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THE IMPACT OF THE PETROLEUM SECTOR ON THE INDIAN GDP

Authored by -Akshita Singh

Abstract

According to Indian research and studies, the macroeconomic impact on the average person's expenditure is primarily due to the rising price of gasoline and petroleum products.

India is the world's third-largest consumer of energy and oil. **In FY 2021–22, India consumed 204.23 MMT of petroleum products and 63.9 BCM of natural gas, up 5.1% and 5%, respectively, from FY 2020–21. Compared to a 7% worldwide growth rate, India's oil demand is expected to increase by 50% to 7.2 MBD in 2030 from 4.8 MBD in 2019. In contrast to a 12% increase in world gas demand, India's natural gas demand is expected to grow from 133 BCM in 2030 to 64 BCM in 2019.**

The purpose of this paper is to understand whether economic growth can be explained by changes in oil prices. The relationship between rising oil prices and economic growth is favorably connected for oil-exporting nations, whereas it is negatively correlated for oil-importing nations. The study is restricted to Indian data.

KEYWORDS: petroleum products, energy, natural gas, oil-imports.

i. INTRODUCTION

India is the third largest energy consumer in the world after US and China and also the fastest growing consumer consuming around 809 million tons of oil equivalent as per the reports suggested by researchers in 2018. Due to its crucial role in meeting the world's energy needs, crude oil has emerged as one of the primary global economic indicators since the middle of the 20th century. Currently, the significance of crude oil as the primary source of energy has considerably decreased, since new energy sources have emerged. Despite this, oil has a greater impact on society as a whole than only on the economy. As a result, the consensus among economists is that there is a significant correlation between changes in oil prices and a country's rate of economic growth.

ii. ABOUT INDIAN ECONOMY

The Indian economy is slowly losing steam as inflationary expectations stay elevated due to the rising global oil and food costs, monetary policy normalizes, and the global economic environment worsens after recording the strongest GDP bounce in the G20 in 2021. The forecast for real GDP growth in 2016 is 6.9%.

Sectors that affect the growth of the INDIAN GDP :

- Agriculture
- Industry and Service
- Banking and Finance
- Global Trade Relations
- Foreign Direct Investment in India
- Currency
- Natural Resources

Despite an increase in business investment aided by the Production-Linked Incentive (PLI) Scheme, fiscal year (FY) 2022–23 and 6.2% in FY 2023–24. The rise in the price of energy imports will cause the current account deficit to grow while inflation will progressively drop. The rate at which the economy is growing increases the country's need to import more and more crude oil to meet the country's industrial and domestic needs.

iii. ENERGY SECTOR

India's oil and gas industry is thought to be worth 90 billion US dollars. The greatest proportion among Indian refining enterprises is 80.55 million metric tonnes per annum (MMTPA) of refining capacity. It makes up about 32% of the country's total refining capacity. About 75% of the crude oil required by India is imported. However, it continues to maintain a net exportable surplus of refined petroleum products thanks to 25 refineries with a combined capacity of 2.5 million barrels per day. India is anticipated to overtake the US, China, and Japan as the Fourth

largest energy user. The Indian oil corporations have a number of partnerships on the regional and international levels that help to meet India's rising energy demand. An investment of US\$6 billion has been planned by Indian Oil Corporation Limited in a Ceyhan refinery that will produce 15 MTPA of refined petroleum products. Additionally, an agreement between

Indian Oil Corporation Limited and the Turkish entrepreneurs of Trans Anatolian Pipeline Company (TAPCO) to purchase a 12.5% stake in the US\$1.5 billion pipeline from Samsun to Ceyhan is nearly complete.

In 2021-22, the production of petroleum products was 254.3 MMT. During fiscal years 20-21, total crude oil output was 30.5 MMT. In fiscal year 20-21, natural gas production was 28.67 BCM. Petroleum product exports totaled \$ 6080.05 million in September 2022, accounting for 18.64% of total monthly exports.

iv. OIL AND GAS INDUSTRY IN INDIA

[Oil and Gas Sector in India](#) is one of the [Fastest Growing Industry](#) of the economy. The eight key industries of India include the oil and gas industry, which has a significant impact on all other significant economic sectors.

