Policy issues in the telecom sector

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1 Introduction

The Indian telecom sector currently boasts of the second largest subscriber base in the world, consisting of over 1.19 billion subscribers. This includes an active wireless user base of about 1.02 billion.[1] Along with the high number of users, data consumption trends are also on the rise. As of September 2018, wireless Internet users consumed an average of 8.32 GB of data per month, which is about 70 times higher than the data consumption in 2015.[2] These developments have however been accompanied by concerns of increasing stress in the sector "*with growing losses, debt pile, price war, reduced revenue and irrational spectrum costs*".[3]

For the first time since the wireless boom, the industry is set to effectively become a three-player market with Vodafone-Idea, Bharti Airtel, Reliance

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[1]Telecom Regulatory Authority of India (TRAI), Monthly Telecom Subscription Report (as of October 31, 2018), Press Release No. 01/2019, January, 2019, available at `https://www.trai.gov.in/sites/default/files/PRNo01Eng02012019.pdf`.

[2]TRAI, The Indian Telecom Services Performance Indicator Reports, available at `https://www.trai.gov.in/release-publication/reports/performance-indicators-reports`. It may be noted that despite this significant growth the per capital data usage in India still stands at about half the global average of 16 GB per month. See Cisco Visual Networking Index: Forecast and Trends, 20172022, November, 2018, available at `https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white-paper-c11-741490.html`.

[3]Chapter 8 (Industry and Infrastructure), Economic Survey 2017-18, Ministry of Finance, Government of India, available at `http://mofapp.nic.in:8080/economicsurvey/pdf/120-150_Chapter_08_Economic_Survey_2017-18.pdf`.

Jio as the three private operators.[4] Much has been said in this context about the disruptive entry strategy of Reliance Jio, price wars and ensuing revenue stress. The larger policy relevance of this episode would however be to prompt a strategic overview of the legal, structural and institutional challenges plaguing the telecom sector and the interventions needed to address them.

2 Key areas of concern

We identify four main areas of concern:

1. The legal framework governing the telecom sector consists primarily of the Indian Telegraph Act 1885, the Indian Wireless Telegraphy Act, 1933 and the Telecom Regulatory Authority of India Act, 1997. These legislative instruments, two of which are from the pre-independence era, lack the vision, powers and checks that are necessary to support a modern telecommunication system of the present scale. For instance, the present structure does not give TRAI the power to levy penalties for non-compliance of its regulations, which has had a crippling effect on its functioning. TRAI also finds itself in a Catch 22 situation where despite being one of the most transparent regulators in India, in terms of its regulation-making process, it has repeatedly been hauled up for failing to ensure adequate transparency.[5]

2. Spectrum costs in India are among the highest in the world. In addition to this, the Government levies a myriad set of charges and fees from telecom operators, which reportedly amount to about 30 percent of their revenues.[6] This makes the Department of Telecommunication (DoT) the largest contributor to the non-tax revenues of the Gov-

[4]Two other providers still remain in the market, Tata Teleservices, which is in the process of merging with Bharti Airtel and Reliance Communication, which has decided to move out of the telecom services sector.

[5]See Cellular Operators Association of India vs. TRAI (Civil Appeal No. 5017 of 2016) where the Supreme Court struck down TRAI's call drop regulations and the recent decision of the Telecom Disputes Settlement Appellate Tribunal (TDSAT) in Bharti Airtel and others vs. TRAI (Telecommunication Appeal No. 1 of 2018) where the tribunal set aside TRAI's amendments to its tariff order due to lack of required transparency in defining concepts relating to predatory pricing.

[6]See Shamika Ravi and Darrell M. West, Spectrum policy in India, August, 2015, available at `https://www.brookings.edu/wp-content/uploads/2017/05/spectrum-policy-in-india8515.pdf`.

ernment. In 2016-17, DoT contributions, consisting mainly of license fees, receipts from spectrum auctions (including deferred payments) and spectrum usage charges, accounted for 25.74 percent of the Government's total collections.[7] Besides this, the sector is also subject to Goods and Service Tax (GST) at the rate of 18 percent.

