0.051	0.0102

Table 5.1 displayed, Gold: - average value of data cell being 4271.11 in the given table and variance between two data cell is 639.9 showing huge difference between values. Crude oil: - average value of data cell being 5515.54 in the given table and variance between two data cell is 1828.42 showing huge difference between values. Exchange forex: - average value of data cell being 75.93 in the given table and variance between two data cell is 4.49 showing huge difference between values. Sensex: - average value of data cell being 50173.25 in the given table and variance between two data cell is 10677.03 showing huge difference between values. GST rates: - average value of data cell being 0.03 in the given table and variance between two data cell is 2.44911E-17 showing justifiable or near zero difference between values. Gold tariff: - average value of data cell being 0.104166667 in the given table and variance between two data cell is 0.028806289 showing justifiable difference between values. Inflation Rates: - average value of data cell being 0.055316667 in the given table and variance between two data cell is 0.014308338 showing justifiable difference between values. Repo rates: - average value of data cell being 0.051066667 in the given table and variance between two data cell is 0.010271924 showing justifiable difference between values.

4.2 Result of Correlation Coefficient

Objective: To analyse the correlation between selected variables.

Table 5.2: Correlation analysis

Particular	Gold Price
Gold Price	1
Crude oil	0.4837696
Forex	0.8681959
SENSEX	0.76639
GST Rates	-1.09E-15
Tariff Charges	0.3428916
Inflation	0.5118533
Repo Rates	0.0793337

Table 5.2 displayed gold price with crude oil- 0.483769647 value showing weak positive correlation between variables. Gold price with Exchange rates- 0.868195850951667 value showing very strong positive correlation between variables. Gold price with Sensex- 0.756638971 value showing very strong positive correlation between variables. Gold price with GST rate- -1.09198E-15 value showing weak negative correlation between variables. Gold price with gold tariff- 0.342891635 value showing weak positive correlation between variables. Gold price with inflation rate- 0.511853345 value showing moderate positive correlation between variables. Gold price and Repo rates- 0.079333738 value showing weak positive correlation between variables.

4.3 Result of Multiple Linear Regression Analysis

Objective: To examine the selected factors' impact on gold prices in India via multiple linear regression.

Table 5.3.1: Regression Statics

Regression Statics	Value
Multiple R	0.974173576
R Square	0.949014156
Adjusted R Square	0.924374249
Standard Error	164.3678818
Observation	60

Table 5.3.1 displayed Multiple R- 0.974173576 value of correlation coefficient shows very strong positive linear relationship between dependent variable and selected independent variables. R square- 0.949014156 value shows that approx. 95% of variation in dependent variable can be explained by selected independent variable Adjusted R square- 0.924374249 value shows that if unnecessary predictors are penalized 92.4% of variance can be explained by selected independent variables. Standard Error- 164.3678818 value shows that data point deviate more from the regression line.

Table 5.3.2: ANOVA Values

ANOVA					
Particular	DF	SS	MS	F	Significance F
Regression	7	26652187.6	3807455.371	164.4173689	3.72E-33
Residual	53	1431890.431	27016.80058	-	-
Total	60	28084078.09	-	-	-

Table 5.3.2 displayed F-statistic: 164.41 value is very large, indicating that used regression model explains a significant portion of variance in dependent variable. Significance F: 3.72×10^{-33} as p value is very small and less the 0.05 thus null hypothesis can be rejected, and alternate hypothesis can be accepted.

Table 5.3.3: Intercept Table

	Coefficients	Standard Error	T Stat	P-Value
Intercept	-4204.006757	562.3293619	-7.476057701	7.7331E-10
Crude oil	0.010667466	0.026185123	0.407386503	0.685364958
Forex	106.9603187	11.41897352	9.366894357	7.87165E-13
SENSEX	0.020896611	0.004882096	4.280253669	7.86175E-05
GST Rates	0	0	65535	Not Available
Tariff Charges	7146.119687	1150.361441	6.212064687	Not Available
Inflation	1978.793342	2133.300172	0.927573798	0.357833755
Repo Rates	-31488.35262	3508.938726	-8.973753912	3.22205E-12

Table 5.3.3 displayed values as Intercept: -4204.01, Crude Oil: 0.01067 (Not statistically significant), Forex (USD-INR): 106.96 (Highly significant), SENSEX: 0.02090 (Highly significant), Gold Tariff: 7146.12 (Highly significant), Inflation Rate: 1978.79 (Not statistically significant), Repo Rate: -31488.35 (Highly significant).

Table 5.3.4: Brief of which independent variable supporting which hypothesis

Serial Number	In favour of null hypothesis	In favour of alternate hypothesis	Not defined
1.	Crude oil with gold	Forex with gold	GST rate
2.	Inflation rate with gold	Sensex with gold	Gold tariff
3.	-	Repo rate	-

Table 5.3.4 displayed that crude oil and inflation rate support null hypothesis via rejecting alternate hypothesis and forex, SENSEX and repo rate support alternate hypothesis via rejecting null hypothesis whereas GST rate and Gold Tariff doesn't provide with P-value therefore their acceptance and rejection of either hypothesis cannot be determined reasoned because of repetitive or same value in data set.

5.4 Findings

Gold Prices Fluctuate Significantly: Over the last five years, the price of gold in India has varied a lot, with an average price of around ₹4271 per gram. The lowest price was about ₹2870, and the highest was around ₹5426. This shows that gold can be a risky investment because its price can change dramatically. Impact of Crude Oil Prices: There is a weak connection between gold prices and crude oil prices. This means that when oil prices go up or down, it doesn't have a strong effect on gold prices. Strong Connection with Currency Exchange Rate: The value of the Indian Rupee compared to the US Dollar (USD) has a very strong impact on gold prices. When the Rupee weakens (meaning it takes more Rupees to buy a Dollar), gold prices tend to go up. This is because gold is often priced in Dollars, so a weaker Rupee makes gold more expensive in India. Stock Market Influence:The performance of the BSE SENSEX, which is a major stock market index in India,

also has a strong positive relationship with gold prices. When the stock market does well, gold prices tend to rise as well. Gold Tariffs Matter: The tariffs (taxes) on gold imports also play a significant role. Higher tariffs can lead to higher gold prices in the market. The study found that changes in these tariffs can significantly affect how much gold costs. Inflation and Repo Rates: Inflation (the rate at which prices for goods and services rise) and repo rates (the interest rate at which the central bank lends money to commercial banks) have some influence on gold prices, but their impact is not as strong as the other factors mentioned.

5.5 Recommendation

For Investors: Monitor Currency Trends: Investors should keep an eye on the USD-INR exchange rate. A weakening Rupee could signal rising gold prices, making it a good time to invest. Watch the Stock Market: Since gold prices are positively correlated with the stock market, investors should consider the performance of the BSE SENSEX when making decisions about gold investments.

For Policymakers: Consider Tariff Adjustments: Policymakers should evaluate the impact of gold tariffs on market prices. Adjusting tariffs could help stabilize gold prices and make it more accessible to consumers. Inflation Management: Keeping inflation in check can help maintain stable gold prices. Policymakers should focus on economic policies that control inflation rates.

For Consumers: Timing Purchases: Consumers looking to buy gold should consider timing their purchases based on market trends, especially when the Rupee is strong against the Dollar or when gold prices are lower due to market conditions.

For Researchers: Further Studies: More research could be conducted to explore the relationship between gold prices and other economic indicators, such as global market trends and geopolitical events, to provide a more comprehensive understanding of gold price dynamics.

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