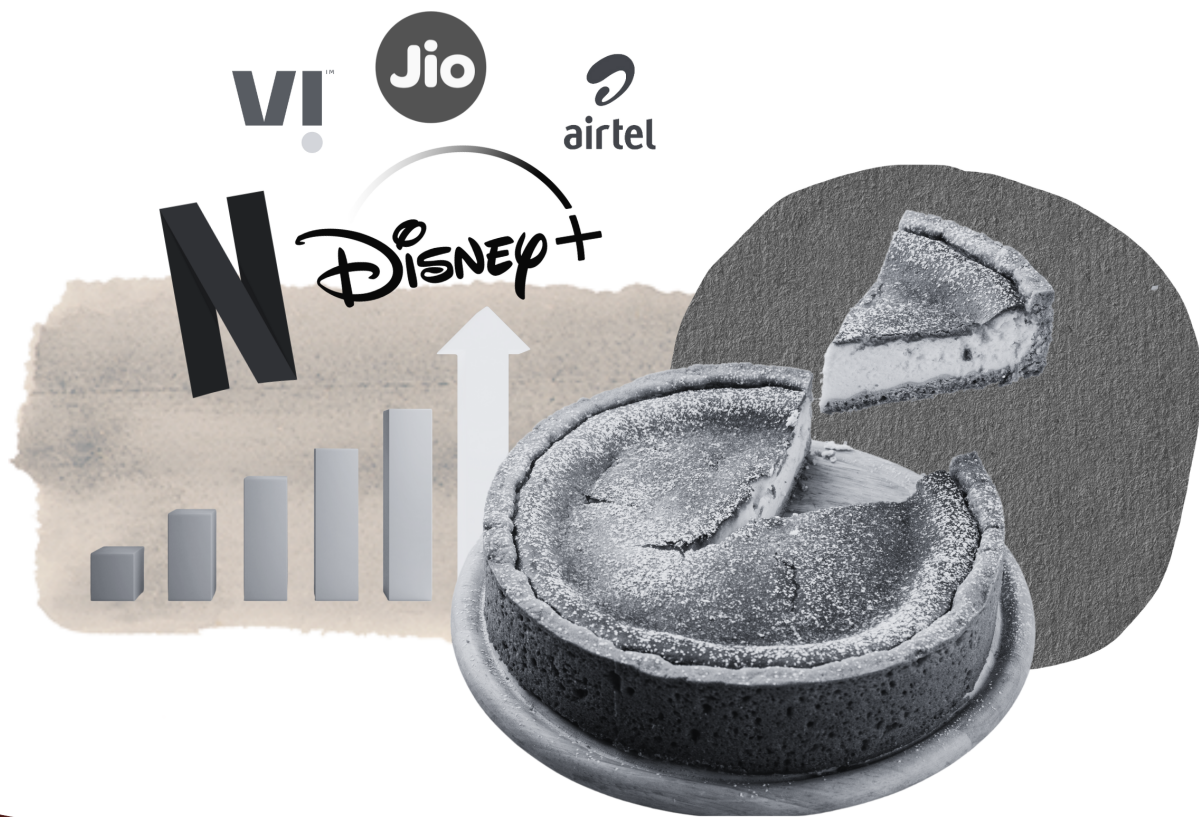


A Public Brief on **Demand for “Fair Share”**

*and Regulation of OTT services by Telcos and
Implications on Users*

Internet Freedom Foundation



**INTERNET
FREEDOM
FOUNDATION**



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Internet Freedom Foundation ("IFF") is a registered charitable trust which advocates for the digital rights of Indians. Our mission is to ensure the growth of digitisation with democratic rights guaranteed under the Constitution of India.

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Introduction

Demands for the regulation of Over-The-Top (“OTT”) communication services (such as WhatsApp and Telegram) have been increasing amongst telecommunications service providers (“TSPs”) in India for several years. These demands have been justified by stating that similar rules must be applied for offering similar services (for eg. voice calling or messaging) by different service providers. This “same service, same rules” argument has been raised by traditional TSPs on the grounds of introducing a “level playing field” among all technologies. A fairly new demand of the TSPs in the country has been for their “fair share” from OTT content providers (such as Netflix and Hotstar). The capital investment made by the TSPs in developing infrastructure and technology for telecommunication services and the generation of telecom network traffic by OTT content providers are the stated grounds for the former’s demand for fair share/ contribution. We trace both these arguments in the Indian and international context in our public brief, in an effort to analyse the necessity of such regulation. We also update our 2018 analysis which examined whether the growth in the use of online calling and messaging negatively impacts telecom revenues in India in 2023.

Background

Telecommunication companies (“telcos”), have for a while now, claimed that they suffer revenue losses due to their profits being stolen from internet platforms and services, which provide similar services such as voice calling and instant messaging. This longstanding underlying sentiment among telcos has been accompanied recently with a demand for levying some form of a toll to “compensate” telcos for their losses.

