

## What freight data shows?

Often when we talk of supply chain bottleneck, an indicator which comes across our mind is freight cost. Also this indicator gives an idea about the pace of economic activity and domestic trade. We have analyzed the data on truck freight rates for the past 6 years. The freight rates vary with respect to different cities depending upon distance, demand, supply and fuel cost among others. For major metro cities, in FYTD23 freight rates (Apr-Sep'22) for 15 tonne of truck load was highest for Chennai at Rs 86,116 tonne from Delhi, followed by Kolkata at Rs 53,872 and Mumbai at Rs 51,046.

### Some takeaways

- A theoretical exercise has been conducted where a composite freight index of 16 cities and also of three major metro cities (Mumbai, Chennai and Kolkata) has been constructed with base 2016-17=100. The 16 cities equal weighted freight index inched up by 14% since FY17 till date. For the three major metro cities, the increase has been 10%.
- Mumbai takes the lead with 16.8% increase in freight rate since FY17, followed by Chennai with 10.5%. Freight rates for Kolkata on the other hand, has only risen by 3.7%.
- The freight data also moved in tandem with the diesel prices. Since FY17, a 67% increase in diesel price (from Rs 56.9/lt in FY17 to Rs 95.1/lt in FYTD23) was associated with 14% increase in freight rates, ceteris paribus.

### How freight rates have moved?

Freight rates data in India is a proxy indicator of mobility, economic activity as well as intra State trade. We have analyzed the truck Freight Rates from Delhi to Various cities in India since FY17. This is measured in Rs /15tonne of truck load. Some useful results which emerge are:

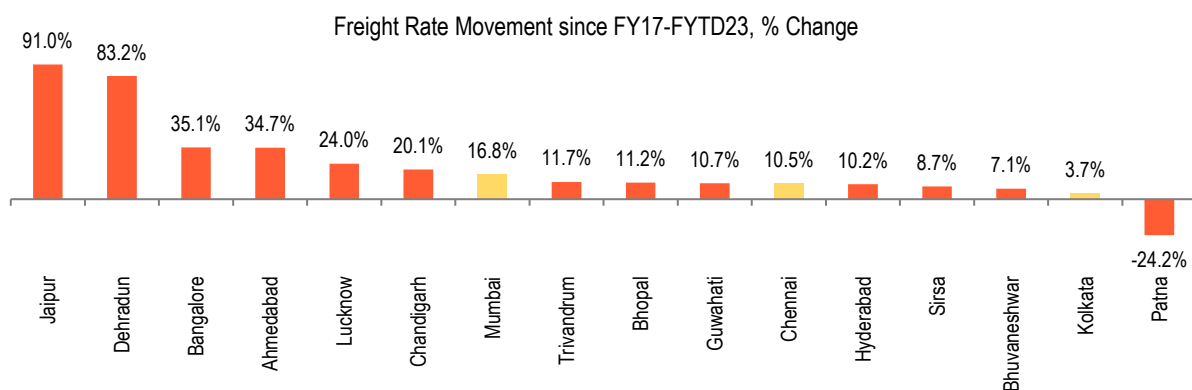
- In the past 6 years amongst major cities, truck freight rates as measured from Delhi have been the highest for Chennai, Bangalore, Hyderabad, Kolkata and Mumbai.
- Interestingly, in the top three metro cities, in both FY20 and FY21, truck freight rates have fallen. In FY20, the falling freight rates was due to the slowdown which Indian economy faced. GDP growth moderated to 3.7% in FY20 from 6.5% in FY19. Demand induced slowdown, crisis in the auto sector and contagion effect of US-China tariff war and uncertainty over Brexit were amongst the reasons that took a toll on domestic growth numbers. In FY21, the falling freight rates were reflective of the Covid induced restrictions as well as decline in price of fuel.
- With opening up of the economy and relaxing of lockdown restrictions, freight rates also started moving up. In FY22, freight rates in Mumbai rose at a double digit pace of 12.7%

compared to -1.7% decline seen in FY21 and -1.6% decline in FY20. For Kolkata, it increased by 7.2% in FY22 from -2% decline in FY21 and -3.1% decline in FY20. For Chennai, it rose by 5.2% in FY22 from -1.7% decline in FY21 and -1.3% decline in FY20.

- In FYTD23, though freight rates have increased; yet there is also hint of some strain when compared with the same period of previous year. It showed some degree of moderation. Moderation in diesel price post government’s excise duty cut of Rs 6/lt has also contributed towards reduction in freight rates in the same period.

The Chart below shows how freight rates have moved since FY17. It has increased sharply for smaller cities such as Jaipur and Dehradun. A lot of factors come into play such as truck demand and supply, terrain etc. For major metro cities such as Mumbai and Chennai, it has increased at a double digit pace of 16.8% and 10.5% respectively. However, for Kolkata, it has only increased by 3.7%. it has fallen in case of Patna.

