

Improved spectrum pricing as an important contributor to capacity growth and 5G rollouts



Key lessons

- **Historically, excessively high reserve prices in Indian spectrum auctions have resulted in large amounts of valuable spectrum remaining unsold.**
- **Ahead of the 2022 auction and following recommendations by Indian regulator TRAI, the Department of Telecommunications (DoT) reduced reserve prices by ~40% on average across all bands, thereby making the available spectrum more affordable.**
- **As a result, more than 70% of the auctioned spectrum was sold, with especially high sales in high-frequency 5G bands such as the 3500 MHz and 26 GHz bands.**
- **However, spectrum prices needed to be further reviewed. This holds especially true for spectrum in key bands, such as those from 600 MHz to 2500 MHz, which have remained unsold to date.**

Background

Since 2010, the Indian Department of Telecommunications (DoT) has organised eight spectrum auctions, including spectrum in practically all key mobile bands from 600 MHz to 3500 MHz. Within these auctions, reserve prices have typically been set at very high levels, balancing adequate government compensation with efficient spectrum assignments. Reserve prices in the auctions were based on complex valuation models and guided by historic prices – often assuming that past auctions provide a good indication of adequate price levels for future awards.

However, large amounts of spectrum have remained unsold in most of the recent auctions, with prohibitively high reserve prices being quoted as the main reason for the lack of interest from bidders. In the 2021 auction, more than 60% of the available spectrum was left unsold, including all of the highly valuable 700 MHz spectrum.

At the same time, India is experiencing unprecedented growth in data usage. In its November 2021 Mobility Report, Ericsson states that India is now the region with the second-highest usage per smartphone globally. Gaining access to more spectrum at reasonable costs in the coming years will thus be of critical importance so that mobile operators are in a position to increase network capacity and support further growth.

The recent 2022 spectrum auction contained several GHz of spectrum, amongst others in the 3500 MHz and 26 GHz bands. Reserve prices in the auction were reduced and more than 70% of the total available spectrum was sold, with particularly high sales in both the 26 GHz and 3500 MHz bands. However, in lower bands, uptake was still limited as 60% of the 700MHz and, for example, all of the 600 MHz band was left unsold.

Benefits from the policy

For the 2022 auction, the DoT adopted two measures affecting both the value and the affordability of spectrum.

First, the DoT removed the spectrum usage charge (SUC), an annual fee calculated on revenue from spectrum holdings. Second, reserve prices were set at 70% of calculated valuations, down from 80% used previously. Combined with changes to the valuation methodology, this reduced reserve prices by about 40% on average.

Creating a more attractive investment environment provided clear benefits. About 250MHz per licence area sold in the 3500 MHz band and about 2 GHz of spectrum per licence area sold in the 26 GHz band. In the 700MHz band, 40% of the spectrum sold after two prior unsuccessful auctions.

However, these measures were not sufficiently far reaching to make the auction a resounding success as practically all other spectrum (from 600 MHz to 2500 MHz) remained unsold due to reserve prices that are still too high.



Reduced spectrum pricing



Abolished usage charges



Increased spectrum sales

Final impact

The spectrum sold in the 2022 auction will give Indian operators the ability to prepare the market for 5G. The 3500 MHz and 26 GHz bands will provide mobile operators with more capacity to support future data growth. In addition, 700 MHz will play a key role in extending network coverage. Following the auction, Indian operators launched 5G services in October 2022, with Airtel and Reliance Jio announcing their intention to rollout Pan-Indian 5G networks by early 2024.

The DoT's removal of the annual spectrum fees and the reduced reserve prices were a first step towards best-practice spectrum licencing. However, further reductions to reserve prices are clearly required to ensure that future data growth can be successfully supported by making more spectrum available to mobile operators at affordable prices. In this context, it is worthwhile noting that, globally, reserve prices are around 45-55% of final prices – i.e., significantly below the 70% currently used by the DoT.