The Telecom Regulatory Authority of India (“TRAI”) released a consultation paper (“2018 TRAI paper”) on November 12, 2018, the regulatory objective of which was to, “*focus only on regulatory issues and economic concerns pertaining to such OTT services as can be regarded the same or similar to the services provided by TSPs.*”¹ The 2018 TRAI paper had two principal objectives. The first was to make sure that there is a continued economic investment in telecom and data networks in India. The second was to cure any regulatory imbalance which exists between telecom services and their internet based counterparts (and if they can be considered as substitutes). Following strands of arguments were raised by TRAI in the consultation paper:

1. **Need for Investment and Upgradation:** The continued expansion of capacity, quality of service requires growth in investment in infrastructure. However, control and

¹ Telecom Regulatory Authority of India. *Consultation Paper on Regulatory Framework for Over-The-Top (OTT) Communication Services.* November 12, 2018. https://www.trai.gov.in/sites/default/files/CPOTT12112018_0.pdf; See also: “IFF’s summary on TRAI’s OTT Consultation Paper released on November 12, 2018.” *Internet Freedom Foundation.* https://drive.google.com/file/d/1sCQaF5D6dzvEzULielhvAjo_Cttlhl5O/view.

management of network resources are made uncertain due to the use of OTT communication services. (Para 3.2.1- 3.2.3)

2. **Growing convergence:** The utilisation of single type of network (VoLTE) requires network awareness, investments for upgradation of existing networks and increasing capacity. (Para 3.2.4-3.2.6)
3. **Revenue opportunities:** With the increase in OTT communication services, major global trends project a decrease in voice traffic and an increase in data usage. Increase in bandwidth usage will be driven to a large extent by video traffic, which may require multicast IP technologies. (Para 3.3 to 3.3.2)
4. **Pricing of services:** Increased investment by telecom players in their networks to ensure a quality of service potentially benefits OTT communication services. However, this problem may cease to exist if TSPs are free to fix their pricing structure and all services due to convergence have moved to data networks. (Para 3.3.3 - 3.3.5)
5. **View of the DoT Committee:** The Department of Telecommunications (DoT) in May 2015 held that several categories of OTT communication services may overlap with a TSP service. However, TRAI noted in 2018 that the figures and data relied upon by DoT were from the year 2014, since when the situation may have changed significantly. (Para 3.3.6)
6. **Fair and reasonable opportunities for all market players:** TSPs, unlike OTT communication and content service providers, are restricted from collecting revenue from additional sources, such as advertising. There is also an absence of regulation to address the non-interoperability of OTT communication services. While TSP networks serve as the backbone for enabling access to OTT services, they also benefit from increased data usage fix. (Paras 3.4.1. - 3.4.4)
7. **Licence conditions imposed on TSPs:** There are several compliances on TSPs under existing licensing agreements, which include lawful interception and monitoring of traffic, privacy and security, identification of callers, customer verification at the time of acquisition, customer grievance redressal, etc. (Paras 4.1.1 - 4.1.10)
8. **Regulatory obligations under Telegraph Act, 1885:** The conditions imposed on TSPs by the Indian Telegraph Act, 1885 include, interception, universal service obligations, payment of a Universal Access Levy of 5% of their Adjusted Gross Revenue ("AGR"), etc. (Para 4.2.1)
9. **Requirements under TRAI regulations:** TRAI regulations requirements include tariff protection (through transparency, continuity, billing methods), Quality of Service, grievance redressal mechanisms, unsolicited customer communication and mobile number portability, etc. (Para 4.2.2)

10. **Obligations under the Information Technology Act, 2000:** Certain obligations under the Act are common on both TSPs and OTT communication services, including lawful interception (Section 69), content takedown (Section 69A), privacy and cybersecurity obligations (Section 43, 43A and 72A), intermediary liability (Section 79), and encryption (Sections 69 and 84A). (Para 4.3)
11. **Fees and applicable taxes:** In addition to spectrum charges, TSPs also incur a one time-non refundable entry fee and an annual licence fee. (Para 4.4)
12. **OTTs approach to addressing consumer issues:** Prior to the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 (“IT Rules, 2021”), OTTs addressed user concerns through market mechanisms and self-regulation. Lack of uniformity in practices and information led to difficulty in examining and analysing their functioning. (Para 4.5)
13. **Security issues of OTT communication services:** Security issues due to encryption such as lack of traceability or interception, spreading of rumour, etc. (Para 4.6)
14. **Jurisdiction related issues:** Personal data of users which is generated on OTT communication services is transferred across borders creating issues of (a) ambiguity in application of data protection norms; (b) difficulty for law enforcement; (c) refusal in compliance by OTT communication services in foreign jurisdictions. The proposed solutions to this include, (a) data localisation; (b) Treaties under the CLOUD Act which allows for a bilateral agreement with the US for cross border data requests; (c) Budapest Convention which provides for more effective investigation and judicial cooperation of cybercrimes. (Para 4.7)

The 2018 TRAI paper raised eight questions as part of the consultation, which can be bucketed into four main themes, namely, defining what an OTT communication service is, profitability and sustainable network investment, achieving regulatory balance, and Interoperability, lawful interception, emergency calling.²

Findings of our economic analysis

In December 2018, we published an analysis to examine whether a growth in the use of online calling and messaging negatively impacted telecom revenues in India.³ After analysing the data provided by TRAI and some prominent telcos, we found that the economic stress on telcos comes from the intense price competition they face due to extremely low prices of their

² “Internet Freedom Foundation’s analysis on TRAI’s OTT Consultation Paper.” *Internet Freedom Foundation*, December 2018. <https://drive.google.com/file/d/12eq3Rud1AhxygD2Z7lijhHi2AZ0Nnu2w/view>.

