

TR Benchmark snapshot (as of January 2012)
Integrated report on MTR, SMS TR and FTR

24 May 2012

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1. Introduction

The present document is the 1st Integrated report on Termination Rates in Europe, providing an overview of MTR/SMS TR /FTR per country based upon the results of a request for information sent to all NRAs referring to data as of 1st January 2012.

The aim of this report is thus to offer a picture of the rates for interconnection and termination rates in mobile, SMS and fixed networks in Europe.

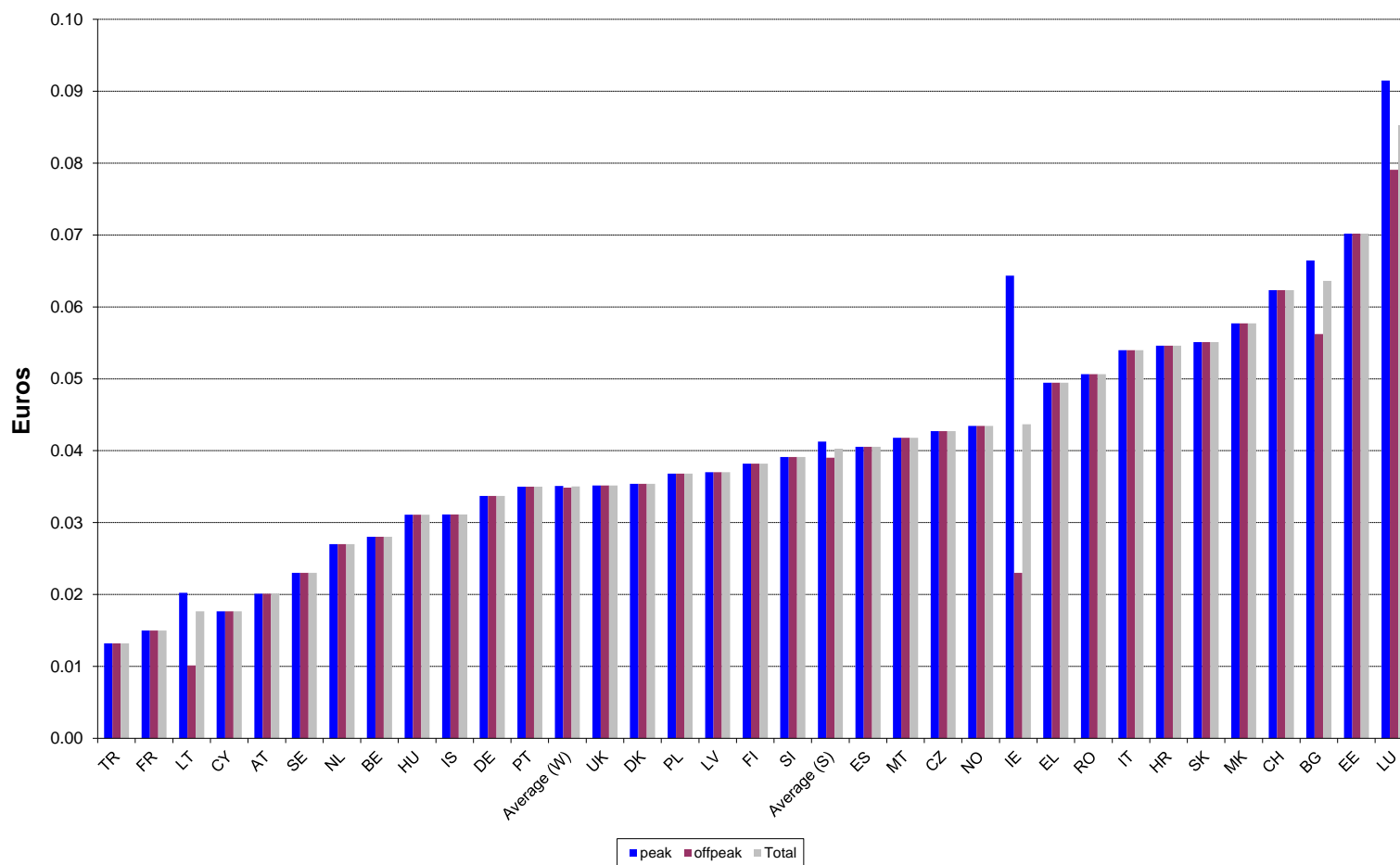
Regarding the monitoring of Mobile Termination Rates (MTRs), BEREC continues the work started by ERG in 2004 with a twice yearly overview report. Regarding the monitoring of Fixed Termination Rates (FTRs) and of SMS Termination Rates (SMS TRs), BEREC started its own data collection in 2011 with the aim of facilitating this benchmarking comparison to NRAs.

As of January 2012, this is the situation of Termination Rates in Europe:

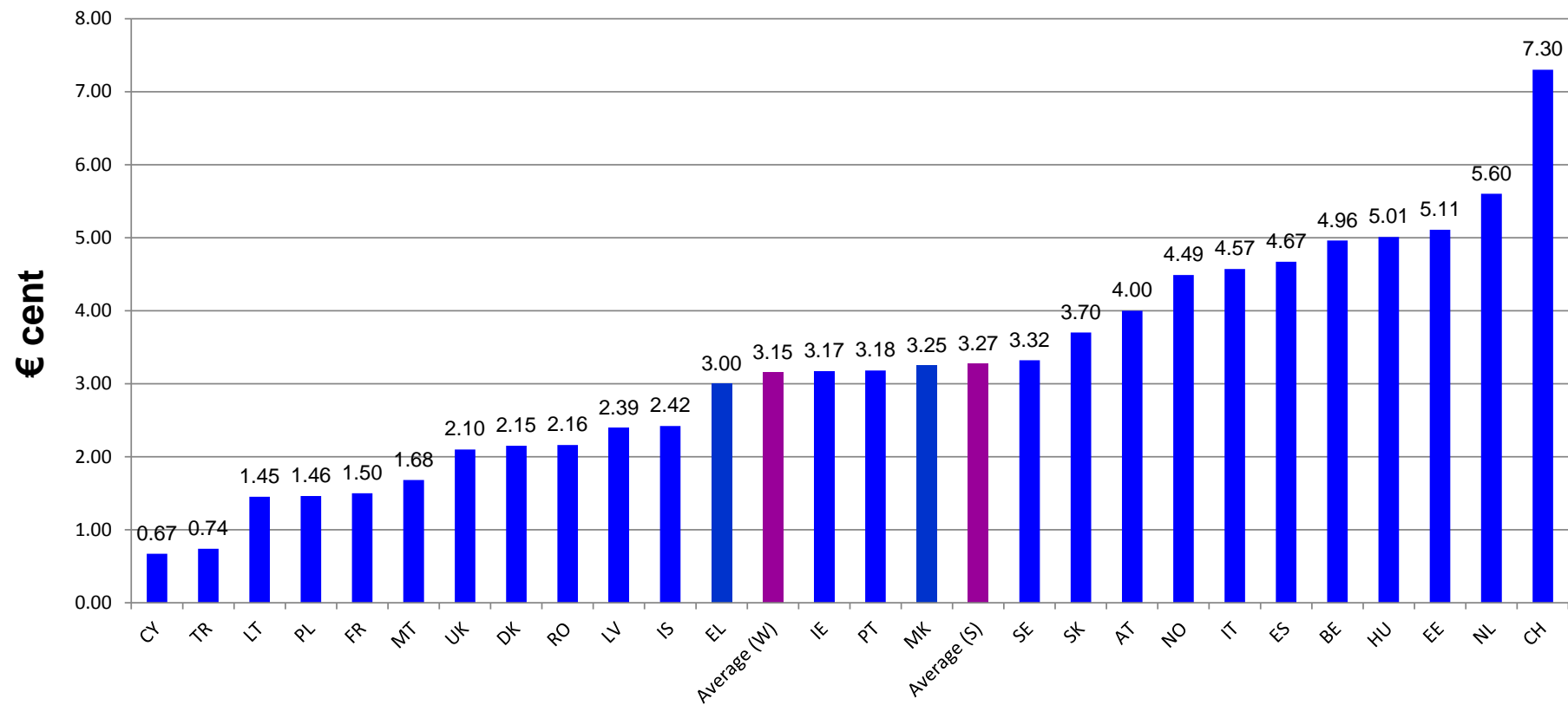
- With regard to MTR, the simple average for EU stands at 0.0403€ per minute, whereas EU weighted average is estimated in 0.0350€ per minute.
- Regarding SMS TRs, the EU simple average is placed in 0.0327€ per SMS, whereas the weighted average is reported to be 0.0315 € per SMS.
- Lastly, concerning Fixed Termination Rates (FTR), they were analysed taking into account the three main levels of fixed interconnection layers and two types of interconnection (time and capacity). EU average for Layer 1 was reported to be 0.54€ cents per minute. Regarding layer 2 and 3, EU average stands at 0.66€ cents per minute and 0.80€ cents per minute, respectively.

2. Charts

Average MTR per country - January 2012



SMS TR per country – January 2012



FTR: Effective weighted per minute interconnection rate-Incumbent's fixed network (Layer 1, Layer 2, Layer 3)

In this section the effective average per minute price of each layer of interconnection service provided by each incumbent is presented, together with the simple average for Europe (horizontal line).

For those countries that only regulate interconnection with the TBI model, the average price, as detailed in table of section IV.A is used. Note that this average (per minute) price is the weighted average between the peak and off- peak rates, where the weights used are based on the distribution of traffic between both time periods.

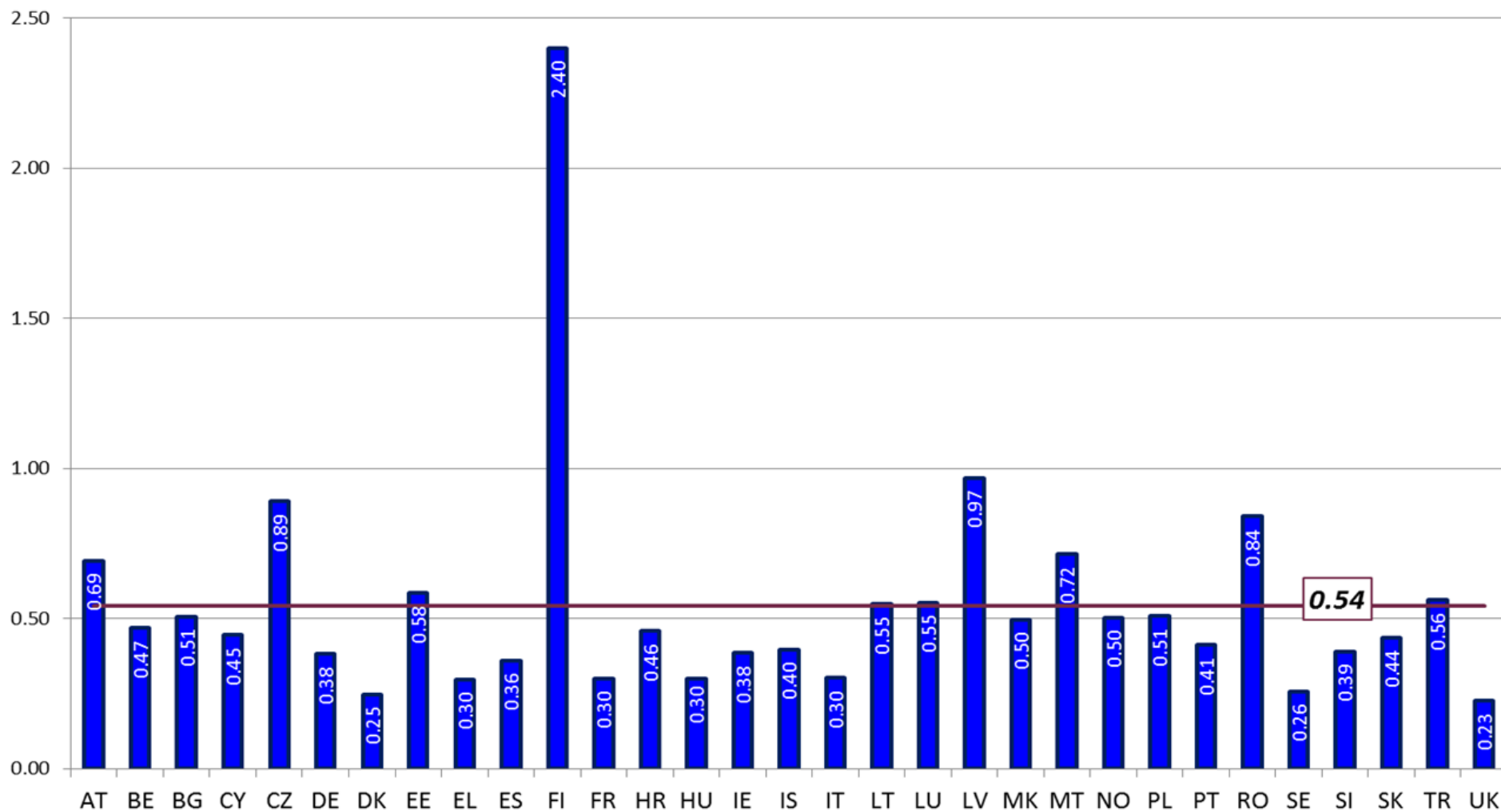
For those countries that have both the TBI and the CBI regimes given the different tariff outlays, a weighted average between the CBI and the TBI regime is provided.

