Rising Fuel Prices in Bangalore - Causes and Impact

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Abstract:

India being one of the largest and growing consumer of energy in the world has been relying heavily on crude oil for its production of energy and consumption purposes. The growing demand and increasing fuel prices have always been can issues for the general public. This study aims to understand the causes and impacts for the rising prices in recent times that have been influencing the economy as whole and provide solution to cope with this externality.

Keywords: Fuel Prices, Bangalore, Crude Oil, Fuel Subsidies, Urbanization, Analysis of fuel pricing structure

1. Introduction:

Energy has been a controversial topic since decades with the question of how long can we survive by depending on the existing sources of energy. One common and influential source of energy is fuel the major sources being fossil fuels, diesel and various array of chemical compound fuels. The recent dependence on fuels, especially fossil fuels is on a high time rise and has been shaping the global economy.

Fossil fuels such as coal, petrol, and diesel have been impacting human lives in terms of rising prices, supply of these fuels, global warming, increased expenditure patterns and need to finding reliable alternatives of these fuels. This is the common context all over the world especially in India, newspapers and notifications in our smartphones have been inundated with the never ending news of the rising prices of Petrol and Diesel in India. While a very few people went unscathed by this development, the majority of Fuel consumers of the country, flinched on the news of surging fuel prices. Since the middle of 2018, petrol and diesel prices were on an accelerating pace of hike and it touched close to 90 rupees in Mumbai. The bandwidth of causes attributed towards this rise in price oscillates from Inefficient Government policies to fall in Rupee Value and even Global Political strategies advanced by US on sanction against Iranian Oil import. While no relief seems to have come to the Fuel prices in India, the situation isn't altogether better for any of the neighboringcountries like Pakistan or Sri Lanka either. A lot of public outcry over this conundrum has been expressed through various petitions as well through tweets and other social media channels. At this point of time, it is imperative to have a close look into the major reasons of this Fuel Prices - *the causes*; as well as how people are affected by this - *the impact*.

2. Literature review

(Bhattacharya & Batra, 2009)In this research paper, the author attempts to investigate with International prices of oil impacts the domestic inflation and output growth in India. The study focuses on two main instances for the investigation – first when fuel prices are directly proportionate to the international fuel prices and second instance is the current situation where the fuel prices are dependent on the government policies revised every now and then.

(Anand, Caody, Mohommad, Thakoor, & P Walsh, 2013)In this study, the analysis is on the fuel pricing approaches taken in the country along with the necessity of fuel subsidy reforms and reform options. The paper looks in detail into the degree of fuel subsidies in action in the county and the increases in domestic fuel prices required to counter the subsidies and also assesses the effect these increases in price will have on the inflation and household real incomes.

(Bhanumurthy, Das, & Bose, 2012)This research study in depth focused on the effect that transmission of International Oil Prices and domestic oil price pass through policy on the Indian economy (taking the main macro-economic variables). The entire study has been done with the help of a macroeconomic policy stimulation model.

*(*M.K Anand, 2016*)*This articles particularly talks about the impact that rising fuel prices have in the economy – particularly that of the agriculture sector. It analyses deeply on the implications of these persistent rise – both direct and indirect. The finding of this research have stronger implications than commonly recognized; for inflation cost and cost of implementing the policy on food security.

(Parikh, Purohit, & Maitra, Demand projections of petroleum products and natural gas in India, 2007)In this article, the researchers look into the demand and consumption pattern of the fuel in the Indian economy and analyze how the energy demand will grow in the dynamic phase that Indian economy is metamorphosing into currently. To assist for the same analysis, econometric models have been created for different petroleum based products to extract the variables that are specific to the fuel at an individual level.

(Parikh & Shukla, Urbanization,energy use and greenghouse effects in economic development:Results from a cross-national study of developing countries, 1995)This paper assesses the effect that usage of Energy and the associated increase in the fuel pricing will possible have on the Economic Development of the country – in general and urbanization in particular in terms of the changing patterns of energy use. Also this paper put forward what the policies imply toward urbanization and development of the countries.