³ “OTT Regulation: Understanding the economic basis #SaveTheInternet #NetNeutrality.” *Internet Freedom Foundation*, December 07, 2018. <https://internetfreedom.in/ott-regulation-understanding-the-economic-basis-savetheinternet-netneutrality>.

competitors. We also found a lack of clear data on the amount of investment needed in the sector. We thus concluded that to suggest regulation of internet service providers in the absence of not only causation, but even a credible correlation to economic losses of telcos is a harmful public policy choice.

Consultation response

As part of our comments dated January 07, 2019, and counter comments dated January 21, 2020 on the 2018 TRAI paper, we urged TRAI to prioritise users interest and choice, over that of telcos and OTT service providers.⁴ We submitted that the paper set multiple faulty premises to pose queries and was thereby representative of inaccurate information, which may lead to problematic regulations. We called for legislative action and regulatory reform in the domains of privacy, consumer protection, and competition law frameworks. We also highlighted that TRAI's consultation queries fell outside the jurisdictional scope of telecom regulation, and thus outside of TRAI's. Nevertheless, we recommended that TRAI must conduct a specific consultation on interception and surveillance reform in the telecom sector.⁵

OTT Regulation in India: A Timeline

1. **March 2015:** In the previous consultation paper on 'Regulatory Framework for Over-the-top (OTT) services', published on March 27, 2015, TRAI made paternalistic statements in favour of regulation, citing arguments such as online gaming and social media addiction.⁶ To many, this seemed to be driven by an instinct to regulate the internet per se from the lens of telcos rather than satisfy any regulatory need.⁷

⁴ Internet Freedom Foundation. *Re: Comments by the Internet Freedom Foundation on TRAI's Consultation Paper on OTT [Over-The-Top] Consultation released on November 12, 2018.* Submission of Comments to the Telecom Regulatory Authority of India, January 07, 2019. https://drive.google.com/file/d/0B9LKE-1DkhtFcEc0Qmh4QXV6X0FDRIIQN21BQUk0eFdhbDhn/view?resourcekey=0-s1-nXzOo_uAH-swyrBiT2g; Internet Freedom Foundation. *Re: Submission of our counter-comments to the Consultation on OTT Platforms and Services.* Submission of Counter-Comments to the Telecom Regulatory Authority of India, January 21, 2019. <https://drive.google.com/file/d/0B9LKE-1DkhtFanJ5VFJJOUNzOEpmUnhFQ3duQklyYThpQmxv/view?resourcekey=0-WoRPainv6igMQldKvXM9FA>.

⁵ "We send counter-comments to the terrible proposals of Telecom Companies in TRAI's #OTTConsultation #SaveTheInternet." *Internet Freedom Foundation*, January 22, 2019. <https://internetfreedom.in/we-send-counter-comments-to-the-terrible-stuff-that-telecos-say-in-trais-ott-consultation-savetheinternet/>.

⁶ Telecom Regulatory Authority of India. *Consultation Paper On Regulatory Framework for Over-the-top (OTT) services.* March 27, 2015. <https://traigov.in/sites/default/files/OTT-CP-27032015.pdf>.

⁷ "Internet Freedom Foundation's analysis on TRAI's OTT Consultation Paper." *Internet Freedom Foundation*, December 2018. <https://drive.google.com/file/d/12eq3Rud1AhxygD2Z7IijhHi2AZ0Nnu2w/view>.

2. **November 2018:** In the aforementioned consultation paper, TRAI learnt from its mistakes to an extent. While it took less of a regulatory approach, it continued to use reductionist, ambiguous terms such as “OTT.”⁸
3. **September 2020:** TRAI issued clear recommendations on September 14, 2020, that were broadly supportive of user choice, which was also iterated in the comments and counter-comments submitted by us. Notably, TRAI recorded that “*it is not an opportune moment to recommend a comprehensive regulatory framework for various aspects of services referred to as OTT services, beyond the extant laws and regulations prescribed presently.*”⁹
4. **September 2022:** Amidst consistent requests from IFF to the DoT to approve TRAI’s recommendation, the DoT released the draft Indian Telecommunications Bill, 2022 (Telecom Bill, 2022) for public consultation.¹⁰
5. **January 2023:** TRAI issued a consultation paper on “Convergence of carriage of Broadcasting and Telecommunication services”, which explored the idea of licensing/permission-based regulation for providing online services.¹¹ Here, TRAI takes a similar paternal stance for regulation as it did in 2015. TRAI also outlines the complexity and gaps in the policy space of content regulation and thus suggests a converged regulator for regulating OTT communication services and OTT content providers.

