Annex 9

Review of mobile tariffs in the UK and US

Introduction

A1.1 This Annex provides a review of the current structure of main mobile tariffs offered by the main mobile operators in the UK and US.

A1.2 The wholesale mobile termination regime in the UK is CPNP. Broadly speaking, the US wholesale mobile termination regime can be considered B&K (see Annex 8.1). Mobile operators can charge the termination rate set by the relevant state regulator for fixed termination, but operators can opt for B&K if they wish to do so. Our understanding is that the majority of calls terminating on mobile networks are governed by B&K arrangements. This means that average mobile termination rates are very low and close to zero.[1]

A1.3 A good understanding of the retail price structures in the UK and US may help to predict, at least in part, what the UK retail price structure may look like if UK mobile termination rates were reduced further and possibly be set close to zero.

Review of UK mobile tariffs

Tariff data

A1.4 We have used tariff data from the UK Mobile Pricing Factbook published in the final quarter of 2008.[2] We focus our analysis on tariffs available from the five UK mobile network operators (O2, Vodafone, T-Mobile, Orange and 3).

Post-pay tariffs

A1.5 For our review of post-pay tariffs, we have focussed on standard retail, any-network, any-time tariffs available on an 18 month contract. In particular we focused on:

1.5.1 *Retail tariffs* – tariffs that can be purchased from most retailers. Online tariffs[3], SIM only plans[4] and business plans[5] are not included in this analysis. Also, we have not taken account of add-ons[6] or special offers[7];

[1] Access fee payments still apply between some operators. See “Call Termination Fees: The U.S. in global perspective”, presented at the 4th ZEW Conference on the Economics of Information and Communication Technologies, Mannheim, Germany, July 2004. Available at: ftp://ftp.zew.de/pub/zew-docs/div/IKT04/Paper_Marcus_Parallel_Session.pdf.
[2] This is published by Pure Pricing.
[3] Operators sometimes offer additional discounts if the tariff is purchased online from the operator’s own website.
[4] SIM-only pay-monthly plans (handset not included) offer more minutes / texts than standard pay-monthly tariffs and usually require only 30 days notice to cancel.
[5] Tariffs available to business customers only.
[6] On some networks, customers can pay an additional monthly fee for certain add-ons (e.g. unlimited on-net calls, unlimited weekend calls, unlimited fixed calls, additional any-network any-time minutes, additional / unlimited texts, data pack, picture messages, video calling minutes)
[7] For example: discounted monthly charge for a number of months.

1.5.2 *Any-network, any-time tariffs* – these are tariffs that offer mainly any-network, any-time call minutes. We have not included in this analysis plans which offer less any-network, any-time call minutes in exchange for more texts, more off-peak call minutes, more fixed call minutes, or more on-net minutes; and

1.5.3 *18 month contracts* – 12 and 24 month contracts are not included.[8]

A1.6 Table 1 shows all the post-pay tariffs included in the UK Mobile Pricing Factbook (Q4 2008), that meet the criteria set out above.

[8] 84% of new mobile contract connections were 18 month contracts in the first quarter of 2008. See Ofcom's Communications Market Report 2008, Figure 5.56.

Table 1: Post-pay tariffs in the UK (standard retail, any-network any-time, 18 month tariffs)