3. The Government's revenue maximisation goal has also led it to view auctions as the only kosher mechanism for distribution of spectrum resources. A large part of this flows from the Supreme Court's verdict in the 2G case, which although later clarified pursuant to a Presidential reference, has made policymakers wary of exploring alternative ways of dealing with spectrum.[8] At the same time a large part of the the spectrum resources remain reserved for Government and defence purposes often resulting in situations where valuable spectrum bands remain unutilised leading to a loss in total welfare.

4. While India's overall telecom penetration figures are notable, inclusiveness still remains a challenge. This is both in terms of the rural-urban divide as well as along gender, age and geographic dimensions. In an attempt to bridge this gap the Government launched the BharatNet project to provide broadband access to 2.5 lakh Gram Panchayats by utilising the contributions collected under the Universal Services Obligation Fund (USOF). The design and implementation of the project has however been less than satisfactory. While official estimates note that about 1 lakh Gram Panchayats have already been connected under the project, an audit by the DoT reportedly found that less than half of these were actually functional.[9] The state of utilisation of the USOF and the manner of implementation of the BharatNet project therefore present another cause for concern.

3 Proposed action points

We propose that the following actions need to be initiated in order to start addressing some the issues identified above.

[7]DoT, Annual report 2017-18,http://dot.gov.in/sites/default/files/Telecommunications%20Annual%20Report%202018%20ENGLISH_0.pdf.

[8]Centre for Public Interest Litigation vs. Union of India, (2012) 3 SCC 1 and Special Reference 1 of 2012, Supreme Court order dated 27 September, 2012.

[9]Manoj Gairola and Anuj Srivas, PMO Anger Over BharatNet Project Reveals Shoddy State of Broadband Initiative, The Wire, January 2019, available at https://thewire.in/government/pmo-bharatnet-project-shoddy-state-of-broadband-initiative.

1. *A modern legal framework*: The legal framework governing the telecom sector is in need of a complete rehaul. We need a new law that accounts for the convergence of telecommunication, broadcasting and information technology services, but without falling into the trap of transposing telecom-style regulations into these other contexts. We saw an earlier attempt at a converged law in the form of the Communications Convergence Bill, 2001. The National Digital Communications Policy, 2018 once again speaks of the need for *"restructuring of legal, licensing and regulatory frameworks for reaping the benefits of convergence"*. The idea of a converged regulator is therefore not new but certainly one whose time has come.[10]

   The new law must also incorporate India's modern thinking on the design and functioning of regulatory bodies, including in terms of the independence and accountability of the agency and scope of its legislative, executive and quasi-judicial powers.[11] One of the major flaws in the current system is that it confers TRAI with the responsibility to monitor the performance of telecom regulators but without corresponding enforcement and penal powers. This lacuna was also noted by the Parliamentary Standing Committee on Information Technology while recommending amendments to the law to empower TRAI to carry out its functions effectively and proactively.[12]

2. *Co-ordination between agencies*: Recent events have brought to light the jurisdictional tussles between TRAI and the Competition Commission of India (CCI) on issues like predatory pricing and interconnection between operators.[13] Similar debates are also inevitable on other fronts like privacy and data protection in the telecom sector where both the sectoral regulator as well as the proposed Data Protection Authority will have an interest. It is therefore important that the legal frame-

[10]Vinay Kesari, Convergence: An idea whose time has come?, Factor Daily, November, 2018, available at `https://factordaily.com/is-convergence-an-idea-whose-time-has-come-in-india/`.

[11]See Report of the Financial Sector Legislative Reforms Commission, Ministry of Finance, available at `https://dea.gov.in/sites/default/files/fslrc_report_vol1_1.pdf` and Roy et al, Building State capacity for regulation in India, available at `http://macrofinance.nipfp.org.in/releases/RSSS_building-state-capacity.html`.

[12]Fourty-third report of the Standing Committee on Information Technology (2017-18) available at `http://164.100.47.193/lsscommittee/InformationTechnology/16_Information_Technology_43.pdf`.