In the next three graphs the effective weighted per minute interconnection rate for the incumbents is depicted for each country. Note that these are regulated rates and have been constructed as a weighted average, taking the different components into account:

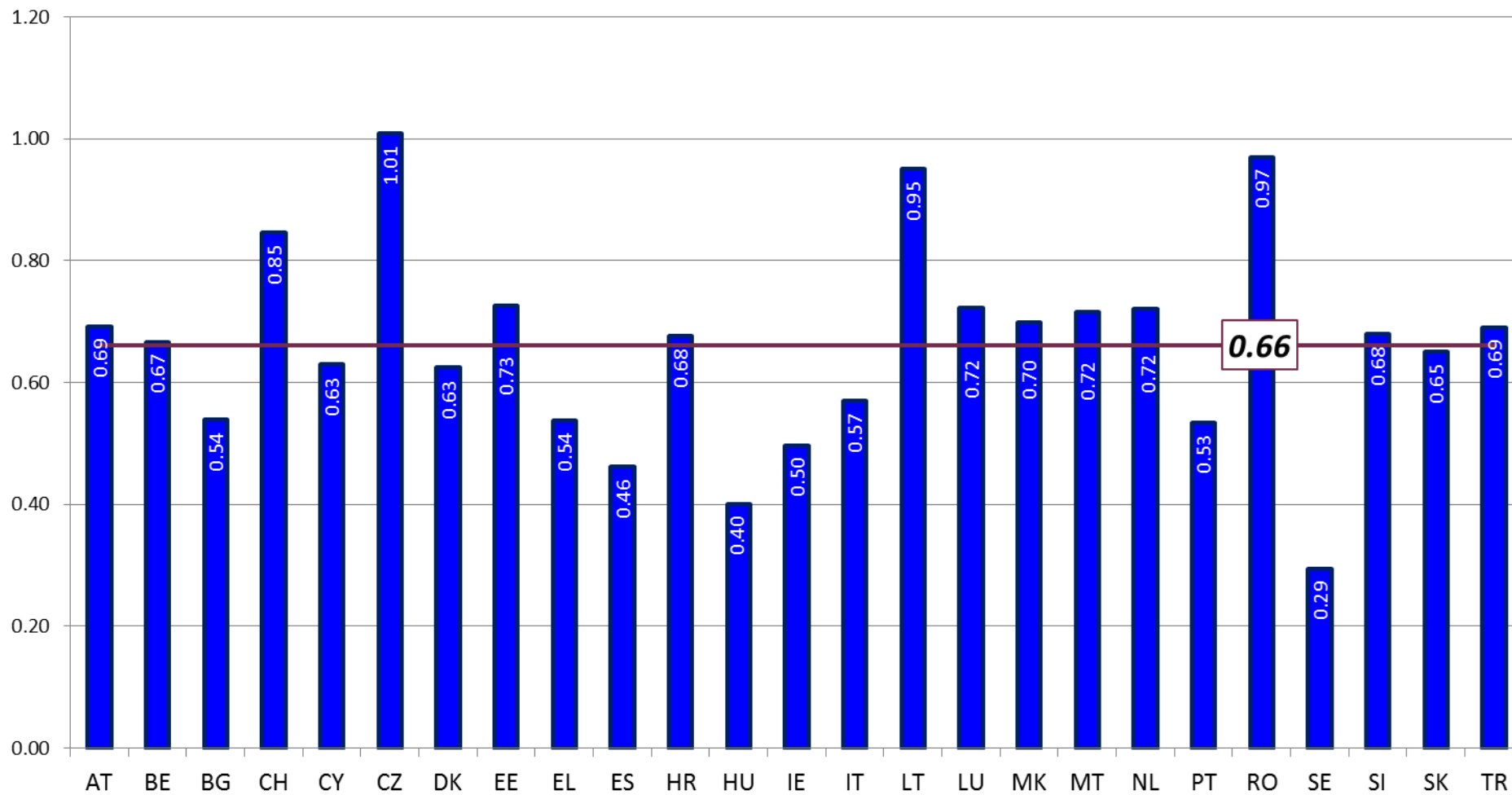
- (1) Peak / off- peak rates for interconnection rates based on time (per minute charges)
- (2) Set- up charge, distributed over a 3 minutes /average duration) call, for the time based interconnection model
- (3) Capacity based (CBI) and time based (TBI) interconnection charges, where the per circuit price has been translated into an average per minute price taking into account the price of the 2 Mbps circuit, on the one side, and the effective volume of minutes used by an average 2 Mbps circuit over the year.

For each of these components, the weights used are based on the proportion of traffic at the wholesale level that applies to one or the other mode of interconnection (peak/ off- peak, capacity vs time based).

