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Sub: AUSPI's Response to the TRAI Consultation Paper No.4/2011 on Review of Interconnection Usage Charges

Dear Sir,

We take this opportunity to express our gratitude to the TRAI for taking a progressive step by initiating a consultation process on Review of Interconnection Usage Charges.

We are sure that this initiative of TRAI will definitely pave the way for further reduction in tariff and will immensely benefit the consumer.

Please find enclosed herewith our response to the various issues raised by the TRAI in the consultation paper and request to take these views into consideration while reviewing Interconnection Usage Charge.

Thanking you,

Yours faithfully,

S.C.KHANNA
SECRETARY GENERAL

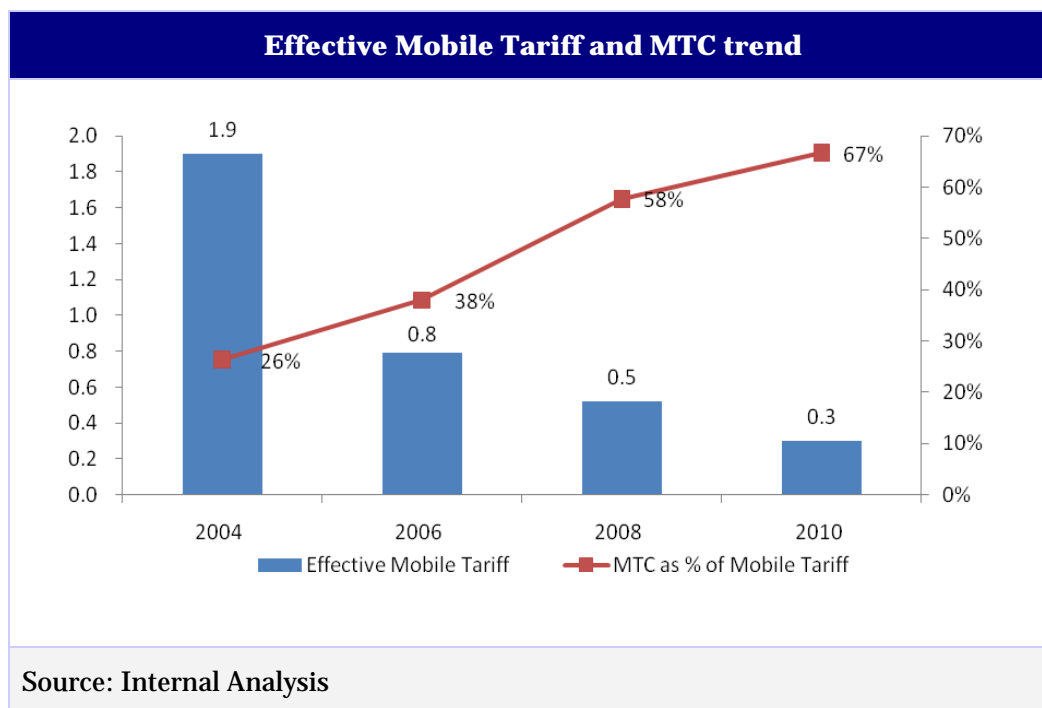


RESPONSE TO THE TRAI CONSULTATION PAPER NO.4/2011 ON REVIEW OF INTERCONNECTION USAGE CHARGES

3.1 Do you agree that the IUC regime determined through this consultative process should be applicable for 3 years? If not please indicate your preferred time period with justification.

AUSPI's RESPONSE

The current IUC regime was framed in 2003 and since then amendments have been made by the TRAI on a three yearly basis. In the previous three years, the subscriber base grew around 3 times (from around 230 mn in Dec 2007 to around 750 mn in Dec 2010). In the three years hence, it is expected that the number of subscribers would reach around 1050-1150 mn (by FY14). Such large growth in subscriber base is likely to be accompanied by change in the industry structure, by way of varying subscriber shares of various operators, as well as significant improvements and advancements in technology like WiMax, LTE etc.. These are also expected to have a cascading impact on the cost structures within the industry, leading to lower costs. In case the review period is longer than three years, due to the dynamic nature of the Indian Telecom industry, the changes in the industry may not be captured and the applicability of the charges could lose relevance. In case significant changes in technology or regulations take place within the three year period, IUC charges should be reviewed by TRAI and modified suitably.



As evident from the chart shown above, the MTC as a percentage of mobile tariffs has risen over the period 2004 to 2010. The sharp decline in the mobile tariffs indicates that the cost to provision services has declined significantly, indicating over recovery at the existing termination charges. Thus there is a case for downward revision of termination charges.



Also, it is requested that the TRAI review these charges on a regular basis. Concomitantly to this proposal, it must be taken into account that the TRAI may wish to ensure stability for the industry by allowing a significant passage of play to operators between any policy amendments. This would lend stability to the industry and allow the operators to take a longer term view while making any capital investment decisions.

Thus an optimal balance between the twin objectives, of providing regulatory stability to the industry and capturing cost efficiencies into the policy, can be achieved if TRAI prescribes the IUC policy for a three year period and incorporates a glide path for decreasing the cost year on year over this three year period.

Glide Paths for MTC Rates (ceiling rates)					
United Kingdom					
<i>Pence per minute</i>	2010/11	2011/12	2012/13	2013/14	2014/15
Vodafone/O2/ Everywhere	4.180	2.664	1.698	1.083	0.690
H3G	4.480	2.664	1.698	1.083	0.690
France					
<i>€cents per minute</i>	Jul 2011	Jan 2012	Jul 2012	Jan 2013	
All operators	2	1.5	1	0.8	
Italy					
<i>€cents per minute</i>	Jul 2008	Jul 2009	Jul 2010	Jul 2011	
Telecom Italia	8.85	7.7	6.6	5.9	
Vodafone	8.85	7.7	6.6	5.9	
Wind	9.51	8.7	7.2	5.9	
H3G	13.00	11.00	9.0	7.0	
Source: a) OFCOM statement Mar'11 b) ERG (08) 45 Symmetry MTR/FTR Action Plan b) News articles					

As evident from the table above, the glide path approach has been used by the UK regulator OFCOM, amongst other European regulators, for providing guidance to operators for reducing termination charges over the period 2011-2015.

This approach would allow the TRAI to promote subscriber interests by reducing IUC, while at the same time provide policy certainty to operators.

The IUC regime should be applicable for a period of two to three years and the possibility of review by the regulator in case of significant changes in technology, market conditions etc.



3.2 Keeping in view the time period indicated by you in question 1, which of the following approaches would be most appropriate for the Indian telecom sector?

(a) Cost oriented or cost based;

(b) Bill and Keep;

Please provide justification in support of your answer. In case you feel that the approach should vary according to service, please explain why?

AUSPI's RESPONSE

Out of the options mentioned above, we feel that TRAI should adopt the Bill and Keep regime with regard to wholesale billing for terminating traffic coming from other carriers. This would allow the TRAI to meet twin objectives of lowering prices to subscribers and increasing the usage.

The approach requires the terminating network to forego payments for any calls transferred to it by the originating network. The cost recovery is instead undertaken from the network's own subscribers. By entailing charges on the originator of the call, the Bill and Keep regime is consistent with the principle of cost causation. In this manner, the network can limit the end cost to subscribers to as close to the actual cost incurred, instead of being dependent on the charge levied by the originating network. Further, since the termination cost is moved from wholesale / regulated market to a retail market, it becomes subject to competition which is prevalent in the retail market; building in competitive efficiencies and further benefiting subscribers.

The Bill and Keep (BAK) regime is superior over a cost based regime along the following dimensions:

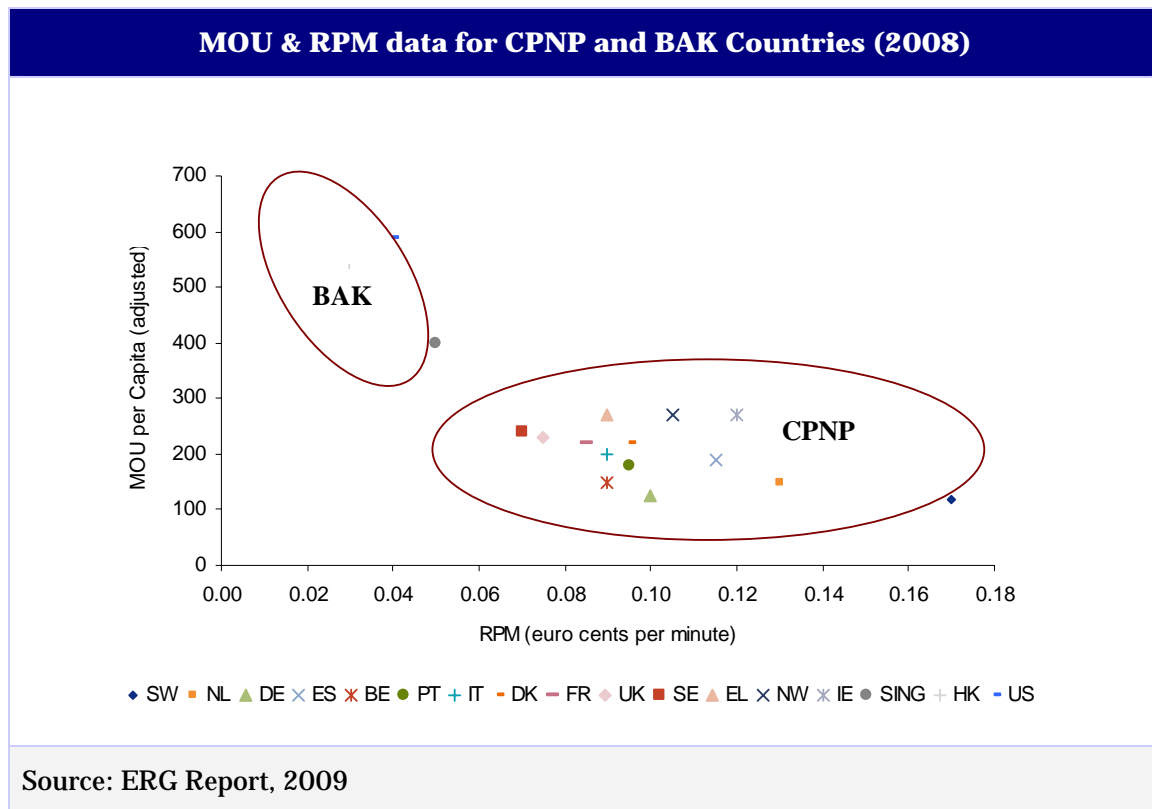
- a) Cost of service
- b) Impact on subscribers
- c) Applicability to new technologies
- d) Traffic distortions between networks
- e) Ease of implementation

The above issues are examined in detail below.

