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## **Telecom sector & 5G Auction**

*India has the second-largest telecom market in the world with the country registering a strong subscriber base over the last decade. Given the recent structural reforms along with the rollout of 5G connectivity, the sector is poised to expand further in the coming years. Against this backdrop, this report attempts to analyze the telecom sector in some detail including auctions, bank credit etc.*

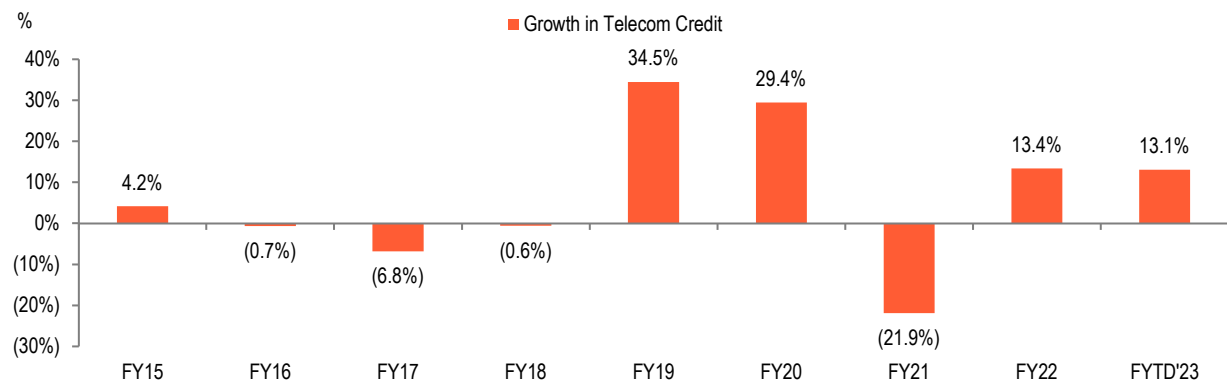
### **Telecom sector**

India's digital economy is expected to grow by leaps and bounds and will be valued at US\$ 1tn by FY26. Total Internet subscribers in the country is estimated to grow to 900mn in FY26 on the back of robust growth in rural area. In terms of FDI inflows, telecom sector is the 3<sup>rd</sup> largest sector with over 7% contribution. According to TRAI, the total telephone subscribers in India as of Jun'22 including both wired and wireless stands at 1173 mn. The overall tele density, which is defined as number of telephones per 100 population, signifies telecom penetration in the country is around 85.1%. There are over 800.9 mn broadband subscribers in the country.

As per the Department of Telecommunications (DoT), India is the second largest country with respect to telephone connections. Over 98% of all telephone subscriptions are mobile subscriptions. As part of reforms and in order to boost manufacturing in the telecom sector, the DoT had notified the PLI scheme in Feb'21 with an outlay of over Rs 12,195 cr spread over a 5-year timeline. The scheme is expected to provide incremental employment and production. Furthermore, there were other slew of reforms announced in Sep'21 which included: 1) rationalization of Bank Guarantees and Adjusted Gross revenue 2) tenure of spectrum to be raised from 20 to 30 years, 3) spectrum can be surrendered in 10 years and in order to stimulate investment, 100% FDI in the Telecom sector permitted under the automatic route.

Credit to Telecom sector has grown over the years. After declining by 0.6% in FY18, the sector made a strong comeback, registering a growth of 34.5% in FY19 and continued with this upward momentum, with double digit growth in even FY20. However, given the pandemic induced slowdown, credit to telecom sector dropped by 21.9% in FY21. The following year (FY22), base effect enabled a favorable growth and is expected to climb higher in FY23.

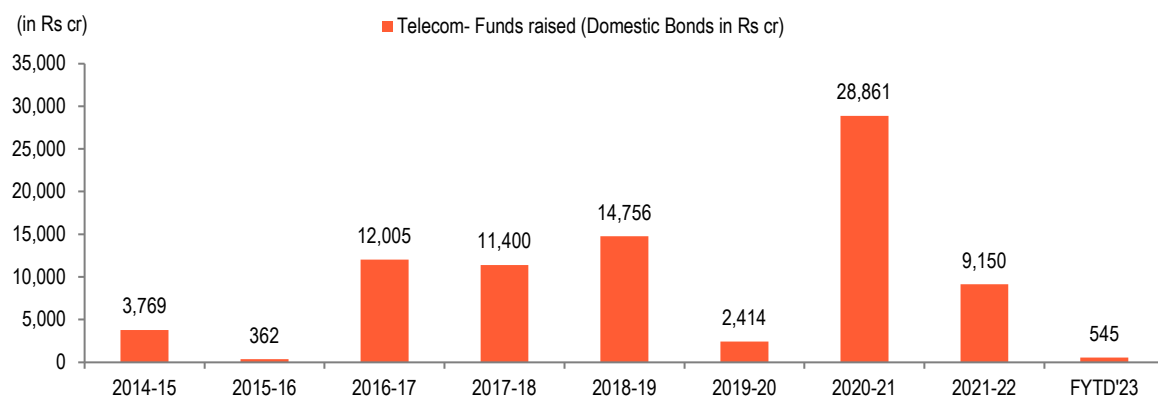
**Fig1: Credit to telecom sector over the years**



