

Understanding Indian Telecom Industry  
post 4G rollout:  
Regulatory Governance and Market  
Structure

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## **Abstract**

The paper attempts to give insights into the allocation of spectrum in Indian Telecom Industry with a particular focus since the rollout of the 4G services. While attempting to give insights into the various methods of Spectrum allocation and analyse their efficiency, the paper will also be analysing the market structure in the Indian Telecom Industry through Quantitative Indicators like the Herfindahl-Hirschman Index (HHI) and the Four-Firm Concentration ratio (CR4). The paper would also attempt to give insights and constructive criticism regarding unallocated and inefficient methods of allocating spectrums and possibilities of monopolistic market concentrations in the Telecom Sector as well as the prospects of 5G services

Keywords: Auctions, Indian Telecom Industry, Market Structure, Reserve prices, Scientific report content

## Introduction

Spectrum allocation in India started since 1994 National telecom policy by bundling a band of spectrum with the franchise licence for service in four metros —Delhi, Mumbai, Kolkata, and Chennai. This licensing was later delinked from spectrum allocation in 2012, allowing new entrants who could provide multifarious telecom services and needed to purchase spectrum only when it needed to offer wireless services. Following the Supreme Court directive regarding the 2008 2G allocation controversies in 2010, the Department of Telecommunication decided to allocate spectrum in the 2100 MHz and 2300 MHz bands through an online auction designed to discover a market price for the 3G spectrum. It was participated by Airtel, Idea, Reliance Communications, S-Tel, Tata Teleservices and Vodafone Essar with Tata Docomo becoming the first private operator to launch 3G services. The frequency bands used for telecommunication across the world follow an international agreement in which the ITU (International Telecommunication Union) has designated three unique 'International telecommunication regions,' each with its own set of frequency bands<sup>1</sup>. As of today, India in region 3, has implemented or plans to deploy telecom activities across a total of eight radio frequency bands. The availability of spectrum in the 700 MHz, 800 MHz, 850 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz, 2500 MHz, 3300-3400 MHz and 3400-3600 MHz bands is summarised in Figure 1