

Preamble

On December 17th, 2019 Telecom Regulatory Authority of India (TRAI) issued a consultation paper on tariff issues related to telecom services. TRAI has requested for comments from the stakeholders on the paper by January 17th, 2020. In the paper, TRAI has raised a number of issues and has invited comments on 19 questions.

We are thankful to TRAI for the consultation paper and for the opportunity to provide our comments. Detailed comments have been provided to each of the questions. While developing the response, we have kept the following in view:

- There is deep financial distress in the telecom sector, reflecting in unprecedented decline in revenues, significant losses at the Earnings Before Interest and Tax (EBIT) level and negative returns on assets/ capital employed over a period of time.
- Revenues have declined on account of sharp decrease in Average Revenue Per User (ARPU), despite the growth in traffic volumes. This is only due to unsustainable tariffs
 - ▶ The industry Adjusted Gross Revenue (AGR) has reduced by approximately 33% over the last three years, despite significant increase in both spectrum and network investments and ~3,500 % increase in data traffic.
 - ▶ The current industry AGR levels are the same as they were in 2012-13 despite an increase in subscriber base.
- Over the last three years, 6 operators have exited by either merging their businesses with existing Telecom Service Providers (TSPs) or declaring bankruptcy.
- Among the TSPs in the market, the public sector operator has been provided a significant financial assistance to sustain itself.
- A temporary solution with a much-needed immediate effect is the regulatory tariff intervention in the form of a floor price. There are no other avenues available for increasing telecom revenues in the immediate short term for the Indian TSPs other than an increase in tariffs and a price structure where customers pay more for using more.
- While TSPs have announced tariff hikes recently, the price increases are far from sufficient to bring them out of losses. Despite some improvement the revenue will continue to remain below cost and the return on capital continues to be negative.
- Vodafone India and Idea Cellular merged to create VIL with a competitive scale of operations and VIL has taken and continues to take all measures to reduce its costs constantly to be able to provide most competitive services.

- If the existing financial stress in the sector is not addressed within a short period, it could result in further bankruptcy and exit of TSPs from the market, leading to a state of virtual monopoly and absence of fair competition in the market.
- Telecom services are essential services and therefore the fate of the industry cannot be left to the market to correct itself (which anyway appears unlikely), given the current financial stress.
- Government has infused money into the public sector TSPs to sustain their operations. However, to support the industry as a whole to overcome the current financial turmoil, it is important that an intervention that addresses the issue faced by all of them is undertaken.
- Increase in revenues to stabilize the industry will require intervention of the regulator, otherwise the current stress will continue and could even worsen.
- By ensuring that revenues meet costs (along with a reasonable rate of return, being the cost of capital), the industry's concern about losses going forward due to the unviable pricing can be addressed till the health of the industry improves enough to be able to sustain itself.
- There are adequate precedents available within India of regulatory/ Government action to address the financial stress in the industry. Globally, depending on the specifics of the case, there are several precedents of Governments intervening to relieve financial distress in telecom and other industries.
- A temporary solution with a much-needed immediate effect would be regulatory tariff fixation in the form of a floor price.
- This would address the current financial distress that the industry is facing, which would benefit the consumers by enabling TSPs to make new investments in new technologies from time to time.
- The incumbent operators provide services using 2G, 3G and 4G technologies, due to historical reasons. Broadband was introduced by the then operators in India in 2011 using 3G technology by committing large spectrum and network investments. This benefitted the Indian economy and set the stage for adoption of wireless broadband. In 2016, the new operator through free/ subsidized services created disruptive introduction and rapid adoption of 4G technology in India. The ability of the incumbents to rationalize the technology used is constrained by their obligations to their existing subscribers, which also depends on the subscriber's choice of handsets.

- To address the current financial stress, we submit that floor price must be considered for:
 - ▶ Pure data plans, Metered data plans and bundled usage plans; and
 - ▶ Fixed Subscription charges for voice only, data only or voice and data subscribers; and
 - ▶ Unlimited usage plan on voice (i.e. plan with, say, 1000 minutes limit) or/ and data which will construe as a bundled plan; and
 - ▶ Off-net outgoing calls.
 - ▶ Subject to above, other services, including on-net voice may continue to be under forbearance.
- Since the objective of the floor tariffs is to ensure long term sustainability of TSPs, it should be based on the revenue requirement of TSPs, i.e.:
 - ▶ Revenue requirement should be estimated based on all costs incurred by TSPs to provide services to consumers, which is essential to give a return of capital,
 - ▶ A reasonable rate of return on capital employed must be considered, and
 - ▶ The reported costs as per the latest available financial quarter should be used as they would reflect the most current market situation.
- To ensure that the telecom industry in India does not become a monopoly, given that there are only four surviving TSPs (including public sector operator) in the country, it should be ensured that the floor price considered by TRAI should provide reasonable return on capital to all these operators or at least to a majority of them.
- Given that there is significant damage to health of the industry based on the free or near free usage over a long period, we need to ensure that the floor price structure results in higher charges by those having higher consumption, as against the current market practice of same price being paid for low and high levels of consumption.
- Since TSPs need to incur certain costs to ensure availability of network at all times, irrespective of whether it is used by consumers or not and the level of traffic at any point of time, a floor tariff model must comprise of a fixed subscription fee and a floor price for each unit of data.
- Floor price should be applied uniformly across different categories of subscribers and across all plans to ensure due compliance and meeting the overall objective of alleviating the financial distress.

Response to questions

The response to the specific questions raised in the TRAI consultation paper are as follows:

1. **Do you foresee any requirement of regulatory intervention at this stage in tariff fixation to protect the interest of telecom service providers as well as the consumers? Please support your comments with justification.**

Yes, there is a definite need of regulatory intervention at this stage to protect the interest of the TSPs as well as consumers for the following reasons:

1.1. Telecom sector is experiencing deep financial distress

Despite servicing over 1 billion consumers, the telecom industry in India is experiencing high level of financial distress. Following information highlights the financial stress in the industry.

1.1.1. Financial performance of the current TSPs shows the extreme financial stress

Below table shows that despite the significant consolidation in the sector, the **revenues are lower than the costs** (as evidenced by negative EBIT). TSPs are losing money even before paying interest. **It may also be noted that these losses are independent of the source of financing i.e. losses would have been incurred, irrespective of the source of funding of the TSPs i.e. debt or equity.**

TSP	FY19		H1 FY20	
	Revenue	EBIT	Revenue	EBIT
Reliance-Jio	38,838	8,704	24,033	6,420
Vodafone Idea Limited (VIL)	37,093	-13,016	22,114	-7,034
Bharti Airtel	41,554	-5,751	21,848	-3,394
BSNL (Mobility segment)	7,408	-2,288	NA	NA
MTNL (Mobility segment)	367	-645	119	-374

Source: Compiled by management from published financial information. EBIT for H1FY20 is adjusted for Ind AS 116 impact based on company estimates for Vodafone Idea and Bharti Airtel.

The following table computes the return on Net Fixed Assets¹ for the operators over the last three and a half years.

¹ Return on capital employed is computed as Earnings Before Interest and Tax (EBIT) divided by the year end capital deployed in the business. Capital deployed is the sum of equity invested and debt taken by a TSPs to

Table 2: Return on Net Fixed Assets of TSPs

TSP	2016-17	2017-18	2018-19	H1 2019-20
Reliance Jio	-0.03%	1.4%	5.2%	7.0%
VIL	3.2%	-2.4%	-5.3%	-7.3%
Bharti Airtel	8.7%	-1.6%	-4.2%	-5.2%
BSNL	14.9%	2.8%	-18.1%	NA
MTNL	-9.3%	-10.6%	-12.6%	NA

Source: Based on information available as per published financials

Return of Net Fixed Assets has been calculated as follows

Bharti Airtel: Mobility EBIT adjusted for Ind AS116 /Net Fixed Assets as per standalone financials

VIL: EBIT adjusted for Ind AS116 /Net Fixed Assets

MTNL: Segment EBIT(Cellular) / Total Segment Assets

BSNL: Segment EBIT(Cellular) /Total Segment Assets

The return on net fixed assets of all TSPs except one was negative in 2018-19 (3 TSPs had negative return in 2017-18 as well) and this situation is likely to persist, till the revenues increase to cover the costs being incurred.

The following points highlight the gravity of the financial situation: -

- Returns are negative for both private and public sector TSPs.
- Return on Fixed Assets/ Capital employed would be negative irrespective of whether the business is funded through debt or equity (since EBIT is negative).
- Even if more equity was to have been infused, these returns would have continued to be negative.
- Returns have been negative for some time and would continue to be negative unless the revenues increase adequately to be able to cover all the costs.
- The positive return for any of the player during the above time frame were insufficient to provide a reasonable rate of return. Further, as per a 2019 report by European Telecommunications Network Operators Association (ETNO)
 - ▶ While the telecom revenues have been under pressure for EU operators, it is acknowledged in the paper that the pressure needs to be recognized and attended to by policymakers. (Notably, the revenue decline experienced by TSPs in Europe, is significantly lower than India and for a much shorter period)
 - ▶ The report expressed concerns about low return at a ROCE of sub10%. Indian TSPs are in a much adverse state with negative ROCEs.

fund its operations. However, for the purposes of this computation Net Fixed Assets have been taken into consideration as some of the TSPs have multiple businesses and from publicly available information, it was not possible to get the capital deployed for Indian mobile business. Use of net fixed assets is a good proxy for capital employed. TRAI can get these numbers from each of the operators and verify for itself. However, given that EBIT is negative, return will be negative.

1.1.2. Independent analysis also highlights the financial distress in the sector

Apart from the news report in the media, ICRIER's² Working Paper number 380³ has presented a detailed and thorough analysis of the financial performance of the Indian telecom sector. Its analysis also highlights the financial stress in the industry. Some of the key statistics calculated by the authors highlighting the financial stress are shown below.

Table 3: Return on Capital Employed

Operator	2014-15	2015-16	2016-17	2017-18
A	16.51	8.28	7.64	3.13
B	12.87	8.86	3.29	-2.76
C	10.74	4.27	0.34	-2.61
D	-0.04	-0.02	-0.03	1.89
E	0.08	0.75	-3.25	0.34
F	-15.77	-3.66	-4.16	-7.93
G	-0.34	-9.53	-9.53	EXIT
H	-8.71	-18.35	-21.14	-20.4
I	-19.31	-29.5	-246.98	EXIT
J	ND	ND	ND	EXIT
K	EXIT			
L	-6.16	5.96	5.56	ND

Further, the paper goes on to say

“India’s telecom sector is one of the largest and fastest growing networks across the globe. The increase in subscriptions has been nothing short of dramatic. Increasingly consumers are using phones to decrease transaction costs, access information and become more productive. Data price has fallen, while data consumption per subscriber per month has increased dramatically. **While growth has been robust, the financial health of operators has become less rosy...There can be no denying the fact that a strong financial condition of the sector is desirable not only for its own sake, but for the sake of creating a robust platform on which other businesses can participate and thrive...**” (emphasis supplied)

1.1.3. Successive Economic Surveys presented by the Government in the parliament have recognised the financial stress

² Indian Council for Research on International Economic Relations (ICRIER) is a leading Indian think tank and frequently provides advice to the Government of India on economic policy.

³ Kathuria, R., Kedia, M., & Sekhani, R. (2019). *A study of the financial health of the telecom sector* (No. 380). Working Paper.

The Economic Surveys of 2016-17 and 2017-18 both recognized the financial stress plaguing the telecom sector. According to the 2016-17 survey, “**Stiff competition, price war, reduced revenue has trapped telecom sector into highly leveraged with interest coverage ratio turning less than 1 since Q3 of 2016-17.**”⁴

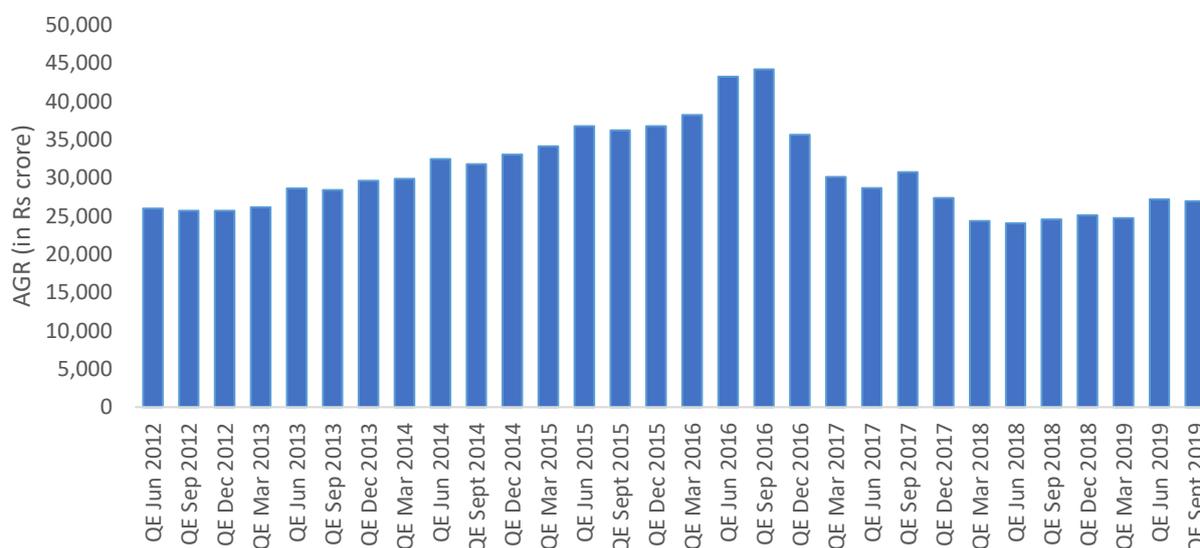
A similar point was made in the 2017-18 survey as well: “the telecom sector is going through a stress period with growing losses, debt pile, price war, reduced revenue and irrational spectrum costs.”⁵

The 2017-18 Economic Survey also recognized that revenue of TSPs has fallen and the “crisis has also severely impacted investors, lenders, partners and vendors of these telecom companies.”⁶

1.1.4. Despite significant investments in modern technologies and increased coverage, the current industry revenues have declined to 2012-13 levels.

