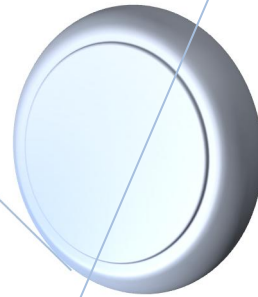




Consultation on “Review of Mobile Termination Rate”

The purpose of this consultation paper is to review the Mobile Termination Rate in Pakistan as per provisions in the Act, Telecom Policy, Rules and Interconnection Guidelines. Comments on the issues raised in this paper shall reach the following address within 10 days (i.e. by **9th October 2017**) of the publication of this paper.

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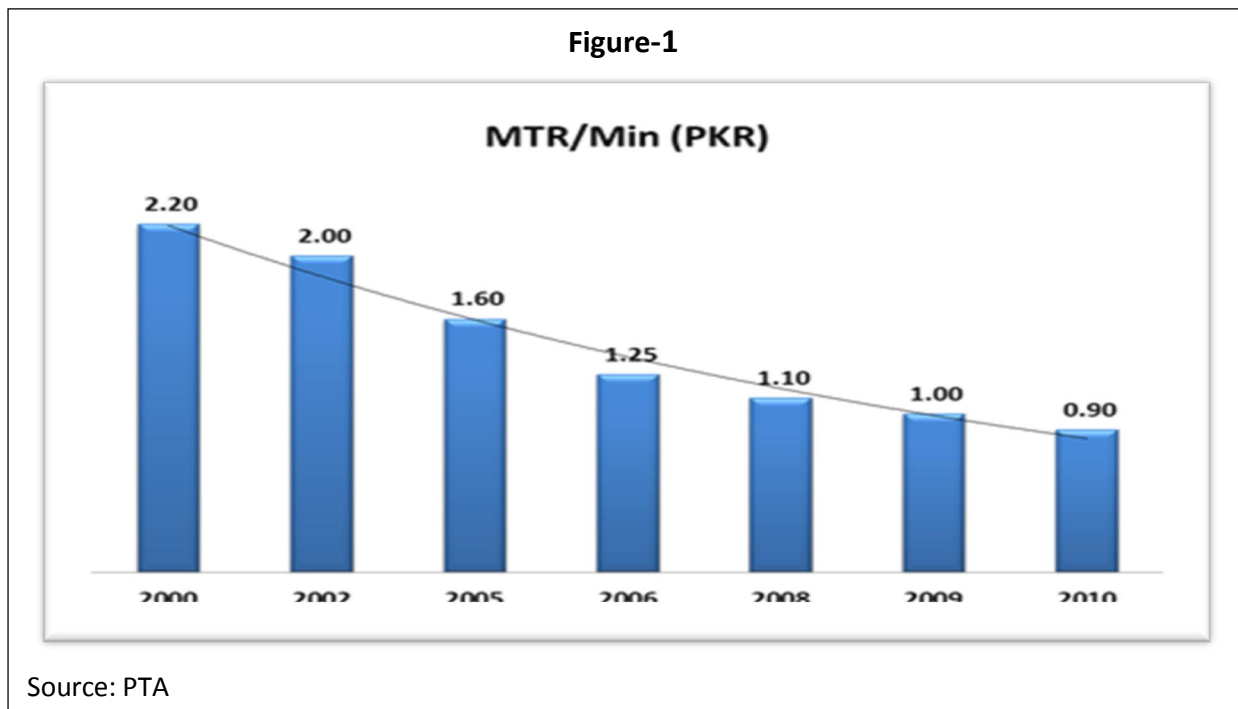
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Introduction

According to International Telecommunication Union (ITU), termination rate is defined as the price charged by an operator for forwarding calls from other network customers to their own customers. Similarly, Mobile Termination Rate (MTR) is the price that a Cellular Mobile Operator (CMO) charges to another operator for terminating off-net calls on its network. Generally, the end users are not aware of wholesale termination charges which are settled among the operators. Interconnection is extremely important from operator's perspective and success of regulatory regime of any country depends on successful implementation of interconnection regime.