- a) Cost of service – BAK transfers the cost of termination from the wholesale / regulated space to the retail market. Thus it becomes subject to competitive forces and is likely to achieve the most efficient levels, leading to lower cost of service. In addition, since the cost of termination would no longer be subject to changes based on amendments to regulations, there would be greater certainty for all operators. This would ease capital allocation decisions, resulting in greater efficiency.
- b) Under a BAK regime, the differential pricing between on-net and off-net calls, which currently results in complexity for the subscriber in undertaking cost comparison between service providers, would be removed. This would result in simplification of tariff plans and remove any confusion in minds of the subscriber. This is especially relevant in the context of the MNP regime which has already been successfully implemented.

Internationally, it has been observed that on an average, in countries implementing BAK, the usage is more than double that in countries having a termination charge, whereas the average price per minute is half that of countries having a termination charge (Source: ERG Draft Common Position on Next Generation Networks Future Charging

Mechanisms / Long Term Termination Issues). This implies that there would be a net benefit to subscribers on adoption of a BAK regime.



- c) The current network framework in India is quite complex on account of disparate network technologies and multiple network providers. In this light, the calculation of any termination charges may become extremely intricate. It may also require calculation of separate charges for different technologies, making any regulations unwieldy and difficult to implement.

With the advent of IP based calls, the complexity is likely to increase in the future. In such a scenario, a typical subscriber would have an option of utilizing telephony that is based on one or more of VoIP, 2G, 3G, femto-cells, WiFi hotspots, BWA and fixed-mobile converged calling. The BAK regime continues to be applicable under various future technologies and is therefore more suitable. This regime is already used for IP based services such as the internet, wherein the cost of the service is borne by the content providers and is not levied on the end user.

Further, with the expectation that various networks would converge towards a multi-service network in the future, in order to ensure a level playing field, TRAI may deem it necessary to prevent the possibility of arbitrage between regulated and unregulated services. This could be achieved through a BAK regime that is agnostic to the type of technology used.

- d) Under the termination charge regime, there is a resultant differential in cost between on-net calls and off-net calls. This often results in operators offering cheaper on-net packages to subscribers in order to drive growth and MoUs.



Year	Termination Charges (INR)	Off-net Call %
2008	0.30	38%
2010	0.20	48.5%

Source: TRAI Performance Indicator Reports Sept 2008 and Sept 2010

As shown in the table above, the reduction in termination charges has been accompanied by a rise in the proportion of off-net calls. Thus it can be construed that with the reduction in termination charges, the subscribers may have a greater choice in selecting the network which they wish to call.

- e) There is much greater ease of implementation for the BAK regime as operators are not required to account for calls transferred to and from their networks, across different and increasingly complex technologies. Therefore the risks from data unavailability or ambiguity are much lower under this regime.

The BAK regime has also been implemented internationally as detailed in the table below:

Country	Remarks
U.S.	<p>There is currently a forbearance regime in place, with majority of inter-carrier agreements being based on a BAK methodology, with the following benefits that have resulted</p> <ul style="list-style-type: none"> ▪ Higher penetration rates along with increased usage ▪ Competitive scenario with an increased incentive for cost minimization and efficient utilization of network
Singapore	<p>Mobile – mobile BAK regime has been in existence since 1999 and has been unchanged across different technologies – 2G / 3G / converged networks, etc.</p>
Hong Kong	<p>Until April 2009, the interconnection between fixed and mobile operators was regulated by the Office of Telecommunications Authority (OFTA). In April 2009, OFTA withdrew the regulatory control on fixed-mobile interconnection. Currently, Hong-Kong has Bill and Keep for both mobile to mobile and fixed-mobile interconnections</p>

A comparison of the BAK with cost based regime across a range of parameters, as shown in the table below, also indicates that BAK may be the most suitable methodology for the Indian Telecom market.



Parameters	Bill and Keep	Cost Based
Impact on service providers		
Low cost of service	<ul style="list-style-type: none"> Market driven mechanism resulting in increased incentive to lower cost of service and achieve higher efficiencies Lack of regulatory intervention increases certainty among operators resulting in efficient capital allocation 	<ul style="list-style-type: none"> A regulated rate of return as entailed by cost based approach decreases incentive to cut costs Regulatory intervention leads to market distortion and drives down competitive forces
Applicability to new technologies	<ul style="list-style-type: none"> Simplifies estimation of tariff charges in light of disparate network technologies and multiple service providers Prevents the possibility of arbitrage and unfair advantage between regulated and unregulated services 	<ul style="list-style-type: none"> Cost-based mechanisms prove ineffective vis-à-vis market based approach in estimating appropriate tariff structures for complex technologies offered by multiple players
Less traffic distortions between networks	<ul style="list-style-type: none"> Likely to result in an increase in off-net calls and greater flexibility to choose among the networks 	<ul style="list-style-type: none"> Increases the differential between on-net and off-net calls, thus reducing the proportion of off-net calls
Increased network utilization	<ul style="list-style-type: none"> Greater flexibility in fixing tariffs (during peak and non-peak hours) drives up network utilization 	<ul style="list-style-type: none"> Lower flexibility in setting-tariff (especially during non-peak hours)
Ease of Implementation	<ul style="list-style-type: none"> Eliminates need for tracking calls for operators across complex technologies and decreases ambiguity Less dependence on data collection and record-keeping 	<ul style="list-style-type: none"> Requires extensive tracking, record keeping and data analysis mechanisms Complexity and data ambiguity expected to increase with addition of new services
Impact on subscribers		
Simplicity of tariff plans	<ul style="list-style-type: none"> Single pricing for on-net and off-net calls which would simplify selection process of tariff plans for consumers 	<ul style="list-style-type: none"> Differential between on-net and off-net calls complicates consumer decision making process
Fall in tariffs and increased usage	<ul style="list-style-type: none"> Consumers to benefit from fall in average prices and increased minutes of usage 	<ul style="list-style-type: none"> The cost based mechanisms reduce flexibility to lower tariffs especially during non-peak hours





Thus TRAI may find it prudent to implement the BAK regime in lieu of the existing termination charge regime.

In case the market situation does not permit this, the termination cost may be amended to take cognizance of the technological advancements and associated cost efficiencies.

In order to calculate the termination charge under this condition, two scenarios have been considered to account for the **asymmetry** in cost faced by different operators for providing similar services. These are outlined below:

- 1) Operator with primarily 900MHz spectrum
- 2) Operator with 1800MHz spectrum

The analysis has been undertaken to calculate the termination charges based on the cost incurred to set up and operate the network. However, only those costs which are incurred for servicing incoming off-net calls have been factored, since the same network is also used for servicing other types of calls and therefore the entire cost cannot be loaded onto the termination charge.

Through this analysis it would be possible to prove that i) even in the case where the capital expenditure is considered, the value of the termination charge is much below that which TRAI has currently specified, and ii) the termination charges are different for operators with primarily 900 MHz spectrum compared to those with 1800 MHz spectrum.

For the purpose of the analysis, a profile of a hypothetical incumbent operator has been created. This operator is considered to have an approximately 20% share of the Indian telecom market. Based on industry benchmarks, the network element requirements for this test operator can be calculated. Using the network equipment details, the capital expenditure incurred by the operator can be determined. This capital expenditure can then be allocated on the basis of the proportion of the total minutes carried on the network that are the result of off-net incoming calls. The depreciation chargeable on the capital expenditure can be determined using the straight line method and considering the network life to be ten years. The weighted average cost of capital in conjunction with the depreciation charged can then allow for the calculation of the return that would be required for the capital investment incurred.

The network operating expenditure can be determined by considering the O&M expenditure for each type of network element. Further, other common costs indirectly related to the maintenance of the network elements can be added. This must however, be adjusted to account for the VAS related opex.



The termination charge can then be determined by taking the ratio of the total cost as calculated above to the total volume of off net incoming calls.

From the above, the following emerges:

1. The estimation of termination costs shows that even after inclusion of capex the levels should be significantly lower than the current termination charge of INR 0.20 per minute.
2. **There is a significant difference in the termination costs between the operators with primarily 900 MHz spectrum and that with 1800 MHz spectrum. The cost for the operator with primarily 900MHz spectrum is 6 paise, whereas that for the operator with 1800 MHz spectrum is 11 paise. This shows that an asymmetric regime would be required to adjust for the cost differences between the two types of operators. Some examples of asymmetric termination charges are illustrated in table below:**

Asymmetric termination rates applicable in various countries			
<i>€cents per minute</i>	1st operator	2nd operator	3rd operator
United Kingdom			
	8.4	8.4	9.1
France			
	7.5	7.5	9.2
Germany			
	8.8	8.8	9.9
Italy			
	11.2	11.2	12.9
Greece			
	11.7	11.7	12.6
Netherlands			
	11.0	11.0	12.4
Source: Ovum			

Further, TRAI may consider the requirement for asymmetry of termination charges to reflect the differences between the incumbent and the new operators. The new operators have had higher levels of capital investment due to the differences in the quantum of spectrum allocated to them, as compared to incumbent operators. Also, a new operator cannot spread its



investment over a number of years and has to undertake higher investment initially to offer a competitive level of quality of service. The new operator does not have access to the profits which were available to the incumbents when the number of players was limited and market profitability high. In such a scenario the new operator can have difficulty in earning a return on its investment. Thus asymmetric charges are also important from the point of view of promoting long term investments and promoting competition in the market. In certain cases, there have also been delays in allocation of spectrum to the new operators. Both factors would contribute to the depreciation cost for new operators being much higher than that for incumbent operators. Symmetric termination charges would instead favour the incumbent operators as the newer operators would have a proportionately larger outflow due to the fact that a greater share of their calls would terminate on other networks i.e. they would have a greater share of off-net outgoing calls, requiring them to pay higher termination charges to other networks. In case of incumbent operators, the percentage of off-net calls is much lower, leading to reduced termination charge payments. In such a scenario, the TRAI may impose asymmetric charges to correct for this unevenness.