3. Research Design

Statement of Problem: India is currently facing rising price of its fuel - Petrol and Diesel. There are multiple factors in motion that contributed to this increase. This proposed research aspires to look into the major causes that have contributed to this rise, whether the Government has a major role to play in this pricing game and what are the possible impacts of this on people of Bangalore.

Scope of Study: We have based our study in the city of Bangalore. The fuel we are focusing on are Petrol and Diesel - the two fuels which have been skyrocketing. Though the causes of increased fuel prices may be general, the impact of the same would be specific to this particular region under study. Thus our questionnaires are also designed in such a way to enable us to do the analysis on this particular area.

Research methodology

Sources of Data:

We have relied on both primary and secondary data to do our research. The primary data through questionnaires were used to find out the impact of Fuel prices in Bangalore. The Secondary Data were used to find the causes behind the fuel price increase.The data analysis tool used is questionnaire. The questionnaire was circulated in the city of Bangalore through Google Forms among 246.The collected data analysis tool used was pie charts to get the number of participants under various categories provided in the questionnaire.

Objectives

The objective of this research is to find out:

1. If there is any relation between Central and State in the pricing of Petrol and Diesel or,

2. To find out the impact of rising fuel prices on the city of Bangalore

3. To understand and break down the pricing policy of the government.

4. To provide solution for the problem at hand and advise choices which can alleviate the problem.

Research Hypothesis:

H1: Central and State have a major role in the price of Petrol and Diesel.

H2: The rise in fuel prices have a significant impact in the Bangalore.

Expected Outcome

After the analysis we expect to find the causes mainly affect the increasing price level of fuel and to find a solution as to mitigate this burden on the general public by analyzing the pricingstructure of fuels and to providing ways for bring the existing price level under control which is possible by the government.

Limitations of Study:

The study is focused on the Region of Bangalore. Therefore, the results of this study not necessarily generalize the impact of Rising Fuel prices for the entire country. The data acquired from the questionnaire is imperative to our studies at the same time it does not give a full onset of the views of the people and is obtained from a close but approximate reliable sample.

4. Data Analysis and Interpretation

Firstly we have analyzed the data regarding the causes for the increasing fuel prices in Bangalore. The main factors affecting the fuel prices are initial cost of crude oil and taxburden, mismatch of demand and supply, populationbloom, declining fuel resources, fluctuation in foreign exchange rate, import prices. For the purposes of our research we are going to focus on the following factors has they effected the fuel prices substantially in recent years:

Fuel Pricing Policy in India: The pricing of fuel is dependable on the central and state government. The central government imposes roughly 24% to 26% of the final cost as tax and the state government imposes another 20% to 25% as tax which roughly form more than half of the price of fuel. For instance on April

2,2018 the price charged to fuel dealers was Rs.31.08 and to this central government charged around Rs.19.48 and the state government charged Rs.15.70 per liter which totaled up toRs.73.83 per liter.

Before 2002 the government adopted Administrative Pricing Mechanism controlling the domestic prices of petroleum products. This mechanism was replaced by giving the oil manufacturing companies the freedom to set oil prices but was closely regulated by the petroleum sector regulator. This was again scraped and the government was given the power to set prices since there was a sharp increase in the global price of fuel and to protect the Indian consumers.

Mismatchof demand and supply: India third largest consumer of fuel as of 2017-2018.The country produced 3.394 million tons as on September 22, 2018.Assaam, Arunachal Pradesh and Rajasthan Fields are the places with the highest production oil in India. In contrast to this the demand of India is set to overtake China as the top demander for oil and as seen an increase of 5.30% from previous year 2016-2017.

This is mainly due to the fact that India has a high dependence on oil for energy generation and fuel consumption.

Cost of Crude Oil Internationally-India is the fifth largest importer of oil and its derivatives amounting to 51.6 percent ($23.34 billion) of the imports by India as of August 2018 from countries like America,Canada,Saudi Arabia,Iraq,Iran etc. Theexistingprice (including freight charges) per barrel is rough around $79.93 per barrel or Rs.5700 per barrel as of 4th September 2018 along with the entry tax, freight cost and OMC margin.