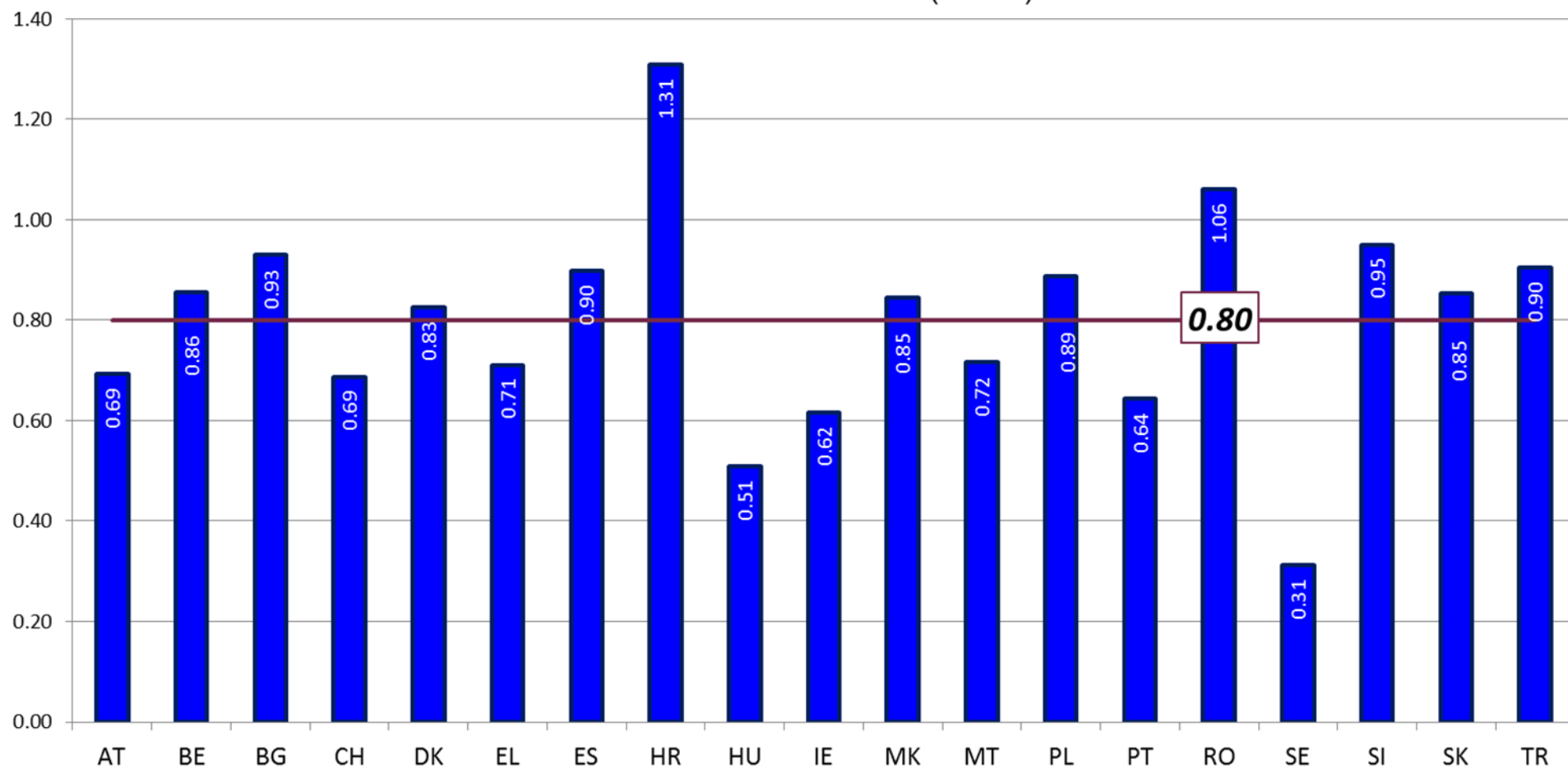
Effective weighted per minute interconnection rate - Layer 1
Incumbent's fixed network (€ cent)



Effective weighted per minute interconnection rate - Layer 2
Incumbent's fixed network (€ cent)



Effective weighted per minute interconnection rate - Layer 3
Incumbent's fixed network (€ cent)



3. MTR

Assumptions

The assumptions used in the benchmark exercise are the following:

- The benchmark includes fixed to mobile termination charges, in case there is difference between mobile to mobile termination charges.
- In order to obtain a homogenous comparison a three minute average call duration has been assumed.
- Only nominal tariffs are represented in the report, defining them as “The price (in euro/minute) set out by the regulator that works as the maximum price per minute which operators may charge each other (without any adjustment for purchasing power parity or real effects –inflation-).
- Traffic data (voice calls and number of minutes) and peak/off peak ratio is missing for some countries For those countries that have not set an average tariff and, additionally, apply distinct rates -one for the peak period, and another one for off-peak period-, total average tariff per operator has been calculated with the distribution of peak and off-peak traffic.
- Average MTR per country have been obtained by adding each operator’s average MTR multiplied by its market share, measured in terms of subscribers (bearing in mind that ‘subscribers’ may be defined differently).
- In the case of the European weighted average, only the countries that reported the number of subscribers are taken into account.
- The MTR charges are those applicable on 1st January 2012, though assumptions to calculate average charges (for example number of subscribers) may not be as of 1st January 2012.
- Operators with a market share below 1,5% have been excluded from MTR average calculation
- For non-Euro countries, the average for the second quarter of the year, Q4 2011, exchange rate was used (see Annex)

Average MTR per country as of January 2012

Country	Average MTR per country (€)		
	peak	offpeak	Total
AT	0,0201	0,0201	0,0201
BE	0.0280	0.0280	0.0280
BG	0.0665	0.0562	0.0636
CH	0.0623	0.0623	0.0623
CY	0.0177	0.0177	0.0177
CZ	0.0427	0.0427	0.0427
DE	0,0337	0,0337	0,0337
DK	0.0354	0.0354	0.0354
EE	0.0702	0.0702	0.0702
EL	0.0495	0.0495	0.0495
ES	0.0405	0.0405	0.0405
FI	0.0382	0.0382	0.0382
FR	0.0150	0.0150	0.0150
HR	0,0546	0,0546	0,0546
HU	0,0311	0,0311	0,0311
IE	0.0644	0.0230	0.0441
IS	0.0311	0.0311	0.0311
IT	0.0540	0.0540	0.0540
LT	0.0202	0.0101	0.0176
LU	0.0915	0.0791	0.0853
LV	0.0370	0.0370	0.0370
MK	0.0577	0.0577	0.0577
MT	0.0418	0.0418	0.0418
NL	0.0270	0.0270	0.0270
NO	0.0435	0.0435	0.0435
PL	0.0368	0.0368	0.0368
PT	0.0350	0.0350	0.0350
RO	0.0506	0.0506	0.0506
SE	0.0230	0.0230	0.0230
SI	0.0391	0.0391	0.0391
SK	0.0551	0.0551	0.0551
TR	0.0132	0.0132	0.0132
UK	0.0352	0.0352	0.0352
Average (S)	0.0413	0.0390	0.0403
Average (W)	0.0351	0.0349	0.0350

