



To Study the Financial Impact of Rising Fuel Prices on Public

Om Vasant Deshmukh,
Professor Minakshi Chauthamahal,
Department of Zeal Management Studies
Zeal Institute of Management and Computer Application

Abstract – Rising fuel prices have become a major economic concern in recent years, particularly in developing countries like India where fuel plays a crucial role in transportation, production, and daily life. The continuous increase in petrol and diesel prices has significantly affected the financial stability of individuals by increasing the cost of living and reducing purchasing power. This study aims to analyse the financial impact of rising fuel prices on the public, with a focus on household expenditure, savings, and consumption behaviour. The research is based on primary data collected from 100 respondents using a structured questionnaire. The study uses statistical tools such as percentage analysis, correlation, and chi-square test to interpret the data. The findings reveal that a majority of respondents are from the working and middle-income group, who are most affected by rising fuel prices. It was observed that increased fuel costs have led to higher transportation expenses, reduction in savings, and changes in spending patterns. Furthermore, respondents have adopted various strategies such as reducing travel, using public transport, and cutting down on non-essential expenses to manage rising fuel costs. The study concludes that rising fuel prices have a moderate to significant financial impact on individuals and highlights the need for better financial planning and efficient fuel usage to reduce the burden.

Keywords- Rising fuel prices, Fuel price inflation, Petrol and diesel price increase, Energy price volatility, Cost of living crisis, Household financial burden

I. INTRODUCTION

In recent years, Rising fuel prices have become a major concern for economies across the world (RBI, 2023; World Bank, 2022), especially in developing countries like India. Fuel, particularly petrol and diesel, is an essential resource used in transportation, production, and daily household activities. Any increase in fuel prices not only affects individuals directly but also creates a chain reaction across various sectors, increasing the overall cost of living and affecting financial stability.

Fuel prices are influenced by several factors such as global crude oil prices, exchange rate fluctuations, government taxation policies, and geopolitical conditions. Since India relies heavily on imported crude oil, changes in international prices have a direct impact on domestic fuel rates. Additionally, taxes imposed by the government further increase the final price paid by consumers, leading to a continuous rise in fuel costs.

The impact of rising fuel prices extends beyond transportation. It leads to higher logistics costs, which increase the prices of essential goods and services. This contributes to inflation and reduces purchasing power (RBI, 2023) of individuals. As a result, households are forced to adjust their budgets, cut down on non-essential expenses, and reconsider their financial planning.

Rising fuel prices also influence lifestyle and consumption behaviour. Many individuals try to reduce fuel usage by using public transport, carpooling, or adopting alternative methods. However, such changes are not always

convenient, especially for those who depend on private vehicles for daily commuting.

The financial impact varies across income groups, with lower and middle-income individuals being more affected due to limited disposable income. Increasing expenses also reduce savings and affect long-term financial planning.

This study, titled “To Study the Financial Impact of Rising Fuel Prices on the Public”, aims to analyze how rising fuel prices affect household expenditure, savings, and

consumption behaviour, and to suggest measures to reduce the financial burden on individuals.

Objectives of the Study

- To study the financial impact of rising fuel prices on the public.
- To examine the effect on household expenditure.
- To analyse changes in spending behaviour.
- To understand impact on savings.
- To study differences across income groups.
- To provide suggestions to reduce financial burden.

Significance of the Study

- Helps understand financial impact on public
- Assists in budgeting decisions
- Useful for policymakers
- Helps businesses analyse consumer behaviour
- Adds value to economic research

Scope of the Study

The study focuses on the financial impact of rising fuel prices on the general public. It includes analysis of



household expenses, savings patterns, and consumption behaviour. The study mainly covers urban and semi-urban areas and considers individuals from different income groups. However, the study is limited to short-term financial impact and does not include detailed macroeconomic analysis

II. REVIEW OF LITERATURE

1. “Impact of Fuel Price Changes on Household Welfare” – World Bank (2022)

This study examined how fuel price increases affect household welfare in developing countries. It found that rising fuel prices significantly increase transportation and energy costs, which leads to higher overall household expenditure. The study also highlighted that lower-income households are more vulnerable as they spend a larger share of their income on basic needs. It concluded that fuel price increases directly reduce the standard of living of the public.