Both the Telecom Bill, 2022 and the Convergence consultation paper initiate conversations about the regulation of OTT communication services and bringing them under a common regulatory framework as telcos. The Telecom Bill, 2022 seeks to include new services (such as internet and broadband services, satellite based communication services, OTT communication services, etc.) under the definition of “telecommunication services,” thus significantly expanding its definition under the TRAI Act, 1997. As a result of this definitional bundling, all online communication service providers can be treated at par with TSPs, internet service providers (“ISPs”), and broadcasters. If the Bill is passed in its current form, it will introduce burdensome

⁸ Telecom Regulatory Authority of India. *Consultation Paper on Regulatory Framework for Over-The-Top (OTT) Communication Services*. November 18, 2018. https://www.trai.gov.in/sites/default/files/CPOTT12112018_0.pdf.

⁹ “Thank you TRAI for recommending against internet licensing! #SaveTheInternet.” *Internet Freedom Foundation*, September 28, 2020. <https://internetfreedom.in/thank-you-trai-for-recommending-against-internet-licensing-savetheinternet/>.

¹⁰ Draft Indian Telecommunication Bill, 2022. <https://dot.gov.in/sites/default/files/Draft%20Indian%20Telecommunication%20Bill%2C%202022.pdf>; See also: Internet Freedom Foundation. Re: Representation in support of TRAI’s OTT recommendations. Submission to the Minister for Communications, Electronics, and Information Technology, September 28, 2020. https://drive.google.com/file/d/11gFITKz0fQwusTqL2JLisT66tNOgy0_o/view; Internet Freedom Foundation. Re: Request to establish a multi-stakeholder body and uphold net neutrality in India. Submission to the Department of Telecommunications, June 10, 2022. https://drive.google.com/file/d/1TDiMB_jBz93ZwCMtENqxxWwcWPzZcvf1/view.

¹¹ Telecom Regulatory Authority of India. *Consultation Paper on Regulating Converged Digital Technologies and Services – Enabling Convergence of Carriage of Broadcasting and Telecommunication services*. January 31, 2023. https://www.trai.gov.in/sites/default/files/CP_30012023.pdf

regulations on OTT communication service providers, which may create an environment of uncertainty not just for them, but also for OTT communication service users. For example, requiring OTT service providers to contribute to the infrastructure costs incurred by telcos may result in higher prices for consumers.¹²



Figure 1: Additional services included under the expanded definition of “Telecommunication services”

The regulation of OTT communication services has, for a long time, been a demand raised consistently by traditional telcos on the grounds of introducing a “level playing field” among all technologies. These demands have been justified by stating that similar or the same rules must be applied for offering the similar/same services (for eg. voice calling or messaging).¹³ As we elaborated upon in our Public Brief on the Telecom Bill, 2022, the arguments for substitutability of services between telcos and OTT communication services are unfounded.¹⁴ There are inherent structural differences between the two, the primary one being that OTT communication

¹² Petra Arts and Mike Conlow. “The European Network Usage Fees proposal is about much more than a fight between Big Tech and Big European telcos.” *Cloudflare*, May 08, 2023. <https://blog.cloudflare.com/eu-network-usage-fees/>.

¹³ Press Trust of India. “Go for ‘same services same rules’, Internet body to TRAI.” *The Indian Express*, April 24, 2015. <https://indianexpress.com/article/technology/social/go-for-same-services-same-rules-internet-body-to-trai/>; See also: Yuthika Bhargava. “‘Same service, same rules’ — why telcos want regulation for OTT players like Whatsapp, Telegram.” *The Print*, February 19, 2023. <https://theprint.in/business/same-service-same-rules-why-telcos-want-regulation-for-ott-players-like-whatsapp-telegram/1381020/>.

¹⁴ Brian Williamson. “Deconstructing the ‘Level Playing Field’ Argument – an Application to Online Communications.” *Communication Chambers*, <http://static1.1.sqspcdn.com/static/f/1321365/27575015/1495793366237/LPFMay24.pdf>; See also: Tejasi Panjari et al. “A Public Brief on the Draft Indian Telecommunication Bill, 2022.” *Internet Freedom Foundation*, October 27, 2022. <https://drive.google.com/file/d/13vSyFZY7mc5TMxTYsiueZ7051qt0-UK9/view>; See also: Brian Williamson. “Deconstructing the “level playing field” argument - an application to online communications.” *Communications Chambers*, May 2017. <http://static1.1.sqspcdn.com/static/f/1321365/27575015/1495793366237/LPFMay24.pdf>

services are essentially internet-based apps, which don't own or operate telegraph equipment.¹⁵ Further, OTT communication services do not enjoy exclusive permissions enjoyed by telcos, such as ability to obtain numbering resources, the right of way to set up Infrastructure, etc.¹⁶ Moreover, OTT communication services make huge investments in telecom infrastructure and networks, are significant revenue generators for telcos, and are a big engine for creating demand for broadband services.¹⁷ Thus, the demand of telcos to be compensated for their “stolen profits” is also not justified.¹⁸