[13]See Competition Commission of India vs. Bharti Airtel and others, Civil Appeal No. 11843 of 2018 where the Supreme Court dealt with issues of jurisdictional boundaries between TRAI and CCI.

work should provide for a clear pathway for addressing such overlaps instead of leaving these matters to the determination of courts. Mandatory inter-agency coordination between the telecom regulator and other regulatory agencies would be one of the solutions. This would include requiring the agencies to enter into a memorandum of understanding to govern their joint working and co-ordination mechanisms; requirements for participation in consultation processes of the other agency; mandatory (non-binding) references on areas of mutual interest and mechanisms for sharing of knowledge and information between the authorities.[14]

3. *Surveillance reform*: The Supreme Court's affirmation of the constitutional right to privacy has compeled a need for stronger legal and procedural safeguards governing the interception of personal communications by State agencies. The present provisions of the Telegraph Act and the rules made under it provide the executive with wide ranging powers to access and intercept messages transmitted through communication networks. In addition to this, the license agreements entered into between the Government and telecom operators are being used to validate mechanisms like the Centralised Monitoring System that afford security agencies with "near real-time" access to information flows.[15] These mechanisms are not in line with the Supreme Court's verdict in the *Puttaswamy case*, which requires that any infringement of privacy by the State must be done for a lawful purpose, with a legitimate aim and in a manner that is necessary and proportionate.[16] We therefore need new laws governing communication surveillance that incorporate necessary oversight and accountability mechanisms, including provisions for judicial review of surveillance decisions.

4. *Data management systems*: The suggested changes to the legal framework must be supported by corresponding institutional mechanisms, which would include a strengthening of the sector's information management systems. This needs to be done both at the end of the DoT, which oversees the licensing and spectrum management processes as well as TRAI, which is responsible for things like tariffs, quality of services and interconnection between players. A sophisticated data man-

[14]Smriti Parsheera, Challenges of Competition and Regulation in the Telecom Sector, Economic & Political Weekly, Vol. 53, Issue No. 38, 22 Sep, 2018.

[15]Bailey et al, Use of personal data by intelligence and law enforcement agences, August, 2018, available at `http://macrofinance.nipfp.org.in/PDF/BBPR2018-Use-of-personal-data.pdf`.

[16]Justice K.S. Puttaswamy (Retd.) vs. Union of India, (2017) 10 SCC 1.

agement system that enables electronic filings and supports analytics of data on spectrum utilisation, tariff filings, QoS audits, etc, will aid more informed policy-making and supervision and translate into better consumer outcomes.

5. *Rationalisation of levies*: At present, wireless operators in India pay for spectrum through auction determined prices in addition to which they are also liable to pay between 3 to 8 percent of their Adjusted Gross Revenue (AGR) towards spectrum usage charges (SUC).[17] In the five years from 2012-17, the Government collected over Rupees 400 billion from telecom operators as SUC in addition to the Rupees 983 billion collected as upfront and deferred payments from auctions.[18]

   The principles of spectrum pricing broadly recognise two types of spectrum-related charges – (i) charges for actual usage of the spectrum, which is designed to ensure efficient use of the resource; and (ii) spectrum management charges that account for the administrative costs involved in the management and monitoring of spectrum usage.[19] In a situation where the price of spectrum is already being determined through a market-based mechanism the only additional charges to be levied by the Government should be that which reflects the actual administrative costs incurred in the spectrum management process. The SUC for auctioned spectrum therefore needs to be rationalised based on an estimate of the actual costs incurred in administering and monitoring the usage of the allocated spectrum.

   To take an example, in the year 2016-17 the DoT incurred a total expenditure of Rupees 180 billion[20] in connection with communication services (not limited to spectrum management functions) while it collected Rupees 88.6 billion as SUC in that period.[21] A more granular

[17]Ministry of Communications, Spectrum usage charges overview, available at `http://ccatn.gov.in/license%20fee/overview%20spc.htm`.

[18]DoT, Annual report 2017-18,`http://dot.gov.in/sites/default/files/Telecommunications%20Annual%20Report%202018%20ENGLISH_0.pdf`.