2. “Fuel Price Rise and Inflation in India” – RBI Report (2023)

This report analysed the relationship between fuel prices and inflation. It found that rising fuel prices contribute directly to inflation by increasing transportation and production costs. The study also emphasized that fuel price hikes have both direct and indirect effects on the economy, leading to an increase in prices of essential goods and services.

3. “Economic Impact of Rising Oil Prices” – Hamilton (2018)

This research focused on the broader economic effects of rising oil prices. It found that higher fuel prices reduce consumer spending and slow down economic growth. The study also highlighted that increased fuel costs affect business profitability and lead to higher prices for consumers.

4. “Household Consumption and Fuel Prices” – Gupta & Sharma (2021)

This study examined how rising fuel prices influence household consumption patterns. It found that individuals tend to reduce discretionary spending when fuel prices increase.

The study also highlighted that households prioritize essential expenses and cut down on luxury items.

5. “Impact of Fuel Prices on Transportation Costs” – Singh (2020)

This research showed that transportation costs increase significantly with rising fuel prices. It also found that increased logistics costs lead to higher prices of goods, affecting both consumers and businesses.

III. PROBLEM STATEMENT & HYPOTHESIS

Problem Statement

In today’s economic environment, rising fuel prices have become a major concern affecting the financial stability of individuals. The continuous increase in fuel prices leads to higher transportation costs, increased prices of essential goods, and reduced savings. These changes force individuals to adjust their budgets and reduce their standard of living. The problem addressed in this study is that rising fuel prices create financial stress among the public and significantly impact their expenditure, savings, and consumption behaviour.

Hypothesis 1

- H0₁ (Null Hypothesis): Rising fuel prices do not have a significant impact on household expenditure of the public.
- H1₁ (Alternative Hypothesis): Rising fuel prices have a significant impact on household expenditure of the public.

Hypothesis 2

- H0₂ (Null Hypothesis): Rising fuel prices do not significantly affect the savings and financial planning of individuals.
- H1₂ (Alternative Hypothesis): Rising fuel prices significantly affect the savings and financial planning of individuals.

Hypothesis 3

- H0₃ (Null Hypothesis): There is no significant difference in the impact of rising fuel prices across different income groups.
- H1₃ (Alternative Hypothesis): There is a significant difference in the impact of rising fuel prices across different income groups.

IV. RESEARCH METHODOLOGY

1. Study Duration

The study was conducted over a period of 2–3 months, covering stages such as questionnaire design, data collection, analysis, and interpretation. Proper time was allocated to ensure accuracy and reliability of results.

2. Subject Selection

The study focuses on the general public, including working professionals, students, and business individuals affected by rising fuel prices. A convenience sampling method was used to select respondents from different age groups, income levels, and occupations.

3. Data Collection Methods

Primary data was collected using a structured questionnaire designed to analyze the impact of fuel prices on expenditure, savings, and consumption behavior. A Likert scale was used for responses. Secondary data was



collected from research articles, reports, and online sources.

4. Procedures

The questionnaire was distributed through online platforms like Google Forms and offline methods. Respondents were informed about the purpose of the study, and confidentiality was maintained. Responses were carefully reviewed to ensure accuracy.

5. Research Design

The study follows a descriptive research design to analyze the financial impact of rising fuel prices without manipulating any variables.

Sampling Method & Sample Size

Convenience sampling was used, and the sample size consists of 100 respondents from different backgrounds.

6. Data Analysis Tools

Data was analyzed using:

- Percentage analysis
- Chi-square test
- Correlation analysis
- Charts and graphs for presentation

Tools like Microsoft Excel and Google Forms were used for data processing.

Limitations of the Study

- Limited sample size
- Area-specific data
- Possible response bias
- Time constraints
- Frequent changes in fuel prices

V. DATA ANALYSIS

Question 3: What is your monthly income level?

Monthly Income Level of Respondents

Options	Number of Respondents	Percentage
No income	19	19%
Below ₹15,000	18	18%
₹15,000–₹30,000	26	26%
₹30,000–₹50,000	22	22%
Above ₹50,000	15	15%
Total	100	100%

Statistical Analysis (Mean)

To calculate the mean income level, class midpoints were assigned as follows:

- No income = 0
- Below ₹15,000 = ₹7,500
- ₹15,000–₹30,000 = ₹22,500
- ₹30,000–₹50,000 = ₹40,000
- Above ₹50,000 = ₹60,000 (assumed average)

Mean is calculated as:

$$\text{Mean Income} = (\sum f \times x) / N$$

$$= (19 \times 0 + 18 \times 7500 + 26 \times 22500 + 22 \times 40000 + 15 \times 60000) / 100$$

$$= (0 + 135000 + 585000 + 880000 + 900000) / 100$$

$$= 2,500,000 / 100$$

$$= ₹25,000 \text{ (approx.)}$$

Statistical Analysis (Mean)

The mean monthly income of respondents is approximately ₹25,000, indicating that most respondents belong to the low to middle-income group.