Operator	Tariff	Monthly charge (£)	Inclusive minutes (any-network, any-time)	Messages included	Outside allowance (ppm)		Other
					Fixed & on-net	Off-net	
3UK	Mix & Match (18 months)	15	300	-	12	12	Mins or texts: (1 min = 1 text). Add'l 300 on-net, x-time calls
		18	500	-	12	12	Mins or texts: (1 min = 1 text). Add'l 300 on-net, x-time calls
		21	700	-	12	12	Mins or texts: (1 min = 1 text). Add'l 300 on-net, x-time calls
		24	900	-	12	12	Mins or texts: (1 min = 1 text). Add'l 300 on-net, x-time calls
		27	1,100	-	12	12	Mins or texts: (1 min = 1 text). Add'l 300 on-net, x-time calls
O2	O2 (18 months)	20	75	125	20	20	
		25	200	200	20	20	
		30	400	500	20	20	
		35	600	500	20	20	
		45	1,200	500	20	20	
		75	3,000	500	20	20	
Orange	Dolphin (18 months)	25	200	unlimited	12	35	Unlimited texts (max 3000)
		30	400	unlimited	12	35	Unlimited texts (max 3000)
		35	600	unlimited	12	35	Unlimited texts (max 3000)
		40	750	unlimited	12	35	Unlimited texts (max 3000)
	Racoon (18 months)	25	300	100	12	35	Unlimited fixed x-time calls (max 3000)
		30	500	100	12	35	Unlimited fixed x-time calls (max 3000)
		35	700	100	12	35	Unlimited fixed x-time calls (max 3000)
	Canary (18 months)	30	400	500	12	35	Unlimited on-net, x-time calls (max 3000)
		40	850	500	12	35	Unlimited on-net, x-time calls (max 3000)
	Panther (18 months)	45	1,200	500	12	35	Unlimited fixed or on-net x-time calls or texts (max 3000) or internet
		55	1,800	500	12	35	Unlimited fixed or on-net x-time calls or texts (max 3000) or internet
		75	3,000	500	12	35	Unlimited fixed or on-net x-time calls or texts (max 3000) or internet

Operator	Tariff	Monthly charge (£)	Inclusive minutes (any-network, any-time)	Messages included	Outside allowance (ppm)		Other
T-Mobile	Combi (18 months)	15	100	100	30	30	
		20	200	200	30	30	
		25	300	300	30	30	
		30	700	400	30	30	
		35	800	500	30	30	
		40	1,000	500	30	30	
	Flext (18 months)	30	700	-	20	20	Allowance - can be spent on voice, texts, or pictures
		35	1,000	-	20	20	Allowance - can be spent on voice, texts, or pictures
		40	1,250	-	20	20	Allowance - can be spent on voice, texts, or pictures
		50	1,750	-	20	20	Allowance - can be spent on voice, texts, or pictures
		75	3,250	-	20	20	Allowance - can be spent on voice, texts, or pictures
Vodafone	Vodafone (18 months)	20	100	50	18	40	
		25	250	100	18	40	
		30	500	100	15	40	
		35	700	250	15	35	Choice: unlimited calls to fixed or on-net
		40	900	500	15	35	Choice: unlimited calls to fixed or on-net
		50	1,500	500	15	35	Choice: unlimited calls to fixed or on-net
		75	3,000	500	15	35	Choice: unlimited calls to fixed or on-net

Source: UK Mobile Pricing Factbook, Pure Pricing, Q4 2008

Inclusive minutes

A1.7 Bundles in the UK have been getting larger in recent years, with all five operators now offering some tariffs that include over 1,000 any-network, any-time minutes. Such an allowance is unlikely to be exceeded by most users, and so at least for these large bundle tariffs, most revenues are raised from the fixed monthly charge as opposed to per minute call charges. In general though, these “big-bucket” tariffs cost over £40 per month.

A1.8 Although not as widespread as in the US, there are few examples of unlimited on-net calls on post-pay tariffs in the UK. Both Orange and Vodafone include unlimited fixed and/or on-net (any-time) minutes on a selection of their tariffs, while 3 includes 300 additional on-net any-time minutes on all of their tariffs.

A1.9 In contrast to the US, tariffs with very low inclusive minutes exist in the UK. O2, T-Mobile and Vodafone all offer tariffs that include only 100 minutes or fewer.

On-/off-net price differential

A1.10 3, O2 and T-Mobile charge the same for both on-net and off-net calls made once the allowance is used up, so the on-/off-net price differential is zero in these cases. However, it is not necessarily so for calls within the bundle.

A1.11 Orange charges 12 ppm for on-net calls and 35 ppm for off-net calls once the allowance is used up, giving an on-/off-net price differential of 23 ppm. Where the tariff includes unlimited on-net calls, the effective differential between on-net calls (which are free) and off-net calls is even greater. In reality, in most cases the bundle sizes are so large (e.g. Panther tariffs) that off-net calls are also effectively unlimited for most customers.