[19]International Telecommunication Union, Guidelines for the review of spectrum pricing methodologies and the preparation of spectrum fee schedules, 2016, available at `https://www.itu.int/en/ITU-D/Spectrum-Broadcasting/Documents/Publications/Guidelines_SpectrumFees_Final_E.pdf`.

[20]As per the CAG Report No.21 of 2018, 58 percent of Rs. 310.67 billion expenditure incurred by DoT in 2016-17 was on account of communication services.

[21]Other estimates suggest that the excessive SUC become even more apparent if we were to take into account only the expenditure relating to the Wireless Planning and Co-ordination Wing of DoT and the Wireless Monitoring Organization - in that case the SUC would be over 30 times the actual cost of ad-

exploration of the extent to which the SUC stacks against the DoT's actual expenditure on spectrum management activities is therefore necessary.

The same logic also applies to the levy of license fees, which should have a rational link with the costs of administering the licence agreements. Operators are currently required to pay a licensee fee that is 8 percent of their AGR. Between 2012-17, operators paid a license fee of over Rupees 681 billion.[22] Of this, 3 percent of the levy goes to the Government while the remaining 5 percent is to be utilised towards the USOF. Funds collected under the USOF are meant for providing connectivity in rural and remote areas. However, so far, the Government has managed to use as little as half of the Rupees 952 billion corpus that has been collected under the USOF since 2002.[23] In light of this, the continuous charges being imposed on telecom operators under this head are not justified by the current utilisation capacity. It would therefore make sense to cut back on further contributions until the existing funds have been utilised. Besides this, the telecom sector has also been advocating for the exemption of the above charges and levies from payment of GST and a reduction in the applicable GST rate from 18 percent to 12 percent, suggestions that merit due consideration by the Government.

6. *Calculation of AGR*: The calculation of SUC and license fee is linked to the computation of the operator's AGR, which in itself has remained a contested issue for very long. Following decisions by various High Courts and TDSAT, the matter is currently pending before the Supreme Court for final determination. While the industry view has been that the AGR should take into account only the income from the company's core telecom business, the Government has maintained that it should also include income earned from non-core sources like real estate transactions, interest and dividend income, handset sales, etc. In its 2017 recommendations to the DoT, TRAI had suggested the introduction of a new concept of "Applicable Gross Revenue", which would

ministering and regulating the spectrum. See TV Ramachandran, Telecom trouble: Spectrum usage charge or surely unjustified charge?, Financial Express, November, 2018, available at https://www.financialexpress.com/opinion/telecom-trouble-spectrum-usage-charge-or-surely-unjustified-charge/1391902/.

[22]DoT, Annual report 2017-18,http://dot.gov.in/sites/default/files/Telecommunications%20Annual%20Report%202018%20ENGLISH_0.pdf.

[23]DoT, USOF statement, available at http://www.usof.gov.in/usof-cms/usof-fund-status-table.jsp.

essentially amount to the exclusion of non-telecom revenues while calculating the AGR.[24] Given that the main purpose of AGR is to compute the levies payable to the Government in connection with an operator's telecom operations, it is important for the policy needle to also shift in the direction pointed by TRAI.

7. *Spectrum management*: Radio frequency spectrum can broadly be classified into three heads, based on usage restrictions and the applicable licensing regime: (i) licensed bands, (ii) unlicensed bands and (iii) bands reserved for Government and defence purposes. As per a TRAI recommendation in 2015, approximately 60 percent of the total available spectrum in the country was reserved for government purposes with the remaining 40 percent being assigned for commercial telecom services.[25] This situation gives rise to two main action points. First, we need a periodic reassessment of the actual spectrum usage by Government agencies so as to enable spectrum re-farming and harmonisation activities. For instance, the recent CAG report noted that there was scope for re-farming of spectrum held by the defence in 1800 Mhz, 2100 Mhz and 900 Mhz bands, all of which hold significant value for mobile and broadband uses.[26]

   Second, the framework for license fee and royalty applicable to 'captive users' of spectrum also needs to be revisited so as to create incentives for the efficient use of spectrum by Government agencies. Other regulatory frameworks, such as the one in United Kingdom, follow the principle of requiring public sector users to pay charges for spectrum that are comparable to fees charged to private users.[27] While a similar target may not be realistic in the present Indian context, a reassessment of Government uses of spectrum and the charges levied for the same would be in order. This can begin with a comprehensive assessment of the spectrum bands currently held by various Government agencies and their status of actual utilisation.