Background

PTA determined MTR of Rs. 2.20 per minute w.e.f. 1st December 2000 after the implementation Calling Party Pays (CPP) regime. Later on, the rate was revised to Rs. 2.00 per minute in 2002 on the basis of international benchmarking for a period of two years. In July 2005, PTA determined fixed-to-mobile and mobile-to-mobile interconnection charges on the basis of Fully Allocated Cost (FAC) and international



benchmarking. Resultantly, a glide path was given to the industry wherein MTR was reduced to Rs. 1.60 per minute from August 2005 to June 2006 and Rs. 1.25 per minute from June 2006 to June 2007. In 2006, PTA engaged services of renowned consultancy firm Ovum Plc for determination of interconnection charges on the basis of Bottom-up Long Run Incremental Cost (LRIC) and Top Down Fully Allocated Cost (FAC). Based on the study results, PTA issued Determination on MTR, wherein it was reduced to Rs. 1.10 per minute from June 2008 to December 2008, Rs. 1.00 per minute from January 2009 to December 2009 and Rs. 0.90 per minute from January 2010.

Rationale & Objective

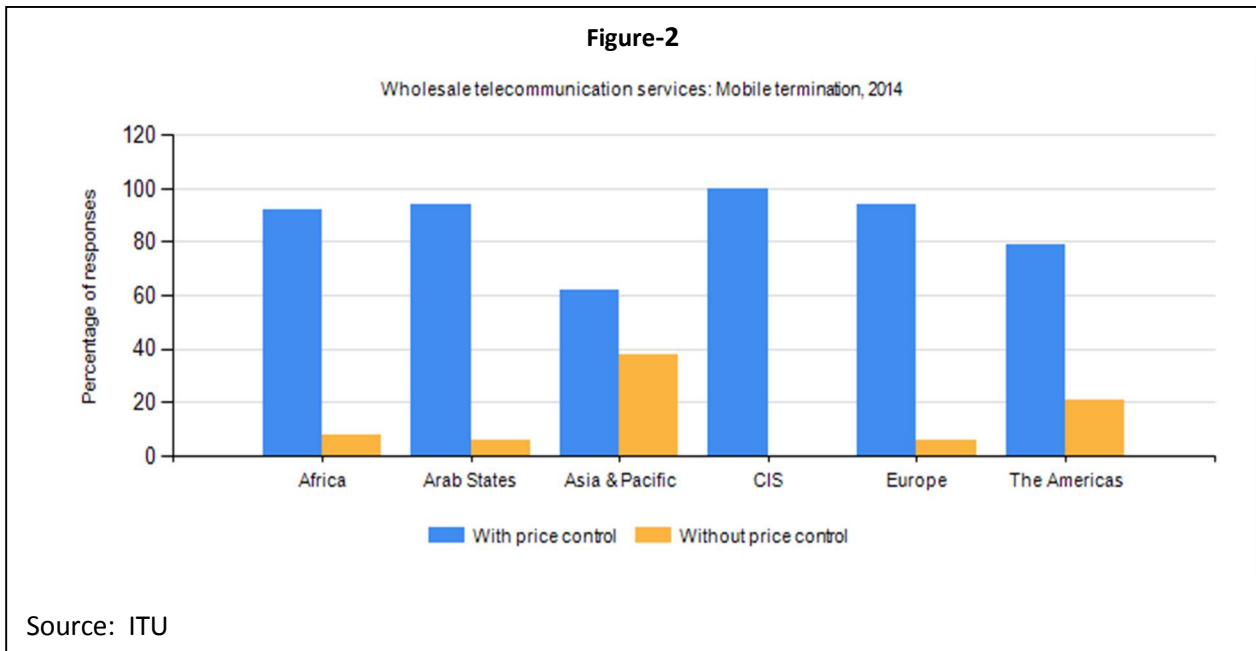
Pakistan's cellular mobile sector has undergone substantial changes since the last review of MTR in 2008. The introduction of 3G, 4G LTE i.e. 'mobile broadband' is undoubtedly the foremost landmark. Cellular teledensity has increased from 54.6% in June 2008 to 70.85% as of June 2017 and ARPU is around US\$ 2.2 per SIM. Cellular mobile subscribers now stand at 139.78 million as compared to 88 million in 2008. More importantly, telecom revenues have jumped from Rs. 279.6 billion in 2008 to Rs. 456.4 billion in 2016. There have also been significant regulatory and market developments. Mobilink and Warid have merged into a single entity thereby reducing the number of cellular operators to four. Consumer tariff structures have also changed drastically. Over the years, the differential in the on-net and off-net call rates has increased and operators are offering an increasing number of on-net offers including free on-net calls. In addition to normal call rates, CMOs are levying services / admin charges and call set-up charges. MTR plays a critical role in driving the retail tariffs especially for off-net calls.