Interpretation

This shows that a major portion of respondents have moderate earnings, where rising fuel prices directly affect monthly budgets. As a result, these respondents face higher financial pressure, especially in terms of transportation costs and reduced savings capacity.

Correlation: Q5 VS Q10

Question 5: How often do you purchase fuel?

Question 10: Have you reduced your travel due to rising fuel prices?

Fuel Purchase Frequency	Travel Reduced (Yes)	Travel Not Reduced (No)	Total
Daily	25	4	29
Weekly	35	13	48
Monthly	13	10	23
Total	73	27	100

Frequency Table

X (Frequency)	Y (Travel Reduction)	f	fX	fY	fXY	fX ²	fY ²
3	1	29	87	29	29	261	29
2	1	48	96	48	48	192	48
1	0	23	23	0	0	23	0
Total		100	206	77	77	476	77

$$r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{[N \sum X^2 - (\sum X)^2][N \sum Y^2 - (\sum Y)^2]}}$$

$$r = \frac{(100(77) - (206 * 77))}{\sqrt{([100(476) - (206)^2][100(77) - (77)^2])}}$$

$$r = \frac{(7700 - 15862)}{\sqrt{(5164 * 1771)}} = \frac{-8162}{3024.14} \approx -0.27$$



Result: $r = -0.27$

Weak Negative Correlation

Analysis

The correlation coefficient of -0.27 indicates a weak negative relationship between fuel purchase frequency and travel reduction. This means that individuals who purchase fuel more frequently tend to reduce their travel slightly.

Frequent fuel users (daily and weekly) show a higher tendency to cut down travel, suggesting that rising fuel costs influence their mobility decisions. However, the relationship is not very strong, indicating that other factors may also affect travel behavior.

Interpretation

There is a weak negative correlation between fuel purchase frequency and travel reduction, indicating that higher fuel usage leads to a slight decrease in travel.

Key Findings

- Majority respondents belong to the 26–40 age group, indicating working population is most affected.
- Middle-income group (₹15,000–₹30,000) is highly impacted by rising fuel prices.
- Four-wheeler usage is highest, leading to increased fuel expenses.
- Most respondents spend ₹3,000–₹5,000 monthly on fuel.
- Rising fuel prices have significantly affected monthly budgets.
- Transportation and food expenses are the most impacted areas.
- Many respondents have reduced travel due to increased fuel costs.
- There is an increase in use of public transport and carpooling.
- Individuals have cut down on non-essential expenses like dining and entertainment.
- A noticeable decline in savings has been observed.
- Some respondents are considering alternative options like electric vehicles.
- Overall, the financial impact is moderate, and people are adopting cost-cutting strategies.

VI. CONCLUSION

The study concludes that rising fuel prices have a significant financial impact on the public. Fuel is an essential expense, and any increase in fuel prices directly affects transportation costs, household expenses, and savings. Most respondents reported that they faced difficulty in managing their monthly budget due to higher fuel costs.

People have responded by reducing travel, using public transport, cutting down on non-essential expenses, and changing their daily routines. This shows that fuel price increases affect not only finances but also lifestyle and

decision-making. Therefore, fuel price rise has become an important economic issue for the common public.

Suggestions

- People should use public transport whenever possible to reduce fuel expenses.
- Carpooling and ride-sharing should be encouraged for daily travel.
- Households should prepare better monthly budgets to manage rising fuel costs.
- Awareness about fuel-saving practices should be increased.
- Government should consider policies to control sudden fuel price increases.
- People should explore alternative options like electric vehicles for long-term savings.

Limitations of the Study

- The study is based on only 100 respondents, so results may not represent the entire population.
- The study is limited to selected respondents and specific locations only.
- Responses are based on personal opinions and may include bias.
- Fuel prices change frequently, so results may vary over time.
- Time limitations restricted deeper analysis of all economic factors.

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