A1.12 On lowest priced tariffs, Vodafone charges 18 ppm and 40 ppm for on-net and off-net calls respectively outside of the allowance (on-/off-net price differential: 22 ppm). For tariffs charging over £30 per month, these charges fall to 15 ppm and 35 ppm giving a slightly lower on-/off-net price differential of 20 ppm. Where customers opt for unlimited on-net calls, the effective differential is of course even greater, but in most cases the bundle size is so large that off-net calls are effectively unlimited (i.e. a zero differential).

Pre-pay tariffs

A1.13 Unlike the US, the majority of subscriptions in the UK are pre-pay (64% in 2007). Table 2 summarises the call charges that apply on UK pre-pay tariff packages available from the five mobile network operators.

Table 2: Call charges on pre-pay tariffs in the UK

Operator	Pre-pay call charges
3	All calls: 12 ppm
O2	Off-net: 25 ppm On-net: 25 ppm for the first 3 minutes of the day, 5 ppm thereafter
Orange	All calls: 15 ppm or 20 ppm depending on pre-pay plan
T-Mobile	All calls: 20 ppm for the first 2 minutes, 10 ppm thereafter
Vodafone	All calls: 20 ppm

Source: UK Mobile Pricing Factbook, Pure Pricing, Q4 2008

A1.14 These operators also offer bundles[9] or top-up rewards[10] on their pre-pay tariffs:

1.14.1 3 customers can purchase a bundle of "units", where 1 unit = 1 minute or 1 text (valid for 30 days). T-Mobile pre-pay customers can purchase text and talk "boosters", which give them a bundle of texts or minutes valid for 5 days;

1.14.2 O2 and Orange reward customers with a call or text allowance when they top up by a certain amount. The size of the allowance depends on the amount of credit purchased; and

1.14.3 Vodafone offers pre-pay customers top-up rewards (additional texts when they top up by a certain amount). Vodafone pre-pay customers can also purchase bundles of texts and minutes that are valid for 30 days.

Credit expiry

A1.15 Credit does not expire for any operator, and most operators give rewards (minutes or texts) when the customer buys top-up of a particular value. Some operators offer bundles of texts and/or minutes that can be purchased and last for a given period of time (usually 30 days).

Call charges

A1.16 Except for O2, the operators charge the same rate for on-net and off-net calls.

A1.17 On 3, Orange and Vodafone this charge is independent of the length of the call, whereas on T-Mobile call charges are "stepped", that is, calls are charged at 20 ppm for the first 2 minutes, then 10 ppm thereafter. On O2, fixed and on-net call charges are stepped (25 ppm for the first 2 minutes of the day, 5 ppm thereafter) whereas off-net calls are charged at a flat rate (25 ppm). In general, it can be said that the pre-pay on-/off-net price differential is close to zero.

[9] Bundles can be purchased that give an allowance of minutes and texts.
[10] Additional credit, minutes or texts are given when the customer top-ups by £x or more.

Review of US mobile tariffs

Tariff data

A1.18 We have looked at some of the pre-pay and post-pay tariffs available in October 2008 from the four largest US operators (by subscriber numbers). These currently cover about 85% of US subscribers (see Table 3).

Table 3: Subscribers to the four largest US mobile operators

	Subscribers (million)	Share
AT&T Mobility	67.4	27%
Verizon Wireless	63.7	26%
Sprint Nextel	53.1	21%
T-Mobile USA	27.7	11%

Source: Analysys Mason.

A1.19 Table 4 below summarises a selection of the standard, individual pre-pay and post-pay tariffs available from these four US operators. The information was collected from the operators' websites in October 2008.