Globally, the argument that OTT communication services have eaten into the profits of the telcos have been gaining momentum. The report titled “Regulation of OTT Communications Services: Justified Concern or Exaggerated Fear?” published by Esya Centre in January 2023 includes a global comparative analysis of the rules and regulations OTT services are subject to under telecommunications law.¹⁹ Notably, only Singapore and the European Union have legal and regulatory frameworks governing OTT communication services, that too in the form of minimum and light-touch regulation. Meanwhile, OTT services are exempt from telecom regulation in the United States and Brazil. The report concludes, “*Thus, the demands raised by TSPs in India to bring OTT communications services under the same regulatory framework that applies to them, and the consequent inclusion of communications OTTs within the purview of the Draft Indian Telecommunications Bill, 2022 deviates from existing international frameworks.*”

Additionally, in the context of OTT content providers, large telcos have asked for their “fair share” or adequate compensation from them for the capital investment made by the former in internet infrastructure. This move stems from the push of telcos to create a mechanism whereby OTT communication services and content providers, which benefit from TSP network/infrastructure/service, must make a fair contribution for building 5G network infrastructure.²⁰

¹⁵ Apar Gupta. “Understanding TRAI’s most recent ‘Over-The-Top’ Consultation Paper #SaveTheInternet #NetNeutrality,” Internet Freedom Foundation, December 6, 2018. <https://internetfreedom.in/understanding-trais-most-recent-over-the-top-consultation-paper-savetheinternet-netneutrality/>.

¹⁶ Abhishek Ra., “An Overview of Telecommunications Policy and Regulation Framework in India.” *Centre for Internet & Society*, March 22, 2022. <https://cis-india.org/telecom/overview-telecommunications-policy-regulation-framework-india>.

¹⁷ TV Ramachandran. “Why Telcos and OTTs Need to Band Together to Drive Digital Future.” *Financial Express*, February 7, 2019. <https://www.financialexpress.com/opinion/why-telcos-and-otts-need-to-band-together-to-drive-digital-future/1479520/>.

¹⁸ Telecom Regulatory Authority of India. *Consultation Paper on Regulatory Framework for Over-The-Top (OTT) Communication Services*. November 18, 2018. https://www.trai.gov.in/sites/default/files/CPOTT12112018_0.pdf; See also: Apar Gupta, “Summary of TRAI’s OTT Consultation Paper #SaveTheInternet.” *Internet Freedom Foundation*, November 15, 2018, <https://internetfreedom.in/our-summary-of-the-ott-consultation-paper-savingtheinternet/>.

¹⁹ Noyanika Batta. “Regulation of OTT Communications Services: Justified Concern or Exaggerated Fear?” *Esya Centre*, January 2023. https://static1.squarespace.com/static/5bcef7b429f2cc38df3862f5/t/63d8b49179bdf80b02924cc6/1675146395190/Esya_Centre_Report_Communications_OTT_Services.pdf.

²⁰ Kalyan Parbat. “Telcos to push DoT, Trai to make OTTs share cost of 5G network infra.” *The Economic Times*, May 10, 2023.

This conversation has been particularly active in Europe since 2022, after the publication of the European Declaration on Digital Rights and Principles.²¹ The Declaration, among other things, stipulated all market actors to make a “*fair and proportionate contribution to the costs of public goods, services and infrastructures...*”. Upon receiving concerns around infringement of net neutrality principles, the European Commission clarified, in a public letter, that their approach to the fair contribution debate is in “full respect of EU net neutrality rules.”

The European Union (“EU”) in its consultation on the future of the electronic communications sector, held between February and May 2023, has acknowledged both the perspective of telcos and OTT content providers, further highlighting that other stakeholders caution against rushed regulatory intervention.²² OTT content providers argue within this consultation that apart from concerns surrounding net neutrality, costs born by OTT content providers are not necessarily traffic-sensitive, rendering the payments on the basis of the number of users or amount of traffic transmitted unjustified. The consultation also references the European Declaration on Digital rights and Principles, especially focusing on the latter’s support of accurate management of data traffic to, in turn, regulate and reduce the environmental impact of the traffic.

Fair share proponents amongst European telcos also point to a report that suggests that the top six technology giants generated over 55% of all telecom networks’ traffic.²³ However, legislating or regulating the technology companies on the basis of such a statistic fails to address claims that such levy allows operators to be paid twice for providing a single service, by both their subscribers and by technology firms. Aside from promoting skewed incentives for telcos, such a system could lead to preferential treatment being afforded to certain technology firms over others, impacting net neutrality further.²⁴

This is also reiterated by the Dutch government’s recent criticism on the push towards the “fair share” argument amongst EU telecom operators.²⁵ This criticism relies on the fact that levying a one-size-fits-all network fee on video streaming companies would not adequately address specific issues in different EU countries. Moreover, the Dutch position on the issue states that

<https://economictimes.indiatimes.com/industry/telecom/telecom-policy/telcos-to-push-dot-trai-to-make-otts-share-cost-of-5g-network-infra/articleshow/100128224.cms>

²¹ European Declaration on Digital Rights and Principles. European Commission, February 07, 2023. <https://digital-strategy.ec.europa.eu/en/library/european-declaration-digital-rights-and-principles>.