**Figure 1: Freight rate movement in major cities since FY17**



Source: CMIE, Bank of Baroda Research, Note: Major metro cities are coloured in yellow

**Table 1. Freight rates in FYTD23 for different cities**

Cities	Freight rate in FYTD23* (Rs/15 tonne)
Guwahati	90,015
Trivandrum	89,779
Chennai	86,116
Bangalore	82,936
Bhubaneswar	65,872
Hyderabad	64,300
Kolkata	53,872
Mumbai	51,046
Patna	35,000
Lucknow	32,000

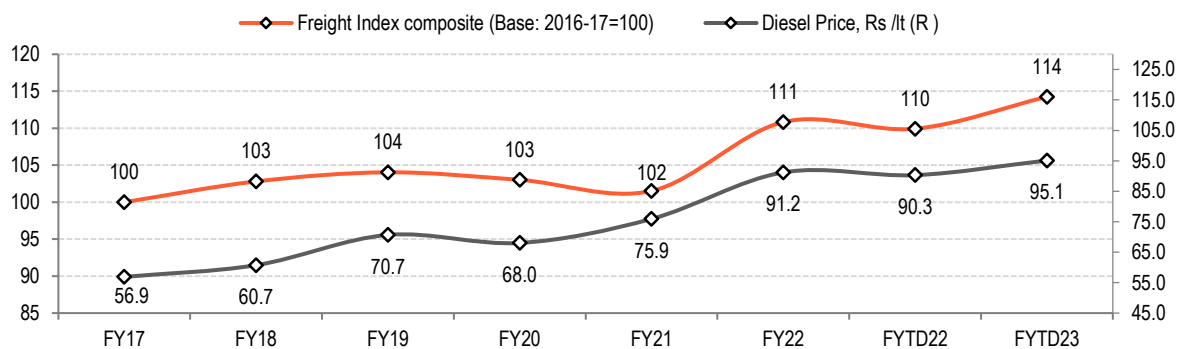
Source: CMIE, Bank of Baroda Research

## Juxtaposing freight Index with fuel price

A theoretical exercise has been conducted where freight index for 16 major cities as well as three major metro cities have been constructed. Since FY17, the composite index (Base 2016-17=100) has risen by 14%. For three major metro cities (Mumbai, Chennai and Kolkata), the index rose by 10%, with sharper pace of increase being visible for Mumbai and Chennai.

- If we plot the index with the diesel price data, we see a positive correlation (0.7-since Apr'13). In the Charts below, between FY18 to FY19, when diesel price inched up to Rs 70.7/lt from Rs 60.7/lt, the composite freight price index rose marginally to 104 in FY19 from 103 in FY18. In the subsequent period, between FY19-20, a slight fall in diesel price to Rs 68/lt, led freight index dropped slightly to 103 from 104. The relation becomes clearer in FY21-22 period, where a sharp increase in diesel price to Rs 91.2/lt in FY22 from Rs 75.9/lt in FY21, led the freight index rise sharply to 111 (a 9.2% increase).
- Only anomalies are seen between FY20-21, where despite increase in diesel price by ~ Rs 8/lt, index fell from 103 to 102, as mobility was a constraint during Covid times.

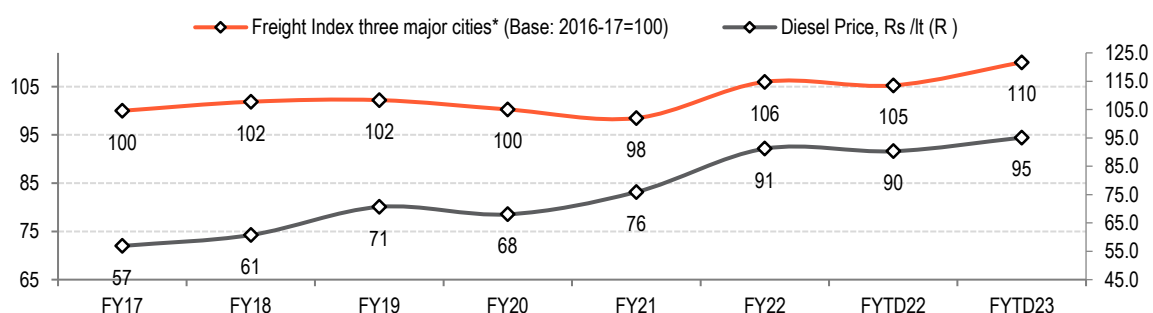
**Figure 2: Freight rate movement in major cities since FY17**



Source: CMIE, CEIC, Bank of Baroda Research, Note: Average retail diesel price of Mumbai, Delhi, Kolkata and Chennai have been taken

- The trend is similar when the freight index for three major cities is juxtaposed with the diesel price data.
- In the past 6 years, a 67% increase in diesel price led to 14% jump in freight rates, ceteris paribus.

**Figure 3: Freight rate movement in major cities since FY17**



Source: CMIE, CEIC, Bank of Baroda Research, Note: Major metro cities are Kolkata, Mumbai and Chennai, Average retail diesel price of Mumbai, Delhi, Kolkata and Chennai have been taken

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