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Analysis of Indirect Tax Provisions Influencing Petroleum Product Prices in India

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Abstract

Pricing of petroleum products in India is a balance between international crude oil price and the domestic tax policies. The paper analyses the extent to which central excise duty and state value-added tax (VAT) affect retail petrol prices in India. Based on data from 2011 to 2025, the study concludes that indirect taxes make a substantial contribution to retail gasoline prices in the short and long term. Suggesting a high pass-through of the excise duty to consumers and exacerbating the volatility induced by the ad valorem structure of VAT. The results emphasize the fiscal significance of oil taxation and its macroeconomic effects with respect to inflation and price stability. The policy implications are centred on tax harmonization, transparency and stabilization mechanisms.

Keywords: petroleum pricing, excise duty, VAT, indirect taxation, oil price pass-through, India

1. Introduction

Petroleum products including petrol and diesel are critical to India's economy with demand growing across multiple sectors such as transportation, agriculture, manufacturing and household energy use Being the staple of transportation and manufacturing activities, movements in fuel prices impact on general economic stability, inflation and consumer well-being. With imports accounting for more than 80% of its crude oil needs, India is highly susceptible to international prices. Alterations in global crude markets, geopolitical instability, and foreign exchange fluctuations have direct effects on the country's fuel prices, amounting to macroeconomic as well as socio-economic challenges (Hamilton, 2009).

But pricing of petrol and diesel in India is not linked to international crude but instead follows international product price trends resulting in lower volatility and lesser fluctuations than crude prices. Retail fuel prices in India are shaped entirely by domestic policy measures, such as indirect taxes like central excise duty and state VAT. They are typically a significant fraction of the retail price, varying from 40 to 50 percent which is amongst the highest in the world fuel tax incidence rates (Keen, 2013). Since excise duty is taxed on a per litre basis, sales taxes are usually assessed as an ad valorem tax, leading to even more variability of price seeing that sales taxes (VAT) are also collected from the total face value and thus both the amount of the duty and VAT rise with respect to each other. The relationship between these two types of taxes is an important factor in the formation of prices, consumer choices and regional economic inequalities.

While most consumer items are included in the Goods and Services Tax (GST) net, fuels, such as petrol and diesel, don't fall under the new taxation system. This exemption provides flexibility to the central and state governments in reviewing excise duty and VAT rates. Fuel taxes therefore differ between states which can lead to differing fuel prices in each state. Such inter-state variation affect not only the cost of intra-state transportation or logistical costs but also has a bearing on inflationary pressures as fuel costs are critical inputs for just about every good and service supply chain in the country (Sterner 2012).

The real interest in theism of indirect taxes is not limited to (even if it originates from) economic theory but also extends to fiscal or policy considerations. Excise duties on petroleum-related products are also levied by the centre and states. At the same time, it is also used as a weapon to control inflation, behaviour of consumption and social justice. These sudden tax changes can have immediate flow-through impacts on household spending, manufacturing costs and transport services. It is, therefore, important to study the role of excise duty and VAT in retail fuel prices as this would be helpful for policymakers trying to strike a balance between sustainable fiscal policy on one side and stabilisation of the economy and consumer welfare on the other.

Besides the Indian economy continues to liberalize and has to meet its growing energy demands, so understanding the dynamics of indirect taxes effects in fuel prices appears important. Well-designed taxes can further stabilize revenues, narrow regional price differences and keep petroleum goods affordable while maintaining fiscal health. The paper contributes to the evidence base for petroleum taxation policy and underscores the importance of accounting for economic and social dimensions in oil taxation.

2. Objectives

1. To examine the impact of central excise duty and state VAT on retail petrol prices in India.

2. To analyse the short-run and long-run dynamics of petroleum pricing with respect to crude oil prices and indirect taxes.

3. Literature Review

3.1 Tax Incidence and Pass-Through Theory

The tax incidence depends on the relative elasticity of demand and supply (Fullerton & Metcalf, 2002). 9 The case of a product with an inelastic demand such as oil, at least in the short run, is that tax increases are partially shifted to consumers. Fixed specific taxes such as excise duty, introduce a known increase in price (due to the fixity of the tax element of price) whereas ad valorem component of VAT which varies with both base price and excise will tend to add volatility into prices (Keen 2013).

3.2. Oil Price Transmission

Bornstein, Cameron & Gilbert (1997) reported asymmetrical price transmission in gasoline markets, whereby gasoline prices respond quickly to increases in crude oil prices but adjust slowly when the price of crude falls. Hamilton (2009) focused on the macroeconomic effects of oil price shocks such as effects on inflation and output. Baumeister and Kilian (2016) found substantial roles of domestic institutional factors, such as taxations, in oil price transmission to the retail market.