Average MTR per operator as of January 2012

Country	Operator	MNOMVNO	2.1. Average effective prices (€)			Suscribers	Total subscribers	Market Share
			peak	offpeak	Total			
AT	Mobilkom	MNO	0.0201	0.0201	0.0201	5,175,000	12,562,000	41.20%
	T-Mobile	MNO	0.0201	0.0201	0.0201	3,878,000	12,562,000	30.87%
	Orange	MNO	0.0201	0.0201	0.0201	2,314,000	12,562,000	18.42%
	H3G	MNO	0.0201	0.0201	0.0201	1,195,000	12,562,000	9.51%
BE	Belgacom	MNO	0.0262	0.0262	0.0262	5,213,000	12,540,603	41.57%
	Mobistar	MNO	0.0279	0.0279	0.0279	4,105,423	12,540,603	32.74%
	KPN Group Belgium	MNO	0.0311	0.0311	0.0311	3,222,180	12,540,603	25.69%
BG	Mobiltel	MNO	0.0665	0.0562	0.0637	confidential	10,475,083	45.25%
	Cosmo Bulgaria Mobile	MNO	0.0665	0.0562	0.0636	confidential	10,475,083	36.17%
	BTC	MNO	0.0665	0.0562	0.0636	confidential	10,475,083	18.59%
CH	Swisscom	MNO	0.0569	0.0569	0.0569	5,913,000	9,525,900	62.07%
	Sunrise	MNO	0.0712	0.0712	0.0712	2,039,900	9,525,900	21.41%
	Orange	MNO	0.0712	0.0712	0.0712	1,573,000	9,525,900	16.51%
CY	MTN	MNO	0.0193	0.0193	0.0193	280,312	1,090,944	25.96%
	CYTA	MNO	0.0171	0.0171	0.0171	799,626	1,090,944	74.04%
CZ	T-Mobile	MNO	0.0427	0.0427	0.0427	5,425,169	14,327,827	37.86%
	Telefónica O2	MNO	0.0427	0.0427	0.0427	5,382,692	14,327,827	37.57%
	Vodafone	MNO	0.0427	0.0427	0.0427	3,495,641	14,327,827	24.40%
	MobilKom	MNO	0.0427	0.0427	0.0427	24,325	14,327,827	0.17%
DE	Telekom Deutschland	MNO	0.0338	0.0338	0.0338	35,403,000	114,125,000	31.02%
	Vodafone-D2	MNO	0.0336	0.0336	0.0336	37,625,000	114,125,000	32.97%
	E-plus	MNO	0.0336	0.0336	0.0336	22,717,000	114,125,000	19.91%
	Telefónica Germany	MNO	0.0339	0.0339	0.0339	18,380,000	114,125,000	16.11%
DK	TDC	MNO	0.0354	0.0354	0.0354	3,084,287	6,616,863	46.61%
	Telenor	MNO	0.0354	0.0354	0.0354	1,812,337	6,616,863	27.39%
	Telia	MNO	0.0354	0.0354	0.0354	1,281,620	6,616,863	19.37%
	Hi3G	MNO	0.0354	0.0354	0.0354	438,619	6,616,863	6.63%
EE	AS EMT	MNO	0.0702	0.0702	0.0702	794,527	1,863,120	42.64%
	Elisa	MNO	0.0702	0.0702	0.0702	559,297	1,863,120	30.02%
	Tele2	MNO	0.0702	0.0702	0.0702	509,296	1,863,120	27.34%
EL	COSMOTE	MNO	0.0495	0.0495	0.0495	n.a.	n.a.	n.a.
	VODAFONE	MNO	0.0495	0.0495	0.0495	n.a.	n.a.	n.a.
	WIND	MNO	0.0495	0.0495	0.0495	n.a.	n.a.	n.a.
ES	TME	MNO	0.0400	0.0400	0.0400	21,082,660	49,474,071	42.61%
	Vodafone	MNO	0.0400	0.0400	0.0400	14,814,509	49,474,071	29.94%
	Orange	MNO	0.0400	0.0400	0.0400	10,808,189	49,474,071	21.85%
	Xfera	MNO	0.0498	0.0498	0.0498	2,768,713	49,474,071	5.60%
FI	TeliaSonera Finland Oyj	MNO	0.0382	0.0382	0.0382	n.a.	n.a.	n.a.
	Elisa Oyj	MNO	0.0382	0.0382	0.0382	n.a.	n.a.	n.a.

	Dna Oy	MNO	0.0382	0.0382	0.0382	n.a.	n.a.	n.a.
	Ålands mobiltelefon Ab	MNO	0.0382	0.0382	0.0382	n.a.	n.a.	n.a.
FR	Orange France	MNO	0.0150	0.0150	0.0150	Confidential	Confidential	-
	SFR	MNO	0.0150	0.0150	0.0150	Confidential	Confidential	-
	Bouygues Telecom	MNO	0.0150	0.0150	0.0150	Confidential	Confidential	-
HR	HT	MNO	0.0531	0.0531	0.0531	2,485,183	5,422,339 ¹	45.83%
	VIPnet	MNO	0.0531	0.0531	0.0531	2,144,494	5,422,339	39.55%
	Tele 2	MNO	0.0636	0.0636	0.0636	792,662	5,422,339	14.62%
HU	T-Mobile	MNO	0.0311	0.0311	0.0311	5,265,148	11,689,937	45.04%
	Telenor*	MNO	0.0311	0.0311	0.0311	3,737,273	11,689,937	31.97%
	Vodafone	MNO	0.0311	0.0311	0.0311	2,687,517	11,689,937	22.99%
IE ²	Vodafone	MNO	0.0522	0.0264	0.0402	n.a.	n.a.	42.80%
	O2	MNO	0.0568	0.0209	0.0402	n.a.	n.a.	30.60%
	Meteor	MNO	0.0738	0.0100	0.0402	n.a.	n.a.	20.30%
	Hutchinson 3G	MNO	0.1388	0.0100	0.0782	n.a.	n.a.	4.00%
	Tesco Mobile	MVNO	0.1712	0.1202	0.1380	n.a.	n.a.	2.40%
IS	Siminn	MNO	0.0283	0.0283	0.0283	136,483	320,218	42.62%
	Vodafone	MNO	0.0283	0.0283	0.0283	103,493	320,218	32.32%
	Nova	MNO	0.0396	0.0396	0.0396	80,242	320,218	25.06%
IT	Telecom Italia S.p.A.	MNO	0.0530	0.0530	0.0530	32,226,841	92,393,012	34.88%
	Vodafone Omnitel N.V.	MNO	0.0530	0.0530	0.0530	29,955,212	92,393,012	32.42%
	Wind Telecomunicazioni S.p.A.	MNO	0.0530	0.0530	0.0530	21,014,319	92,393,012	22.74%
	H3G S.p.A.	MNO	0.0630	0.0630	0.0630	9,196,640	92,393,012	9.95%
	Omnitel	MNO	0.0202	0.0101	0.0183	1,918,532	4,827,620	39.74%
LT	Bitė Lietuva	MNO	0.0202	0.0101	0.0174	1,842,245	4,827,620	38.16%
	Tele2	MNO	0.0202	0.0101	0.0168	1,066,843	4,827,620	22.10%
	EPT	MNO	0.0880	0.0760	0.0820			
LU	Tango	MNO	0.0880	0.0760	0.0820			
	Orange	MNO	0.1130	0.0980	0.1055			
LV ³	LMT	MNO	0.0370	0.0370	0.0370	1636370.00	3,133,574	52.22%
	Tele2	MNO	0.0370	0.0370	0.0370	1101005.00	3,133,574	35.14%
	Bite latvija	MNO	0.0370	0.0370	0.0370	396199.00	3,133,574	12.64%
MK	T-Mobile	MNO	0.0504	0.0504	0.0504	1,151,755	2,213,223	52.04%

¹ HR: Subscribers as of 01/10/2011

² Furthermore, Irish mobile operators set weekend MTR:

Average effective prices	
	Weekend Tariff (€)
Vodafone	0.0264
O2	0.0214
Meteor	0.01
Hutchinson 3G	0.02
Tesco Mobile (MVNO)	0.0981

³ LV: Figures given as subscribers correspond to granted numbers.