The need for oil and gas is expected to rise as a result of the direct connection between India's economic growth and its energy needs, making the industry highly favorable for investment. As of 2021, India remained the third-largest oil consumer in the world.

The government has implemented a number of programs to meet the rising demand. It has permitted 100 percent foreign direct investment (FDI) in a number of industry categories, including refineries, natural gas, and petroleum products, among others. Without any exceptions, the FDI cap for public-sector refining projects has increased to 49%.

Crude oil output totals 267 million tonnes, accounting for 2% of global oil production, while [natural gas production](#) totals 636 billion cubic meters, accounting for 5% of global gas production. Since independence, India has discovered significant hydrocarbon resources on land and at sea. Only about 38% (1119 trillion cubic feet) of them have been examined. At present usage rates, these reserves are expected to last more than 100 years. It is an appealing investment destination and a lucrative business prospect because of its enormous potential.

Indian energy demand is predicted to expand by 4-5 percent each year over the next 10 years, according to the Petroleum Planning & Analysis Cell (PPAC), a division of the Ministry of Petroleum & Natural Gas. This will need investments in the Oil and Gas Sector in India of \$250 billion (Rs 12 lakh crore). Rising incomes, increased urbanisation, industrialization, population growth, and greater living standards will all contribute to this growth.

TABLE 1: INDIAN REFINERY SECTOR

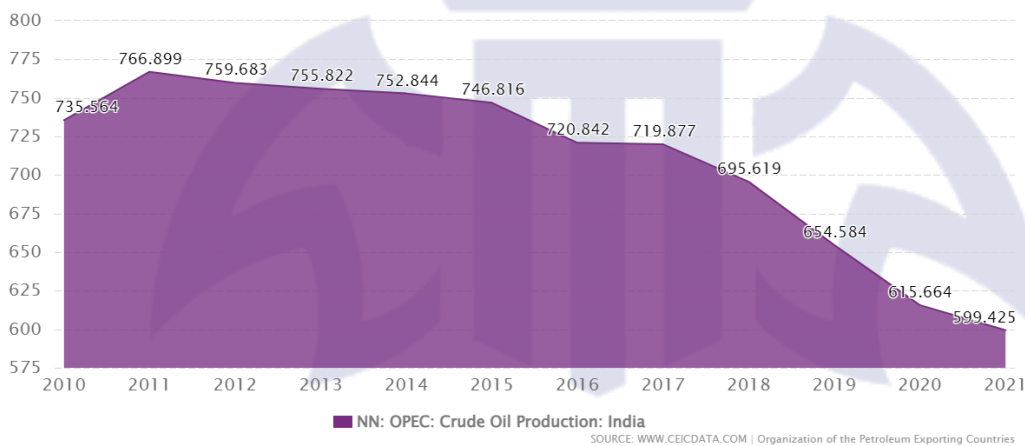
Refinery location	Name of Company	Crude oil capacity (1000 barrels/ day)
Barnai, Bihar	Indian oil corporation Ltd.	120
Bongaigon, Assam	Indian oil corporation Ltd.	47
Digboi, Assam	Indian oil corporation ltd	13
Guwahati , Assam	Indian oil corporation ltd	20
Haldai , West Benagl	Indian oil corporation ltd	151
Koyali, Gujrat	Indian oil corporation ltd	275
Mathura , UP	Indian oil corporation ltd	160
Panipat , Haryana	Indian oil corporation ltd	301
Mahul , Mumbai	Hindustan Petroleum corporation Ltd.	131
Vishakhapatnam ,AP	Hindustan Petroleum corporation Ltd	166
Mahul , Mumbai	Bharat petroleum corp.Ltd	241
Kochi, Kerala	Bharat petroleum corp.Ltd	191
Manali, Chennai	Chennai petroleum corp. Ltd	211
Nagapattinam , Tamil Nadu	Chennai petroleum corp. Ltd	20
Mangalore, Karnataka	Mangalore refinery ltd.	302
Namaligarh, Assam	Namaligarh refinery ltd.	60
Tatipaka , AP	ONGC Ltd.	1
Joint Venture		
Bina, MP	Bharat-Oman refinery ltd.	120
Bathinda, Punjab	HPCL-Mittal Energy Ltd. 180	180
Private Sector		
Jamnagar,	Reliance Industry Ltd.	660
SEZ, Jamnagar	Reliance Industry ltd.	580
Vadinar, Gujarat	Essar oil Ltd.	405

v. INDIA’S PRODUCTION AND CONSUMPTION OF CRUDE OIL

India produces 584.4 thousand barrels per day of crude oil ranking 20th in the world. This production includes crude oil, shale oil, oil sands, and NGLs excluding liquid fuels like biomass and coal derivatives.