Source: CEIC, Bank of Baroda

The telecom sector has raised funds over the years through different modes including bonds (Fig 2). In FY20, the sector had raised Rs 2,414 cr and in FY21, this amount rose to Rs 28,861 cr in FY21 and moderated to Rs 9,150 cr in FY22.

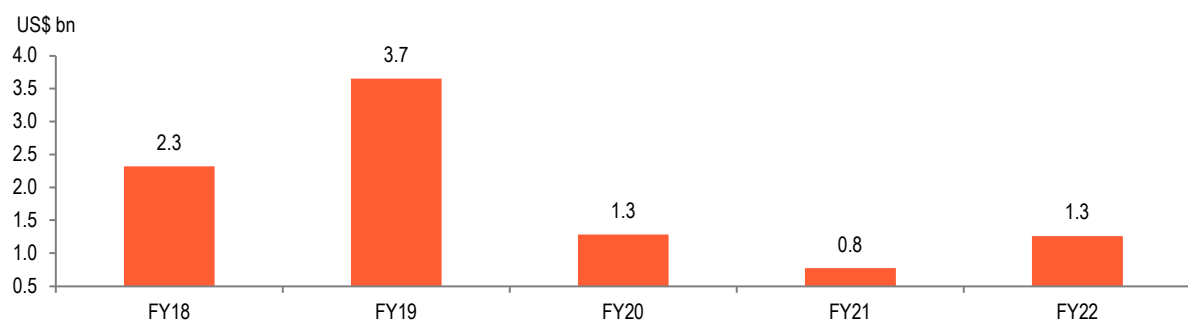
**Fig2: Funds raised through Domestic Bonds in Telecom sector over the years**



Source: CMIE, Bank of Baroda | Note: FYTD: Apr-Jul'22

ECB approvals in the Telecom sector (Fig 4) has grown to US\$ 1.3bn as of FY22 from US\$ 0.8bn in FY21. This has been utilized in FY22 especially for the purpose of working capital and refinancing of loans. As of FYTD'23, so far there has not been any ECB applications in the telecom sector.

**Fig4: ECBs approvals by Telecom Sector**



Source: CMIE, Bank of Baroda

### **How have auctions fared so far?**

The first ever spectrum auction of 900MHz happened way back in 1994. Since then, the situation has changed drastically with respect to technology and allocation process. In 2012, the Supreme Court had cancelled the 122 licenses of the 2G auction citing irregularities in the process. Over the years, there has been string of changes which includes the payment scenario. In terms of payment of spectrum auctions, till last year an upfront payment of 25%/50% of the bid amount, based on the different spectrum band had to be paid followed by the equal payments in the remaining 16 years. Now, to start with, there is no longer mandatory requirement of upfront payment.

In the month of Aug'22, Department of Telecom had auctioned 72,098 MHz of spectrum under the 5G auction across various bands. Of this, there was a sale of 51,236 MHz (71% of total) with Government mopping up Rs 1.50 tn in auction. Reliance made the highest bid of Rs 88 bn for 22 circles. This was closely followed by Airtel (Rs 43 bn), Vodafone (Rs 18.8 bn) and Adani (Rs 2.1 bn). Telecom companies have the option to pay the sum in the 20 equal annual instalments or can even pay upfront cost (not mandatory). The cost of discounting provided by the government is around 7.2% i.e interest rate for deferred payments. The government has already received an amount of Rs 17,873 as part of spectrum dues.

Given the auction has been completed, the allocation will start in the same month, with the rollout starting by Oct'22. In addition to this, the government has done away with 3% Spectrum Usage Charges (SUC) floor rate which will bring down the effective operational cost for the operators. This auction is also touted to be more successful than the last past auctions as over 71% of the spectrum has been sold compared with last 2-auctions where it was only 41% and 60%. Table1 gives an overview of the different auctions through the years. It is interesting to note how credit has grown over these periods along with % of spectrum sold and the spectrum amount over these years.