Taxation component on oil price: A close composition of the price of petrol gives us the build of pricing as the Price charged to Dealers, Dealers commission, Excise Duty and VAT levied by the State Government

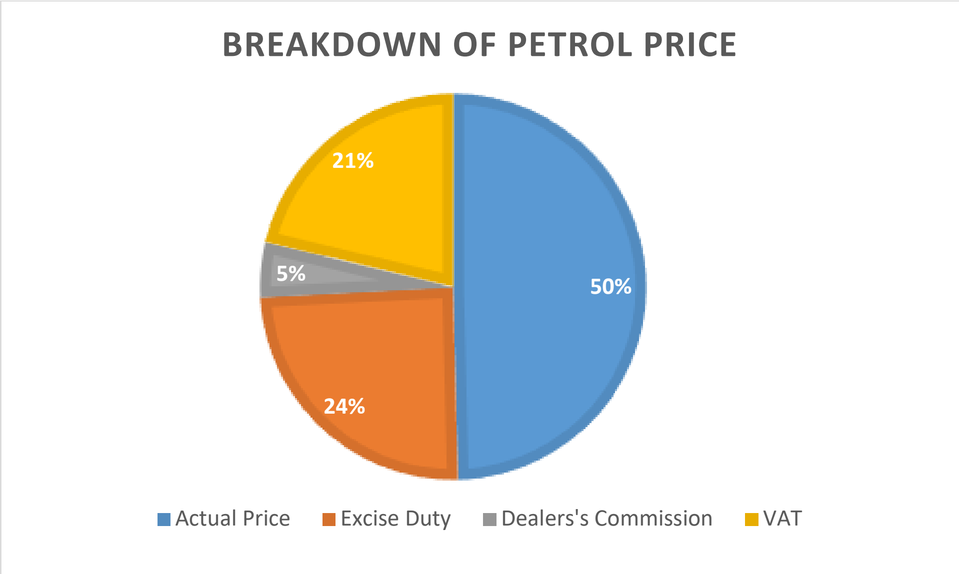
The price charged to dealers includes the Refinery Transfer price (RTP which is paid by Oil Marketing Companies to Refineries), Marketing Cost, Margin, Freight and Other charges. Dealer's commission is fixed at 3.63 per litre.

International Price of Crude oil with Ocean Freight as on the above date is $79.93 per barrel. 1 barrel of crude oil is 159 liters. Taking the exchange rate on the above date to be INR 71.4 per dollar, Crude oil price per liter would come out to be INR 35.89 per litre. The entry tax, refinery processing charges, Freight cost and OMC Margin on this amount adds up to INR 3.45 per liter and thus we arrive at the price charged to dealers of INR 39.34.

The breakup of the Petrol price after this stage can thus be put as follows

Elements	**Amount**
Price Charged to Dealers	39.34
Excise Duty	19.48
Dealer's Commission	3.63
VAT	16.86
Retail Selling Price	79.31

Out of the Total Fuel Price of INR 79.31, about 36.34 rupees is going to the government (19.48 to Central Government as Excise duty and 16.86 to State Government as VAT). This tax amount alone amounts to **45.82%** of the total Fuel price. In other words, if there were no taxes, the Actual amount that should be paid for one litre of petrol would be only INR 42.97 as on 4 September 2018



Thus we can see that a major part of the price we pay for petrol goes to the Government in the form of taxes. This implies that the Government has control over the price of petrol. By government, both Central and State Governments are included. While Excise Duty of 24% of the total price goes to the Central Government, we can see that the 21% of the Total price goes to the State government in the form of VAT.

VAT is charged by the State government and the rates are different for different states. This is the reason why petrol prices are different in different states – the VAT rates charged by the state governments are different. The highest VAT rate charged is by the state of Maharashtra and the capital territory Delhi. In Karnataka along with other states like Bihar have cut down the VAT charged on Petrol and Diesel by INR 2 in the month of August owing to the surging prices. This shows that the State Government can, in fact can reduce the Petrol Price charged to the consumers to some extent. On similar lines, even Diesel is also priced through a similar mechanism. The only difference being difference in Excise duty and VAT charged on Diesel are lesser than Petrol and hence price of Diesel is lesser, comparatively.