The following graphs plots the monthly average gross revenue (AGR) for all TSPs as reported by the TRAI. As may be noted, the current quarterly revenues in the Quarter Ending (QE) September 2019 have declined by nearly 40% from their peak in QE September 2016. They have come down to the levels in 2012-2013.

Figure 1: Industry AGR (in Rs. Crore): QE June 2012 through QE September 2019



Source: TRAI Financial Reports

The fact that current revenues are at same level as they were seven years ago despite industry making continuous investments in network to implement new technologies and acquiring spectrum

⁴ Economic Survey 2016-17, Volume II, Page 208

⁵ <http://www.indiaenvironmentportal.org.in/files/file/economic%20survey%20-17-18%20-%20vol.%202.pdf>

⁶ <http://www.indiaenvironmentportal.org.in/files/file/economic%20survey%20-17-18%20-%20vol.%202.pdf>

at a high cost highlights the dismal financial state of the Indian telecom sector. If inflation were also to be taken into account, then the current revenues are at 2008 levels for the telecom sector.

At the overall industry level, investments in spectrum alone in three successive auctions in 2014, 2015 and 2016 have been Rs 236,365 crores, out of which approximately Rs 87,000 crores has been for renewal of spectrum being used for 2G technology. The total investments in capital expenditure and spectrum from FY 2016 through FY 2019 by the remaining 2 private TSPs (excluding Jio as comparable figures for mobility are not available) have been of Rs. 2,65,503 crores (Table 4).

However, despite these investments in the last 3 years, AGR of wireless services has fallen by 33% in the period and earnings before interest and tax (EBIT) for these 2 private operators has turned negative and declined by a staggering 185%.

Table 4: Investment and financial performance of TSPs: FY 2016 through FY 2019

Rs. Crores	FY19	FY18	FY17	FY16	FY19/FY16
Wireless Industry AGR*	98,450	1,10,817	1,43,585	1,47,376	-33.2%
EBITDA**	14,843	26,861	44,403	46,124	-67.8%
EBIT**	-18,767	-3,347	14,618	22,091	-185.0%

**As reported by TRAI*

*** For Bharti Airtel India as per Quarterly disclosure and Vodafone Idea proforma figures for FY17, FY18 and FY19 (FY18 & 9MFY19) - A per Rights Issue LoF, FY17- As per QIP PPD)*

Investments (ex-Jio) Rs Crores	FY19	FY18	FY17	FY16	Total
Investment Capex	26,712	33,700	29,600	27,900	1,17,912
Investment Spectrum	-	-	60,993	87,598	1,48,591
Total	26,712	33,700	90,593	1,15,498	2,66,503

Source: Compiled by management from financial reports

In the last 24 months, VIL infused additional Rs. 50,550 crores (fresh equity issuance of Rs 42,750 crores (of which Rs. 25,000 crores were in May 2019) and monetising non-core assets worth Rs 7,800 crores) to support its operations. Over the last 25 years, VIL has made a total investment of nearly Rs. 3.1 lakh crores (about 1.9 lakh crore in equity investment and Rs. 1.2 lakh crore represented by current outstanding debt).

The large investments and spectrum commitments has resulted in a high debt. The company is currently servicing a gross debt of Rs. 1.2 lakh crore (including nearly Rs. 90,000 crores from the Department of Telecommunications (DoT)).

1.1.5. While India is seeking further investments on one hand, on the other side operators have been either exiting or merging with existing operators

Six TSPs have exited the Indian mobile telecom industry in the last three years due to financial distress and inability to continue operations. Two of them declared bankruptcy. From 12 to 13 in 2008, the number of operators has fallen to 4, due to both bankruptcies and mergers/acquisitions on account of financial stress. Table 5 below lists the exits and consolidations in the Indian telecom industry.

If the current situation continues, further exits may be witnessed by the sector, which could eventually lead to a situation of virtual monopoly in the market.

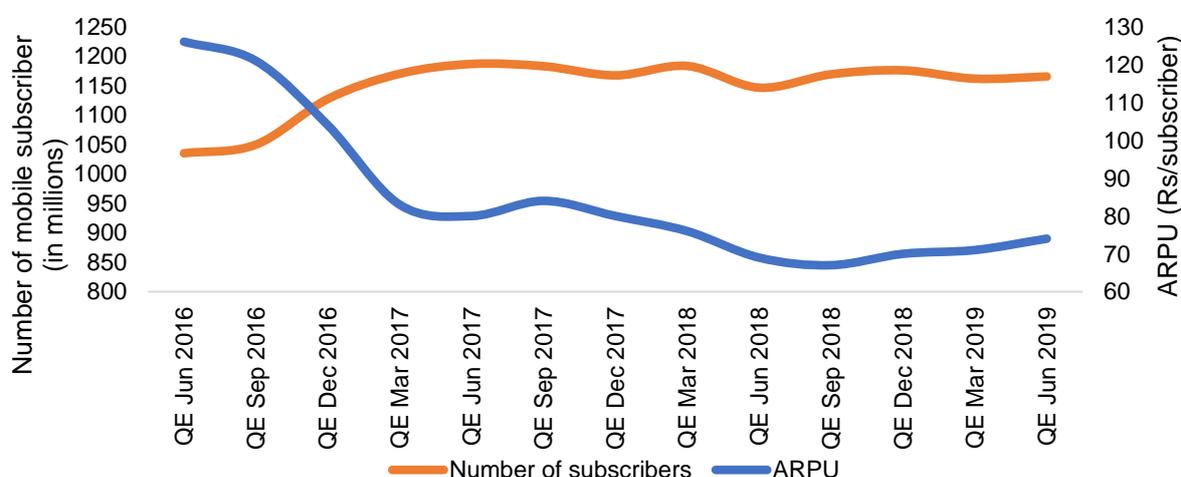
Table 5: Exits and consolidations in the Indian telecom industry

Operator	Year	Outcome
Videcon	2016	Shut down following sale of spectrum to Bharti Airtel
MTS India	2017	Merged into Reliance Communications
Vodafone India	2018	Merged to form Vodafone Idea Limited
Idea Cellular	2018	
Aircel	2018	Declared Bankruptcy
Telenor India	2018	Exited business by merging into Bharti Airtel
Tata Teleservices	2019	Exited business by merging into Bharti Airtel
Reliance Communications	2019	Declared Bankruptcy

1.2. Revenues per subscriber have declined sharply

The reason for the decline in revenues of TSPs are the steep decline in tariffs and ARPU levels vis-à-vis the growth in subscribers. The following graph plots the decline in ARPUs vis-à-vis subscribers.

Figure 2: Mobile number subscribers and ARPU in India: Quarter ending (“QE”) June 2016 through QE June 2019



Source: TRAI Performance Indicator Report

During the period from quarter ending June 2016 till the quarter ending June 2019 while the number of mobile subscribers increased by 13%, however, the monthly ARPUs declined by 41%. As the graph shows:

- From QE June 2016, while the subscriber base was increasing, ARPU declined sharply;
- From the QE March 2017, the number of subscribers stabilized, but ARPU continued to decline.

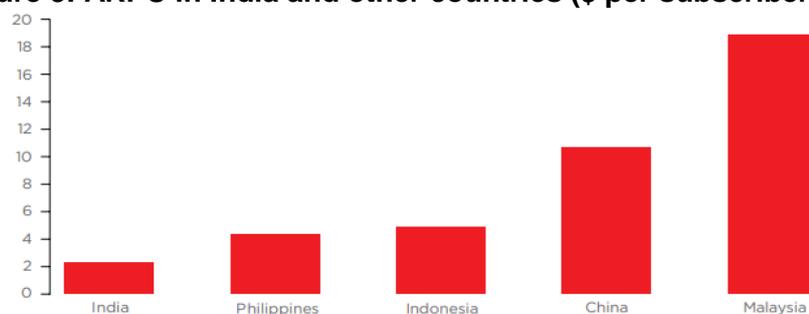
The current ARPU levels are much lower than the ARPUs witnessed before the introduction of the mobile data services

Low levels of ARPUs in India have also been commented upon by independent agencies internationally. GSMA in a 2018 report has mentioned as follows:

“ARPU is already extremely low in India, reflecting significant competitive pressures and efforts by operators to expand their services to lower income population segments. The GSMA’s Mobile Connectivity Index, which tracks countries’ progress on key enablers of mobile internet access and use, shows a 26 percentage-point increase in the affordability of mobile internet in India between 2014 and 2017 — the largest increase in any country over this period. A recent survey of global mobile data pricing highlighted that India was the cheapest market of a total of 230 countries surveyed in the final quarter of 2018. [footnote 7] The average price for 1 GB of data during this period was INR18.5 (\$0.26), compared to a global average price per gigabyte of \$8.53.

Lower tariffs and ARPU levels help drive affordability and are important elements in addressing the digital divide. However, at low levels they also affect the financial stability of the sector and the ability of operators to maintain sustainable business models while investing in networks and new services. For 2018, ARPU per unique subscriber in India was substantially below the level of other markets in Asia Pacific. Indeed, across all developing markets, India is the second lowest in the world, behind only Ethiopia.”

Figure 3: ARPU in India and other countries (\$ per subscriber): 2018



Source: GSMA (2018)

Despite being efficient operators, the Indian TSPs are suffering because of very low ARPUs. As the above graph shows, the ARPUs in other countries are multiples of Indian ARPUs. For example, China is 4 times that of India despite having zero spectrum costs and the per subscriber usage of approx. 7 GB per month is at a good level at that price. In fact one of the main contributors to the Chinese growth story has been the growth of quality data and digital services, which has been possible because the industry is healthy and supported with favourable policy framework, which has allowed three strong players to co-exist and be profitable.

1.3. While the traffic is exploding, the ARPUs and revenues are declining

The following table presents the change in data and voice volumes between QE June 2016 and QE June 2019 along with the change in ARPU. As shown by the table, while both average monthly voice and data usage by subscribers has increased in the last 3 years (by 21% and 267% respectively), the ARPU has declined (by 15%).

Table 6: ARPU and Voice and Data Usage in India

Industry	Voice (MOU/ subscriber/ month)	Data Usage/ data subscriber/ month	ARPUs
Unit	Minutes	GB	INR/subscriber
QE Jun 2016	377	0.1	126
QE Sep 2016	366	0.2	121
QE Dec 2016	360	0.9	104
QE Mar 2017	405	1.0	83
QE Jun 2017	428	1.3	80
QE Sep 2017	437	1.6	84
QE Dec 2017	494	2.0	80
QE Mar 2018	583	2.4	76
QE Jun 2018	608	3.2	69
QE Sep 2018	627	8.3	67
QE Dec 2018	667	8.7	70
QE Mar 2019	692	9.0	71
QE Jun 2019	701	9.8	74
CAGR	21%	267%	-15%

Thus, while the mobile traffic and usage is exploding ARPUs are declining. This implies an obvious sharp fall in realisations of TSPs. Therefore, it is no surprise that the operators are financially distressed. This financial distress cannot be addressed, till the ARPUs / Revenues increase, which in turn requires tariffs to increase.

In fact, with such growth in demand any other industry would have been giving attractive returns to its investors. However, telecom industry has not been able to do so and in turn is not able to support future investments as there is a case of diminishing returns because of tariffs falling so sharply.

1.4. Other than an increase in ARPUs at industry levels from voice and data services, there are no other avenues for increasing revenues

Para 1.21 of the consultation paper refers to declining revenue and pressure on return as a global phenomenon and says that the TSPs globally are working on other ways of augmenting revenues. It is important to note that there is no country in the world which has witnessed revenue decline similar to India (approximately 33% in last 3 years), when ARPUs are already amongst the lowest globally while usage of both data and voice is amongst the highest. In last 3 years Indian mobile industry has seen highest growth of data and voice usage and ideally it should have reflected in revenue growth too. On the contrary, the revenues have declined causing this financial stress.

The references made therein to improve revenues are mostly theoretical and not implementable in the current circumstances in India:

- The financial stress of the industry shows that regulatory intervention for relief is needed quickly. None of the alternative methods of earning revenues would give adequate results within the near term.
- One idea mentioned refers to additional opportunities from the adoption of Internet of Things (IoT). The current revenues that accrue to TSPs on account of implementation of IoT is already included in the revenues discussed earlier and is a miniscule amount. This suggests that it is unlikely that revenue from IoT will be able to bring the sector out of the financial stress in the immediate future.
- Further, more significantly, high levels of implementation of IoT is being discussed in the context of 5G services. These are yet to be launched in India. This once again highlights that this is not a viable immediate option to help revive the telecom sector. In fact with the current industry situation any investment in 5G cannot be supported.
- There is a reference to OTT revenues. Once again, exploring this avenue will not address the immediate need for financial relief for TSPs.
- TSPs' focus is to provide telecom services (which is also the focus of the current consultation paper). Diversifying into OTT businesses requires time and there is no certainty that the TSPs would be able to compete with well entrenched players in the OTT

market who have the advantage of network effects. Further, this would involve additional costs and investments, which may not be possible, given the current financial health of the TSPs. Thus, it is not yet clear whether diversifying into OTT services could worsen the financial distress rather than improve it.

- Further, none of these revenue streams has emerged as a significant revenue contributor for any of the operators even in the developed countries.