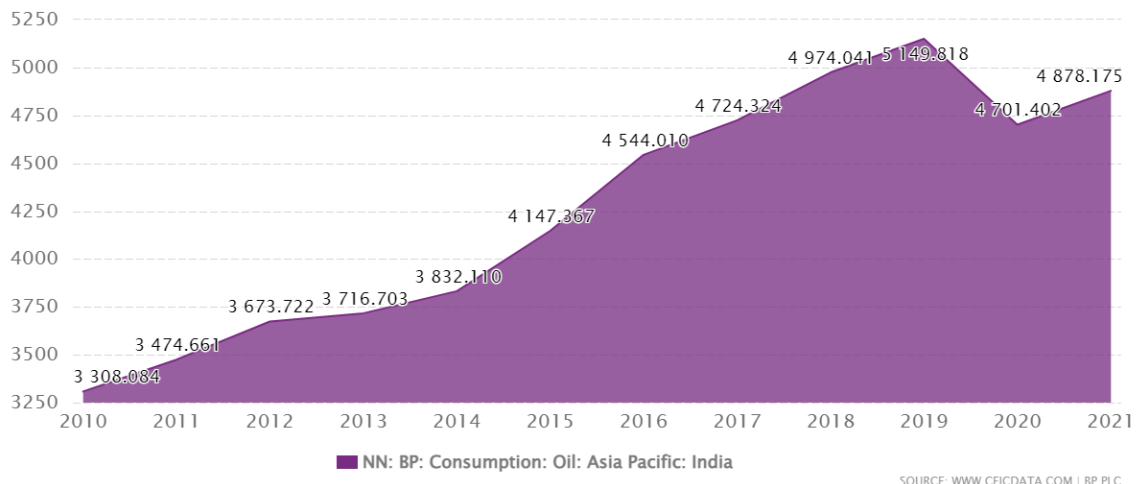
Currently, India is targeting around 30841.49 TMT of total crude oil production by major oil and gas sector companies like ONGC, Oil and Natural Gas Corporation Oil India Ltd., Larsen and Toubro Ltd., BP PLC., Indian Oil Corporation Ltd., Bharat Petroleum Corporation Ltd., Hindustan Petroleum Corporation Ltd, Nayara Energy Limited. etc.

The image below depicts the production of crude oil in India



Indian’s consumption of crude oil

India’s consumption of crude oil is 4878.175 barrel/day which is growing at 3%, higher than the average global growth rate of around 1%



As the economy recovers from the pandemic's damage, India's oil demand went 8.2 percent to 5.15 million barrels per day in 2022. In its one of monthly oil market report, the Organization of Petroleum Exporting Countries (OPEC) predicted that the world's third-largest energy consumer would increase 0.39 million barrels per day (bpd) of crude oil demand in 2022. India's oil demand increased by 5.61 percent from 4.51 million barrels per day in 2020 to 4.76 million bpd in 2021.

vi. **IMPACT OF CRUDE OIL PRICES ON INDIAN ENERGY SECTOR**

There was a growing demand for oil worldwide even in pre-pandemic times, but the supply was not up to the mark. The report quoted the International Energy Agency (IEA) saying that there is still a shortage of nearly 1 million barrels per day worldwide. This imbalance between demand and supply of oil coupled with various other geopolitical tensions resulted in the spike in price.

With the rise in crude oil prices, India's import bill will increase, and hence the CAD will widen (difference between import and export). As per ICRA, for every \$10 per barrel increase in the price of the Indian crude oil basket, the CAD could widen by \$14-\$15 billion, or 0.4% of GDP

In the fiscal year 2022, the average price of Indian basket crude oil is expected to be 72.95 US dollars a barrel. While the price of Indian basket crude oil fluctuated during the reporting period, this result was much higher than the previous year's average of 44.82 US dollars. Around the end of the fiscal year 2012, the average price of crude oil increased modestly, reaching around 112 US dollars per barrel.