**Table 1: Auction over the years**

Types of Auction	Years	% of spectrum sold	Spectrum Amount (bn)
2G	2012	33%	96
2G	2013	15%	41
2G	2014	82%	614
2G and 3G	2015	89%	1,139
2G,3G, 4G	2016	41%	658
2G, 3G, 4G	2021	60%	778
2G, 3G, 4G and 5G	2022	71%	1,502

Source: CEIC, Budget Documents, Bank of Baroda Research

Table 2 elaborates on the funds raised for the telecom sector through different routes including domestic bonds and ECB approvals. The tables also include non-tax revenue collected by government through these years. The appendix mentions in greater details about the license fee and usage charges.

**Table 2: Credit, Fund raised through ECB, Bonds and Non Tax revenue for Government over the years**

Years	SCB Credit outstanding (bn)	Telecom credit outstanding (bn)	Funds Raised through Bonds (bn)	ECB approvals (bn)	Non -Tax revenue- other telecommunication (bn)
2014	61,023	919	38	-	306
2015	66,500	913	4	1.1	565
2016	71,455	851	120	0.1	702
2017	77,303	846	114	2.3	320
2018	97,716	1137	148	3.6	408
2019	1,03,709	1472	24	1.3	698
2020	1,08,473	1150	289	0.8	455
2021	1,18,913	1303	92	1.3	720
2022	1,23,692*	1290*	5*		528

Source: CEIC, Budget Documents, Bank of Baroda Research | [https://dot.gov.in/sites/default/files/auction\\_analysis.pdf](https://dot.gov.in/sites/default/files/auction_analysis.pdf) | \* credit data is for Jul'22

Table 3 explains the financials of big telecom firm over the years with factor such as Net Sales slowly gaining momentum and inching upwards. On the other hand, Net Profit had declined sharply in FY20 and has slowly improved since then. The pace of contraction has been much slower.

**Table 3: Telecom Financials over the years**

Absolute (in bn)	FY18	FY19	FY20	FY21	FY22
Net Sales	1423	1499	1638	1791	2045
Profit After Tax	(263)	(192)	(1461)	(636)	(145)

Source: Ace Equity, Bank of Baroda Research | Figures in parenthesis are negative, includes firms like Airtel and Vodafone, etc.

### **Concluding Remarks**

As the Government of India, prepares to usher in a new digital revolution in the coming months with the launch of 5G services in country, it is imperative to note how the sector has performed over the years. This has been studied through the share of telecom sector in credit, ECB approvals in the sector and the revenue generated through the auction process. In addition to this, PLI scheme is also projected to generate employment and higher output levels in the coming years, with the boost to manufacturing sector.

## **Appendix**

**As per the Budget, 'Other Communication Services' include the following:** Receipts under 'Other Communication Services' mainly relate to the license fees from telecom operators and receipts on account of spectrum usage charges. Department of Telecom collects recurring licence fees from various Telecom Service Providers licensed by it. The licence fee is levied at 8% of the Adjusted Gross Revenue (AGR) after the allowable deduction like Public Switched Telecom Network (PSTN) charges, Roaming charges passed on to eligible/entitled service providers and Sales Tax/ Service Tax passed on to the State/Central Government from its total revenue figures as appeared in the audited accounts of the company.

For telecom networks licenced for Captive use and Captive Mobile Radio Trunking Service (CMRTS) licences, the licence fee is levied at fixed rates depending upon the number of terminals, channels and / or networks capital cost. In addition one time Entry Fees is also collected from the new operators.

The main category of services include (i) Basic Service, (ii) Cellular Mobile Telephone Service (CMTS), (iii) Unified Access Service (UAS), (iv) Unified License, (v) International Long Distance (ILD), (vi) National Long Distance (NLD), (vii) Internet Service Providers (ISP), (viii) Commercial CUG VSAT License, (ix) Public Mobile Radio Trunk Services (PMRTS), (x) Captive Mobile Radio Trunk Services (CMRTS), (xi) GMPCS License, (xii) Resale of IPLC License.

The license fee is collected based on the percentage share of the Adjusted Gross Revenue (AGR) from Telecom Service Providers, which includes a component of Universal Access Levy (UAL). The collection of licence fee depends on the rate of license fee, tariff and growth of the telecom service sector in the country.

The department also collects license fee for possession of wireless equipment and royalty for the use of radio spectrum from various entities. The charges levied from service providers are usually referred to as Spectrum charges and are calculated either as a percentage of their Adjusted Gross Revenues depending up on at the quantum of spectrum assigned for their network (Commercial VSAT licence) or at flat rates or on the basis of formulae.

Spectrum Usage Charges are levied by the department from the Telecom Service Providers (Mobile Commercial VSAT etc.) for usage of spectrum and are calculated as a percentage of their Adjusted Gross Revenue (AGR) depending upon the quantum assigned for their network

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