Necessary measures to rationalize costs are already being undertaken by TSPs but cost-optimization measures (including mergers or acquisitions) are unlikely to make them profitable (as has been the experience over the last few years with various consolidations and exits having been witnessed by the sector). Measures thus need to be adopted to improve revenues of TSPs, or else the market condition may further deteriorate leading to exit of more TSPs from the market.

1.5. Telecom is an essential service and a strategic sector of the economy and India cannot afford to wait for more adverse market outcomes before deciding whether to intervene or not.

The Indian consumers depend on the TSPs to provide them with telecom services, which have become like an essential service. They depend on telecom connectivity not only to communicate, but also to carry out day to day activities such as making payments, buying goods, monitoring their health, and depending on it for entertainment. For several businesses, including large number of MSMEs, a mobile phone connection is an essential part of their investment for business expansion.

The DoT recognizes that the telecom sector “has assumed the position of an essential infrastructure for socio-economic development in an increasingly knowledge-intensive world. The reach of telecom services to all regions of the country has become an integral part of an innovative and technologically-driven society.”⁷

As per the 2018-19 Economic Survey of India, “Telecommunication has been recognized world-over as a powerful tool of development and poverty reduction through empowerment of masses”.⁸ In addition to providing a technological foundation for communication among individuals and institutions and enabling participation and development of people, the telecom sector also provides vital infrastructure for national security.⁹ According to the official website

⁷ <http://dot.gov.in/sites/default/files/Telecom%20at%20a%20Glance-2019.pdf?download=1>

⁸ Economic Survey 2018-19, Volume II, Page 218

⁹ <https://www.nap.edu/read/11711/chapter/3#8>

of Department of Homeland Security of the US Government “Meeting our Nation’s critical national security and emergency preparedness (NS/EP) challenges demands attention to many issues. Among these, none could be more important than the availability and reliability of telecommunication services.”¹⁰

The telecom sector also contributes significantly to economic growth and development. In 2018, mobile technologies and services contributed to 4.6% of the global GDP.¹¹ In India, according to the Economic Survey of 2018-19, the telecom industry’s contribution to GDP is estimated to reach 8.2% by 2020.¹² The Economic Survey of 2017-18 estimates that the mobile industry in India employed over 4 million people (directly and indirectly).¹³ Further, the current financial stress in the telecom sector implies thousands of crores loss to exchequer every year on account of loss in license fee, spectrum usage charge and GST there upon and corporate tax.

1.6. Growth of the telecom sector is dependent on viability of TSPs and their ability to invest in the sector

The high investments involved in the telecom sector requires that TSPs earn enough profits to invest in technology advancement. As recognized in the Economic Survey of India (2018-19), “5G technologies are expected to contribute US\$2.2 trillion to the global economy over the next 15 years, with key sectors such as manufacturing, utilities and professional/financial services benefitting the most from the new technology.”¹⁴ To be able to make such investments and realize the opportunities that they present, it is pertinent that TSPs are financially viable, and that more than one TSP operate in the market.

The Economic Survey 2018-19 also recognized the crucial role played by FDI “in shaping the progress of the telecom sector over the years by providing much needed finances for expansion of telecom infrastructure in the country.”¹⁵

However, the current state of the Indian telecom industry is not just negative for the existing TSPs serving the Indian market but may also deter new global players/ investments from

¹⁰ <https://www.dhs.gov/cisa/national-security-telecommunications-advisory-committee>

¹¹ <https://economictimes.indiatimes.com/industry/telecom/telecom-news/telecom-industry-may-contribute-8-2-to-gdp-by-2020-by-leveraging-5g/articleshow/70071849.cms>

¹² <https://economictimes.indiatimes.com/industry/telecom/telecom-news/telecom-industry-may-contribute-8-2-to-gdp-by-2020-by-leveraging-5g/articleshow/70071849.cms>

¹³ <http://www.indiaenvironmentportal.org.in/files/file/economic%20survey%202-17-18%20-%20vol.%20.pdf>

¹⁴ Economic Survey 2018-19, Volume II, Page 219

¹⁵ Economic Survey 2018-19, Volume II, Page 219

entering the Indian market. According to Andrew Penn, CEO of Telstra,¹⁶ “*If an industry cannot generate a reasonable return of capital, the investment is not going to come to the industry.*”¹⁷

The importance of adequate return on capital employed in the sector to ensure appropriate investments has also been recognized by ETNO in its 2019 report on the state of digital communications. This report which has also been cited by TRAI in the consultation paper states that because of consistently low ROCE (below 10%), “**consumers or businesses stand to lose because they are, in effect, trading low levels of investment per capita for low prices. As the telecoms operator business transitions to using new operating models that are centred on 5G, the vicious cycle of low investment and low return will not help the economic well-being of Europe.**”¹⁸

As shown in table 2, the TSPs in India are either earning low or negative rates of return.

While evaluating the profitability of the TSPs, TRAI may wish to keep the following benchmarks under consideration:

- 15% rate of return on capital¹⁹ used by TRAI in past financial computations e.g., Interconnection Usage Charges (IUC)
- The average lending rate of Scheduled commercial banks in India of 11.5%, which implies that the cost of capital will be even higher taking into account the higher cost of equity.

1.7. Tariff intervention by TRAI is pertinent to increase quality of service for both TSPs and consumers

While the currently prevailing low tariffs may benefit consumers in the short run, however, if they continue at this level the industry may experience disruption and turmoil. The inability of TSPs to recover costs and the surmounting losses would adversely affect their ability to invest in critical technology advancement and improve the quality of services provided.

This can be illustrated by the fact that while tariffs in India are among the lowest,²⁰ it lags behind other countries in terms of data speed. There is a trade-off between the short-run

¹⁶ <https://www.communicationstoday.co.in/telecom-sector-should-be-viable-to-attract-innovation-says-telstra-ceo/>

¹⁷ <https://www.communicationstoday.co.in/telecom-sector-should-be-viable-to-attract-innovation-says-telstra-ceo/>

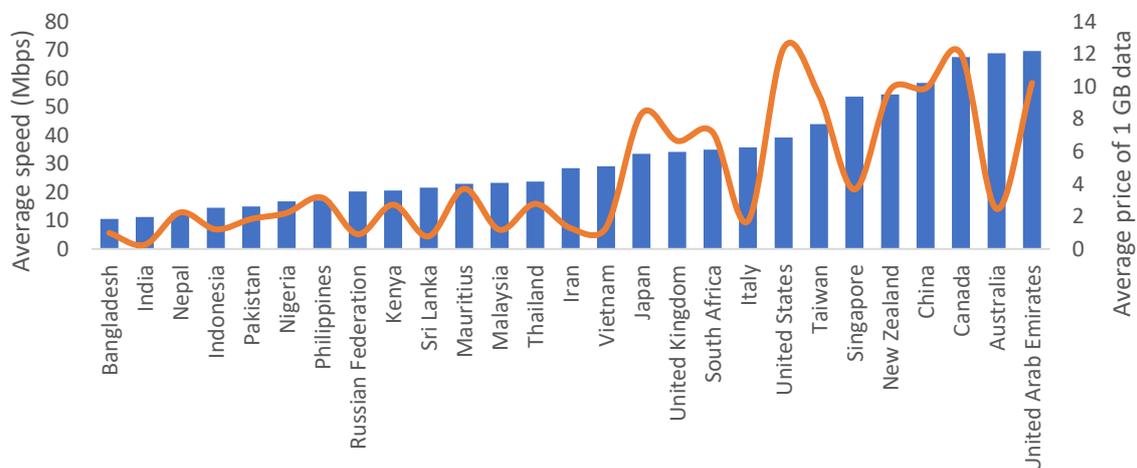
¹⁸ <https://etno.eu/datas/publications/annual-reports/ETNO%20Annual%20Economic%20Report%202019%20final%20web.pdf>

¹⁹ Refer Paragraph 19, Section A, Annexure 2 to the Explanatory Memorandum of the inter-connection usage charges (Thirteenth amendment) regulations, 2017

²⁰ According to cable.co.uk’s analysis of data from 6,313 mobile data plans across 230 countries, collected between 23 October and 28 November 2018 < <https://www.cable.co.uk/mobiles/worldwide-data-pricing/>>

benefit in terms of lower prices paid by consumers and the medium-term cost in terms of quality of service and technology lagging behind due to dis-incentives for loss-making TSPs to undertake necessary investments in the industry. According to the Speedtest Global Index, out of a list of 139 countries, India ranked 127th in terms of its mobile internet speed in November 2019.²¹ While India had an average speed of just 11.23 MB per second (Mbps), over 35 countries had a speed of over 40 Mbps. India’s neighbouring countries – Pakistan and Sri Lanka – were ranked better than India at 113 and 88 respectively (their average speed was 15Mbps and 21.57 Mbps respectively). As mentioned in the consultation paper Sri Lanka had a floor price regulation when they were facing similar industry challenges as India is facing today and the telecom industry there has been able to recover post that regulatory intervention.

Figure 4: Average speed and price of data across the world



Source: Cable.co.uk and Speedtest Global Index

Improving the quality and speed of the telecom service would require substantial investments, which would also help the networks to adjust in an otherwise very difficult situation. The solution, therefore, requires introducing measures to increase revenue to cover the average cost, so that the financial distress can be addressed in the temporary period of adjustment which is required (about two years).

1.8. Regulatory and government intervention on prices are undertaken when an industry needs the required support

As is true with all regulators for their respective sectors, TRAI has been tasked with protecting the interests of TSPs and consumers and promoting the orderly growth of the sector. For all

²¹ <https://www.speedtest.net/global-index>. Countries must have at least 300 unique user results for mobile or fixed broadband to be ranked in either category.

sectors that may have at some point gone through acute distress, the regulators or the relevant ministries have taken concerted actions to put the sector back on sustainable growth trajectory, balancing and protecting the interests of both the suppliers and the consumers. We have highlighted below a few examples of measures that were taken in the recent past to address the distress faced by different sectors in India. While the instruments vary depending on the case in hand, they all have the effect of increasing revenues and ensuring the sustainability.

Table 7: Regulatory intervention examples

Regulator	Problem	Action Taken
Central Electricity Regulatory Commission (CERC)	Extreme liquidity crunch faced power plants in India (based on imported coal) were unable to meet working capital requirements for operations, and were making losses	<ol style="list-style-type: none"> 1. Hon'ble Supreme Court in its Judgment recommended higher tariffs for electricity generation as it was the only solution and if the tariffs were not increased, this capacity would need to be closed. 2. CERC also approved higher tariff for the generators allowing them to pass through increased cost of imported coal.
Ministry of Steel	Steel makers were facing financial distress and the stress could be relieved through higher realizations for the steel sector	<ol style="list-style-type: none"> 1. The Indian government fixed Minimum Import Price (MIP) on 173 steel products for restricting imports. 2. MIP was introduced as a temporary measure that would allow for steel prices to increase. 3. These were not in the nature of anti-dumping duties which were imposed separately based on a product by product review.
General Insurance Company (GIC)	Price war among insurers in the fire insurance market with insurers providing discounts of up to 99 percent on the erstwhile tariff rates. At times, fire policies were given for free with premiums being charged only for add-on covers	<ol style="list-style-type: none"> 1. GIC, one of the primary re-insurers for insurance companies in India, issued a circular which mandated that insurers adhere to the loss-cost-rates identified by the Insurance Information Bureau of India (IIB) if they want GIC reinsurance 2. Premium rates increased by three to eight times thereby stabilizing rates in the fire insurance market and ensuring that premiums are in line with risks borne (i.e., the cost for the insurer)

Source: Multiple sources²²

Internationally, in 2010, the Telecom Regulatory Commission (TRC) of Sri Lanka had fixed a floor price to address the low revenues faced by the telecom operators in the country. This

²² (1) <https://economictimes.indiatimes.com/industry/energy/power/cerc-approves-fuel-cost-pass-through-for-adani-powers-mundra-plant/articleshow/68849525.cms?from=mdr>
<https://economictimes.indiatimes.com/industry/energy/power/tata-power-may-not-be-able-to-run-mundra-power-project-after-february/articleshow/73077860.cms> (2) <https://pib.gov.in/newsite/PrintRelease.aspx?relid=154901> (3) *Impact of GIC Re Treaty Circular on The Fire Insurance Market, Bimaquest - Vol. 19 Issue 3, September 2019*

intervention was able to revive the revenues of the incumbent telecom operators and restore their financial health. Later, in 2018, the floor was withdrawn by the TRC. The consultation paper itself refers to similar interventions in Bangladesh, Nigeria and Turkey. These are discussed in greater detail in response to question number 3.

1.9. TSPs in developed market are financially strong and do not require such regulatory intervention

There are two statements in the consultation paper, where the COAI's request for intervention is contrasted with the approach in developed countries:

- "Fixing any floor price...is generally avoided in the developed markets by regulators as it is considered anti-competitive and anti-consumers".
- "Strategists and companies elsewhere are looking for innovative and alternate ways to augment their revenues and investment rather than looking towards Governments for subsidies and reliefs"

However, the financial position of TSPs in these countries is far distinct from that in India.

- The telecom sector in no other country in the globe has witnessed similar revenue decline and surmounting losses as the Indian telecom sector has over a period of time. **There is no other comparable market in the world, where each and every TSP who was operating before 2016 has either exited or if surviving is incurring significant losses.**
- The ARPUs in these countries are much higher, even though equipment costs tend to be similar across the world.
- We do not know of examples of developed markets where all but one operator is losing money at an EBIT level. Also in the Indian context the profitability of that one operator is based on different accounting practices and if calculated in the same manner as other TSPs, the result could be different.
- The rates of return in developed markets are in sharp contrast to the numbers presented in Table 2 for Indian TSPs. As an example, rate of return on equity for leading wireless telecom service of US are much higher. As mentioned previously, in Europe, concerns are being raised over returns below 10% with ETNO's report stating that such low levels of return are "clearly not a sustainable or desirable position for operators". With several TSPs having exited the market in recent years due to financial stress, and most remaining TSPs earning negative returns, the situation is much worse in India.