The future of the Indian energy sector

India, the world's third-largest main energy consumer, relies on a variety of sources to meet its energy needs.

Simultaneously, a large increase in primary energy consumption from various sources is predicted for the future decades, with renewables playing a critical part in India's energy revolution.

vii. RISING OIL PRICES HAVE AN EFFECT ON THE INDIAN ECONOMY BOTH DIRECTLY AND INDIRECTLY. THE EFFECTS OF RISING CRUDE OIL PRICES ON THE INDIAN ECONOMY ARE LISTED BELOW:

- **Fall In Value of Rupee:** India's overall oil imports have decreased after the Covid-19 outbreak. In FY19, over 27% of India's total imports were made up of oil; in FY21, that percentage dropped to 21%. Despite a minor increase in FY22, it has not yet returned to its pre-pandemic level. "We project that a 10% increase in oil prices will result in a \$15 billion or 0.4% GDP increase in India's current account deficit (CAD). The INR will suffer as a result, according to the report.
- **Higher Inflation:** According to the analysis, a 10% increase in crude oil will cause the Wholesale Price Index (WPI) in India to rise by around 0.9%. According to the research, rising oil prices may potentially cause WPI-based inflation rates of 12% and 6% for the fiscal years (FY) 22 and 23 respectively. The consumer price index (CPI) would also be significantly impacted, and as a result of the increase in oil prices, CPI inflation may reach 5% in FY23. As a result, if the price of oil increases by 10%, the price of goods in India will increase by 5%.
- **Fiscal deficit:** It is the discrepancy between what the government receives in direct and indirect taxes and what it spends. The price of gasoline won't go up if the government decides not to pass on the increases in crude oil prices to the customer. However, somebody needs to absorb the blow. It will be the Indian government in this instance. It will result in a budget deficit, which is never beneficial to the economy
- **Foreign exchange reserves:** India's strong foreign exchange reserves provided it with excellent protection against any balance of payments volatility. India has over \$640 billion in foreign exchange reserves up until recently. However, the RBI must sell dollars in order to control rupee depreciation, which is draining India's foreign exchange reserves.
- **Growth concerns:** The RBI will need to raise interest rates in order to control inflation as a result of rising crude oil prices. It will result in less spending, which will slow down the nation's growth. As per estimates, a rally of \$10 per barrel in the India crude basket could lead to a 10-dollar basis point fall from the annual GDP growth estimate.

viii. CONCLUSION & SUGGESTIONS

Oil imports into India are rising. Our reliance has grown to 80% and is expected to continue. 2008 also saw an unheard-of increase in the price of oil on the global market. The unpredictability of oil prices has also grown. Although it is difficult to anticipate the future of oil prices, an increase is widely predicted. India's reliance on oil imports increased from 78.5% to 81% in 2015–16.

By 2022, Narendra Modi wanted to reduce this number to 67%. Recently, the government unveiled new exploration policies for its oil and gas blocks in an effort to close gaps in its earlier regulations that only allowed for a small amount of participation from resource-rich foreign oil companies and failed to significantly increase domestic output.

In fiscal year 2021, India's consumption of petroleum products was roughly 194 million metric tonnes. The country was ranked third in the world in terms of primary energy usage. With the sector quickly expanding, inland production of petroleum products is no longer sufficient. During the fiscal year 2019, the import volume of petroleum products approached 33 million metric tonnes.

If we look towards the future with the support of strong economic growth and a thriving automobile sector, demand for petroleum products was expected to rise, as evidenced by an annual growth rate of more than three percent in the fiscal year 2019. Although the country's auctioned renewable capacity was close to 70% in 2017, the renewable market has not been that inviting.

With oil reserves of less than a billion metric tonnes in 2017, a fundamental shift in the country's transportation policy could help the situation. Rapid globalisation and rapidly evolving technology may be able to save what remains of the reserves. Solar energy investments and the replacement of conventional automobiles with electric vehicles may hold the key to a sustainable future in a bright sunny country with plenty of sunlight hours.

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