Table 4: Pre-pay and post-pay tariffs in the US (standard retail individual tariffs)

Operator	Post-pay / Pre-pay	Tariff	Monthly access fee	Daily access charge (on days used)	Inclusive any-time, any-network minutes	On-net calls	Off-peak calls	Per-minute rate after allowance
Verizon Wireless	Post-pay	Nationwide Basic (can pay more to get additional benefits, but these details are the same)	39.99	-	450	Unlimited	Unlimited	$0.45
			59.99	-	900	Unlimited	Unlimited	$0.40
			79.99	-	1350	Unlimited	Unlimited	$0.35
			99.99	-	Unlimited	Unlimited	Unlimited	$0.00
	Pre-pay	INpulse PAYG	-	0.99	-	Unlimited	-	$0.10
			-	1.99	-	Unlimited	Unlimited	$0.05
			-	2.99	-	Unlimited	Unlimited	$0.05
AT&T Wireless	Post-pay	Individual plans	39.99	-	450	Unlimited	5000	$0.45
			59.99	-	900	Unlimited	Unlimited	$0.40
			79.99	-	1350	Unlimited	Unlimited	$0.35
			99.99	-	Unlimited	Unlimited	Unlimited	$0.00
	Pre-pay	PAYG	-	0.00	-	-	-	$0.25
			-	1.00	-	Unlimited	-	$0.10
		Pick your plan (no annual contract)	29.99	-	200	-	-	$0.15
			39.99	-	300	Unlimited	500	$0.13
			49.99	-	400	Unlimited	3000	$0.13
			69.99	-	650	Unlimited	Unlimited	$0.11
T-Mobile USA	Post-pay	Individial plans (FlexPay)	29.99	-	300	Unlimited**	Unlimited	$0.40
			39.99	-	1000	Unlimited**	-	$0.40
			39.99	-	600	Unlimited**	Unlimited	$0.40
			49.99	-	1000	Unlimited**	Unlimited	$0.40
			59.99	-	1500	Unlimited**	Unlimited	$0.40
			99.99	-	Unlimited	Unlimited**	Unlimited	$0.40
	Pre-paid	Pay by the day	-	1.00	-	Unlimited	Unlimited	$0.10
		PAYG	-	0.00	-	-	-	$0.10 - $0.33*
		Side-kick pre-paid	-	1.00	-	-	-	$0.15

**$100 for 1000 mins, $50 for 400 mins, $25 for 130 mins, $10 for 30 mins*
***Unlimited on FlexPay tariff*

Sprint Nextel	Post-pay	Simply everything	99.99	-	Unlimited	Unlimited	Unlimited	Unlimited
		Everything	69.99	-	450	Unlimited	Unlimited	$0.45
			89.99	-	900	Unlimited	Unlimited	$0.40
		Talk/Message/Direct Connect	49.99	-	450	Unlimited	Unlimited	$0.45
			69.99	-	900	Unlimited	Unlimited	$0.40
			89.99	-	Unlimited	Unlimited	Unlimited	Unlimited
		Talk	39.99	-	450	Unlimited	Unlimited	$0.45
			59.99	-	900	Unlimited	Unlimited	$0.40
		Basic	29.99	-	200	-	Unlimited	$0.45

Standard, individual, pre-pay and post-pay tariffs as available on 14th October 2008

Post-pay tariffs

A1.20 The majority of post-pay bundles are much larger (in terms of included minutes) in the US compared to the UK. The majority of tariffs includes unlimited on-net calls as well as unlimited off-peak (i.e. evening/night and weekend) calls to any networks. Moreover, for a larger fixed fee, the operators charge lower per-minute out-of-allowance call charges.

A1.21 This suggests that operators raise most of their revenues from the fixed monthly charge. Therefore, it appears that in a market with (very) low mobile termination rates, a large proportion of revenues is raised via the fixed monthly charges.

A1.22 We also note that the price per minute for calls outside of the allowance is in the range of $0.40, which is much higher than the average price within the bundle. Operators may use these charges to aggressively push consumers onto the next tariff with more inclusive minutes.

Pre-pay tariffs

A1.23 AT&T, Verizon and T-Mobile offer pre-pay tariffs with a daily access charge (payable only on days when the phone is used). This is akin to a fixed fee (in relation to the minutes of use). It appears that they are willing to offer lower per-minute call charges, and more unlimited/bundled minutes in exchange for a fixed daily charge.