- Additionally, another key difference between Indian telecom market and the sector in other countries is that the cost of spectrum in India is significantly higher compared to most of the other countries. The large spectrum commitments made by the operators over last few years have resulted in the ballooning debt levels. **In comparison, in China which is some ways is the most comparable market to India in terms of size, spectrum is given free to all three TSPs, and the regulatory charges are insignificant and despite that the ARPU is around 4 times that of ARPU in India.**
- In United States, there is a history of Government intervening in sectors with high financial distress. As an example, the US Government intervened to provide protection to automobile companies in 2009. Therefore, Governments and regulators look for what is best for their country.

If the investors are earning healthy returns, then there is obviously no need for Government intervention in the sector. However, India is perhaps the only country in the world where all TSPs (except one) have either closed down or if continuing they are making losses, implying the need for intervention rather than considering what the regulatory standpoint in other countries is where the situation is very different and there is no similar financial distress.

1.10. If TRAI does not intervene through tariff fixation, the consequent loss is likely to be high

If TRAI were not to intervene in tariff fixation at this juncture, following consequences may be observed:

- There is a very strong likelihood that there would be further exits in the Indian telecom sector. It is therefore likely that India may move towards a position of a virtual monopoly. It may be kept in view that consolidation amongst TSPs has not alleviated the financial stress in the past.
- While the consumers may enjoy lower tariffs in the short run, however, there is no certainty that these tariffs would continue in the future, especially given the possibility of a monopoly in an industry where high capital requirements imply a large entry cost. It would be futile to assume that lower tariffs could be provided indefinitely through subsidies from shareholders/ capital dumping. In fact it is obvious that prices / consumer spends would go up in such a scenario.
- Distress is being felt by both private and Government-owned operators. The Government has stepped in to support the public sector operator by providing financial assistance. If the financial distress for the Government owned operator were to continue, then the Government may need to allocate further money to alleviate the stress. However, such

relief would not be provided to the private sector operators, which also need support, for a short period of time to make relevant adjustments and transition their approx. 500 million non 4G subscribers (including BSNL & MTNL) who depend on them for service.

- Any further exits will have a negative impact on job creation and will dampen the investor confidence, reducing the impact of policies to address the current reduction in overall economic growth rates and the Government's intent of creating a US\$ 5 trillion economy on the back of investments in infrastructure.
- There will be a spill-over effect on other sectors. The Government of India has been aggressively pursuing a strategy of digitisation of the Indian economy through initiatives such as providing digital connectivity across the country, encouraging digital payments, promoting future technologies such as 5G, etc. All this are dependent on a well-developed, competitive and financially sustainable telecom services sector. Any set-back to the telecom services sector will not be in the interest of Indian economy and consumers. It is nobody's case to have financially stressed service providers in the leading sectors of the Indian economy.

It is also pertinent to note that the intervention from TRAI is being sought as an interim measure to provide the much-needed immediate relief to the sector. Once financial viability in the sector is restored and the market returns to a well-functioning level, there would be no further need for such intervention and the same can be removed.

1.11. Conclusion

- There is financial distress in the telecom sector, characterized by declining revenues, losses at the EBIT level and negative returns.
- Revenues have declined on account of sharp decrease in ARPUs, despite the exponential growth in traffic volumes. In fact, with such growth in demand any industry should have been giving attractive returns to investors. However, the industry has missed a great opportunity of creating returns to support future investments in digital India because of prolonged period of selling below costs. There are no other avenues available for increasing telecom revenues in the immediate short term for the Indian TSPs other than an increase in tariffs.
- Telecom services are an essential service and therefore the fate of the industry cannot be left to the market to correct itself (which appears most unlikely), given the financial stress. Such financial stress if not addressed, may result in further bankruptcy and exit in the

market, which may even lead to a state of virtual monopoly and absence of adequate competition in the market.

- There are adequate precedents available within India of regulatory/ Government action to address the financial stress in other industries.
- Increase in revenues to stabilize the industry will require the support of the regulator, otherwise the current stress would continue and would further worsen the financial health of the industry.
- An interim solution with a much-needed immediate effect would be regulatory floor tariff fixation.
- By ensuring that revenues cover costs (along with a reasonable rate of return, being the cost of capital), the industry's concern about losses going forward due to the unviable pricing can be addressed.
- This would address the current financial distress that the industry is facing and would also result in consumer benefits (in terms of better technology and quality of service).

**2. Do you foresee any need for change in TRAI policy of forbearance in tariffs?
Please give reasons for your response.**

TRAI defines regulatory forbearance as “*enforcing regulation where it is needed and withdrawing from those parts of the market where it is no longer necessary.*”²³ Accordingly, tariff forbearance has been clarified to mean not introducing price regulation when “*markets are functioning in a competitive manner.*”²⁴

However, the Indian telecom sector plagued by deep financial stress (due revenues being unable to recover costs for a prolonged period) cannot be characterized as a well -functioning competitive market. Specifically, the key distinctions between the Indian telecom sector and a perfectly competitive market are as follows:

- TSPs are not homogenous – they use different technologies for historical reasons, i.e., 2G, 3G and 4G. Further, operators have obligations to continue to service their consumers relying on these technologies. The choice of device / technology is not the prerogative of the operator but that of the consumer.
- There are significant barriers to entry in the telecom market in current situation where existing operators with huge investments are in losses. With the exit of most TSPs, a

²³ https://main.trai.gov.in/sites/default/files/CP_Review-Policy-Forbearance-Telecom-Tariffs.pdf

²⁴ https://main.trai.gov.in/sites/default/files/CP_Review-Policy-Forbearance-Telecom-Tariffs.pdf

revival of competition in the market would be almost impossible and the change would be irreversible. Entry by a new operator if exit is made by any existing operator will be very capital intensive, given the same risks. The existing investments could also become non-revenue earning. Therefore, the possibility of a player exiting and being replaced with a new player is virtually non-existent in a market.

- To the extent that certain TSP has the ability to set tariffs, others need to follow the price change to not lose a significant subscriber base. Otherwise, a lower subscriber base will result in even worse distress, as lower usage will imply a lower revenue.

Our justification for the recommendation to deviate from forbearance in the current scenario is provided in the following paragraphs.

2.1 The market is unable to recover from its current state, implying the need for regulatory intervention

Generally, economic theory suggests that markets by themselves can address any pricing related anomaly (as suggested by Adam Smith and his theory of the “invisible hand”). This has been highlighted in the consultation paper as well: “*the “invisible hand” of market, through free interplay of forces of demand and supply delivers the best result.*” There are three reasons for questioning this view:

- *The “invisible hand” theory does not always hold:* As stated by Nobel Prize winning economist, Joseph Stiglitz, “Adam Smith's invisible hand - the idea that free markets lead to efficiency as if guided by unseen forces - is invisible, at least in part, because it is not there.”²⁵ Frank Hahn, a prominent economics lecturer at Cambridge University, argued that “We have no good reason to suppose that there are forces which lead the economy to equilibrium.”²⁶ Thus, according to Stiglitz, government/ regulator does not just have a role to play in an economy, rather it is integral.
- *The markets can take a long time to correct themselves:* Given the financial stress in the industry with considerable number of exits and surmounting losses of TSPs, it will not be prudent to wait to see whether the market will correct itself or not. In fact VIL has already waited for more than a year after the industry consolidation has been completed, with the situation continuing to deteriorate from bad to worse. Such a situation may result in further

²⁵<https://www.theguardian.com/education/2002/dec/20/highereducation.uk1>

²⁶<https://hbr.org/2012/04/there-is-no-invisible-hand%20https://economics.com/death-invisible-hand-narrow-pursuit-self-interest-always-fails/>

bankruptcy and/or exit from the market thereby severely limiting the competition in the market.

- *Intervention when needed is one of TRAI's functions:* The very fact that TRAI has been given the power to regulate tariffs in the telecom sector when needed, implies that this market cannot be left to the “invisible hand” at all times. For different reasons as considered appropriate, the TRAI has used floor tariffs in the past on certain occasions.

2.2 Tariffs are not correcting to result in financial sustainability, even though most TSPs are operating where revenues are below costs

Due to the deep financial stress mentioned above, there is a need for the industry, including VIL, to increase tariffs adequately to cover expenses. However, under the current circumstances and the history of decline in tariffs in India, TSPs in general are unable to revise tariffs to the level required to address the financial stress. In fact, the competitors in general are also making significant losses. The inability of TSPs to increase tariffs such that it leads to financial stability despite deep financial problems over the recent years reflects a problem in the market.

The incumbent operators provide services using 2G, 3G and 4G technologies due to historical reasons. The ability of incumbents to rationalize the technology used is constrained by its obligation to its existing subscribers who continue to use non 4G handsets. The bundled packs offered in the market by competition are below the tariffs of VIL. The ability of VIL to increase tariffs is seriously impacted due to tariffs seen in last three years including free services, voice being sold as truly free in the market and daily usage data plans (guaranteeing high data daily at extremely low prices). The tariffs have been increased recently by an amount which gives some respite but is far from enough to cover the costs and address the financial distress (more detail on this point is in response to question 4). To conclude, the TSPs are not able to increase the prices to recover the costs even though there is an immediate need for the same.

The incumbent operators provide services using 2G, 3G and 4G technologies, due to historical reasons. Broadband was introduced by the then operators in India in 2011 using 3G technology. This benefitted the Indian economy and set the stage for adoption of wireless broadband. In 2016, the new operator through free/ subsidized services created disruptive introduction and rapid adoption of 4G technology in India. The ability of the incumbents to rationalize the technology used is constrained by their obligations to their existing subscribers.

2.3 Forbearance does not prevent the regulator from exercising its jurisdiction under different circumstances

The policy of forbearance is not irreversible and if market conditions warrant, the regulator should intervene in the market. Recognizing this, considering the market's inability to address the financial distress of the sector in the recent years, we recommend that TRAI intervene and introduce price floors in the short run till the financial distress of the sector is overcome and financial viability is restored.

Such an intervention by TRAI is essential for it to be able to fulfil its role as stated in the TRAI Act of 1997: "to protect the interests of service providers and consumers of the telecom sector, to promote and ensure orderly growth of the telecom sector."²⁷ Given that 3 out of 4 TSPs are unable to recover their costs, the future of the telecom industry does not look encouraging, which would affect not just the TSPs but also consumers in the future.

The Government of India has recognized the financial turmoil plaguing the telecom industry and has been trying to act on the same to revive the sector with instruments at their disposal. For instance, in November 2019, the Union Cabinet approved Rs 42,000 crore relief to TSPs in India by not taking any payments for spectrum they use for the next two years.²⁸ This is welcome but not adequate to sustain the severe loss-making situation, as it only provides interim liquidity relief by deferring the payments, without addressing the issue of mounting losses.

Additionally, the Government continues to infuse funds into the public sector TSPs to sustain their operations. However, for the sector as a whole to be financially viable, it is pertinent that measures that support all TSPs such as tariff intervention is undertaken at this point to ensure stability of operational conditions. Measures to improve revenue by ensuring that tariffs cover costs and provide a reasonable rate of return to the investors would be more effective given the need to address the situation quickly. These are needed in the current scenario because other initiatives will not provide the respite that is required at present (explained in response to Questions 1 earlier and Question 3 below). Recognizing this, we request that TRAI temporarily introduce a floor tariff in the market to help the industry revive from the current turmoil. Such an intervention is essential at this point to avoid further bankruptcy and exits in the sector. Industry experts have warned against letting TSPs going bankrupt because it may "result in almost negligible competition and thus will create the possibility of monopoly in the telecom sector."²⁹

²⁷ TRAI Act, 1997

²⁸ <https://www.indiatoday.in/business/story/govt-gives-rs-42-000-cr-relief-to-telcos-defers-spectrum-payments-by-2-yrs-1621075-2019-11-21>

²⁹ <https://www.outlookindia.com/website/story/india-news-government-bails-out-telecom-sector-but-several-challenges-remain/342738>

Once the financial stress in the sector is overcome and most TSPs become financially viable, TRAI can review the policy on floor tariffs and consider re-instating forbearance.

In the absence of such an intervention, the forbearance policy may be incorrectly viewed as irreversible, and therefore as a policy that undermines TSP's incentives to invest any further money in the sector.

3. If the answer to Q1 is in affirmative, is fixing a floor price, i.e. a standing prohibition on TSPs not to offer services below a predetermined price level, the answer? Please give detailed reasons for your response.

Yes, as highlighted below, fixing a floor price is much-needed and the only immediate solution to address the financial stress in the sector.

3.1 Floor price is the only option which provides certainty in the immediate future for sustaining the industry while investments are made

As mentioned previously, the Indian telecom sector has witnessed unprecedented decline in revenue over a prolonged period of time. Given this market situation, there is an imminent need for an immediate relief measure by the regulator. Fixation of a floor price by TRAI seems to be the only solution as this will provide the much-needed immediate timely relief (before it becomes too late) with certainty and stability of operational conditions. This is based on the following analysis of the various alternative solutions to the current problem of financial stress in the sector:

- Laissez-faire: As discussed in our responses above, the approach of letting the market resolve the financial distress in the market without any regulatory intervention may not be ideal given the current state of the Indian telecom market, its importance to the economy and the society, and the immediate need for financial revival. The inability of the market to correct this issue in the last few years, demonstrates the need for regulatory intervention as a short-term solution.