Asymmetric charges and glide path approach has been adopted in some international markets as well, as can be inferred from the tables provided above and in response to question 3.1.

The TRAI should implement the BAK regime in lieu of the existing termination charge regime and it should be uniformly applicable to all operators. In case the market situation does not permit this, the termination cost may be cost oriented and asymmetric in the range of 6 paise to 10 paise to take cognizance of the technological advancements and associated cost efficiencies. TRAI may therefore prescribe asymmetric termination charges for the period of applicability of the IUC regime.

3.3 In case your answer to question 2 above favours the cost oriented approach, would it be appropriate to permit Bill and Keep between service providers who have symmetric traffic?

AUSPI's RESPONSE

In case a differential regime is adopted for players having symmetric traffic, incumbent operators are likely to benefit, opening up the possibility of cartelization. Thus to promote a level playing field, TRAI should adopt a single approach for all players.

3.4 If the cost-oriented or cost based approach is used for Interconnection Usage Charges, do you agree that fully allocated cost can be used with historical cost data submitted by various service providers in their audited Accounting Separation reports, published documents or any other information submitted to TRAI? If not, please give your alternate solution with explanation, required data and proper justification.

AUSPI's RESPONSE

Calculation of Interconnection Usage Charges should take into cognizance:

- Spectrum band allocated to the operator – different frequency bands impact the number of coverage sites required by the operator. An operator with 1800 MHz spectrum would require 2.8 times the number of sites (on a pan India basis) to provide similar coverage as a primarily 900 MHz operator
- Technological advancements - synchronized network, dynamic frequency and channel allocation, 6 sector BTS, deployment of femtocells



- Cost efficiencies – reduction in network element costs – around 40 - 50% reduction in critical network elements has been witnessed in the past 3-4 years
- Changes in business models – active / passive sharing have resulted in significant reduction in capex and opex for operators
- Growth in traffic – reduction in unit cost of service
- Additional revenue generation options – the same network elements can be used to provide Value added services giving additional revenues to the operator

Internationally, there is no concurrence amongst regulators of various countries with regard to the methodology to be used for calculation of interconnection charges. Various methodologies are used by different regulators internationally, as is evident from the table below:

Cost Models prevalent in various countries	
Country	Model
United States	Not applicable – BAK regime (M to M)
Hong Kong	Not applicable – BAK regime
United Kingdom	LRIC (Adopted Pure LRIC as on Mar'11)
Australia	TSLRIC (Total Service Long Run Incremental Costs)
France	LRIC
Italy	FAC
Germany	LRIC
Spain	Multi-Standard Approach (Move towards LRIC)
New Zealand	LRIC

Source: Ofcom website & publications, Regulatory Accounting Guide (2009), ACCC website, European Commission website, News Articles

International regulators such as the European Commission have recommended a pure LRIC model. Under this model, the total network cost to carry all traffic is first calculated, followed by calculation of the cost, without considering the minutes of traffic terminating from other networks. The cost of terminating traffic is held to be the difference between the two results. This cost is then divided by the number of minutes to estimate the MTR.

Applying the pure LRIC method ensures that only the cost related to proving additional network capacity to handle the incoming interconnecting traffic is taken into account when estimating the termination cost. The non-incremental common and joint cost is not allocated to termination, resulting in lower levels of termination charges compared to other LRIC methodologies.



While there are a large number of methodologies available for calculating the termination charge, TRAI may deem it necessary to ensure that the termination charge so calculated allows for recovery of costs. **Therefore current and expected future rather than historic costs should be taken into account while determining the IUC. The ASR's should not be used for the purpose since they incorporate historic costs and are not reflective of the changes in business and operating conditions.** The prevalent business models are such that operators lease certain types of infrastructure. In such a scenario, the ASR's are not reflective of the actual capital expenditure. As an alternative, the costing structure denoted in the response to question 3.2 may be utilized.

Calculation of termination charges may, therefore, take into account current and future costs associated with providing termination services. Since the Fully Allocated Cost method relies on historical data submitted by various service providers in their audited Accounting Separation reports, it may not be suitable for the calculation of Interconnection Usage Charges.

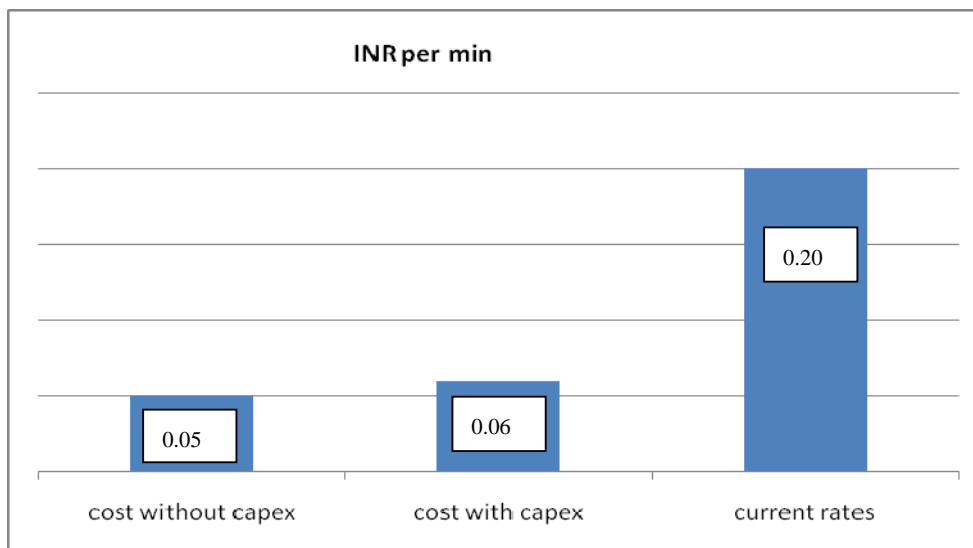
3.5 Should CAPEX be included in calculating/ estimating termination charge? If so, which network elements from the ASR data should be included in the cost base?

AUSPI's RESPONSE

The methodology adopted by TRAI should ensure that the terminating operators are able to recover the costs incurred in enabling termination from the originating operator, while at the same time ensuring that supernormal returns do not accrue to any operator. The following issues may be considered while examining the inclusion of capital expenditure in the termination charges calculations:

- 1) TRAI has been historically calculating the termination charges by excluding capital expenditure. Continuing to do so would emphasize consistency in policies and would provide greater certainty to the operators considering capital allocation decisions.
- 2) TRAI is dependent upon the data provided by the operators in the Accounting Separation Reports for determining the level at which the termination charge is to be set. However, comprehensive information on the network elements involved in call termination deployed by each operator may not be available. In this scenario any analysis on the capex involved is likely to contain significant data gaps, making accurate calculations difficult
- 3) **The costs to terminate calls are much below the present rates prescribed by TRAI. This is evident from the analysis which has shown that despite the inclusion of capex in the termination charge calculation, the total cost is only INR 0.06 in 2010-11, for an operator with primarily 900 MHz spectrum (as shown in the response to question 3.2).**

Termination cost comparison



As can be seen from the chart given above, the without capex cost is INR 0.050 per minute against a capex inclusive cost of INR 0.06. Therefore, with the present termination charge set at INR 0.20, even if capex were to be excluded from the termination charge calculations, the recovery from current charges would still be sufficient to compensate the operator for the costs incurred in providing termination services to the subscriber.

- 4) There are multiple sources of revenues besides termination charges to which an operator has access, namely Value Added Services, roaming charges, ISD charges, rentals and fixed / administrative charges. The operator is free to set the tariffs of these services, without any directions from the TRAI. Therefore, operators are not functioning under a regime of regulated return. In such a scenario, any calculation of termination charges cannot preclude the presence of these unregulated revenues. It would therefore be incorrect to calculate the termination charge with the principle of providing the operators with a regulated return on investment against costs incurred in setting up network elements, when those network elements are also being used for other non-regulated purposes.
- 5) Operators presently offer subscribers much lower rates for on net calls than for off-net calls. This is despite the greater use of the network in on-net calls, implying that cost recovery would be possible even with lower termination charges. This indicates that at



current termination rates, there is significant over recovery of costs. In such a scenario if capex is also included, it would add to the surplus.

Treatment of capex	
Factors	Description
Maintaining consistency	TRAI has consistently excluded capital expenditure to estimate termination charges in earlier calculations. Thus, non-inclusion of capex would be in-line with existing policies.
Non-availability of data	It has been observed that the comprehensive information on the network elements involved in call termination deployed by each operator may not be available. Thus, inclusion of capex may lead to data gaps
Low level of MTCs	The prevailing termination charges (based on non-inclusion of capex) have been set much below those prescribed by TRAI by the operators indicating over cost recovery by operators is taking place
Lower tariffs for on-net calls	The mobile operators are able to offer lower rates for on net calls than for off-net calls despite higher network usage in case of on-net calls implying that cost recovery would be possible even with lower termination charges
Alternate revenue streams	Many of the revenue streams such as Value Added Services, roaming charges, ISD charges, rentals and fixed / administrative charges , which use the same network elements, are non-regulated and result in cost recovery

Considering the points highlighted above, particularly with regard to methodology used by TRAI earlier, lower on-net tariffs, other revenue streams available; capex should not form part of the calculation. In costing methodology based on LRIC even if capex is included as shown above, the MTC is much lower at the level of 6 paise per minute as compared to current charge of 20 paisa per minute.