   At the same time we need to shift the policy focus from viewing commercial mobile operators as the fulcrum for broadband growth towards

[24]TRAI, Press release No. 3/2015, available at `https://www.trai.gov.in/sites/default/files/PR-03-2015.pdf`.

[25]Table 2.1, TRAI Recommendations on Delivering Broadband Quickly: What do we need to do?, April 2015.

[26]CAG Report No.21 of 2018 - Compliance and Performance Audit of Union Government (Ministry of Communications and Ministry of Electronics & Information Technology).

[27]Cabinet Official Committee on UK Spectrum Strategy in consultation with the Office of Communications, Government Response and Action Plan, March, 2006.

a more diverse ecosystem supported by the release of unlicensed spectrum bands. Similar to the experience with the 2.4 GHz and the 5.8 GHz bands, which have enabled the development of a vibrant Wi-Fi ecosystem, allowing unlicensed spectrum in other bands like unused television white spaces and high frequency millimetre bands in the range of 57 GHz64 GHz (V-band) and 70 GHz80 GHz (E-band) could be a game changer in terms of future socio-economic gains.[28] A study done in the Indian context has suggested that the immediate deregulation of some of these bands, like V and E bands, can deliver much greater economic benefits than any revenue gains that may be expected from a potential auction or administrative allocation.[29]

8. *Right of way challenges*: A sound right of way framework is one of the foundational elements for the development of telecommunication infrastructure. With this in mind, the DoT adopted the Indian Telegraph Right of Way Rules, 2016 to provide for a streamlined process for the setting up of underground infrastructure (optical fibre) and overground infrastructure (mobile towers) by telecom companies. Although it has been two years since these rules were notified, providers are yet to derive the full benefits of the rules, mainly due to the delay in implementation at the local levels.[30] It is therefore necessary to initiate a detailed study of the key implementation challenges that remain in the process, classified in terms of the legal, administrative, financial, and regulatory factors.[31]

9. *Restructuring the BhartNet project*: The BharatNet project has faced a number of hurdles, including on account of delays in roll out, lack of involvement of State Governments, inter-agency co-ordination issues and lack of proper monitoring.[32] A significant part of these concerns

[28]Smriti Parsheera, Challenges of Competition and Regulation in the Telecom Sector, Economic & Political Weekly, Vol. 53, Issue No. 38, 22 Sep, 2018.

[29]Rai et al, The Economics of Releasing the V-band and E-band Spectrum in India, NIPFP Working Paper No. 226, April 2018, available at `https://www.nipfp.org.in/media/medialibrary/2018/04/WP_226.pdf`.

[30]So far, 7 States namely Haryana, Rajasthan, Odisha, Assam, Maharashtra, Tripura and Jharkhand have aligned their policies/orders in line of Right of Way Rules, 2016. See Standing Committee on Information Technology (2017-18), Progress on implementation of BharatNet, Fiftieth Report, August, 2018, available at `http://164.100.47.193/lsscommittee/Information%20Technology/16_Information_Technology_50.pdf`.

[31]See Byung Wook Kwon, Public rights of way for fibre deployment to the home, Working Party on Communication Infrastructures and Services Policy, OECD Directorate for Science, Technology and Industry, April, 2008.

[32]See Standing Committee on Information Technology (2017-18), Progress on implemen-

emanated from the initial design of the project, which opted for a state-agency led model of implementation through Bharat Broadband Network Limited and three other public sector undertakings. While this has been attempted to be fixed in the second phase by soliciting the involvement of State Governments and private agencies, the need for more careful monitoring of the project still remains. Building a systematic mechanism for periodic *external* audit of the project's progress would therefore be essential to its successful implementation.

tation of BharatNet, Fiftieth Report, August, 2018, available at `http://164.100.47.193/lsscommittee/Information%20Technology/16_Information_Technology_50.pdf`.