Continuing with the current measure of letting the market try to resolve the situation may influence the ability of TSPs to continue operating in the market, given the current financial situation. If the ability of TSPs to operate in the market and provide their services is adversely affected, this will influence competition in the market and eventually the consumers. Specifically, if due to the financial stress in the industry, if TSPs were to be forced to exit the market, then competition in the market may decrease to the level that a TSP becomes dominant (or even a monopolist) in the market. In such a situation, TRAI may end up having to play a much more active regulatory role in terms of pricing, quality of service, investment in technology, etc. The resultant economic and regulatory costs

would thus be much greater in such a situation than the presently recommended solution of temporarily introducing a price floor.

- Encouraging firms to reduce cost and/or increase revenue streams: TSPs have been and continue to undertake measures to optimize costs (including various consolidation that has taken place in the industry in recent years). However, cost optimization initiatives, without compromising on quality and investments, may not be able to adequately address the stress in the telecom sector. Moreover, cost relief measures from government are also unlikely to completely resolve the current issue since as mentioned previously the key reason for the situation is the low tariffs and revenues in India.

VIL has taken and continues to take all measures to reduce its costs constantly to be able to provide most competitive services. This is in addition to cost efficiencies obtained through the merger and the ongoing integration. Over a period of last 2 ½ years, between FY17 and Q2FY20, VIL has reduced its operating expenses (excluding license fee, spectrum usage charge and roaming and access charges) by around Rs. 8,800 crores on an annual basis. VIL has taken further measures like rationalization of tower infrastructure, simplification of the tariff plans resulting in lower servicing cost and customer acquisition cost etc.

As previously mentioned, it is not possible to improve revenue of TSPs by exploring other avenues of revenue (a possibility suggested by TRAI in the consultation paper). Even if it were possible to develop them, it will take time. In the meantime, there is an imminent need to address the financial stress in the industry, which cost reduction and other revenue streams are unlikely to achieve. Since low unviable tariffs are the reason behind the low revenues and surmounting losses of TSPs, tariff rationalization such that it is in line with costs would be the appropriate solution. Therefore, while measures for improvement in operational efficiency will continue to be adopted by the TSPs, these cannot address the concern as quickly as a floor tariff.

- Price floor: A regulatory intervention to introduce a price floor would imply that the tariff cannot go below the minimum level prescribed by the regulator (including through discounts and other promotional offers). However, the TSPs would be free to determine the tariff at any level above the floor. Thus, while the price floor would subject the TSPs to a condition (adherence to a price floor that would improve the financial viability in the sector), at the same time, this measure provides flexibility to TSPs to charge any tariff above this level as deemed fit based on their business considerations. A price floor would be a recommended solution to the price war being experienced by the Indian telecom industry and the resulting financial distress. The key objective of having such a floor, as

discussed previously, is to enable TSPs to charge prices that enable them to recover their costs (along with a reasonable rate of return being the cost of capital), which would then help them avoid losses and enable them to make investments for better technology and quality. In the long run, the benefits from such a measure (in terms of consumer choice, better quality and technology) are likely to far exceed the short-run benefit resulting from consumers paying a lower price. This is already reflected in the current consumer experience, where the traffic congestion in networks driven by extremely low tariffs below costs are resulting in unsatisfactory consumer experience.

3.2 Floor price is a much-required interim solution to address the financial stress in the sector

Price floor is required as an interim solution to address the dire need to alleviate the financial distress in the Indian telecom industry. TRAI can on a regular basis conduct a review of the floor price including (a) its impact on the industry (including whether it has been able to achieve its objective of making the telecom sector viable for the TSPs) and (b) the need to revise the floor, continue with the same floor, or even remove the floor.

VIL is open to a preliminary review by TRAI a year after the floor tariff is introduced, followed by annual reviews so that the floor is at the right level and is in place only till the need exists. Whenever the review by TRAI indicates that the industry is out of the current financial turmoil and is likely to sustainably operate in a financially viable manner going forward, the price floor can be removed, and forbearance can be reinstated.

3.3 Apprehensions expressed in the consultation paper regarding floor prices may not arise in the Indian telecom context

The consultation paper has highlighted that regulatory interventions such as floor prices can encourage inefficiencies in the market. The paper quoted economist, Fiona M. Scott Morton: *“The imposition of price controls on a well-functioning, competitive market harms society by reducing the amount of trade in the economy and creating incentives to waste resources. Many researchers have found that price controls reduce entry and investment in the long run. The controls can also reduce quality, create black markets, and stimulate costly rationing.”*³⁰

This is a theoretical argument, and its practical application in case of the telecom market in India is limited.

³⁰ Paragraph 1.36. TRAI Consultation Paper No. 22/2019
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- Firstly, as discussed previously, the telecom industry in India today is experiencing an escalating price war and huge financial distress. It can therefore not be considered as “a *well-functioning, competitive market*” – inefficiencies generally arise when a price floor is implemented in a well-functioning, competitive market.
- Secondly, the decline in amount of data traded (consumed) is likely to be the over-consumption that consumers in India have been undertaking in recent years due to the “nearly free” data rates available in the industry. For instance, the current pricing structures in the Indian telecom market is such that anyone who uses 5GB of data to 28GB of data pays the same price. This means that a user who can manage with lesser use of data and hence less use of resources ends up using more because the pricing structure in the industry has moved away from pay more for consuming more. This is one of the reasons for the financial stress of the industry as the same subscribers have increased their consumption manifold without generating any additional revenue for the TSPs. Therefore, even if the amount of data consumed falls to some extent as a result of the floor tariff, its impact on consumers to meet their genuine needs is likely to be limited.
- Thirdly, with respect to price controls creating barriers to entry, the deterrence to entry is much greater currently on account of the huge financial distress that the sector has been experiencing. ***On the contrary, having price floors will provide confidence to all stakeholders through greater predictability and stability in revenues.***
- Finally, concerns about investment and quality deteriorating, black markets being created, and rationing due to price control are generally observed in the context of controls such as minimum wages wherein individuals may be employed off the book (at a lower rate), or because firms may not invest in their workforce. In the telecom industry in India, a strong regulator like TRAI, already does and will continue to monitor the sector to ensure no such issues arise in areas under its mandate.

3.4 Floor price has been used as a regulatory intervention to support the telecom sector in other countries

Globally and in India as well, price floor (explicitly or implicitly) have been introduced to support industries when they are in a state of distress. Examples of both floor price as well as other price measures which have the same effect have been discussed previously in response to question 1.³¹

Price floors have also been introduced specifically in the telecom sector by other countries when the sector was in distress. For instance, in 2009, the Sri Lankan telecom sector was experiencing an aggressive price war which led to an 80% fall in mobile tariffs between 2005 and 2010 and drastically reduced the margins in the industry.³² The Telecommunication Regulatory Commission of Sri Lanka introduced a price floor “to revert the uncertainty that this situation created in the industry and the diminishing investments by mobile operators.”³³ The floor price was set at USD 0.4 cents per on-net minute and USD 1.7 cents per off-net minute, with several subsequent revisions. As a result of the tariff floor, mobile cellular prices in Sri Lanka stabilized (Figure 5) while at the same time being among the lowest in the world. Meanwhile, financial performance of the telecom industry also improved as indicated by their net profits (Table 8) as did investments (Figure 6). If a similar approach is adopted by TRAI, India may also be able to address the financial distress in the sector while ensuring that services are available to consumers at affordable levels.

Figure 5: Mobile-cellular basket, PPP\$, Sri Lanka, 2008–2017



Source: *Measuring the Information Society Report 2018 – Volume 1 2018* by ITU

³¹ <https://pib.gov.in/newsite/PrintRelease.aspx?relid=154901>

³² *Measuring the Information Society Report 2018 – Volume 1 2018*. International Telecommunication Union (ITU). Page 107.

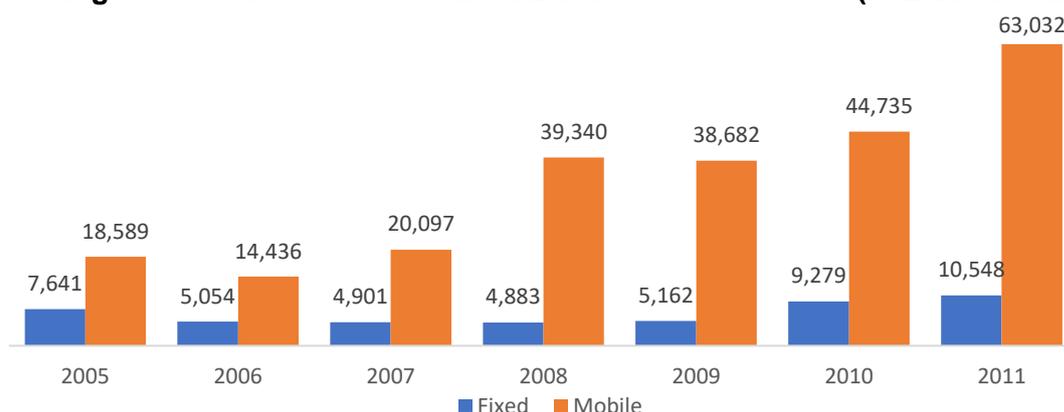
³³ *Measuring the Information Society Report 2018 – Volume 1 2018*. International Telecommunication Union (ITU). Page 107.

Table 8: Net profits of the mobile telephony industry in Sri Lanka

Year	Net Profit (LKR Millions)
2007	11,837
2008	(3,847)
2009	(21,082)
2010	(2,345)
2011	3,425

Source: *Impact of Floor Rate Concept in Sri Lanka's Telecom Industry*, Nishantha Paliawadana, Telecommunications Regulatory Commission of Sri Lanka

Figure 6: New investments in Sri Lankan telecom sector (in LKR million)



Source: *Impact of Floor Rate Concept in Sri Lanka's Telecom Industry*, Nishantha Paliawadana, Telecommunications Regulatory Commission of Sri Lanka

Similarly, the telecom sector in Liberia also introduced a tariff floor when the industry was going through a stressful situation quite similar to current state of the Indian telecom sector. According to the Liberia Telecommunications Authority (LTA), “mobile network operators have been forced into selling packages to outdo each other with offers below market cost and clearly not profitable creating market instability. The promotional packages have been popular but at the cost of diminishing revenue to providers. Diminishing revenue hinders innovation, diminishing revenue stalls infrastructural development nationwide, and diminishing revenue reduces the quality of service giving rise to dropped calls as network loads increase. As the national regulator, the LTA was compelled to intervene, stop the price wars and restore viability.”³⁴ The LTA estimates that due to decline in gross revenue from \$150 million in 2015 to \$92 million in 2018, there was a loss in value of over \$58 million within four years.³⁵ According to LTA, prices for calls “dropped from 14 cents per minute in 2014 to less than 1 cent per minute in 2017 and is still falling. Smaller service providers including Novafone and

³⁴ <https://frontpageafricaonline.com/business/liberia-new-floor-prices-to-affect-communication-in-liberia-ends-unlimited-calls-promo/>

³⁵ <https://www.liberianobserver.com/news/telecom-sector-has-lost-over-us58-million-in-price-wars/>

*Libercell, were forced out of the market, leaving only MTN and Cellcom, now Orange.*³⁶ Therefore, to end the “*market instability in the sector*”, LTA introduced a minimum floor price for telecom tariffs.³⁷ According to the LTA, “*The price floor is an appropriate response and an effective tool for price control when market forces fail as indeed they have.*”³⁸ LTA expects the floor price to promote efficient and sustainable competition in the market.³⁹

3.5 In certain circumstances in the past, TRAI has enforced floor prices for certain services / tariffs

TRAI has previously relied on price floors to improve the functioning of the telecom sector. For instance, while recognizing that it may increase the price paid by subscribers, in November 2012, TRAI introduced a floor price of 50 paise per SMS to disincentivize consumers from sending large number of SMS and protect them from excessive unsolicited commercial communications.⁴⁰ Previously, in 2001, TRAI had introduced a floor price of Rs. 450 for monthly rent from subscribers for Limited Mobility telephony service using wireless in local loop technology.⁴¹

4. Do you perceive a need to fix floor price despite the fact that the TSPs have increased their tariff recently? Please support your response with detailed justification.

Recently, VIL was left with no choice but to increase its tariffs, given its financial position and revenues being far lower compared to costs over an extended period of time. Thereafter other operators have also increased tariffs though to different extents. The market leader also increased its tariffs, but its tariffs are still 25% lower than that of VIL and, therefore, the underlying issue of ability to raise tariffs further to recover costs still remains. According to preliminary estimates, the increase in revenues due to recent tariff hike is only about 8% which is not sufficient to address the current financial stress. It may also be mentioned that this was the first increase in tariffs in the last 5 years. Such increases by other TSPs also is an evidence of the need for tariffs for services to increase in the sector.

The answer to the question 4 raised by TRAI depends on the response to the following:

- Are the tariff increases adequate to remove the financial stress?

³⁶ <https://www.liberianobserver.com/news/telecom-sector-has-lost-over-us58-million-in-price-wars/>

³⁷ <https://frontpageafricaonline.com/business/liberia-new-floor-prices-to-affect-communication-in-liberia-ends-unlimited-calls-promo/>

³⁸ <https://www.liberianobserver.com/news/telecom-sector-has-lost-over-us58-million-in-price-wars/>

³⁹ <https://www.liberianobserver.com/news/telecom-sector-has-lost-over-us58-million-in-price-wars/>

⁴⁰ 54th amendment of the Telecommunications Tariff Order (No. 6 of 2012 dated 5 November 2012)

⁴¹ The Telecommunication Tariff (Fourteenth Amendment) Order 2001 (24 May 2001)

- Even, if the answer to the above were yes, would this increase be sustained given the history of cut-throat price competition?