²² European Commission. *The future of the electronic communications sector and its infrastructure*. Exploratory Consultation, February 23, 2023 to May 19, 2023. <https://digital-strategy.ec.europa.eu/en/consultations/future-electronic-communications-sector-and-its-infra-structure>.

²³ Harry Baldock. “European Commission launches Big Tech’s ‘fair share’ consultation.” *Total Telecom*, February 23, 2023. <https://totaltele.com/european-commission-launches-big-techs-fair-share-consultation/>

²⁴ “EU regulators group against big tech paying for telco infrastructure.” *Reuters*, October 11, 2022. <https://www.reuters.com/business/media-telecom/eu-regulators-group-against-big-tech-paying-telco-infra-structure-2022-10-11/>.

²⁵ Government of Netherlands. “Dutch Minister Adriaansens: Internet toll will ultimately penalize consumers.” February 27, 2023. <https://www.government.nl/latest/news/2023/02/27/dutch-minister-adriaansens-internet-toll-will-ultimately-penalize-consumers>.

contrary to the claims of the telecom industry, growth in “internet data” does not have a positive correlation with higher network costs, which have instead remained constant despite consistent growth in data usage over “the last decades.” In comparison, the Dutch argument highlights that the profit margin of EU telcos have improved significantly in the last decade, and protecting large telcos therefore should not be a goal in itself, especially over the interests of consumers and businesses.

As part of their response to the aforementioned EU consultation paper, the Internet Society strongly opposed the suggestion of “fair contribution” by digital players, stating that *“the interventions are incompatible with the open and global Internet that the European Commission publicly supports, and that they would cause significant harm to users, including the risk of Internet fragmentation.”*²⁶

The EU telecoms regulators’ group, the Body of European Regulators for Electronic Communications (“BEREC”), has also criticised the suggestion to make OTT content providers pay for the rollout of 5G and broadband in Europe and voiced its concerns on whether such a move would help the EU meet its connectivity targets.²⁷ As per recent reporting, telecom ministers from 18 countries either rejected the proposed network fee levy on tech firms, or demanded a study into the need and impact of such a measure.²⁸

Economic analysis of telecom revenue

The afore-mentioned preliminary analysis in December 2018 discussed whether growth in the use of online calling and messaging negatively impacted telecom revenues in India. Using a data sheet broken across quarters, we mapped the financials of the telecom sector based on their own publicly-available quarter-to-quarter statistics.²⁹ As such, we determined that three inferences could be made from the data:

1. Both voice and data usage have seen a significant increase between 15Q2 and 18Q1, i.e. roughly between July 2015 and June 2018, exploding after 16Q2 with the entrance of Reliance Jio into the telecom sector.

²⁶ Internet Society. “Internet Society’s Submission to the European Commission’s Exploratory Consultation on “The future of the electronic communications sector and its infrastructure.” May 12, 2023. <https://www.internetsociety.org/resources/doc/2023/submission-to-ec-future-of-the-electronic-communications-sector-and-its-infrastructure/>.

²⁷ Foo Yun Chee. “EU regulators’ group sides with Big Tech against telcos’ network fee push.” *The Print*, May 19, 2023. <https://theprint.in/tech/eu-regulators-group-sides-with-big-tech-against-telcos-network-fee-push/1584287/>.

²⁸ Reuters. “Majority of EU countries against network fee levy on Big Tech: report.” June 03, 2023. <https://economictimes.indiatimes.com/tech/technology/majority-of-eu-countries-against-network-fee-levy-on-big-tech-sources-say/articleshow/100731143.cms>.

²⁹ Internet Freedom Foundation. “IFF’s snapshot of key financials of Telecom Operators.” *Google Sheets*, December 05, 2018. https://docs.google.com/spreadsheets/d/1fHJ3qFKP2VG4p_sHKaUTo8YGYoQgazxajXCrgSNvYC4/edit?ef=internetfreedom.in#gid=0.

2. This massive growth coincided with a drop in per user revenue for the major telecom players. Such fall appears to be due to a hyper-competitive environment engineered in the sector by the entry of Reliance Jio, however with a wave of consolidation this period may soon end. We also further predicted that with a wave of then-upcoming consolidations (like the merger of Idea and Vodafone), this period of lower revenue streams would soon end. These trends are as per statements in the press by leading executives of telecom companies and analyst reports such as Moody's and Fitch.
3. We also noted that while the data displayed a need for continued investment, the extent of the necessary investment was unclear from the data available from the telecom companies. We thus called for a clear, public statement backed with data to be made, if there is truly a need for investment.

Analysis based on the most recently available data - i.e. till 22Q3 - depicts a continuation in many of the trends noticed in 2018. To measure the possibility of financial stress in the sector, we compared four variables - average revenue per user (ARPU), voice average revenue per user (VARPU), data average revenue per user (DARPU), and finally the available earnings per telecom firm before interest, tax, depreciation, and amortisation (EBITDA).

ARPU includes under its ambit a split between the revenue collected from data and voice services (VARPU and DARPU). In our previous analysis, we noted that numbers in the industry change drastically after the entry of Jio. As predicted, with the merger of Vodafone and Idea, the industry has seen a uniform increase (quarter-on-quarter, from 18Q3) in revenue, also evident from the pan-industry data available with TRAI (see Figure 2).