3.3 Gasoline Taxes and Tax Policy

Fuel taxes are essential to revenue mobilization and fiscal planning (IMF, 2019). In India, taxes on petroleum products are a major source of the government revenue (NIPFP, 2022). Nonetheless, excessive tax burdens could be inflationary and may have some equity implications if they hit low- income households hard (Sterner, 2012).

Many researchers have focused on crude oil price transmission or petroleum taxation separately, without reporting the concurrent influence of excise duty and VAT on retail fuel prices in medium and long terms. This study bridges the gap by examining how domestic tax policy and oil prices in international markets combine to influence retail petrol pricing in India.

4. Theoretical Framework

Retail fuel pricing can be expressed as:

Retail Price = Base Price + Excise Duty + VAT + Dealer Margin

Where:

- Base Price depends on crude oil price and currency exchange rate.
- Excise Duty is a specific tax per litre.
- VAT is an ad valorem tax applied on the base price plus excise.
- Dealer Margin accounts for distribution and retail costs.

Since fuel demand is quite inelastic in the short run, tax changes are likely to have large consumption pass-through effect and effect regional dispersion of prices and national inflation.

Description of Variables Used in Petrol Price Determination Model

Variable	Description	Unit
P_t	Retail petrol price	Rs/litre
$Crude_t$	Brent crude oil price	USD/barrel
$Excise_t$	Central excise duty	Rs/litre
VAT_t	State VAT	Rs/litre equivalent
CPI_t	Consumer Price Index	Index

(Source- Annual report from various companies)

5. Analytical Approach

Descriptive, Correlation and Comparative Trend Analysis are used to explore the relationship between indirect taxes on retail petrol prices. This method enables distinction of patterns and magnitudes and timing of price changes vis-a-vis the policy interventions.

5. Data Analysis and Findings

- Retail petrol prices have risen by 2011–2025 due to the high impact of excise duty and VAT.
- The tax rate of the excise duty has a high rate of pass through; almost 80–85 % is directly transmitted into consumer price.
- As ad valorem, VAT multiplies price fluctuations, notably when crude prices are fluctuating.
- Base price is the function of crude oil prices, and among which indirect taxes play lead role in retail price formation especially when global prices remain stable.
- CPI developments suggest that the impact of fuel taxes on headline inflation is not restricted to itself.
- Key Finding: Indirect taxation is a key factor of retail petrol prices in India and excise duty promises steady revenue, but VAT introduces volatility into the calculation.

5. Discussion

Analysis reveals the overriding influence of indirect taxes on petrol prices in India. As a fixed part, excise secures its earnings and directly dictates retail prices. VAT pegged by a percent of the base price and excise makes price adjustment to crude oil prices more volatile. Between them, these two taxes represent a significant percentage of the retail price and have an impact on inflation rates and the cost of living.

As far as public policy is concerned, the interaction of excise with VAT can cause differences in prices between regions that may hinder equal access and uniformity of transport costs. Indirect taxes although necessary for fiscal solvency must be carefully calculated to ensure a trade-off is maintained between revenue requirements, economic efficiency and consumer affordability.

6. Policy Implications

1. Space should be given to the inclusion of petroleum products in GST in a phased manner which would address inter-state price distortions.
2. Implementing counter-cyclical excise policies to cushion global oil price shocks.
3. Make the price of gas more transparent to consumers.
4. Coordinate the fiscal and monetary policies to control prices and stabilize the economy.

7. Conclusion

This article shows that effects of indirect taxes – central excise duty and state VAT (pushed upward with international crude prices) in Indian retailing price are substantial, for lasting period too. If crude oil is the foundation, then indirect taxes are often the largest component of retail costs and, with it, short-run volatility and long-term trends. Excise incidence offers a predictable as well as high pass-through, while VAT is something that compounds variability and brings both a challenge on fiscal revenue side and also from the inflation perspective.

Implications of these findings are diverse. Financially, petroleum taxation is necessary for government to earn its share sustaining infrastructure, social services and economic growth as such. "At the macroeconomic level, indirect taxes are the biggest source of inflation affecting both the household and business sector. For policy makers, the results indicate that tax policies regarding fuel should be cautiously balanced so as to maintain fiscal sustainability with minimal harm to economy and society.

Adding to this, in its pursuit of accelerated growth and newer forms of economic integration with global markets, India is seeing these energy needs ever on the rise, rendering it important for us to understand how indirect taxes influence fuel prices. Optimal tax policies can also help in stabilizing revenues, mitigating local price disparities and ensuring adequate availability of petroleum product while protecting fiscal balance. This work lays down the groundwork for evidence-based policy-making and suggests that both social and financial factors should be taking into consideration when thinking of petroleum taxation.

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