	ONE	MNO	0.0552	0.0552	0.0552	494,896	2,213,223	22.36%
	VIP	MNO	0.0748	0.0748	0.0748	566,572	2,213,223	25.60%
MT	Go Mobile	MNO	0.0418	0.0418	0.0418	214,455	514,392	41.69%
	Melita Mobile	MNO	0.0418	0.0418	0.0418	249,620	514,392	48.53%
	Vodafone	MNO	0.0418	0.0418	0.0418	50,317	514,392	9.78%
NL	KPN	MNO	0.0270	0.0270	0.0270	8,400,000	21,000,000	30-35%
	T-Mobile	MNO	0.0270	0.0270	0.0270	5,250,000	21,000,000	20-25%
	Vodafone	MNO	0.0270	0.0270	0.0270	4,200,000	21,000,000	25-30%
	All MVNOs	MVNO	0.0270	0.0270	0.0270	3,150,000	21,000,000	10-15%
NO ⁴	Telenor	MNO	0.0387	0.0387	0.0387	2,803,296	4,871,687	57.54%
	NetCom	MNO	0.0387	0.0387	0.0387	1,006,364	4,871,687	20.66%
	Network Norway	MNO	0.0902	0.0902	0.0902	329,264	4,871,687	6.76%
	Tele2	MVNO	0.0515	0.0515	0.0515	498,202	4,871,687	10.23%
	TDC	MVNO	0.0387	0.0387	0.0387	43,278	4,871,687	0.89%
	Ventelo	MVNO	0.0387	0.0387	0.0387	136,964	4,871,687	2.81%
	Lyca	MVNO	0.0387	0.0387	0.0387	54,319	4,871,687	1.11%
PL	Polkomtel	MNO	0.0344	0.0344	0.0344	14,331,663	46,634,568	30.73%
	PTK	MNO	0.0344	0.0344	0.0344	12,948,436	46,634,568	27.77%
	PTC	MNO	0.0344	0.0344	0.0344	14,056,088	46,634,568	30.14%
	P4	MNO	0.0561	0.0561	0.0561	5,162,744	46,634,568	11.07%
	Centernet	MNO	0.0407	0.0407	0.0407	135,637	46,634,568	0.29%
PT	TMN+MVNO	MNO /MVNO	0.0350	0.0350	0.0350	7,428,802	16,793,936	44.24%
	VODAFONE+M VNO	MNO /MVNO	0.0350	0.0350	0.0350	6,697,334	16,793,936	39.88%
	OPTIMUS	MNO	0.0350	0.0350	0.0350	2,667,800	16,793,936	15.89%
RO	Orange	MNO	0.0503	0.0503	0.0503	Confidential	Confidential	-
	Vodafone	MNO	0.0503	0.0503	0.0503	Confidential	Confidential	-
	Cosmote	MNO	0.0503	0.0503	0.0503	Confidential	Confidential	-
	RCS & RDS	MNO	0.0567	0.0567	0.0567	Confidential	Confidential	-
SE ⁵	TeliaSonera	MNO	0.0230	0.0230	0.0230	4,619,000	10,842,000	42.60%
	Tele2	MNO	0.0230	0.0230	0.0230	3,605,000	10,842,000	33.25%
	Telenor	MNO	0.0230	0.0230	0.0230	1,740,000	10,842,000	16.05%
	Hi3G	MNO	0.0230	0.0230	0.0230	878,000	10,842,000	8.10%
SI	Telekom Slovenije	MNO	0.0381	0.0381	0.0381	Confidential	2,168,548	58.70%
	Si.mobil	MNO	0.0381	0.0381	0.0381	Confidential	2,168,548	29.50%
	Tušmobil	MNO	0.0457	0.0457	0.0457	Confidential	2,168,548	10.08%
	T-2	MNO	0.0533	0.0533	0.0533	Confidential	2,168,548	1.73%
SK	Telefonica	MNO	0.0551	0.0551	0.0551			20.76%
	Slovak Telekom	MNO	0.0551	0.0551	0.0551			33.59%
	Orange	MNO	0.0551	0.0551	0.0551			45.64%
TR	Turkcell	MNO	0.0126	0.0126	0.0126	34,533,442	65,321,745	52.87%
	Vodafone	MNO	0.0130	0.0130	0.0130	18,025,426	65,321,745	27.59%
	Avea	MNO	0.0149	0.0149	0.0149	12,762,877	65,321,745	19.54%
UK	Everywhere Everything	MNO	0.0352	0.0352	0.0352	confidential	confidential	-
	O2	MNO	0.0352	0.0352	0.0352	confidential	confidential	-
	Vodafone	MNO	0.0352	0.0352	0.0352	confidential	confidential	-
	H3G	MNO	0.0352	0.0352	0.0352	confidential	confidential	-

⁴ NO: Subscribers as of 30.06.2011⁵ SE: Subscribers as of 30.06.2011

4. SMS TR

Assumptions

By comparison with voice MTR, SMS TR are easier to understand and to compare:

- Most countries do not differentiate between peak time, off-peak time and weekend hours. According to the responses received, there is no exception in Europe.

- SMS TR are applicable to each *off net SMS* that is well delivered, so there is no assumption regarding set-up charges or average call durations. Slovenia and Latvia are the only countries that apply a "Bill & Keep" system for SMS. The scope of the benchmark is confined to national termination prices.

- In some countries, different rates depending on the total number of SMS sent are applied. For those countries, the rates corresponding to the biggest volumes (i.e. lowest rates) are selected to make European comparisons.

- Average SMS TR per country are obtained through pondering the SMS tariff of each operator by its market share, measured in terms of subscribers⁶.

- Two European averages based on the answers received are calculated, as it is also done for voice MTR benchmark: a simple average and a weighted average, pondering each country's average with the share of the country's subscribers (Total subscribers per country / Total European subscribers). In the case of the European weighted average, only the countries that reported the number of subscribers are taken into account.

- In the case of Switzerland, SMS TR are not wholesale interconnection prices but rather the result of an SMS-Interworking agreement among operators. P2P-SMS-Traffic is assumed symmetric. Therefore, there is a kind of 'Bill & Keep' system established between Swiss MNOs.

- Regarding the number of subscribers, it must be taken into account that different methods to evaluate it are used among European countries (especially in the case of pre-paid consumers).

- For non-Euro countries, the annual exchange rates for 2011 were used (see Annex).