On-/off-net price differential

A1.24 On-net and off-net (domestic) calls outside the allowance for all tariff packages are always charged at the same rate. However, as most post-pay tariffs (and some pre-pay tariffs) offer unlimited on-net calls, once the allowance of off-net calls is used up, there is an effective differential between the price of on-net calls (which are always free) and off-net calls (charged at a flat rate beyond the allowance).

A1.25 In reality though, the bundle sizes are so large that off-net calls are effectively unlimited for a large number of customers. Therefore, the on-/off-net price differential is close to zero for most users.

Incoming versus outgoing call charges

A1.26 In the US consumers are charged both for making and receiving calls. For all main tariffs surveyed here, all the bundles include both incoming and outgoing minutes[11] and the call charges, if the limit in the bundles in exceeded, are the same. This is the case for all operators and all the main tariffs. The above information means that all operators for all levels of output charge the same price for both types of calls.

A1.27 This may provide some interesting information as to the relative value consumers assign on average to make and receive calls. If we assumed that the cost of origination is equal to the cost of termination,[12] then any difference in caller and

[11] The evidence reveals that incoming and outgoing calls count equally against any allowance of minutes - i.e. a one minute incoming call = a one minute outgoing call = one minute's worth of allowance.

[12] In reality, the cost of origination may be marginally higher as it includes the cost of transit which is borne by the caller but not by the receiver.

recipient charges would point to a difference between the level and shape of the demand curves for receiving a call and for making a call, respectively.

A1.28 Given that the costs are likely to be very similar – under the quasi-B&K system in the US the cost of the call is effectively equally shared between caller and receiver[13] - the most plausible implication seems to be that consumers value incoming calls as much as they value outgoing calls. Indeed, if consumers valued receiving calls less than making calls, operators would have incentives to price receiving calls lower than making calls.

A1.29 An alternative possible explanation as to why charges to make and receive calls are identical could be that consumers value simple tariffs and, hence, if the difference in valuation were not very large, operators may provide simple tariff structures. However, given consumers' ability to deal with relatively complex mobile retail price structures this does not appear at first sight a convincing explanation.

A1.30 This suggest that if hypothetically the US introduced a wholesale CPNP system that made the caller bear all the cost of the call, there would be a positive externality enjoyed by the recipient of the call. Whether consumers could take action to internalise this, is a separate question which will have to be addressed separately.

Underlying cost structure

A1.31 Under B&K a network does not face a termination fee to terminate a call onto another network (off-net calls). On the contrary, it may face a cost to terminate it on its own networks (on-net calls). Therefore, one would expect that the retail tariffs of mobile networks would provide some incentives to terminate calls off-net. To some extent this could be seen as a version on the "hot potato issue" which is often raised as a concern under B&K whereby the originating operator may have an incentive to pass on some of the cost to the terminating operator. In this case instead the originating operator would have an incentive to "offload" as many calls as possible.

A1.32 Absent other considerations, this would only be true if networks felt that there was a variable per minute cost that they should recover through a variable – not a fixed – retail charge. If the cost of on-net calls was felt to vary by minute, operators would be expected to recover it through a per minute charge. At the same time because they perceive that (marginal) cost for per minute of off-net calls does not include termination rate, one would also expect that the retail call charge for off-net calls, if it existed, should be lower than for on-net calls.

A1.33 What we observe from these retail tariffs seems to suggest that the perceived per minute cost is zero or close to zero:

1.33.1 They recover most of their costs through fixed fees - this may suggest that they do not face high per minute marginal costs either for on- or off-net calls; and

1.33.2 Their retail charges do not distinguish in any significant way between on and off-net calls. To be precise, it appears that the retail on-net call charges are set at zero (the majority of tariffs give unlimited on-net calls) while for off-net calls most tariffs include unlimited off-peak calls and charge some

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[13] In practice, the caller may also bear the cost of conveyance and hence pay slightly more than half of the costs.

positive rate for peak off-net calls. This may further suggest that the marginal cost for on-net calls may not be that different from that from off-net calls (which is close to zero on average).