4.1 Whether the tariff hike can address the financial stress in the industry

The answer is no. The increased tariffs are not sufficient considering the current financial stress. Further, the revenue increase will not be to the extent of the increase in the tariffs. An analysis only basis the tariff charts as mentioned in Annexures to the Consultation paper should not assume that there is a corresponding revised tariff for a pre- revised tariff, which is not the case at all as the customer's behaviour for future choices may vary and there is no thumb rule that can be applied, that there is a definitive increase in tariff against each tariff plan. Further, there are revenues which will not be affected by the tariff hike (such as IUC revenue, fixed line revenue, MS, carrier, roaming and postpaid revenue) and therefore also the revenues are unlikely to rise in the same proportion as the tariffs. In fact, the recent price hikes cover only around 60 % of VIL's revenue base. Further, the plans which have a lower tariff hike see higher uptake and so the revenue increase is skewed towards the lower end of the tariff increase. There are evidences of increasing SIM consolidation. As a result, of all this the new tariffs are only a small step, but far from adequate to overcome losses and address financial stress.

4.2 Without a regulatory floor tariff, tariff hikes are unlikely to be sustained

There is no certainty that the tariff increases announced by TSPs would be sustained in the current environment. If the pricing behaviour of the market over the last 3 years is anything to go by, then there can be no assurance that this would be maintained and there would not be further reductions in tariffs. A further evidence of the same is the fact that immediately within a few days of announcing price increase in December 2019, new lower priced plans were announced by competitors. It is important to note that one of the operators has clearly stated that its propositions will continue to offer significant more value to its customer than competitors. In such a market situation of hyper competition, wherein despite having announced tariff hikes, TSPs are trying to undercut competitors, it is unlikely that tariffs and revenues can be effectively maintained at viable levels by TSPs.

Moreover, as mentioned above, the tariff increases in Dec'19 are far from adequate to cover the costs and address the financial stress. Ability of some of the operators to increase tariffs in the absence of intervention by the regulator is not there.

Even in a scenario wherein TSPs announce sufficient tariff increase, for some time there may be a need for regulatory intervention through a floor to ensure that tariffs continue to be at viable levels for an adequate period of time. Such a measure is pertinent because in the current market characterized by intense competition and price cutting, the tariff hike is unlikely to be sustained for long. A floor tariff would ensure that a situation of price war and financial turmoil similar to what is being experienced presently is not witnessed by the sector again in the immediate future.



From TRAI’s point of view, it should take all steps that are necessary to ensure that there is a competitive market with adequate number of TSPs and a situation where majority of TSPs are not only covering their costs but are earning reasonable rates of return to give them confidence to invest in future technologies, for which India cannot afford to wait. So therefore, it must take all steps to ensure that the current distress is relieved and not wait to see how the market reacts and then potentially deal with a situation, where some of the TSPs have been forced to exit. This wait for market forces to solve the situation has resulted in multiple exits already and there is no improvement in the situation. One point to be emphasized and understood is that while there may be some reduction in losses due to price increase, which may give the impression of improvement, but the reality is that however small the loss, it deteriorates an already precarious balance sheet of the companies and may force them to bankruptcy. **Hence, the reduction of losses does not solve the problem and it merely creates an illusion of improvement; it is only a return of profitability which can improve the balance sheets of the TSPs and address the financial stress.** Below table depicts the losses incurred by us –

Table 9

Financial Year/ Quarter	Loss (Rs. crores)
2016-2017	4,100
2017-2018	10,905
2018-2019	20,741
1 st qtr. 2019-20	4,908
2 nd qtr. 2019-20	50,898
3 rd qtr. 2019-20	6,453

As mentioned previously, given the current level of investments for new technologies, regulators/ government are virtually unable to attract any new player and have to rely on existing TSPs to build additional infrastructure and deploy new technologies.

Thus, given the uncertainty about tariff of TSPs being sustainably increased to levels that would make the industry viable in the immediate future (given the likelihood of a price war once again bringing down tariffs), a price floor would be an ideal interim solution as it would give certainty to the market at the time of such deep financial stress.

5. (a) What methodology should be used to fix floor price by the Authority and why?

Please give detailed methodology with calculations and supporting justification

(b) If a floor price is considered, what should be the mark up over the relevant costs for arriving at a floor price? Please give detailed calculations and justification for your response

5.1 Floor tariffs must cover the actual costs of the TSPs and provide a reasonable rate of return on capital, being the cost of capital, to TSPs.

The Floor Tariffs are being considered on account of the financial stress on the TSPs that has been explained at length in the response to the previous questions. The financial distress has occurred due to:

- Free services by new operator for a long period followed by voice continuing to remain free till Oct'19
- Exceptionally low tariffs resulting in steep decline in revenues over last 3 years
- Pricing plans with very high daily limits of data use. This has resulted in a situation where users with monthly consumption of 3GB to 28GB per month pay the same price, which is against the basic economic principle of paying more for higher consumption. This has crippled the industry which has ironically seen steep decline in revenues, despite an explosion of data use.
- Inability to recover the cost and returns on investment being negative

- The present situation is unsustainable unless the revenues cover costs in a predictable and sustainable manner for a period which allows new investments that are needed in the evolving market
- A floor price is the most apt regulatory intervention in the given situation to provide such predictability and stability of the operational conditions to address the major financial stress faced by the industry

Any methodology used to determine the floor tariffs must ensure that the actual costs of the TSPs are recovered, together with a reasonable rate of return on capital deployed to ensure that the further investment in the network continues.

5.1.1 Relevant costs to be considered

The costs considered should be the actual costs incurred to provide mobile services

Actual costs would cover the reported costs of all goods and services consumed to provide mobile services to consumers. Therefore, all actual expenses incurred for providing mobile services e.g., network expenses and IT costs, licence fees and spectrum usage charges, access charges, depreciation and amortisation, marketing, customer and service costs, and employee costs and any other expenses incurred for providing services should be included in the cost base (any one-time non-recurring cost such as impairment may be excluded). Together, these costs should be considered as the relevant costs for the purpose of estimating the floor. The reasons for considering all costs incurred by a TSP on an actual basis in our proposed methodology are as follows:

- In other sectors where regulators determine the tariffs, they use the actual costs incurred by the service providers in their computations. There are several precedents from the electricity sector and the airport sector where such an approach has been considered.⁴²
- The objective of the regulatory intervention is to address an actual situation of financial stress which cannot be addressed using estimates other than the actual costs incurred. If we address only some costs and the losses continue, then the financial stress would remain unaddressed.
- Since the objective of the floor price mechanism is to cover costs and ensure a reasonable return on capital, all costs incurred are relevant costs, as return on capital is only possible when the all costs are fully covered.

⁴² <http://aera.gov.in/upload/uploadfiles/files/guidelines/188.pdf> and <http://pserc.gov.in/pdfs/chap2.pdf>

- An advantage of using actual costs vis-à-vis any other cost-concept such as forward-looking costs is that these are easy to identify and can be audited and verified.
- Estimation of costs based on other concepts such as forward-looking costs, could result in under- or over-estimation of the actual costs, which would not be the correct way of addressing the prevailing financial stress. In any case since the floor price is subject to review, impact of any change in actual costs in future can be a part of the review process of the floor price levels.
- The use of actual costs to establish a floor price would also encourage investments as they provide certainty to the operators that all the actual costs would be recovered.

The reported costs in the latest quarter should be used

TRAI should consider costs on the basis of the costs reported for the latest quarter for which financial information is available. If this exercise were to be undertaken now, then the latest available information is for quarter 3 of the financial year 2019-20. Latest financial information reflects the most current financial position and health of the sector. Since floor tariffs are being considered to alleviate the immediate financial stress, these costs are the most accurate and relevant representation.

These quarterly numbers can be annualised by TRAI for the purposes of the estimating the annual expenses being incurred.

The choice of TSP whose actual costs should be considered

Given that there are only four surviving TSPs (including one public sector operator) in the country, it should be ensured that the floor prices computed by TRAI should cover the costs and provide a reasonable return on capital to all these operators or at least majority of the TSPs. Hence, VIL suggests that the actual costs of the TSP having the highest or the second highest costs should be considered to determine the floor price. The rationale for the same is as follows:

- The objective of the regulatory intervention is to create conditions so that unsustainability due to financial stress does not cause the exit of most TSPs, thereby leading to a virtual monopoly in the Indian telecom market.

- Under the M&A guidelines issued by the Department of Telecommunications (DOT), a limit of 35% has been placed on the spectrum holding by any entity in any geography. By implication, DOT is suggesting that there should be at least 3 TSPs in any geography.⁴³

5.1.2 A reasonable return on capital employed is essential to attract investments in the sector

In addition to considering the total actual costs incurred by the selected TSPs, the floor tariffs should also provide for a reasonable rate of return on capital employed. The rationale for accounting for the same is as follows:

- To address the financial stress of the sector and encourage future investments it is pertinent that there is an adequate rate of return. Notably, the telecom business entails large investments made upfront in the form of fixed assets, spectrum and working capital.
- The inclusion of a reasonable rate of return being the cost of capital in the cost estimate is a precedent that has been used by TRAI in the past.⁴⁴
- This is a standard principle that is followed by other regulators while evaluating and setting tariffs. For instance, this practice is followed in tariff computations by the CERC (Central Electricity Regulatory Authority) and State Electricity Regulatory Commissions (SERCs) and AERA (Airports Economic Regulatory Authority).⁴⁵
- Sustainability of a business requires a rate of return on capital. Without that the TSPs would ultimately exit the market.

The capital employed by the TSP can be computed using one of the two methodologies:

- It can be taken as value of net fixed assets (i.e. the sum of net value of property, equipment etc. and written down value of the spectrum)
- Alternatively, this can be taken as the sum of net worth and interest-bearing financial liabilities.

Given that the in Q2FY20 private operators accounted for the AGR liabilities and related losses while reporting the net worth, the net worth and interest-bearing financial liabilities do not

⁴³

<http://dot.gov.in/sites/default/files/Amendment%20dated%2030.05.2018%20in%20Merger%20and%20Acquisition%20guideline%20dated%2020.02.2014.pdf?download=1>

⁴⁴ TRAI Telecommunication Tariff Orders and Telecommunication Interconnection Usage Charges Regulations, <https://main.traai.gov.in/release-publication/regulation>

⁴⁵ <http://aera.gov.in/upload/uploadfiles/files/guidelines/188.pdf> and <http://pserc.gov.in/pdfs/chap2.pdf>

reflect the correct capital employed in the business and hence in the current scenario it is reasonable to consider the first approach of taking net fixed assets as the capital employed.

5.1.3 Revenue requirement for floor tariff fixation

The sum of all the costs as described above and the return on capital employed should be the revenue requirement that should be considered for the purpose of determining the floor tariff.

5.1.4 Computing the revenue requirement for data services after adjusting for actual non-data revenues (primarily voice)

To determine the floor price for data, the revenue requirement for data services may be computed by reducing the revenues accruing from non-data services (primarily voice services) from the total revenue requirement as per point 5.1.3 above. The following revenues from non-data services (primarily voice services) should be reduced to arrive at the total revenue requirement for data services:

- Revenue attributable to voice in bundles (where a per minute tariff is not specified) @ 6 paise / minute for outgoing calls (off-net & on-net), which represents the cost of voice as determined by TRAI, and which is also close to the current voice cost level for VIL (without considering any return on capital which has to come entirely from data revenue, due to the significant growth in the data traffic relative to voice traffic). Hence, from all points of view 6 paise per minute is the right cost or revenue credit attributable to voice.
- Actual revenues for all other non-data services (including metered voice and IUC revenue on incoming calls)

The revenue requirement for data services will need to be further grossed up for higher License Fee and SUC payable at the level of floor tariffs.

5.1.5 Computing the per unit cost of data

Per unit cost of data can be computed by dividing the revenue requirement for data services as determined by the methodology given in 5.1.4 above by the actual amounts of data carried by the network.

5.2 Essential tariff items in floor price -

5.2.1 The floor price must include a subscription fee/charge and price per unit of data

The methodology of arriving at cost of data as described in 5.1.5 above, if applied for floor price, will assume that the revenue requirement can be recovered on the basis of per unit usage of data. In a way, this will further assume that all costs are variable in nature and costs would change (increase or decrease) with change in usage. However, in practice, **most of the large cost items in the telecom sector are semi-variable in nature with elements of both fixed and variable components.** For instance, a TSP would have to deploy a given size of network irrespective of the amount of data its subscribers consume. The network size is then expanded depending on the voice and data traffic of the TSP. Similarly, costs such as spectrum investments, employees, advertising and business promotion etc. are fixed in nature in the short run. It is therefore very difficult to be able to break costs in the telecom sector between fixed and variable components.

The mobile services provided by TSPs comprise of voice, data, SMS and other value-added services such as roaming.

Further, there are different types of plans as follows:

- Standalone packs i.e. plan only for voice or only for data
- Bundled packs for both data and voice
- Metered plans (where subscribers pay on a per minute/ per GB basis for voice and data respectively)
- Unlimited plans where a subscriber pays a fixed amount for a certain number of days (e.g., 28 days) for making unlimited calls and using large amounts of data (often subject to a limit on data available per day e.g. – 1GB/day or 2GB/day).

Thus, the tariffs of services provided by TSPs are packaged in different ways including bundled packs for both voice and data and/ or unlimited packs for voice/ with data.

While determining the methodology to be used to fix the floor price, these intricate features related to tariffs and the different categories of services need to be taken into account.

In the current scenario, the Indian telecom sector has subscribers who are on either 2G/ 3G/ 4G networks. They are serviced by service providers who either operate 2G and 3G only (MTNL and BSNL) or only 4G network (Reliance Jio) or 2G, 3G and 4G networks (VIL and Airtel).