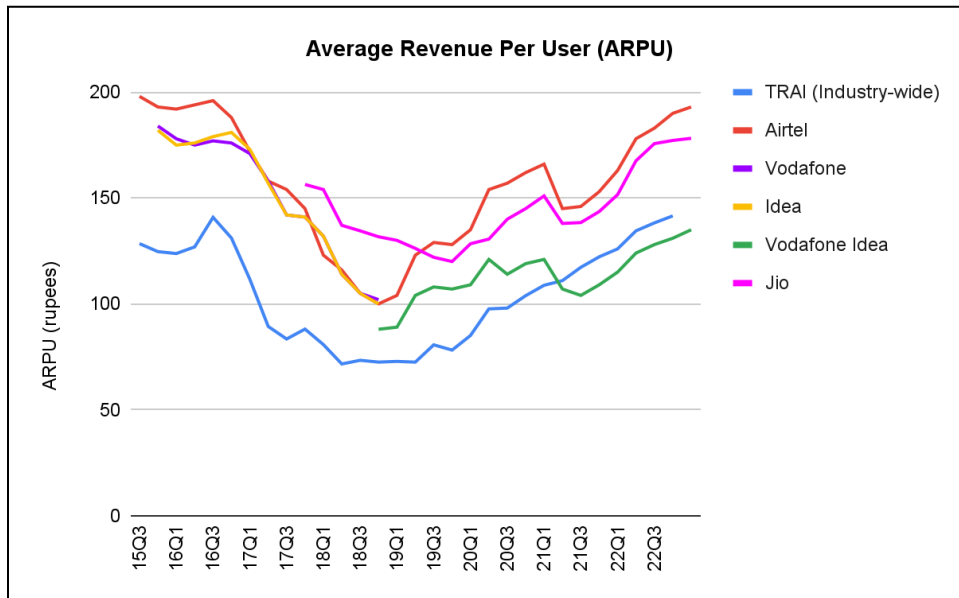


Figure 2: Industry-wide average revenue per user (ARPU)

In our current analysis, we find that this increase has a positive relationship with changes in voice and data usage across the sector - ie, usage of both services has also been on the rise,

especially since the entry of Jio in the market, and only exacerbated with the consolidation of Vodafone-Idea (see Figures 3 and 4).

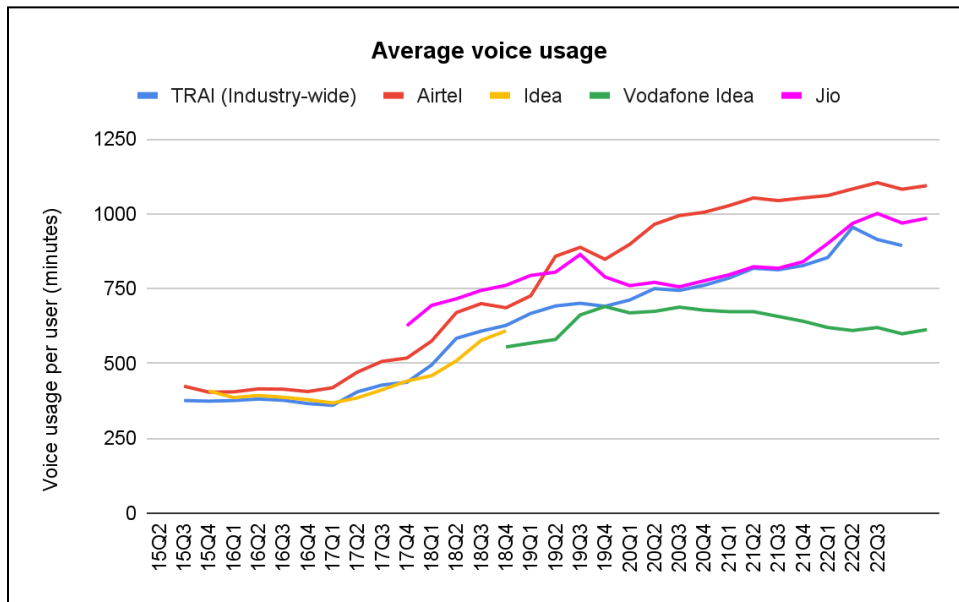


Figure 3: Industry-wide average revenue from voice usage per user (VARPU)