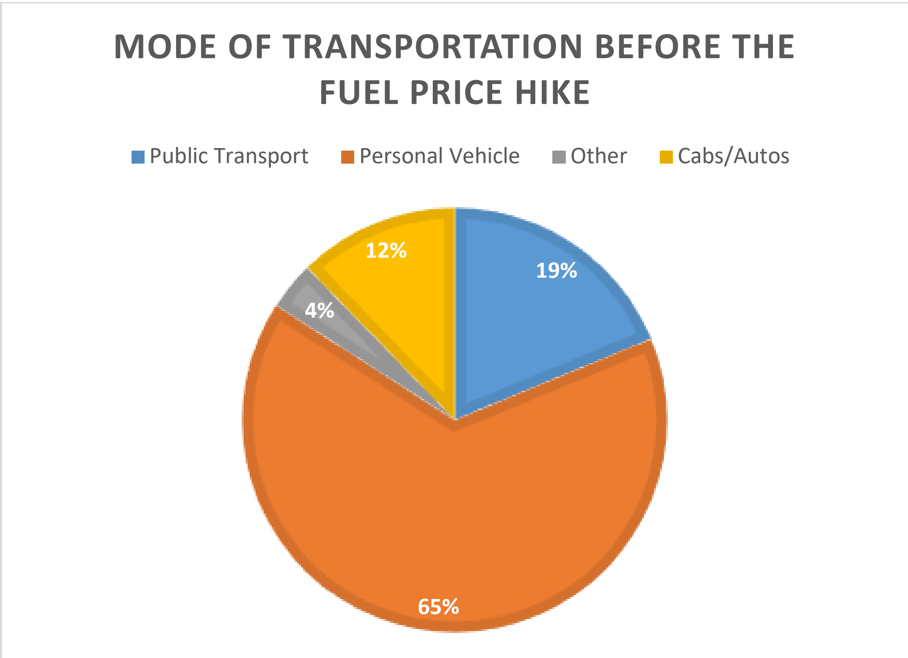
Currently, Petrol and Diesel fall under the scope of GST. In other words, GST is still not applicable to these products and that's why VAT and Excise duty is levied on the same. If Petrol is brought under GST, then even the highest slab rate of GST would make the Petrol Price even cheaper than what it is currently. That is to say if the Petrol is subject to 28% GST (which is the maximum slab rate), even then the Price of Petrol as on 4 September 2018 would have been only **INR 55**. But this would lead in a decrease in Revenue for the State Governments as the state governments charge different VAT rates across the country and implementation of GST would mean that 50% of the tax levied would go to Central and 50% would go to State. Most of the states of India are just recovering from the implementation of GST in the FY 2017-18 and the decision to make Petrol and Diesel under the GST regime would be a distant task. However, the idea is to bring Petrol and Diesel under the ambit of GST in the coming years. This is put out in the Central Goods and Service Tax Act, Chapter III – Levy and Collection of Tax which goes like this:

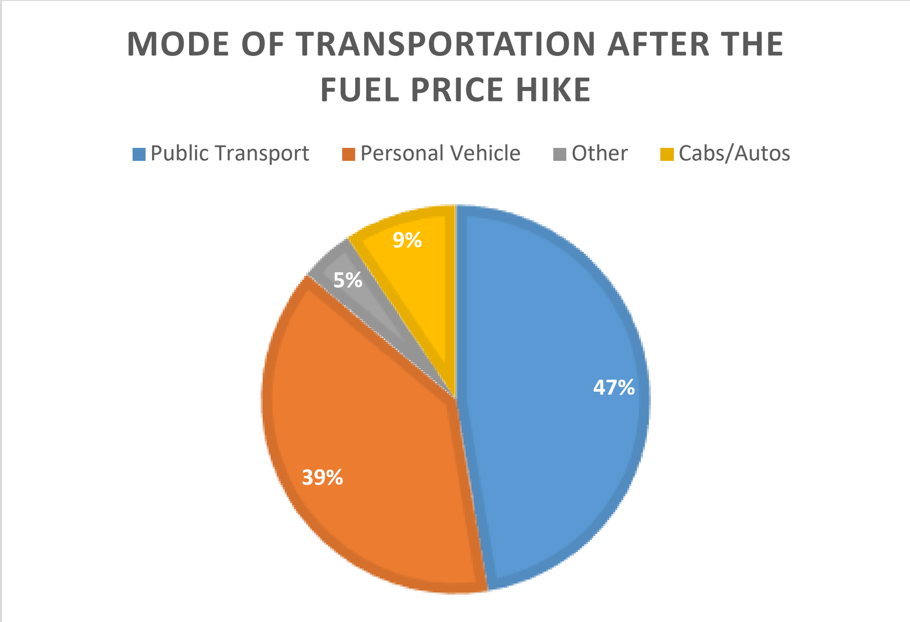
(INDIA, 2017)