⁶ The figures used in the report stem from the MTR benchmark as of January 2012

SMS TR per country as of January 2012

Country	SMS TR per country
AT	0.0400
BE	0.0496
BG	confidential data
CH	0.0730
CY	0.0067
CZ	confidential data
DE	N/A
DK	0.0215
EE	0.0511
EL	0.0300
ES	0.0467
FI	confidential data
FR	0.0150
HR	confidential data
HU	0.0501
IE	0.0317
IS	0.0242
IT	0.0457
LT	0.0145
LU	N/A
LV	0.0239
MK	0.0325
MT	0.0168
NL	0.0560
NO	0.0449
PL	0.0146
PT	0.0318
RO	0.0216
SE	0.0332
SI	Bill & Keep
SK	0.0370
TR	0.0074
UK	0.0210
Average (S)	0.0327
Average (W)	0.0315

5. FTR

Assumptions

The following assumptions have been made in order to make tariffs comparable:

- When regulators use the time based interconnection regime (TBI) in a number of cases interconnection services are regulated with two distinct nominal rates: one set-up charge (billed only for each call made) and one variable per minute price. In order to obtain an homogeneous comparison across operators, a 3-minute average call duration has been assumed; set up charges are accounted for by the standard formula: $(\text{fixed set-up charge} + \text{price per minute} \times 3) / 3$
- Nominal tariffs are represented in the report only in the cases where the regulator sets out the maximum price per minute that operators may charge each other.
- For those countries that have not set an average tariff and, additionally, apply distinct rates-one for the peak period, and another one for off-peak period-, a total average per operator has been calculated with the distribution of peak and off-peak traffic. When this distribution is not available, a 50% distribution for peak and 50% distribution for off-peak has been assumed⁷.

FTRs Benchmark

Since interconnection services are usually defined based on the different layers, or levels of service in the network hierarchy, we refer to:

Layer 1: local level interconnection in fixed networks

Layer 2: single transit interconnection service

Layer 3: double transit interconnection service

In some cases, an additional interconnection service may also be regulated, where an additional layer is introduced. Additionally, some countries use only one or two layers of interconnection. Consequently, they only report data to the levels used or regulated by the NRA.

In the next table the interconnection prices of the listed operators are presented. For each country, the NRA has provided information on the incumbent. Peak and off-peak rates are differentiated, as well as the two main models for interconnection contracting.

Time-based tariffs: FTR average per minute

TBI prices are reported in the next table. The differentiation between peak and off-peak rates is detailed, as well as the layer of interconnection. In the last column a weighted average between both (peak/ off-peak) prices is provided, using as weights the proportions of the traffic for each time period provided by the NRA

⁷ The 50%/50% peak/off-peak distribution was assumed for the following countries: BE, CH, CZ, EL, IE, IS, LU, MK, SE, UK and TR.

Country	Operator	Layer	Peak	Off-peak	FTR Average per minute
AT ⁸	A1 Telekom Austria	Layer 1	0.8200	0.4800	0.6924
		Layer 2	1.5800	0.7300	0.6924
		Layer 3	2.1600	0.7700	0.6924
BE	Belgacom	Layer 1	0.6133	0.3233	0.4683
		Layer 2	0.8767	0.4567	0.6667
		Layer 3	1.1200	0.5900	0.8550
BG	Bulgarian Telecommunication Company	Layer 1	0.5369	0.4346	0.5062
		Layer 2	0.5624	0.4857	0.5394
		Layer 3	1.0226	0.7158	0.9306
CH ⁹	Swisscom	Layer 2	1.1280	0.5640	0.8460
		Layer 3	0.9165	0.4583	0.6874
CY ¹⁰	CYTA	Layer 1(l)	N/A	N/A	0.3400
		Layer 1(r)	N/A	N/A	0.5500
		Layer 2	N/A	N/A	0.6300
CZ	Telefónica Czech Republic, a.s.	Layer 1	1.1869	0.5934	0.8902
		Layer 2	1.3451	0.6726	1.0089
DE	Telekom Deutschland GmbH	Layer 1	0.4500	0.3200	0.3820
DK	TDC	Layer 1	0.2576	0.1649	0.2474
		Layer 2	0.6528	0.4014	0.6251
		Layer 3	0.8616	0.5444	0.8267
EE	Elion	Layer 1	0.6833	0.4533	0.5844
		Layer 2	0.8500	0.5600	0.7253
EL ¹¹	OTE	Layer 1	0.3200	0.2200	0.2980
		Layer 2	0.5700	0.4200	0.5380
		Layer 3	0.7300	0.5600	0.7110
ES ¹²	TELEFÓNICA	Layer 1	0.5600	0.5600	0.5600
		Layer 2	0.6500	0.6500	0.6500
		Layer 3	0.6700	0.6700	0.6700
		Layer 4	0.9500	0.9500	0.9500
FI ¹³	Elisa Oyj	N/A	N/A	N/A	2.4000
	DNA Oy	N/A	N/A	N/A	2.4000
	TeliaSonera Finland Oyj	N/A	N/A	N/A	2.4000

⁸ Data refers to Q3/11

⁹ It exists a "clause of reciprocity", meaning that the tariffs of other operators have to be same as the ones of Swisscom.

¹⁰ Layer 1 (l) is at local level, while Layer 1(r) is at regional level. The effective average per minute price of layer 1 (in paragraph V) is calculated as a simple average of the two level prices.

¹¹ EL has 3 time periods: the intermediate prices for OTE are L1 = 0.29, L2 = 0.52, L3 = 0.65.

¹² In November 18th 2010, CMT approved new pricing list for the incumbent at all ITX levels (OIR 2010). All operators requested the incumbent the application of new price list at all levels within 2010, with the exception of Vodafone, which currently remains in RIO 2005 pricing.

¹³ Original answer from Finland included 31 operators. The ones finally shown in the report are the three main operators in terms of market share, together with other two small operators with a different FTR.