Further, there are many subscribers of MTNL, BSNL, VIL and Airtel who avail only voice services (approximately 50% of the total pan India subscriber base for all operators). These consumers choose to use only 2G/3G handsets and have not yet migrated to 4G handsets / services. Mostly, the voice only customers comprise of individuals and families with limited

budgets to spend on telephony, and as a result they do not have the ability to change their existing non 4G handset or to subscribe to data packs/ bundled packs/ unlimited call packs.

Given this, ideally, consumers should pay some level of fixed subscription charges to recover some of the fixed component of costs. **Specifically, TSPs need to incur certain costs to ensure availability of network at all times, irrespective of whether it is used by consumers or not and independent of the level of traffic at any point of time. It is therefore appropriate to require consumers to pay a certain fixed fee for availability of such connectivity irrespective of their usage, which is termed as subscription/connectivity charge.** Such subscription charge helps in rationalization of usage charges to different category of consumers, once a consumer has committed to use the network for accessing data. Such usage charge, in this case, per GB data price, encourages higher usage and therefore better utilization of the network. It therefore balances the needs of the consumers and the TSPs.

There are precedents available from both within the telecom sector and other sectors, like electricity, where tariff charges are a combination of subscription and usage charges.

In our view, any floor price to be meaningful and relevant in present context must have subscription charge/fee.

In this construct usage charge will be additional to subscription charge.

This proposed construct is explained below:

1. Fixed Subscription/Connectivity Charge as Floor Price for each plan period:
 - a. For voice only subscribers
 - b. For data only subscribers
 - c. For subscribers who use both voice and data.
2. In addition to above, voice usage to be charged as follows: –
 - a. All off-net outgoing calls at a Floor Price per minute
 - b. Unlimited Voice Plans/ Vouchers at a Floor Price assuming a fixed minutes attributed to unlimited plans.
 - c. Only on-net outgoing calls under forbearance, subject to above

3. Similarly, in addition to a floor subscription/connectivity charge and a floor voice charge, a floor price for data on per GB basis whether provided standalone or as bundled.
4. Floor Price for any bundled plan will be a combination of floor price calculated for all three elements of the bundle as explained above.

5.3 Floor price needs to be defined such that low-end consumers are least impacted

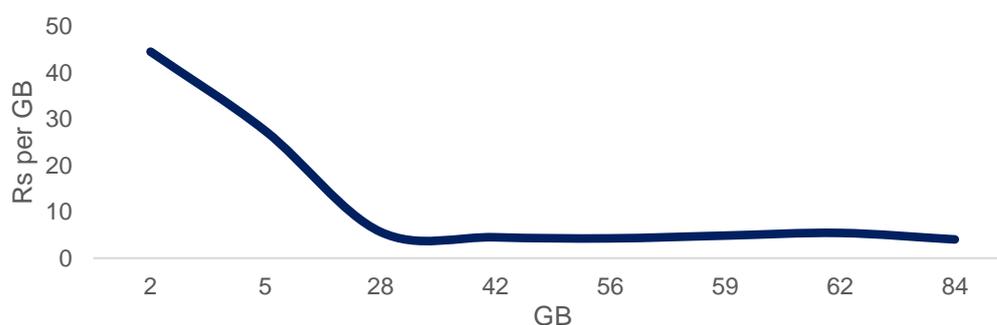
As mentioned earlier, any change in revenues with change in tariffs is dependent upon various factors like change in consumer’s willingness and ability to pay, subscriber usage behaviour, and consumption pattern.

The key endeavour while defining the price floor should be that customers who have low paying capacity and who need minimum connectivity for voice/ data should be least impacted.

It is seen that by paying a small additional fee, high consumption users enjoy the ability to use multiple times more data compared to customers who have low paying capacity and who need connectivity for certain amount voice/ data only. For example, for one operator for Rs.129/- per 28 days, a subscriber with one TSP can enjoy up to 2GB in the said period. However, for Rs. 199/- i.e. additional amount of Rs.70/- the subscriber can enjoy 1.5 GB per day i.e. 42 GB in 28 days period. Similar packs are available with all operators with some variation in MRP.

The similar trend is seen also in VIL tariff plan (mentioned in Annexure II of the Consultation Paper) which is shown in figure below: -

Figure 7: Average price/ GB of consumption



Note: Based on 28 days plans for VIL as presented in Annexure II of the Consultation Paper. It may be noted that voice revenues are assumed at Rs 60 and assuming full usage of the data as per the plan

Considering that losses are being made by the TSPs, one clear imperative that emerges is that there should be fair recovery of consumption and payment should be as per the use. High

consumption customers cannot enjoy subsidized rates at the cost of the TSP or the low usage customers. Higher consumption should come at a higher price.

Detailed working of the methodology at arriving at revenue requirements and some suggested floor tariffs using the actual data of VIL for Q2 FY20 is provided in Annexure 1- Section 1.

6 Considering that cost of delivery of telecom services is likely to be different for different TSPs, what parameters should be considered to decide floor price and why? How can it be ensured that such a floor price fixation exercise does not result in windfall profits to few TSPs? Please give your response with detailed reasoning.

VIL firmly believes that the costs of the TSP having the highest or the second highest cost structure determined in accordance with the methodology provided in response to Question 5, should be considered to determine the floor price. This recommendation is based on the recognition that the objective of the floor price is to relieve the financial stress in the sector and ensure that there are adequate number of viable TSPs, so that customers' choice and competition is ensured. It may also be noted that globally, countries now find it impossible to increase the number of players in their market for ensuring competition.

Therefore, it is important that TRAI chooses highest or the second highest cost operator, **depending on how many financially sound operators TRAI wishes to have at a minimum.**

In our view, TRAI should consider the same for the following reasons:

- Under the M&A guidelines issued by the Department of Telecommunications (DOT), a limit of 35% has been placed on the spectrum holding by any entity in any geography. By implication, DOT is suggesting that there should be at least 3 viable TSPs in any geography.⁴⁶
- By considering the actual costs of , say, the third highest cost operator and ensuring that a floor tariff is set such that the third operator earns a reasonable rate of return on capital, TRAI would ensure that there are at least 3 operators in the sector, whose business can be financially sustained. However, if the TSP with the second lowest cost is considered by TRAI, then it is possible that the market may end up with just 2 players.

⁴⁶

<http://dot.gov.in/sites/default/files/Amendment%20dated%2030.05.2018%20in%20Merger%20and%20Acquisition%20guideline%20dated%2020.02.2014.pdf?download=1>

- Historically, it is noteworthy that as early as 2001, India has followed a policy of allowing at least 4 TSPs in any geographical area.⁴⁷

A floor price would be a short-term measure towards ensuring viable tariffs and dynamic efficiency (markets should be competitive and efficient over a period of time and not just at a particular point of time), which would result in consumer benefit and social welfare. This situation could for the temporary period result in a short-term higher return to some operator(s), which if required can be addressed through subsequent changes in floor price construct based on annual reviews. Alternatively, without a floor price, the financial distress could create a virtual monopoly situation with a longer period of high profits for the remaining operator due to absence of effective competition. The second situation would result in irreversible damage and consequences to the industry.

As has been said earlier, the floor price is being recommended as an interim measure to stabilise the market at the earliest. TRAI can review this impact of floor prices after seeing the results post completion of a reasonable period of time from the effective date and thereafter on periodic basis. If TRAI comes to a conclusion that players are making a windfall gain, then TRAI can take appropriate measures to address the same.

7 Is there a need to fix floor price for mobile data service? If yes, can such floor price be applied uniformly to different categories of subscribers such as retail consumer, corporate, tendered or otherwise contracts, segmented and any other including one on one? If it cannot be applied uniformly, will it not result in discrimination between various categories of subscribers? Please give your answer with detailed reasons and justification.

As explained in answer to question number 5, yes there is a need to fix the floor for mobile data services.

Further, in our view such floor price should be applied uniformly across different categories of subscribers to ensure due compliance and meeting the overall objective of alleviating the financial distress. This position has also been taken by COAI in its letter dated December 3th, 2019 to TRAI which has been annexed to the consultation paper.

8 What should be the basis and methodology for floor tariff fixation for mobile data service? Give detailed justification and calculations for your response.

Please see response to question 5

⁴⁷ A bid for cellular licence for a fourth operator was introduced in January 2001. Source: C1 – Vodafone Idea External

9 What should be the representative cost for fixing a floor price for mobile data service? Give detailed calculations and justification for your response.

Please see response to question 5

10 Should fixation of floor price be considered for voice calls also? Please give your comments with detailed justification

Answered in response to question 5.

11 If the answer to Q10 is affirmative, given that different technologies are being used to provide voice services (2G, 3G and 4G), what should be the methodology used to arrive at a floor price for voice services? Please give detailed calculations and justification for your response

Please see response to question 5.

Currently, the consumers are availing the voice services using different technologies - 2G, 3G and 4G. This choice is solely that of the consumer and the service provider has limited decision making power in transitioning consumers to other technologies. The choice of Mobile Number Portability and presence of multiple players in the Indian telecom sector ensures that the consumer has enough choice to move to other TSPs, if they are not satisfied with the services provided by the current service provider. Therefore, there is no supply-side incentive or disincentive which has resulted in the current mix of the 2G, 3G and 4G consumers. The transition would take time and is dependent on consumer choice.

2G and 3G are being used mostly by customers at bottom of pyramid and any kind of haste to shift them to the advanced networks like 4G may come at either the cost of increasing their expenditure. e.g. abandoning existing 2G handsets for a new 4G handset.

Therefore, apportioning costs and determining prices on the basis of the network technologies must be avoided.

12 Should there be any limit on TSPs to offer free offnet calls? Please explain your response with justification

As a principle, VIL believes that tariffs should reflect the costs incurred in providing the services. In a case where other operators network is being used to complete the call, that operator should continue to be compensated for the usage of his network. Therefore, in order to avoid any loading of other operators' network without adequate cost compensation, all off-net calls should be having a floor price.

13 If your answer to Q12 is affirmative, how should unlimited voice calls be defined? Please give your comments with detailed justification

Unlimited calls can be defined as a plan wherein TSPs offer unlimited calls of any type(s) but there is a certain limit of calls beyond which calls are chargeable on per minute basis. In VIL's view such limit should not exceed 1000 minutes. It may be noted that the average MOUs per subscriber are 700 per month at present including incoming minutes.

14 If a floor price is considered, should there be any floor price prescribed for bundled offers, including those having unlimited voice calls and data? Please give your comments with methodology and detailed justification

Please see response to Question 5.

There must be a floor price prescribed for bundled offers, including those having unlimited voice calls for the following reasons:

- Floor price is being requested for bringing financial stability to the industry. By not having any floors for bundled offers, effectively this implies that there would not be any floors for either data or voice services since TSPs can convert all their plans into bundled plans. As an example, on a pure data plan, one minute of voice call can be added to convert that into a bundled plan and get around the floor price regulation. Hence, for the floor price regulation to be effective, there is a necessity to have floor price on bundled plans.
- All bundled plans must comply with the floors that the TRAI prescribes for data usage including any fixed monthly subscription charges. Floor Price for any bundled plan will be a combination of floor price calculated for all three elements of the bundle as explained in [5.2] above.

15 If a floor price is considered, should there be a price ceiling also to safeguard consumer interest? Please give your comments with detailed justification.

As mentioned previously, floor tariffs are being requested to address the issue of financial distress as an interim measure till the market stabilizes. Ceiling tariffs are prescribed, when competition in a market is limited/ when there is a monopoly or there are very few operators to avoid the possibility of excessive prices being charged. The need for a price ceiling is therefore relevant only if the telecom market in India was to experience further consolidation/exit such that effectively leaves only 1-2 TSPs in the market.

Thus, if TRAI feels the need for a ceiling in the future, it can examine the same at that point of time. Therefore, to address the present issue, determination of a price ceiling is not required.

16 If your answer to Q15 is in affirmative, what should be the methodology used for fixing a price ceiling for mobile data service, voice service and bundled offers. Please give detailed calculations and justification for your response

No response required, given the response to previous question.

17 Should all the tariff plans (retail consumer, corporate, tendered, or otherwise contracts, segmented and any other including one on one) offered by the TSPs be subject to floor price tariff orders? Please give detailed justifications for your answer.

Yes, all tariff plans should be subject to the tariff floors that would be notified by TRAI. Further, in our view such floor price should be applied uniformly for ensuring due compliance and meeting overall objective of relieving the financial stress. This position has also been stated by COAI in its letter dated December 3th, 2019 to TRAI and annexed to the consultation paper. This position is being undertaken for the following reasons:

- The intent of floor tariffs is to provide financial stability to the sector. To ensure the same, appropriate tariffs in line with the floor would have to be collected from all subscribers.
- Differentiation between types of consumers can be misused as a result of which the floor tariffs may end up being ineffective.

In a situation of floor price, even the segmented offers should comply with the floor prices. This is without prejudice to the current position regarding segmented offers.

18 How can it be ensured that all the tariff plans of TSPs (retail consumer, corporate, tendered, or otherwise contracts, segmented and any other including one on one), comply with the floor tariff orders? Please give you response with detailed justification.

This can be ensured by filing of plans of retail customers with TRAI, providing periodic undertakings regarding corporate, tendered, contracts, segmented offer, providing non-confidential information in this regard to TRAI and back end billing and metering checks.

19 Any other relevant issue that you would like to highlight in relation to the above issues?

As mentioned previously, the price floor is being suggested as an interim measure which would be subject to regular review by TRAI and can be removed once the financial distress goes away. Other key points to highlight are as follows:

19.1 Orderly transition of technology and investments made in the same need to be considered

Para 1.16 of the paper states “Traditionally, the Indian telecom sector has been voice driven. However, over the past couple of years, the Indian telecom industry has been going through a paradigm shift from a voice-centric market to a data-centric market. The shift can be attributed to technological transformation from 2G to 4G network coupled with changing preference & demand pattern.”