3.6 Do you agree that with inclusion of CAPEX in the calculation of termination charges, rental/ administrative or any other fixed charge component should be removed from the retail tariff by regulatory intervention? If not, please give reasons.

AUSPI's RESPONSE

Termination charges should be calculated on the basis of incremental capital and operating expenditure required to provide termination. As such, all costs would not be recovered through a termination charge. Thus to allow the recovery of other costs, regulatory intervention on



rental/ administrative or any other fixed charge component in the retail tariff would not be required.

Thus since only those incremental costs associated with termination are recovered through the termination charge, TRAI should allow the operators to recover the other costs through the rental, administrative and fixed charge components by leaving such charges unregulated.

3.7 Should TRAI continue with the existing rate of return of around 15% in the form of pre tax WACC as adopted in other regulations? If you do not agree with the above, please state what should be the rate of pretax WACC, along with justification for your proposed rate.

AUSPI's RESPONSE

The WACC depends up on the cost of equity and the cost of debt for a company along with the relative proportion of equity and debt in the company's balance sheet. For the players in the telecom industry, the percentage of equity is around 70%, with debt being around 30%. Further, the cost of equity is around 13-14%, with the cost of debt being around 11%. As such, the WACC would determine the return on capital assets for the operators. Setting the WACC at a higher than necessary value may result in supernormal returns accruing to the operators, and imposing an unnecessary burden on subscribers.

Pre-tax WACC rates for operators in India	
Source: Morgan Stanley Feb 2011	
Bharti Airtel	12.7%
Reliance Communications	13.3%
Idea Cellular	13.1%

The table given above provides the pre-tax WACC for the listed participants in the Indian telecom industry. **In this light, it would be prudent to assume the industry average pre-tax WACC at 13%.**

3.8 Would it be appropriate to adopt Straight Line Method with an average life of 10 years for all network elements for taking into account depreciation? If you do not agree with this proposal, please give your alternative method with justification.

AUSPI's RESPONSE



Since the telecommunications industry is capital intensive, requiring significant investments to be made into network assets, accounting for depreciation assumes a more significant role. The straight line method (SLM) is a commonly used method that divides depreciation expenses evenly over the life of the asset on a nominal and uniform basis.

SLM is a prescribed method for determining depreciation in the Companies Act, 1956. SLM is also used internationally, being typically used by telecom operators as depicted in the table below:

Telecom operators	Depreciation Methodology for plant & equipment costs	Average useful life/ Depreciation rates
Europe		
Telefonica S.A.	Straight-line Method	Plant and Machinery- 3-25 years
Vodafone Group Plc	Straight-line Method	Network Infrastructure- 3-25 years
United States		
AT&T Inc.	Straight-line Method	Cable, wiring, conduit- 10-50 years Other equipment- 5-15 years
Verizon Communications Inc.	Straight-line Method	Central office and other network equipment- 3-15 years
India		
Bharti Airtel Limited	Straight-line Method	Plant & Machinery- 3-20 years
Idea Cellular Limited	Straight-line Method	Network Equipments- 10-13 years Other Plant and Machineries- 5 years
Source: Company Annual Reports 2010/2009		

With regard to the average life of network elements to be taken in the SLM depreciation calculation, it varies from 15 years for equipment like GBT, RTT to 8 years for equipment like BTS, BSC, MSC. Hence, an average life of 10 years may be adopted for all network elements.

Further, since TRAI has made use of the straight line method with a ten year average life in previous regulations, it may be prudent to continue with the same method.



It is suggested that based on international practices as well as usage in previous regulations, TRAI may continue with the calculation of depreciation on a straight line basis, with an average life of 10 years.

3.9 Do you agree with the proposal for treatment of the cost items as indicated in Table 3.2? If not, please give your proposal with justification.

AUSPI's RESPONSE

Table 3.2 discusses the possible inclusion of the following cost items while calculating the termination charge:

- license fee and spectrum charge
- sales & marketing cost
- employee cost
- administration cost
- maintenance cost
- network operating cost
- Other costs

Further, it mentions that the sales & marketing cost is to be left out of the calculations.

The following principle has been applied to determine the treatment for the remaining cost items: There should be no double counting of individual costs items, and only the costs associated with the setting up and maintenance of the network may be loaded onto the termination charges. The total resultant cost may then be suitably adjusted to account for the fact that incoming off net calls form only a small proportion of the overall calls on the network. This adjustment needs to be undertaken for all the individual cost items have been outlined below:

With regard to the **license fee and spectrum charge**, it is calculated as a percentage of the adjusted gross revenues (AGR). For calculating the AGR, any interconnection charges payable to other service providers are to be reduced from the gross revenues. Therefore it may be prudent to exclude the license fee and spectrum charge in the calculation of the termination charges.

With regard to **employee cost**, a call originating from another network requires involvement of only a limited set of employees that are associated with the setting up and maintenance of the network. No additional sales effort is required by the terminating network operator to generate incoming off-net calls. As such, only the presence and correct functioning of the network elements is required. In such a state, only the costs related to these employees, and not the total employee cost, should be factored into the termination charges.

With regard to **administration cost**, only the proportion of administration which is associated with the setting up and maintenance of the network should be factored into the termination charges. Similarly, the **maintenance cost** that pertains to the network may be included in the calculation of the termination charges.



The network **operating cost** on the other hand, may be included in this entirety in the calculation of the termination charges.

The summary of suggested treatment for opex cost heads is provided below:

Cost head	Suggested treatment
License fee and spectrum charge	Not to be included as already covered in AGR calculations
Sales & marketing cost	Not to be included as no sales and marketing effort required towards call termination
Employee cost	Value to be included proportionate to the off-net incoming call termination
Administration cost	
Maintenance cost	



Network operating cost	Value to be included proportionate to the off-net incoming call termination	3.10 Do you agree that revenue can be
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used as a driver for segregating the cost pertaining to VAS services from the total cost indicated in the ASRs? If not, please provide a template with appropriate method for separating the cost items for value added services from the cost data provided in the ASR.

AUSPI's RESPONSE

Since the ASR data does not contain the costs breakup pertaining to various VAS services, analysis of costs is not possible.

Also, ascertaining costs on the basis of assets used to provide VAS may not be practical due to the difficulty faced by operators in separating common assets being used to provide multiple services.

Therefore, in absence of a detailed split of costs, the proportion of revenues from these VAS services can be used as a driver to segregate VAS related costs. Revenues from Value Added Services (VAS) currently form around 12% of total revenues and are likely to rise to 18% by CY14. This indicates that a significant proportion of the operators' network resources are being utilized for the purpose of delivery of VAS to subscribers. TRAI therefore deem it necessary to account for the cost of these services **and exclude them** from any calculation of termination charges.

Revenues can be used as the driver for segregation of the cost pertaining to VAS from the total cost indicated in the ASRs.



3.11 Should termination charges be asymmetric in respect of existing operators and new entrants or between different types of networks? What should be the criteria to distinguish between an existing operator and a new entrant? Please justify your answer.

AUSPI's RESPONSE

The termination charges should be closely linked to the cost being incurred to serve the calls to the end subscriber. The costs of different operators vary based on the frequency at which the service is being provided, as a greater number of coverage sites is required for the same area for operators using higher frequencies vis-à-vis operators using lower frequencies. This creates an asymmetry in the costs being incurred by different operators.

This was noted in TRAI's recommendations on "Spectrum Management and Licensing Framework", dated 11th May 2010. An excerpt from same is provided below:

Quote

"It is well known that in free space the lower frequencies cover larger distances due to lower path loss. The coverage quadruples by halving the frequency. Therefore, for free space, coverage in 900 MHz band is 4 times that of 1800 MHz. However, in realistic scenarios like in dense urban areas, the coverage does not quadruple by halving the frequency. Many practical models used in the mobile communication industry typically show that the area of coverage roughly doubles if the frequency is halved. This means coverage at 900 MHz will be roughly double that of 1800 MHz in dense urban setting. In rural and semi-urban environments this will be even higher. Moreover, reach into the buildings is far better with 900 MHz spectrum than with 1800 MHz."

Unquote

The number of base stations required at 900 MHz and 1800 MHz spectrum band to obtain similar operating conditions with respect to the type of area covered and the quality of service experienced (for a similar set of applications) by the end user is vastly different. The table below considers a single base station in the 900 MHz frequency band and provides the corresponding number of base stations required in the 1800 MHz bands in urban, semi-urban and rural geographies.



“Normalized” Base stations	Urban	Semi-Urban	Rural	Remarks
900 MHz	1	1	1	Base Scenario
1800 MHz	2	2.5	3.5	<ul style="list-style-type: none"> Based on TRAI recommendation paper (section 3.85) –for dense urban relation between 900 MHz and 1800 MHz is given as 2; for other areas assumptions have been made based on this factor and operator deployments As we move towards sparsely populated rural areas the propagation characteristic of 900 MHz allows 3-to-4 times as many villages to be covered by a single BTS as compared to 2100 MHz
Approx. % BTS in each geographical Area	20%	40%	40%	<ul style="list-style-type: none"> Industry estimates indicate that there are approx. 540,000 base stations in India. Of these approx. 110,000 BTS are in top 20 cities/towns (across all operators) which we have considered as urban areas. Rural areas include highway / railway coverage Future network expansion would be skewed towards rural areas thus increasing their proportion of sites

Example 1: For each base station deployed in an urban area in the 900 MHz band, an operator would require on average two base stations to be deployed to obtain similar coverage and QoS in the 1800 MHz band.