The other factors to consider here are that the Excise duty charged by the Central Government is fixed at a flat rate of INR 21.48 per liter of petrol, (the above 19.48 is post the Central decision to cut INR 2 per liter owing to increased price). This is to enable predictability in the Central Revenue. Thus the revenue is untouched by the price of petrol in the international market or dealer's charge or rupee value. The daily fluctuations that we see then however is because of the Dealer's Commission which accounts for about 5% of the Total price. This is totally unregulated – raised or lowered but on a nudge-wink basis with the government. Yet another factor that should not be overlooked is that since End of 2017, the petrol that has been consumed in India has Ethanol content of 10% mixed with it. Ethanol is a natural fuel which is made from Sugar and Starch and can be mixed with Petrol without any changes and has no Particulate Material Pollution. However, the catch here is that, even though Ethanol is mixed with it, the combined rate of petrol and Ethanol are not used to price the petrol. This is to say that if you fill petrol with 30 liters of petrol, then in reality you have only 27 liters of petrol and 3 liters of Ethanol; but the price charged is of the 30 liters of Petrol.

Fall in Rupee value against Dollar: Current Account Deficit has increased from $15 billion to $15.8 billion during the months of April to June 2018.This leads to increase in devaluation of Indian rupee as oil demand increases and the import transaction require dollar as the exchange currency by the importing countries which puts a constraint on India Foreign reserve. The fact that Indian currency has been performing badly in the Asian region losing nearly 50 points.

US sanction against Iranian Oil Import: US had withdrawn Joint Comprehensive Plan of Action with Iran on May 8,2018 which led to oil prices being unstable since Iran is a major importer of oil and as a result many sanctions have been withdrawn the reason being Iran was not fully transparent of it nuclear activities.





The above two diagrams represents the data collected through the questionnaire. The questionnaire was prepared to understand the importance of fuel and the desirable level of fuel prices that the participants would like. This was done so that we understand how majority of the people were being affected by the hike in price. From the above pie charts most people during the pre-hike petrol prices were utilizing more of private transportation to travel. This meant that people were utilizing more of petrol and diesel and there was no saving mentality in it.After the hike in prices there was an altogether change in the pattern. People started utilizing more of public transport which lead to substantial decrease in fuel consumption in automobiles. The data collected also reveals that the most of the participants utilized 4 wheelers and 2 wheelers and most of the participants were students as Bangalore is a cosmopolitan city. The questionnaire also revealed that the rising fuel prices is also attributable to Governments inability to curb the prices or reduce the taxes levied. The acceptable price range was around 60 to 70 INR as obtained from the opinion of our participants as a standard fuel price.

5.1Findings

Impact of Rising Fuel Prices:

With the consistent rise in Fuel Prices, some of the ways in which the impact would be seen around us can be listed out as follows:

1. According to the estimates by Global Financial Services major Nomura, a $10 per barrel rise in price results in worsening India's fiscal balance by about 0.1% and current account balance by 0.4% of GDP. Arvind Subramaniam, Chief Economic Advisor to the Government admitted that every $10 per barrel hike can take down GDP growth by roughly 0.2 to 0.3 percentage point and worsen the Current Account deficit by around 10 Billion dollars.
2. Inflation is yet another concern that cannot be overlooked. The Finance Minister while presenting the Economic Survey Report in the parliament pointed out that every $10 per barrel increase in oil price can imply an inflation in the country of about 1.7% of GDP. Rise in inflation due to high prices

could reduce the disposable incomes of the households and prove to be a discrepancy in the consumer demand.