The consultation paper seems to ignore the role of 3G technology. It is pertinent to note that both the 2300 band spectrum used for 4G technology and the 2100 spectrum that was used for 3G technology were auctioned in 2010. The TSPs who took the 2100 spectrum immediately launched 3G technology in 2011, which enabled the first wireless broadband services in India and led to initial growth of data users and traffic. The shift from voice to data took place in India with this introduction of 3G technology (and not directly from 2G to 4G as the above commentary seems to suggest). Interestingly, the TSPs who won the 2300 band spectrum in 2010 launched LTE services only in 2016 because until then there was no business case for LTE services as the ecosystem did not exist (this is evidenced by the fact that most winners of the spectrum - Qualcomm, Tikona, Augere, Aircel – were forced to either trade the spectrum or merge). Thus, by launching 3G services in 2011, VIL and other TSPs made broadband internet available to consumers 5 years earlier than what would have been the case if 4G was directly introduced in the country. Relevance of 2G and 3G technology in India is highlighted by the fact that the public sector TSPs operate on these technologies and have not yet invested in 4G technology.

Thus, while comparing costs across TSPs, TRAI should be cognizant of the effort involved and therefore cost incurred by VIL and other TSPs who made broadband available to consumers in India from 2011 itself. Additionally, the transition from earlier technology (2G/3G) to new technology (4G) and its practical implications on cost and price would have to be considered. For instance, as mentioned by TRAI in Para 2.17 of the consultation paper, 500 million customers rely on 2G technology and there is a higher cost being incurred to service these customers. If these costs are ignored and only costs related to the new technology are considered by TRAI while determining the tariff floor then it would question the regulator’s standpoint with respect to ensuring availability of telecom services to all consumers.

19.2 Comparison of cost data from ASR and revenue information from financials of VIL is not appropriate

Para 2.19 of the consultation paper stated “As per the Accounting Separation Reports (ASR) submitted to TRAI by the TSPs for the year 2018-19, the data cost per GB for the leading TSPs varies from Rs. 4.40 (Rupees four and forty paise) to Rs. 11.19 (Rupees eleven and nineteen paise). The data cost for some non-TSPs is higher. As per the quarterly data revenue for the QE September’19 reported by the same TSPs, the data revenue per GB varies from Rs. 9.45 (Rupees nine and forty-five paise) to Rs. 15.25 (Rs fifteen and twenty-five paise). As can be seen, the data revenue is more than the cost per GB to the TSPs. In such a scenario, it needs to be considered if there is a need to fix a floor price for mobile data services, especially when the TSPs have announced a hike in tariffs.”

ASR reports were accompanied with operator specific accounting separation, covering business overview, segmentation, accounting principles, allocation methodologies etc.

ASR requires allocation of historical costs amongst different services i.e., Voice SMS, VAS, Data, IUC & Others (infra etc.). The computations are done as follows as stated in Operator - Specific Accounting Separation Manual submitted to TRAI:

- Allocate Costs from the General Ledger to the relevant Revenue / Service Centres, Network Elements (Both dedicated and common) and Support Cost Centre.
- Attribute the costs of support functions to Revenue / Service Centres and other cost centres, which will depend upon whether such costs are directly attributable, indirectly attributable or Un-attributable to services.
- Apportion the network element cost and financial cost to various services (the costs are inclusive of allocations from support functions) on the basis of relevant cost drivers.

With the incidence of bundled plans increasing in recent past, the data and voice revenue segregation cannot be based on actual revenue, which was earlier the case with separate voice and data packs but was based on apportioning of revenue between data and voice using varied methodologies by TSPs. In case of VIL, the methodology was based on using the previous month realised rates and current month usage to determine the apportionment in the current month between voice and data. This methodology had a strong base effect of skew of revenue towards voice which continued. Since most costs in ASR report were apportioned in the ratio of revenue, the skewed nature of voice revenue also resulted in a skewed nature of voice costs. The same was reflected in ASR for computation of costs. The other key change has been that the data traffic has grown rapidly and quite disproportionately to the voice traffic growth. This is significant

considering that as against growth of 2 times in Voice traffic between QE June 16 to QE Sep 19 the growth in data is 74 times during the same period.

The ASR Reports have been submitted based on a framework which was established in the year 2004 with later guidance given in 2012 and 2016. On certain occasions it has been pointed out by the operators that the relative significance of voice and data has changed in a major way. The TRAI itself has recognized the change in the operational conditions that reflect the immense importance of data in comparison to voice.

As said earlier this is both because of the growth and absolute importance of data, and the proliferation of bundled plans as the main method for competitiveness in the market. This has shifted the relative share in costs that need to be allocated for regulations which will sustain the industry in the present situation. This requires a change in the established framework for ASR, to reflect present conditions.

In this background, for the exercise being conducted by the regulator, we submit the relevant cost allocations (on more relevant basis of resources used for data and voice) as given in Annexure 1 Section 2.

Annexure 1 to Vodafone Idea Limited's Response to TRAI's Consultation Paper on Tariff Issues of Telecom Services dated 17 December 2019

Section 1

This section refers to VIL's response to Question 5 of the Consultation Paper. Detailed working of the methodology at arriving at revenue requirements and suggested floor tariff using the actual data of VIL for Q3 FY20 is provided hereunder.

(A) Revenue requirement for floor tariff fixation (Refer Para 5.1.3)

Calculation based on the VIL's Q3, 2019-20 (excluding IND AS 116 impact)* actual financial results are presented below:

Computations using VIL's Q3FY20 results (INR crores)		
1	Costs to be recovered	
1.1	Employee benefits expense	611
1.2	Network expenses and IT outsourcing cost	4,797
1.3	License fees and spectrum usage charges	1,204
1.4	Roaming and access charges	1,640
1.5	Marketing, Content, Customer Acquisition & Service Costs	1,026
1.6	Depreciation	2,335
1.7	Amortisation on Spectrum Fee	2,168
1.8	Other expenses	528
	Total expenditure to be recovered (1)	14,308
2	Return on Net Fixed Asset (Excl IND AS116)	
2.1	Avg Net Fixed Assets for Q3 FY20	1,69,089
2.2	Rate of return on capital employed**	15%
	ROCE @ 15% (product of 2.1 and 2.2) (2)	6,341
	ROCE Grossed Up for License Fee and SUC	7,288
3	Total Revenue to be recovered (1) + (2) = (3)	21,597

* IND AS116 is an accounting standard which from accounting point of view results in transfer of lease rental from network and other costs to depreciation & finance cost. Therefore, for the current purpose its impact is reversed.

**ROCE of 15% which is reasonable and in line with TRAI precedent⁴⁸

⁴⁸ TRAI Telecommunication Tariff Orders (57th Amendment) and Telecommunication Interconnection Usage Charges Regulations (13th Amendment)

(B) Computing the revenue requirement for data services after adjusting for actual non-data revenues (primarily voice)

		INR Crores
3	Total Cost to be recovered through Revenue (1) + (2) = (3)	21,597
4	Deduction of revenue sources other than data	
4.1	Actual revenues for all other non-data services (including metered voice, Voice in bundles @ 6 paise / minute for outgoing calls (offnet & onnet) and IUC Revenue on incoming calls)	(6,191)
4.2	LF/SUC on higher revenue	481
5	Total cost to be recovered from data revenue (3+4)	15,887

(C) Computing the per unit cost of data

Computations using VIL's Q3FY20 results (INR crores)		
6	Total cost to be recovered from data revenue	15,887
7	Actual data consumption	370
8	Data cost per GB (Rs.) (6)/(7)	42.9
9	Revenue attributed to Fixed subscription fee in the floor price model (Implied in existing plans)	(3,014)
10	Total cost to be recovered from data excl Subscription fee (6) + (9)	12,873
11	Data cost per GB excl Subscription fee (Rs.) (10)/(7)	34.8

(D) Floor Price Structure with fixed subscription fee

Elements of Floor Price Structure	Floor Price
Voice Floor Price (Rs per minute)	0.06
Minimum Subscription Price (Rs per plan period of 28 days for prepaid and one month for postpaid)	
Voice only Subscriber; or	40.0
Data only Subscriber; or	50.0
Voice and Data Subscriber	75.0
Data Floor Price Rs / GB	35.0

(E) NOTE ON FLOOR PRICE

1. Cost of Data as explained in Answer to Question 5 in the Response (summarized below)

The approach followed is as under –

- a. List down all the costs
- b. Add the figure of return on capital @ 15%
- c. Gross up the return on capital for license fee and SUC on incremental revenue required to cover these items
- d. Reduce voice contribution in bundles @ 6 paise / minute for outgoing calls (offnet & onnet)
- e. Take actual revenues for all other non-data services (including metered voice and IUC Revenue on incoming calls) and deduct the same from total costs, then add License fee and SUC cost on the higher revenue required to arrive at the cost which has to be recovered by way of data floor price.
- f. Divide the cost attributable to data plus the return on capital as the revenue required to achieve the objective of covering all costs and a 15% return on capital. By this methodology the cost comes to Rs 42.9 /GB

2. Floor Price Structure

The proposed floor price construct is as under –

- a. There must be some minimum subscription charges which are required to cover the cost of allowing the customer to access the network, even though the customer may or may not have actual usage. It is therefore essential that subscribers pay a certain fixed fee for availability of such connectivity irrespective of their usage, which is termed as subscription/connectivity charge. In order to have an effective floor price structure different elements of floor price have to be identified, so that the actual cost of incremental data usage is correctly determined.
- a. Hence, VIL suggests the following floor price structure other than data prices –
 - i. Rs.40 subscription fee for each voice only subscriber (includes subscribers who use data not exceeding 250 MB per plan period (28 days for prepaid and 1 calendar month for postpaid).
 - ii. Rs.50 subscription fee for each data only subscriber (i.e. no voice usage is permitted on such connections) per plan period (28 days for prepaid and 1 calendar month for postpaid).

- iii. Rs.75 subscription for subscribers who use both voice and data (exceeding 250 MB) per plan period (28 days for prepaid and 1 calendar month for postpaid).
 - iv. For Offnet outgoing calls, a charge of 6 paise per minute should be charged. (which has already been taken as a credit while determining net cost of data)
 - v. In case of unlimited voice offerings, the voice minutes should be taken as 1,000 minutes and a charge of Rs.60 per plan period should be charged.
- e. If the above subscription charges and voice tariffs are applied, then the required floor price of data to meet the objective of recovering cost and a 15% return on capital employed is Rs.35/GB, with the price applicable to offered data in the tariff plan. In case of any plans with daily limits, the offered data will be the daily limit x plan period number of days.

3. Impact of Data Traffic and revenue

The above prices will give a 15% ROCE if there is no change in usage / traffic. However, with any price increase there is bound to be a one-time correction in usage. Assuming a 30% reduction in usage compared to current levels, the ROCE based on the above floor price structures is expected to be ~ 8% only till the traffic gradually recovers to the current level of traffic. The actual trend of traffic and the ROCE can be revisited after observing the impact of floor price structure for 1 year.

Section 2

Annexure to Response – ASR Section

As explained in the response to question 19 with increasing data traffic and extensive deployment of data supporting technologies, total operating costs for Q3 FY20 is segregated into Voice, Data, SMS & VAS with logical drivers as explained below

- a) Cost line which are directly attributable to voice, data, SMS or VAS are allocated on actual basis.
- b) **Gbps** : Voice minutes converted into Gbps (conversion of 51.33 Kbps per Erlang) and data measured in Gbps at network level is calculated to arrive the single unit of measurement. Thereafter, ratio of voice (Gbps) & data (Gbps) is determined, out of the allocation to data 1% each assigned to SMS & VAS. These ratios are used to allocate costs like Employee benefits, connectivity & AMC, IT, Marketing, Customer Acquisition, Service & Other expenses.
- c) **Sites** : Cell Site running Expenses is allocated basis ratio of voice sites (2G) and broadband sites (3G & 4G)
- d) **Spectrum Quantity (Mhz)** : Depreciation is allocated basis ratio of voice spectrum (2G) and broadband spectrum (3G & 4G)
- e) **Spectrum Amount**: Spectrum Amortisation is allocated basis spectrum utilisation.

When cost is allocated basis above drivers for total costs, Voice cost per min is 6.2 paise and Data cost is Rs 26.8/GB before cost of capital . With 15% Return on Capital employed and applied to data cost then data cost increased to Rs 46.5/GB . Detailed breakup of cost is given below:

Q3 FY20		Total Cost	Allocation Methodology	Voice	Data	SMS	VAS
1	Costs to be recovered (INR Rs crs)						
1.1	Employee benefits expense	611	Gbps	48	551	6	6
1.2	Cell Site running Expenses	3,618	Sites	1,089	2,529	-	-
1.3	Other Network expenses and IT outsourcing	1,178	Gbps	93	1,062	12	12
1.4	License fees and spectrum usage charges	1,204	% of AGR	139	973	54	38
1.5	Roaming and access charges	1,640	Actual	1,503	-	137	-
1.6	Content	209	Actual	-	-	-	209
1.7	Marketing, Customer Acquisition & Service cost	817	Gbps	65	736	8	8
1.8	Depreciation	2,335	Spectrum Qty.	430	1,905	-	-
1.9	Amortisation on Spectrum Fee	2,168	Spectrum Amt.	477	1,691	-	-
1.10	Other expenses	528	Gbps	42	475	5	5
	Total	14,308		3,886	9,922	223	278
	Total MOUs (OG + IC) (Bn)	624	Voice Cost		6.2 paise/min		
	Data Usage (GB crs)	370	Data Cost		Rs.26.8 /GB		
			Including ROCE 15% on Net Fixed Asset		Rs. 46.5 /GB		

The above calculation is the correct separation of costs. We will revise the ASR filings on this basis going forward.