In view of the changing market structure of the cellular mobile segment and considering that the last change in MTR was made in 2010, a review of the existing MTR @ Rs. 0.90/min is required in Pakistan. PTA has also received requests from telecom operators to review the existing mobile termination rate. Clause 5.1.12 of the

Telecommunication Policy states that the cost-based interconnection charges will be reviewed not less than once every two years. In the case of Pakistan, data on cost based interconnection charges is not readily available. Accordingly, this consultation paper provides benchmarking analysis for the determination of MTR in Pakistan in line with clause 18.6 of the Interconnection Guidelines which empowers PTA to establish interconnection charges on the basis of benchmarking when adequate cost information is not readily available.

International Practice on Determination of MTR

Majority of telecom regulators are regulating mobile termination rates across all continents (see Figure 2). ITU also advocates that interconnection charges should be regulated because of its natural monopoly characteristics as an operator has complete control on its own network. Regulatory authorities carry out review of mobile termination rates depending on their market situations and international best practice.



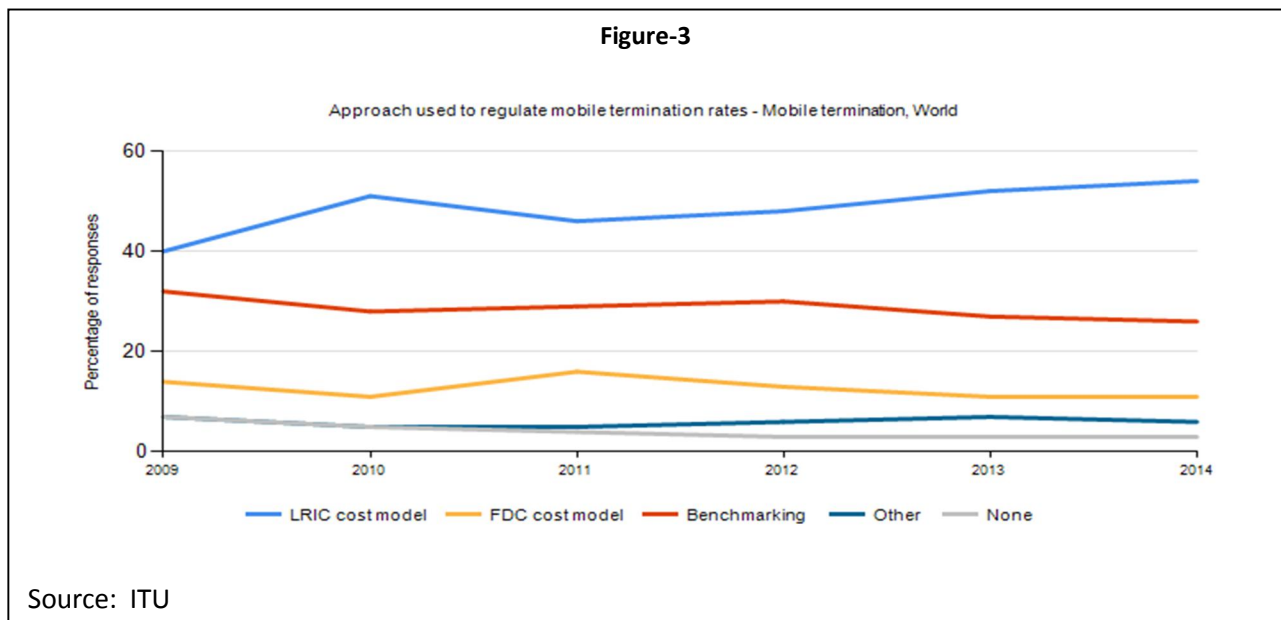
There are a number of approaches adopted for determination of MTR but the selection of a particular methodology is the sole prerogative of telecom regulators depending on economic / telecom development of their country and prevailing regulatory framework.