	Telekarelia Oy	N/A	N/A	N/A	2.4000
	Ålands Telefonandelslag	N/A	N/A	N/A	2.2000
FR ¹⁴	France Télécom	Layer 1	0.3027	0.1870	0.3000
HR ¹⁵	HT	Layer 1	0.5602	0.2801	0.4579
		Layer 2	0.8270	0.4135	0.6759
		Layer 3	1.6007	0.8003	1.3082
HU ¹⁶	Magyar Telekom	Layer 1	0.3682	0.2170	0.2989
		Layer 2	0.4931	0.2893	0.3997
		Layer 3	0.6279	0.3682	0.5089
IE	Eircom	Layer 1	0.4952	0.2739	0.3845
		Layer 2	0.6398	0.3537	0.4967
		Layer 3	0.7939	0.4392	0.6166
IS	Siminn	Layer 1	0.3897	0.3897	0.3960
IT ¹⁷	Telecom Italia S.p.A.	Layer 1	0.3020	0.3020	0.3020
		Layer 2	0.5700	0.5700	0.5700
LT	TEO LT, AB	Layer 1	0.7269	0.2462	0.5474
		Layer 2	1.3004	0.4026	0.9500
LU	EPT	Layer 1	0.7333	0.3733	0.5533
		Layer 2	0.9633	0.4833	0.7233
LV	Lattelecom	Layer 1	0.9691	0.9691	0.9691
MK	Makedonski Telekom AD	Layer 1	0.7317	0.2602	0.4959
		Layer 2	0.9756	0.4227	0.6992
		Layer 3	1.1869	0.5040	0.8455
MT	GO plc	Layer 1,2,3	0.8020	0.5730	0.7163
NL	KPN	Layer 2	0.7200	0.7200	0.7200
NO	Telenor	Layer 1	0.5026	0.5026	0.5026
PL	TP SA	Layer 1	0.6792	0.3408	0.5076
		Layer 3	1.1892	0.5946	0.8876
PT	PTC	Layer 1	0.5400	0.3500	0.4507
		Layer 2	0.6700	0.4200	0.5525
		Layer 3	0.7800	0.4900	0.6437
RO	Romtelecom	Layer 1	N/A	N/A	0.8400
		Layer 2	N/A	N/A	0.9700
		Layer 3	N/A	N/A	1.0600
SE	TeliaSonera	Layer 1	0.2563	0.2563	0.2563
		Layer 2	0.2948	0.2948	0.2948
		Layer 3	0.3124	0.3124	0.3124
SI	Telekom Slovenije	Layer 1	0.3900	0.3900	0.3900
		Layer 2	0.6800	0.6800	0.6800
		Layer 3	0.9500	0.9500	0.9500
	Slovak Telekom	Layer 1	0.7700	0.1500	0.4362

¹⁴ ARCEP only sets a cap for the FTR average applicable by the incumbent, which is free to define its tariff structure, providing its averaged revenue per minute does not exceed this cap. Its tariff structure includes a capacity-based component, on top of peak and off-peak components: this capacity-based component is charged 1000 euros per E1 per year, while the average load is 2.85 million minutes per E1 per year.

¹⁵ Data refers up to Q3 2011

¹⁶ Preliminary figures, calculated by estimated traffic distribution.

¹⁷ The tariffs for 2012 will be defined by an ongoing proceeding. Thus, the data reported are not official. In particular, Telecom Italia's tariffs are the last valid ones, i.e. those of 2011. For the other operators, we Telecom Italia's local termination for 2011 are reported since last AGCOM's decision indicated that in 2012 the alternative operators' termination rates will be symmetric to Telecom Italia's local termination rate.

SK ¹⁸		Layer 2	1.1500	0.2200	0.6503
		Layer 3	1.5100	0.2900	0.8542
TR	Turk Telecom	Layer 1	0.5614	0.5614	0.5614
		Layer 2	0.6907	0.6907	0.6907
		Layer 3	0.9047	0.9047	0.9047
UK ¹⁹	BT	Layer 1	0.3103	0.1423	0.2263

Capacity-based tariffs: Price per 2 Mbps circuit

Following with CBI, in the next table, the prices for each 2 Mbps circuit are presented for those countries that have as well the CBI regime. Note that this regulation affects only incumbents in two countries: Portugal and Spain.

Country	Operator	Layer	2 Mbps (EUR/Month)	Total revenues (€)	Total traffic (min)	Average price per minute (€ cent)
ES ²⁰	TELEFONICA	Layer 1	1363.46	N/A		0.3022
		Layer 2	1820.12			0.4180
		Layer 3	2013.63			0.7170
		Layer 4	2372.89			0.4891
PT	PTC	Layer 1	1,123.69	confidential	confidential	0.3061
		Layer 2	1,690.35	confidential	confidential	0.3523
		Layer 3	2,130.26	confidential	confidential	-

In the last column of previous table, the average price per minute is presented. It has been calculated as the total revenues by the incumbent obtained from selling 2 Mbps circuits to the rest of the operators for layer i ($i=1,2,3,4$) in 2011, divided by the total amount of (effective) minutes passed through those circuits over the same period and for the same interconnection level i .

¹⁸ SK has peak; off-peak and for three operators also an intermediate price: Slovak Telekom L1 0.34, L2 0.52, L3 0.77; Swan 0.52; UPC 0.52. The overall effective average prices for those three operators are therefore higher than those ones reported: Slovak Telekom L1 0.504, L2 0.754, L3 0.982; Swan 1.069; UPC 0.663.

¹⁹ UK has 3 time periods: Day (peak), evening (off-peak) and weekend. Weekend tariff is lower than the evening tariff (off-peak), thus average effective prices are lower than those ones reported. Assuming a distribution of 0.35-0.35-0.30: BT: 0.190 eurocents per minute, TalkTalk: 0.185, Virgin Media: 0.234, Sky: 0.260, C&W: 0.209.

²⁰ For ES, this capacity-based nominal average price per minute is based on the following calculations: 2 Mbps circuit price divided into load factor - minutes effectively managed per layer in this circuit- that results into the figures presented above. Load factors for each layer are calculated based on incumbent operator data for 2010.

6. ANNEX

Exchange rates²¹

	Average annual exchange rate for 2011	Average exchange Q4 2011
Countries	Euro	Euro
BG	1,96	1,96
CH	1,23	1,23
CZ	24,59	25,27
DK	7,45	7,44
HR	7,44	7,49
HU	279,37	303,47
IS	159,10	159,10
LT	3,45	3,45
LV	0,71	0,71
MK	61,49	61,49
NO	7,79	7,76
PL	4,12	4,42
RO	4,24	4,34
SE	9,03	9,09
TR	2,33	2,48
UK	0,86	0,86

²¹ European Central Bank website:

<http://sdw.ecb.europa.eu/browseSelection.do?DATASET=0&FREQ=Q&CURRENCY=&node=2018794>

Abbreviations

AT	Austria
BE	Belgium
BG	Bulgaria
CH	Switzerland
CY	Cyprus
CZ	Czech Republic
DK	Denmark
DE	Germany
EE	Estonia
EL	Greece
ES	Spain
FI	Finland
FR	France
HR	Croatia
HU	Hungary
IE	Ireland
IS	Iceland
IT	Italy
LT	Lithuania
LV	Latvia
LU	Luxembourg
MK	Former Yugoslav Republic of Macedonia
NL	Netherlands
NO	Norway
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SI	Slovenia
SK	Slovakia
TR	Turkey
UK	United Kingdom