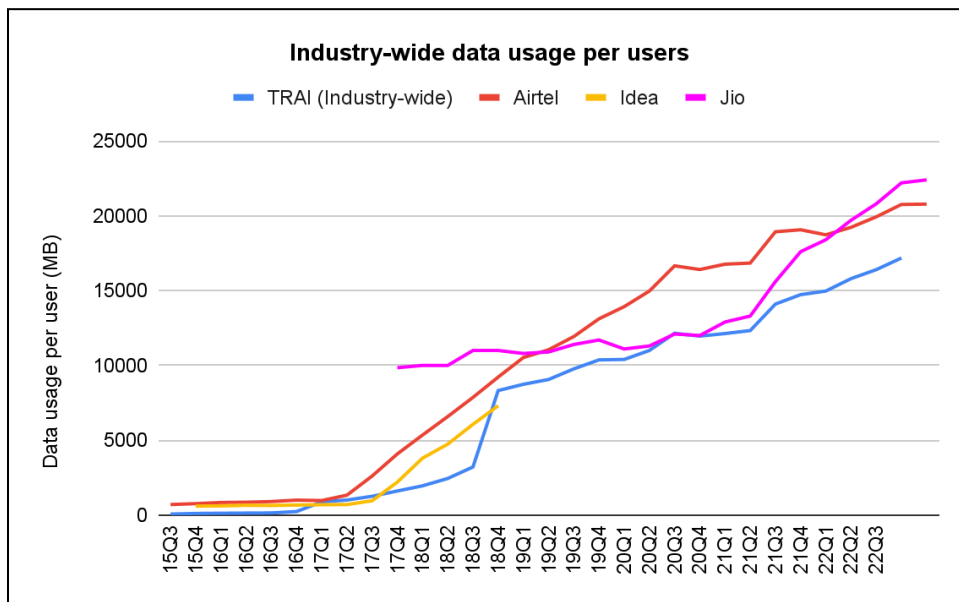


Figure 4: Industry-wide average revenue from data usage per user (DARPU)

The second metric to measure the health of telcos is EBITDA, which provides insight into a company's operating performance. As with the other variables, our previous analysis noted a change in 16Q2 with the entry of Jio. However, general EBITDA trends showed a quarter-on-quarter fall in the earnings of the telcos until 18Q3 (see Figure 5). While limited data exists on sector-wide EBITDA, Airtel, Jio, and Vodafone-Idea all show growth in EBITDA between 18Q3 and 22Q3.

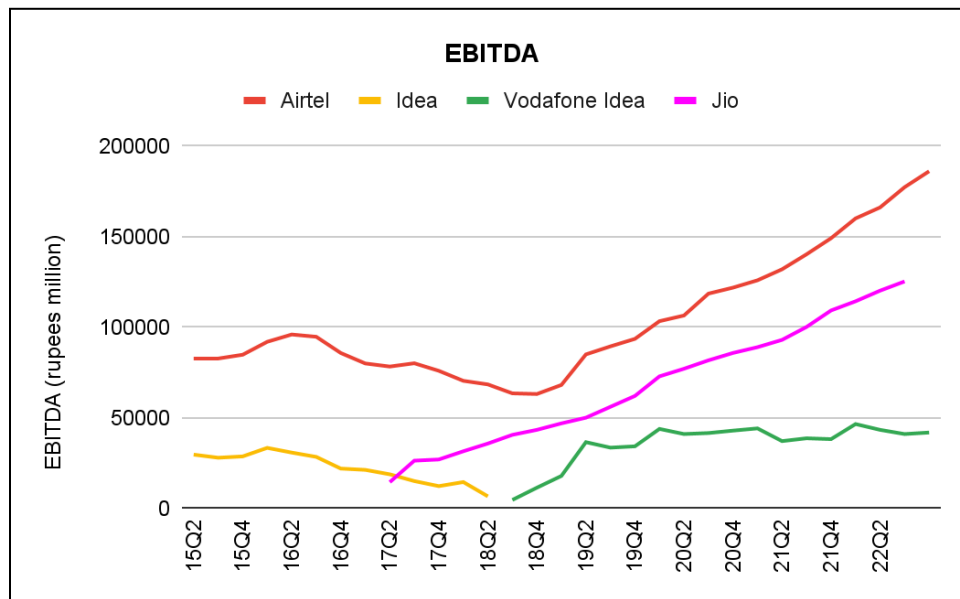


Figure 5: Earnings per telecom firm before interest, tax, depreciation, and amortisation (EBITDA)

Data from across the telecom sector and all four quarters - from the second quarter in the Financial Year (FY) 2015-16 to the third quarter in FY 2022-23 - show general upward trends in revenue generated by the industry in recent years (see Figures 2-5). As mentioned previously, telcos face their fiercest competition from each-other, and competitively decreasing prices. This is also buoyed by the fact that revisions in prices for various plans by telcos usually occur as a domino-effect. Similarly, rises and falls in the revenue generated per quarter are uniform across the sector. Between FY 2017-18 and the third quarter of FY 2018-19, telcos saw a general decline in revenue generation, with a uniform upward trend starting in the fourth quarter of the same financial year that has continued until FY 2022-2023. This is also accompanied with similar uniformity in the average use of services across the sector. For example, between FY 2019-20 and 2022-23, the sector saw a general upward trend in the average voice and data usage per user.

Conclusion

What the data thus implies is that an increase in data use - and therefore the services accessed using such data, including the use of OTT communication services like instant messaging or voice and video calling - cannot be blamed for decreasing or negatively affecting revenue streams. Although major telecom companies tend to attribute various factors to this decline, intense competition remains most likely to be the main cause. It is our initial belief that implementing regulations that impose financial burdens or levies on internet platforms and services is not a wise public policy approach. Rather than protecting company profits of both telcos and OTT service providers, the goal of regulation should be to serve the public's best interests.



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