3. The Corporate world is also affected by this. The increase in Fuel prices directly impacts those industries that use oil as an input – Fertilizers, Wax, Tires, paints, and footwear's, cements, construction etc. The stock market is also not left untouched. VK Vijayakumar, chief Investment Strategist at Geojit Financial Services told that rate-sensitive stocks are in a bad position with the inflation and interest rates likely to go up. The PSU Oil marketing companies also will be adversely affected while ONGC companies will be gainers. Also, with increased input cost, the Corporates will have to face a fall in their Profit also.
4. Higher Inflation will lead the RBI to opt for increased interest rates. This will impact the people and corporates looking for availing loan while the savers would gain from this.
5. Increase in price of Diesel means that the Transportation cost of most of the food items and other essential items will go up. Bangalore has a lot of essential commodities coming in from various parts of the State as well as from other parts of the country. With the increased Diesel price, it would mean increased price in products like Fruits and Vegetables. This has a direct impact at the Consumer Level.
6. As the oil prices are on rise, we can see the pressure building up on the external account and import cost also goes up, increased deficit and rupee also comes under pressure. This will also affect the Businesses having Foreign exchange exposure.
7. On Tuesday, 11 September 2018, The Bangalore Metro set an all-time record high of passengers. The ridership record was at 4.4 Lakh on that day. This is the busiest the Bangalore Metro has witnessed ever since August 2017. Bangalore Metro Rail Corporate Limited (BMRCL) chief Public Relations Officer UA Vasanth Rao said that rise in Fuel Prices could be one of the reasons for the increased passengers.
8. From the above point we can see that increased pricing of Petrol and Diesel in a way has resulted in people using Public Transport more. In the Questionnaire survey conducted as part of this project, we had observed that prior to the Fuel Price increase impact was seen on our daily life, about 65.3% of the respondents used to Travel by Personal Vehicle. The Public Transport was only 18.8% and Personal Cabs/Autos were about 12.2%. Post the Fuel price impact started affecting at a Consumer level, we have seen that Public Transport has increased to 47.3% while Personal vehicle and Cabs and Autos came down to 38.8% and 9.4% respectively. This means that people have started using more of the Public Transport – leading to a greener, cleaner environment with less traffic in a Metropolitan city like Bangalore.
9. The major industries affected due to high stake in crude oil are aviationindustry, mechanical lubricants industry, paintindustry, rubber industries for making tires and plastic industries.

5.2Suggestions

Even though the Finance Minister has told that this increase in prices in temporary and due to global factors and the domestic base was working strong enough, the government can try to make INR a better performing currency in the Asian region, find ways to stop excessive leakage of foreign reserves and reduce the tax quota on the oil pricing since the large dependence of fuel is essential for the consumption of the Indian population and it is vital for the government to provide such resources as needed at affordable prices. Also investment in to other sources of fuel with less impact on health and that can be produced by India with its rich resources such as electricity as the source of energy can reduce this burden. As for national point of view since the increase in inflation leads to less disposable income, the government can help control inflation by increasing lending rates which helps in curbing inflation. As of global standoff, the government can state the problem to US government since the intermittent factor for rising prices is actions on the Iran agreement that has led to increased demand for oil.

6. Conclusion:

The Rise in Fuel Price is directly linked to the International Crude Oil Price. Thus the rise in Fuel Prices that the country has been witnessing is attributable to a number of factors. While Government too can play a role in cutting down the price, it is inappropriate to blame the Government alone for this hike. Infect, many of the State Governments have cut down the VAT rate to cope up with the increased Fuel price and even the Central Government has also cut down its Excise duty on Petrol and Diesel by a flat INR 2 per liter. Thus we can conclude that Government has a role to play in the Fuel prices in the country, but that alone is not the only determinant of the Fuel Price. Bringing Petrol and diesel under GST regime is yet another long way but in the near future that also will be implemented. This would not be possible, however in the near future.

The depreciating Indian Rupee and Rising Fuel Prices have an inverse relationship as already seen. Thus with the current trends, it is expected that Petrol Prices at INR 100 per liter would be normalized in the coming future. The impact of the same would also have positive and negative implications. On the long run, the increased usage of Public Transport and demand for cleaner energy would result in a better environmental friendly resources.

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