Most commonly used methods to determine MTR are cost based and international benchmarking.

Cost Based Approach

The suitability of cost-based pricing methods in interconnection to improve and sustain efficiency and competition in the telecom markets is well justified. However, many important issues arise in the way costs are used to price interconnection. For example, how are costs measured and to what extent is common costs (or overhead) allocated?

A key difference between cost models is how prices are calculated using cost data. A top-down approach takes the existing cost structure of a group of services, and allocates the costs incurred in producing each product (using accounting records). A bottom-up approach does not use actual accounting data, but rather a model to estimate the costs of producing each product using the most efficient means of doing so with current and estimated future technology.



International Benchmarking

International Benchmarking is another commonly used method to determine MTR by telecom regulators. Benchmarking provides a convenient and cost-effective way to determine MTRs in a mobile market. Figure-3 shows the comparison of approaches used by telecom regulators to regulate MTRs, which shows that benchmarking is the second most adopted approach after LRIC model to determine MTR.

Review of MTR in Pakistan

Methodology Selection

PTA determined MTR using LRIC approach in 2008 in accordance with the relevant provisions in the Policy, Rules and Guidelines. Cost based approach is an appropriate method for determining MTR, however, choosing an alternative approach i.e. international benchmarking is justified in the current scenario for Pakistan where cost-based data is not available. There are number of countries that have adopted benchmarking methodology for determining termination rates such as Australia, New Zealand, Namibia and Bahrain. Furthermore, Interconnection Guidelines, 2004 also empowers allows PTA to determine termination rates on international benchmarking in the absence of cost-based estimates. Therefore, PTA proposes to determine an interim MTR based on international benchmarking and in the meanwhile, a cost based interconnection study would be carried out. Subsequently, MTR may be reviewed / determined in the light of results of cost based study.

In order to determine MTR through benchmarking, country case studies have been carried out. A total of 7 countries have been selected on the basis of comparable economic/telecom markets and regulatory environment.¹ A set of both economic and telecom indicators has been identified in a comparative table at Annex-A.

¹ Australian regulator determined MTR on the basis of benchmarking and operators in UK are offering advanced 4G services.

Benchmarking analysis

In order to calculate MTR for Pakistan using the benchmarking approach, MTR data of the selected countries is used. MTRs of sample countries in their local currencies were converted to US cents using PPP (purchasing power parity) adjustments applied to 60% of each country's MTR to allow for the differences in the relative cost of living between benchmark countries (see Table 1 below).² This proportion was based on a standard assumption used when benchmarking, that broadly 60% of the annualized costs of telecommunications operators are represented by labor costs and thereby reflective of local rates of pay and the cost of living.

Table 1: Benchmarking Analysis

Country	MTR/min in local currency	MTR/min (PPP adjusted in US cents)	MTR/min US cents	MTR/min US cents (adjusted w.r.t. Pak ARPU)	ARPU (US\$)	PPP Conversion Rate
India *	0.14	0.572	0.2116	0.1811	3.40	17.233
Bangladesh	0.18	0.455	0.2242	0.2966	2.20	29.524
Sri Lanka	0.50	0.719	0.3298	0.2068	4.64	51.082
Thailand	0.27	1.640	0.7649	0.1954	11.39	12.146
Malaysia	0.0365	1.826	0.8090	0.1153	20.42	1.438
Australia	0.017	1.237	1.2879	0.1018	36.80	1.413
United Kingdom	0.005	0.677	0.6098	0.0957	18.55	0.693
Pakistan	0.90	2.146	0.8585	0.8585	2.91	29.951
* From 1 st October 2017, MTR in India will be reduced to INR 0.06 per minute						