Example 2: Similarly for each base station deployed in a rural area in the 900 MHz band, the operator would require on average 3.5 base stations to be deployed to obtain similar coverage and QoS in the 1800 MHz band.

In India, based on population statistics, demographic composition, operator rollouts and utility of mobile telephony services, approx. 20% of all base stations deployed are in urban areas and approx. 40% each are deployed in semi-urban and rural areas.

Pan-India coverage: For every base station deployed in the 900 MHz band by Operator A, another Operator B having deployments in the 1800 MHz band would require $2*20\% + 2.5*40\% + 3.5*40\%$ or 2.8 base stations to provide similar coverage on a pan-India basis.

In summary, the relative number of base stations required for pan-India coverage to provide a similar QoS experience to end customer are as follows:

Pan-India coverage	Base stations
900 MHz	X
1800 MHz	2.8 X

Given the higher tele-density in urban areas it is expected that rural coverage will gain increasing importance in the years to come, thereby further increasing the comparative advantage of operators utilizing 900MHz spectrum



Hence, in order to closely reflect the cost to serve, TRAI may require termination charges to be asymmetric based on either of the two sets to which the operator belongs. As highlighted in the response to question 3.2, the charges for the 900MHz and 1800 MHz operators should be INR 0.06 and INR 0.10 respectively.

Asymmetric termination rates applicable in various countries			
<i>€cents per minute</i>	1st operator	2nd operator	3rd operator
United Kingdom			
	8.4	8.4	9.1
France			
	7.5	7.5	9.2
Germany			
	8.8	8.8	9.9
Italy			
	11.2	11.2	12.9
Greece			
	11.7	11.7	12.6
Netherlands			
	11.0	11.0	12.4
Source: Ovum			

Further, TRAI may consider the requirement for asymmetry of termination charges to reflect the differences between the incumbent and the new operators. The new operators have had higher levels of capital investment due to the differences in the quantum of spectrum allocated to them, as compared to incumbent operators. Also, a new operator cannot spread its investment over a number of years and has to undertake higher investment initially to offer a competitive level of quality of service. The new operator does not have access to the profits which were available to the incumbents when the number of players was limited and market profitability high. In such a scenario the new operator can have difficulty in earning a return on its investment. Thus asymmetric charges are also important from the point of view of promoting long term investments and promoting competition in the market. In certain cases, there have also been delays in allocation of spectrum to the new operators. Both factors would contribute to the depreciation cost for new operators being much higher than that for incumbent operators. Symmetric termination charges would favour the incumbent operators as the newer operators would have a proportionately larger outflow due to the fact that a greater share of their calls would terminate on other networks i.e. they would have a greater share of



off-net outgoing calls, requiring them to pay higher termination charges to other networks. In case of incumbent operators, the percentage of off-net calls is much lower, leading to reduced termination charge payments. In such a scenario, TRAI may impose asymmetric charges to correct for this unevenness. Asymmetric charges approach has been adopted in some international markets as well, as can be inferred from the table provided above.

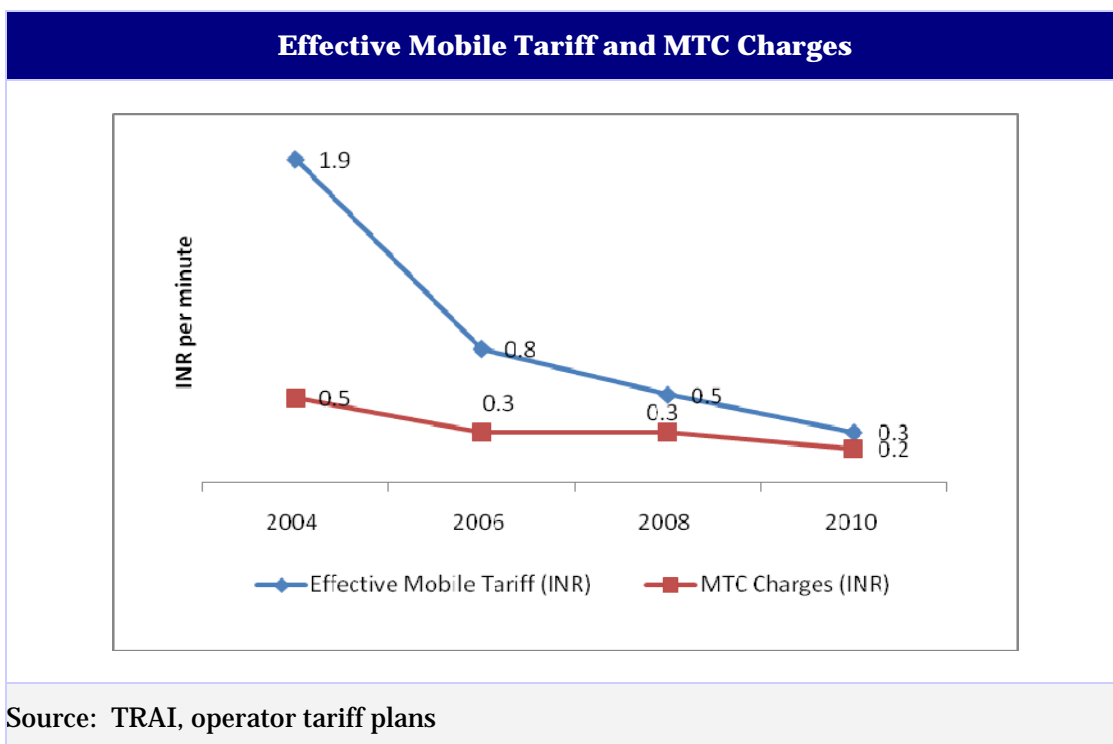
TRAI may impose asymmetric charges in respect of incumbent operators and new entrants and between operators operating primarily at 900MHz and those operating at 1800MHz. This would ensure the termination charge is adjusted to account for the differences in cost applicable to different types of operators.

3.12 Should the TRAI treat the work done in origination and termination of a call as identical for the purpose of determining termination charges? If not, please provide justification in support of your answer.

AUSPI's RESPONSE

No Sir. The costs involved in originating and terminating calls are different. A significant amount of sales and marketing effort can be linked to the origination of calls, as a potential customer must be encouraged to firstly subscribe to the service, and secondly to use the service. In such a state, the costs of employees, administration linked to the sales and marketing effort can also be attributed to the origination of a call. With regard to termination however, no sales and marketing effort is required as the same is undertaken by the originating operator.

Also, the origination charge is usually calculated by taking the residual amount of tariff retained by the originating network, after paying off the transit, carriage and termination charges. Therefore, the origination charges are determined by market forces as the level of the origination charge depends on the tariff being charged by the operator, whereas termination charges are wholesale, being set by the TRAI.





As evident from the chart above, the origination charge that is subject to market competition has reduced significantly, whereas the termination charge has remained almost constant.

Further, the on-net traffic of incumbent operators is high at around 60-70% of overall traffic whereas new operators have a much greater proportion of off-net traffic. As a result, setting a higher termination charge results in a much greater outflow for newer operators compared to the incumbent operators.

Since the costs involved in origination and termination are different, TRAI should not treat the work done in origination and termination of a call as identical for the purpose of determination of termination charges.

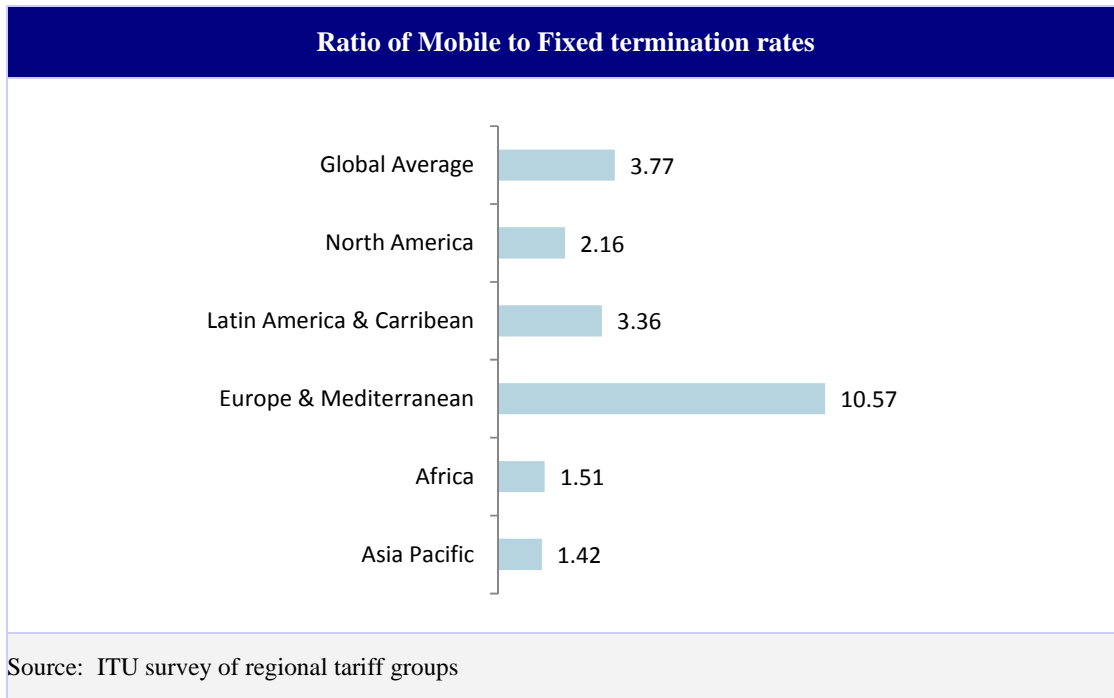
3.13 What should be the criteria to estimate the traffic minutes for the fixed line network as actual traffic minutes for the fixed network are not available with TRAI? Please provide justification in support of your answer.

AUSPI's RESPONSE

TRAI should take the actual data available with fixed line operators as that would be the most appropriate approach to compute the traffic minutes being carried by the fixed line network. TRAI is humbly requested not to take any decision without the data, as any alternate approach may be subject to a large number of assumptions and may not provide the correct results.

TRAI should rely on actual data sourced from the fixed line operators to determine the traffic minutes for the fixed network.

As can be seen from the chart below, internationally termination rates for fixed line connections are lower than those for mobile connections.

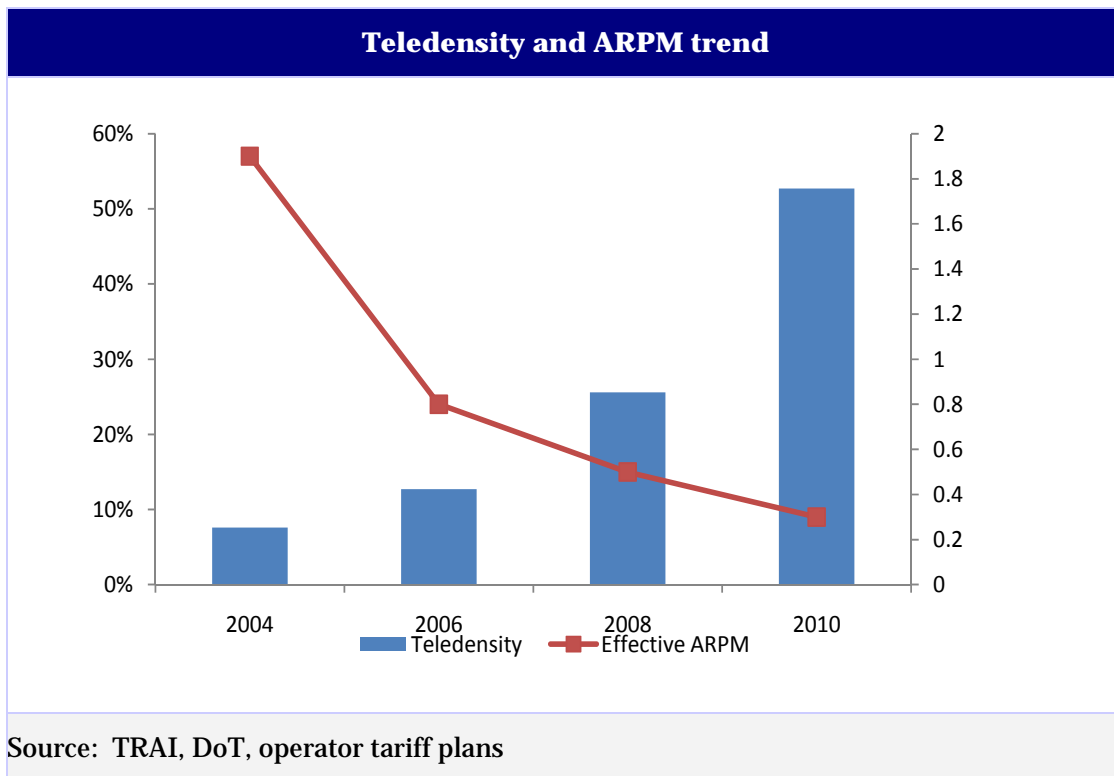




3.14 Do you agree with the policy that origination charge should be under forbearance? Please provide justification in support of your view.

AUSPI's RESPONSE

The origination charge is usually calculated by taking the residual amount of tariff retained by the originating network, after paying off the transit, carriage and termination charges. Therefore, the origination charges are subject to retail competition as the level of the origination charge depends on the tariff being charged by the operator.



As evident from the chart above, the tariff charged by operators has significantly declined over the period 2004-2010. Also the Hirschman Herfindahl Index (HHI), an indicator of relative market competition, for various telecom circles in India is in the range of 0.16 – 0.23 (As per TRAI's consultation paper on Overall Spectrum Management and review of license terms and conditions). This level of HHI indicates high competitiveness across different circles.

Given the large number of players and competitiveness, there is no need for any price regulations for origination charges as this would curb innovation in tariff plans and may prove to be a hindrance in the growth. At this juncture, it is important to look at some of the innovative price offerings in the mobile telephony segment:

- Reliance monsoon hungama in 2004 provided subscribers handset and sim card for Rs. 501
- Lifetime validity plans introduced towards end of 2005 and had a very high uptake; In just 6 months of launch, approx. 16 Mn subscribers were in the lifetime validity tariff schemes.

Recently too, the mobile sector has seen many pricing innovations. For instance,



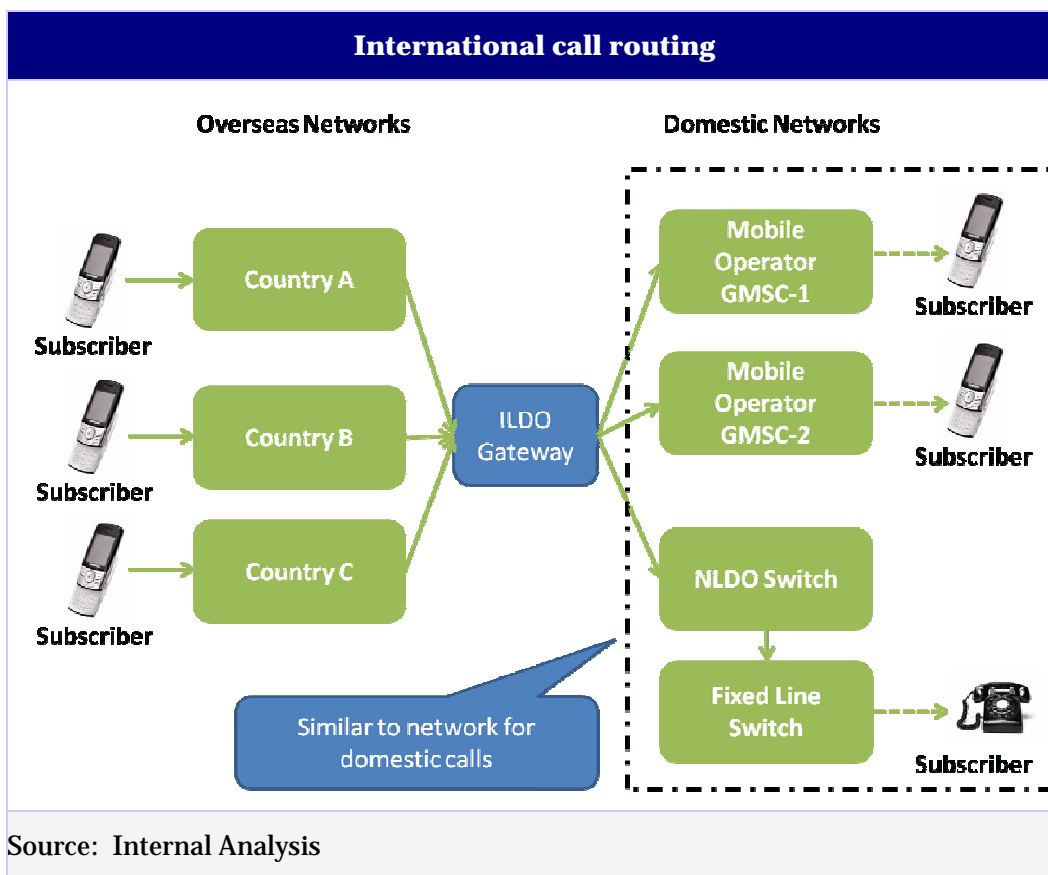
- TATA DoCoMo launched their services with introduction of a per second calling plan, allowing Tata Docomo (a late entrant) to have the highest monthly net adds in the country continuously for 5 months.
- Uninor has introduced a dynamic discounting plan where one is charged different call rates for calls from different parts of the city

Thus, despite widespread pervasiveness of cellular mobile connections in India, the operators are coming up with newer pricing innovations in order to cater to different customer segments. **Therefore, to aid the growth of the sector, and achieve the objective of more than 1 billion subscribers by the year 2014, it is important to continue with the policy of having the origination charges under forbearance.**

3.15 Which of the following is the best option for International Termination Charge?

- (a) Left for mutual negotiation between access providers and ILDO**
- (b) Reciprocal arrangements with other countries**
- (c) Higher than the domestic termination charge**
- (d) Same as domestic termination charge**

AUSPI's RESPONSE



A call originating from an international network is handed over to a domestic operator at the country boundary. At this point it transitions from the international network to the domestic network. The path followed by the call from this point until its destination is the same as if it were a domestic call. Since the same network elements as a domestic call are utilized, the same costs are incurred.

Therefore as there is no extra cost involved in terminating an international call as compared to a domestic call, the international termination charges can be kept at the same level as domestic termination charges.



3.16 Is there a need to specify separate ceilings for carriage charges for remote and hilly areas? If yes, how should the costs corresponding to remote/ hilly areas be segregated for carriage charges to/ from remote/ hilly areas, as the Accounting Separation Reports of the NLD operators provide only a consolidated cost for pan India operations?

AUSPI's RESPONSE

No Sir. Currently the ceiling for carriage charges is INR 0.65/min. The ceiling was dropped in the 2006 review from the previous ceiling value of INR 1.10/min. Since then, there have been significant changes pertaining to technological advancements, reduction in network element costs, changes in network architecture, growth in traffic and increase in market competition, resulting in changes in the overall cost structures. This is reflected in the prevalent market rates which are significantly lower than the ceiling tariffs. In view of that, we suggest a ceiling for carriage charge at 50 paise per minute. Also, the operators currently negotiate bulk volume rates with NLDO's for a large number of links rather than individual links.