Average benchmark MTRs have been calculated using mean and median of PPP adjusted MTRs and compared with the PPP adjusted MTR of Pakistan. It is observed that current MTRs of Rs. 0.90 in Pakistan is around 110% higher than the mean benchmark MTR and is around 198% higher than the median benchmark. Resultantly,

² Ovum study in 2008 for PTA on the interconnection charges in Pakistan has also applied PPP adjustment to 60% of MTR price.

MTRs for Pakistan are calculated as Rs. 0.43 and Rs. 0.30 per minute by mean and median benchmark respectively.

Average Revenue per User (ARPU) in cellular mobile markets of the sample countries are between USD 2.2 to USD 36.8. For alternate benchmarking, ARPUs of sample countries have been used relative to Pakistan's ARPU. Using this benchmarking method, mean benchmark MTR is Rs. 0.179 and median is Rs. 0.190.

Table 2: Benchmark MTR for Pakistan

	MTR/ min (PPP adjusted in US cents)		MTR/ min in US cents (adjusted w.r.t. Pak ARPUs)	
	Average MTR/ min	Median MTR/ min	Average MTR / min	Median MTR / min
	1.018	0.719	0.170	0.181
Proposed Pakistan MTR in PKR	0.43	0.30	0.179	0.190
Difference of Current Pakistan MTR to benchmark avg/ median MTR	111%	198%		

Issues for Consultation

Keeping in view the above analysis on MTR, following issues are circulated to the industry for consultation:

1. The benchmarking analysis undertaken in this paper shows that MTR calculated for Pakistan is between Rs. 0.30 to Rs. 0.43 per minute as per PPP adjustment. This shows that current MTR of Rs. 0.90 per minute is 111% to 198% higher than the calculated MTR using benchmarking. Therefore, following is proposed:
 - a. As an interim measure, determination of MTR in Pakistan @ Rs. 0.80 per minute from 01st December 2017 to 30th November 2018, and @ Rs. 0.70 per minute from 1st December 2018 onwards.

- b. PTA will undertake cost based study to review and determine termination rates as per Telecommunication Policy 2015.
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- 2) Reduction of MTR is expected to help operators to offer better off-net call rates and reduce the current differentials of on-net and off-net rates.
 - 3) Reduction in MTR is also expected to reduce grey traffic as it will decrease incentive for illegal termination.

Annexure - A**Summary of Countries include in Benchmarking**

Country	Malaysia	Thailand		Bangladesh	Sri Lanka	Australia	United Kingdom	India *
Population (million)	31.7	68.9		161.5	21.3	24.4	65.6	1,327
Inflation, average consumer price	2.1	0.27		6.74	4.09	1.31	0.74	5.20
Methodology	LRIC	LRIC		LRIC	Cost-based / benchmarking	International Benchmarking	LRIC	LRIC
MTR USD	0.0081	0.00765		0.00224	0.0033	0.012879	0.0061	0.00212
MTR in local currency	0.036 RM	0.27 THB /2017	0.19 THB /2018	0.18 BDT	0.50 LKR	0.017 AUD	0.005 GBP	0.14 INR
ARPU (USD)	20.42	11.39		2.2	4.64	36.8	18.55	3.4
Subscribers	20.4 million	96.7 million		121 million	26 million	30.5 million	83.7 Million	685.7 Million
Mobile Penetration	63%	146%		85%	107%	89%	65.8%	87.99%
GDP (PPP) Per Capita	27,234.31	16,835.44		3,890.51	11,189.37	48,806.16	42,513.93	1,718.69
PPP Conversion Rate	1.438	12.146		29.524	51.082	1.413	0.693	17.2337

* From 1st October 2017, MTR in India will be reduced to IND Rupee. 0.06

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