Also, it needs to be noted that inspite of the rapid industrialization and aggressively growing services industry, 70 percent of the population in India still lives in rural areas, spanning around 600,000 villages, and is predominantly dependent on agriculture for survival. Further, rural India contributes close to 45 percent of India's total GDP. The significance of development of rural India cannot be underestimated in the pursuit of the achievement of socio-economic growth targets for India.

A study by GSM Association, based on a survey in 57 countries concluded that a 10 per cent increase in mobile phone penetration leads to a 1.2 per cent rise in annual GDP.

The benefit of connecting the rural goes well beyond basic telecommunications. Greater broadband connectivity to the Internet promotes distance learning, E-Learning, E-Governance, E-Health applications – all of which prove to be significant economic multipliers in a spread out rural population.

In terms of telecom connectivity, the urban teledensity across all metros has crossed 100 percent and the market for voice services is tending towards saturation. However, the rural teledensity is ~30 percent and the rural market is expected to drive the next round of aggressive growth. The government has set a target for 40 percent teledensity by May 2014 for this market. This rural teledensity target seems achievable but a lot more needs to be done to reduce the widening urban-rural telecom divide. A key impediment to the growth of telecom services in the rural market is the cost to serve and any regulatory intervention which further increases the service cost is likely to increase the telecom divide as exists in the rural and urban India.

In case TRAI chooses to move to a separate ceiling tariff for remote and hilly areas, it may lead to an increase in cost to the operator, acting as a deterrent for improvement in penetration levels and quality of service. This may also lead to an increase in charges for the existing subscribers, and may act as a hindrance in the uptake of services by new subscribers.

In order to incentivize carriers, TRAI should strongly recommend to the Government for subsidies for laying and operating networks in remote and hilly areas, through the USO fund which has the amongst its objectives the creation of infrastructure for provision of Mobile Services in rural and remote areas.



3.17 Do you feel that TRAI should intervene in the matter of International Settlement Rates? If so, what should be the basis to determine International Settlement Rates?

AUSPI's RESPONSE

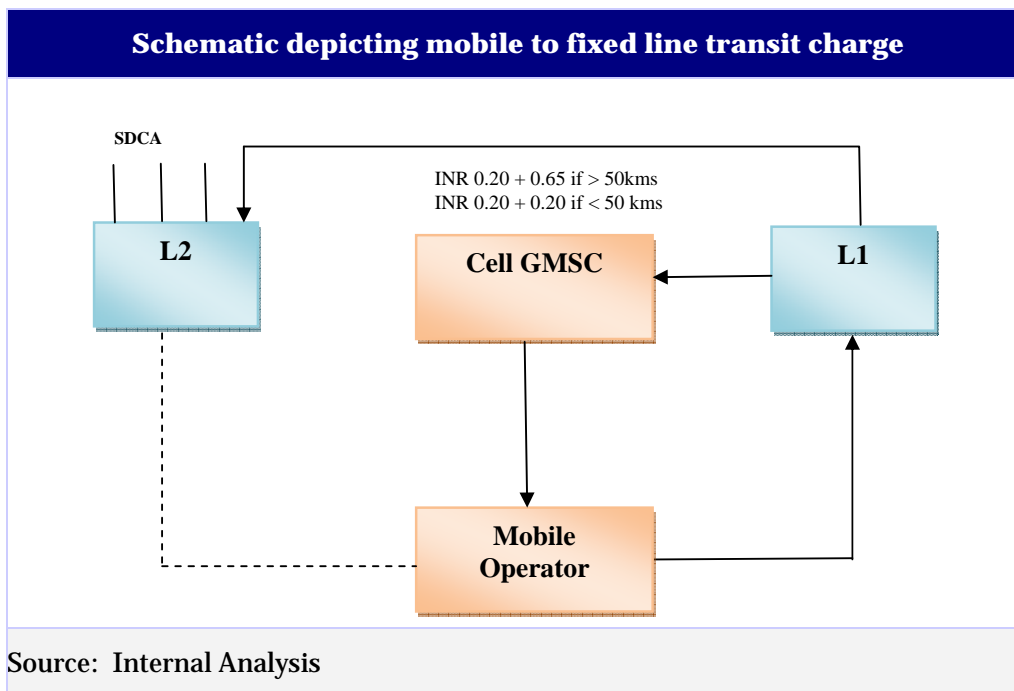
TRAI's policy of forbearance truly reflects the existing liberalized Indian international telecommunications market and should continue as AUSPI is generally in favour of International Settlement Rates be under forbearance. However, the TRAI's focus is required in the International telecommunications market such as unilateral increase in termination rates where monopoly market power or even the government has prevented competition from taking hold. In these specific international routes, the TRAI should ensure that enforcement mechanisms are in place to address anticompetitive practices.

Given the situation, TRAI intervention may be required to get the floor price for the settlement in India for international long distance minutes originating from some Middle East countries.

The basis of settlement rates should be on reciprocal treatment to the operators in other countries. Middle East Telcos are operating in protective environment of monopolies or duopolies. For such countries as ME where termination charges are disproportionately high (~ 10 to 20 cents PM), TRAI should set a floor for termination of traffic from such countries which should be higher than the general ILD termination charges into India. For example it could be 5 Cent for ME block of counties which benefit disproportionately at expense of Indian consumers. A Middle East originated CLI call should be @5 cent PM. Should such a call come in without CLI, ALL non CLI calls should be discouraged and punished with 5 cent PM termination as such calls are security threat to country.

3.18 How can the cost of providing transit carriage be segregated from the cost data in the ASR? Please provide a method and costing details to separately calculate this charge.

AUSPI's RESPONSE



Transit carriage has been depicted in the diagram given above. It has been considered to apply to calls originating from a mobile phone and terminating on a BSNL fixed line connection, transiting through BSNL's L1 TAX, in case of emergency breakdown or network congestion on the direct link. The cost of providing transit carriage cannot be segregated in the ASR since it does not capture the distance based data. Therefore, it is not possible to calculate this charge in absence of this data.

However, since the current charge is based on dated cost data, the charge from LDCA to SDCA may be reviewed to reflect the actual cost incurred.

3.19 If the cost of all relevant network elements is taken into account in the calculation of the fixed line termination charge, is there any further justification to have a separate transit carriage charge? Please give reasons for your answer.

AUSPI's RESPONSE

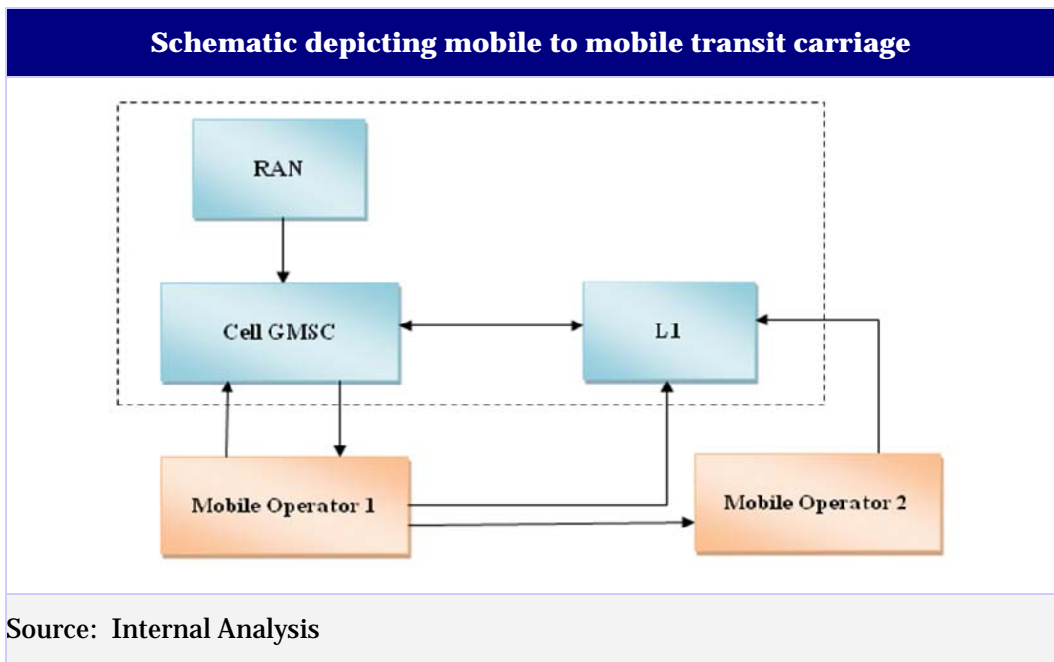
Transit carriage are considered to apply to calls originating from a mobile phone and terminating on a BSNL fixed line connection, transiting through BSNL's L1 TAX, in case of emergency breakdown or network congestion on the direct link. It should be the responsibility of the terminating operator to carry the call between the LDCA and the SDCA at its own cost.

Due to the details of the costs of various network elements for fixed line networks not available, it is not possible to determine the quantum of charges. **Since the current charge is based on dated cost data, the charge from LDCA to SDCA may be reviewed to reflect the actual cost incurred.**

3.20 Is there a need to regulate the TAX transit charges or should it be left for mutual negotiations? In the event transit charge is to be regulated, please provide complete data and methodology to calculate TAX transit charges.

AUSPI's RESPONSE

The TAX transit charge should be regulated and should not be left to the mutual negotiation.





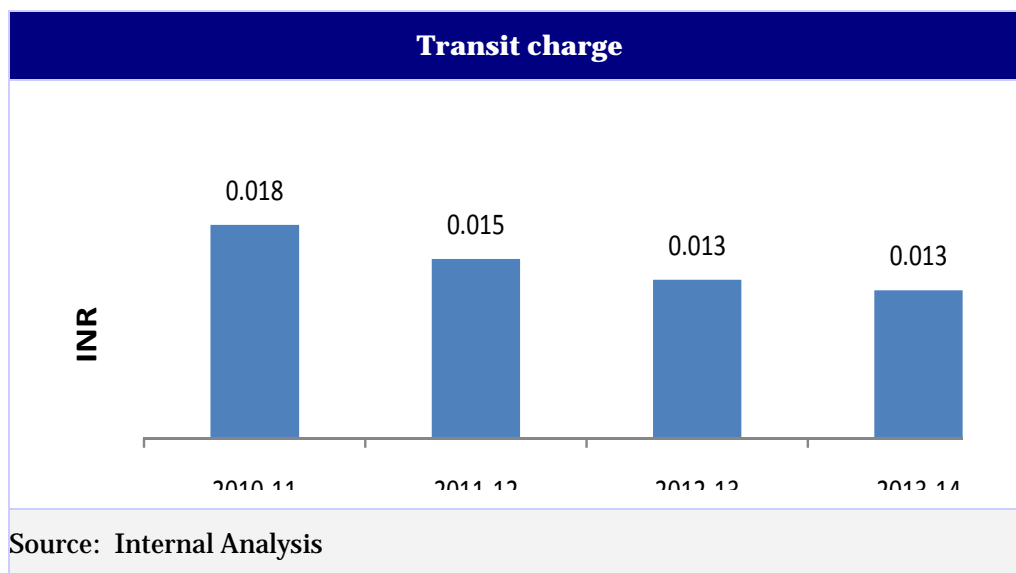
Transit carriage charges have been depicted in the diagram above. These are considered to apply to transit calls originating from a mobile phone and terminating on another mobile phone, transiting through BSNL's L1 TAX. These transit routes are used minimally, generally only in case of an emergency breakdown or network congestion on the direct link.

Most operators continue to handover their traffic at a transit charge of INR 0.15/min. This is based on dated cost data and it may be reviewed to reflect the actual cost incurred. The transit charge can be separately calculated by considering the network elements involved in carrying transit calls. It has been assumed that only 8% of the off-net incoming calls go through the transit route. For the mobile operator, only the core network elements and transmission links have been assumed to be relevant for the calculation.

Using the network equipment details, the capital expenditure incurred by the operator can be determined. This capital expenditure can then be allocated on the basis of the proportion of the total transit minutes carried on the network (8% of the off-net incoming call minutes). The depreciation chargeable on the capital expenditure can be determined using the straight line method and considering the network life to be ten years. The weighted average cost of capital in conjunction with the depreciation charged can then allow for the calculation of the return that would be required for the capital investment incurred.

The network operating expenditure can be determined by considering the O&M expenditure for each type of network element. Further, other common costs indirectly related to the maintenance of the network elements can be added.

The transit charge can thus be determined by taking the ratio of the total cost as calculated above to the total volume of transit call minutes.



As can be seen from the chart above, the actual transit charges are lower than the current transit charge of INR 0.15 per minute. Therefore, this charge may be regulated, and not left under forbearance. The TRAI may set the tariff ceiling to reflect the actual costs of providing transit, calculated at around INR 0.018.

Also, as is evident from the charts above, there is expected to be a year on year decline in the transit charges as a result of improved efficiencies.



TRAI should regulate the TAX transit charges, to reflect the actual cost to provide transit services, and prescribe a glide path with year on year reductions in transit cost for the period of applicability of the IUC regime.

3.21 Is there any need to prescribe separate termination charges/ carriage charges for video calls? If yes, how should this charge be calculated in the absence of cost data? Please provide the methodology and data to be used.

AUSPI's RESPONSE

Our members will respond.

3.22. Do you agree that a deterrent termination charge should be imposed for commercial SMS? In your view, what would be the most appropriate level of termination charge for commercial SMS?

AUSPI's RESPONSE

This issue can be examined along three dimensions:

- a) Cost to operators
- b) Impact on subscribers
- c) Minimizing unwarranted messages

From a cost perspective, SMS is carried on the SS7 signaling channel and does not require incurring of a large capex for setting up an SMS center. There is no requirement of any incoming airtime, as such messages are delivered over IP. Also, billing, authentication and cash balance checks are not required. This results in the low cost of less than ¼ of a paisa for each SMS. **Thus the current regulation of Bill and Keep should be continued.**

The impact on subscribers of any termination charge imposed is likely to be adverse as SMS are likely to be utilized for not only commercial applications, but also in the regular operation of other industries e.g. meeting regulatory requirements in the financial industry, (currently consumers are sent SMS's for securing electronic commerce transactions and notifying stock holders of account details, as well as in the future for operationalizing m-commerce transactions). In such a scenario, the TRAI may find it prudent to ensure that charges for such SMS's remain as low as possible, such that consumers in other associated industries are not adversely impacted.

With regard to the sending of A2P SMS to subscribers enrolled in the Do Not Call registry, TRAI has already come out with the UCC Regulation, which are already stringent in nature to curb UCC SMSs. Thus the need for any prohibitive charges to discourage such messages is not required.

Further, in other countries such as USA, Singapore, Finland, Lithuania and Pakistan, the termination charges for SMS have not been specified by the respective regulators. These examples could be used as factors in shaping the policy in this country.

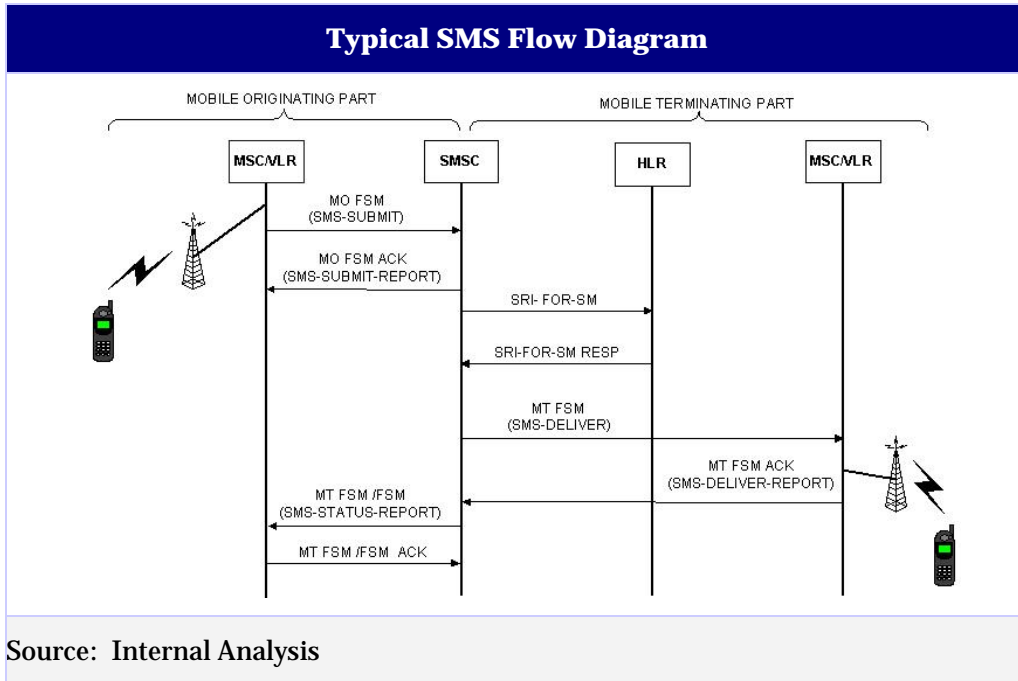
Considering international practices and costs base, we do not see any reason for imposing termination charges for any type of SMSs.

3.23. Do you agree that Bill and Keep regime should be put in place for other types of SMS (non-commercial SMS)? Please provide justification for your response.

AUSPI's RESPONSE

This issue can be examined along the following dimensions:

- a) Cost to operators***
- b) Impact on subscribers***



From a cost perspective, a Peer to Peer (P2P) SMS cost less than a paise, due to the capex required for an SMS centre. However, as is evident from the diagram above, there is not a significant requirement for deploying incremental capex for provisioning SMS services. Thus the incremental cost to serve subscribers is nominal. Further, the cost associated with accounting and settlement of SMS related interconnect charges may exceed the actual inter operator payout.

The impact on subscribers of any move away from the Bill and Keep methodology will result in greater costs for subscribers. Currently each subscriber sends approximately 40 messages per month by SMS, with a greater than 15% p.a. growth trend exhibited over the past two years. This indicates the degree of reliance on SMS messaging for a typical subscriber.

The incremental cost to serve subscribers with SMS services is negligible as there is not a significant requirement for deploying incremental capex for provisioning such services. TRAI should therefore, continue with the existing Bill and Keep regime for all types of SMS.



3.24. Is there any need to prescribe SMS carriage charges or should it be left for mutual negotiation? If SMS carriage charges are to be calculated, what methodology should be used to calculate these charges? Please provide all cost details and methodology.

AUSPI's RESPONSE

As outlined in the responses to questions 3.22 and 3.23, the SMS carriage charges are negligible and therefore a Bill and Keep methodology should remain into existence.

3.25 Do you agree that with the inclusion of all costs in the calculation of Interconnection Usage Charges, the item “incremental cost for roaming services” should be excluded from the computation of tariff ceiling for national roaming? If not, please give reasons.

AUSPI's RESPONSE

Roaming occurs when a subscriber moves from the home network to a different circle. Under this situation, the only incremental change is that the number of the subscribers is updated in the Visitor Location Register at the MSC of the same operator in the roaming circle. The roaming calls are routed within the operator’s own network and as such there are no external network elements involved in the delivery of these services. There is no interconnection with any other operator and thus the issue of an interconnection charge does not arise.

Since there are no additional costs incurred for providing roaming services to subscribers, therefore the item “incremental cost for roaming services” may be excluded from the computation of tariff ceiling for national roaming.
