

APPENDIX 5.7  
(referred to in paragraphs 5.157 and 5.161)

**Examples illustrating the implications of harmonizing  
retail termination charges**

1. Mobile operators are required by a condition in their licence to offer MNP after 1 January 1999. Customers of mobile phone networks would then be able to move networks and take their mobile numbers to the new network. The DGT considered that this change required equal retail rates and equal termination rates from the respective MNOs, set on the basis of efficiently incurred costs. The DGT told us that if prices varied by time of day and if different originating operators had different sets of charges, then there would be windfall gains and losses if subscribers changed to a network with different termination charges because BT and the other FNOs were unable to identify that the subscriber had changed networks. We consider these issues in the following analysis.

2. Table 1 illustrates the position of windfall gains arising from subscribers moving networks with different termination charges. If the subscriber on MNO 'A' moves to 'B', the FNO will charge callers to that customer 23 ppm (as if he or she were still on MNO 'A'), rather than the 5 ppm for those calling MNO 'B'. The FNO will continue to pay MNO 'A' 18 ppm. The issue is then what does MNO 'B' recharge to 'A'. If the recharge is at its own termination rate to the FNO of 5 ppm, then MNO 'A' will receive a windfall gain of 18 ppm. Hence the DGT proposed that all MNOs should have equal termination rates.

TABLE 1 Example showing the effect of subscribers porting numbers between networks

			ppm
	<i>Termination rate*</i>	<i>Retail rate</i>	<i>FNO retention*</i>
<i>MNO 'A'</i>			
Day rate	18	23	5
<i>MNO 'B'</i>			
Day rate	[ <i>Figures omitted. See note on page iv.</i> ]		
Difference	[ <i>Figures omitted. See note on page iv.</i> ]		

Source: MMC.

---

\*This example is purely illustrative to show the potential effect when two networks have different termination charges.

3. Where MNOs have different traffic profiles, they cannot simultaneously have harmonized charges and the same average revenue per minute from calls terminating on their networks. The only exception is that, if MNOs all charged the same constant amount throughout the week, it would then not matter what traffic profile each company has. This would encourage inefficient use of the network because calls in the peak period would cost no more than those in the off-peak period.

4. Table 2 shows what happens when the FNO harmonizes the retail price and when there are differences in termination charges by individual MNOs. In this example, as MNO 'B' has a traffic gradient different from that of MNO 'A', it sets a higher termination charge to enable it to recover additional revenues and thereby match the average revenues achieved by MNO 'A'. The total retention for the FNO under these assumptions is £120 million, equivalent to 4 ppm from all incoming callers. If the FNO decides to recover this amount by harmonized retail rates, the three scenarios show how it could apply this strategy:

- (a) In scenario 1, the retail price per minute for terminating incoming calls to MNOs 'A' and 'B' could be harmonized at almost 22 ppm in the day, 17 ppm in the evening, and 9 ppm for weekend calls. However, the FNO's retention would be 5 ppm from callers to MNO 'A', but

only 2 ppm from callers to MNO 'B'. Overall, its retention recovery from callers to MNO 'B' would be £25 million compared with £40 million when the FNO recovers an equal retention rate of 4 ppm from callers to both mobile networks. The £15 million difference would be recovered from callers to MNO 'A' who would effectively subsidize the price increase set by MNO 'B'.

- (b) Scenario 2 shows how the FNO could harmonize its retail charge for callers to mobile networks by narrowing the difference between the day and evening retail charges for incoming calls, and still recover £120 million as the level of retention.<sup>1</sup> The harmonized day charge of 20.7 ppm compares with 20.4 ppm for evening incoming calls. The FNO's retention recovery from callers to MNO 'B' would be £29 million, compared with £25 million under scenario 1.
- (c) Scenario 3 shows how the FNO could continue to harmonize retail charges by reducing its daytime retail rate, offset this by increasing the evening and weekend rates, and recover the £120 million retention discussed above. The day charge could fall to 19.1 ppm, compared with 19 ppm for the evening and weekend charges. In this case, the FNO would recover a retention of £40 million from callers to MNO 'B', which is equivalent to a retention of 4 ppm from all callers to that network. However, this scenario results in a disproportionate recovery from callers to the mobile networks at the weekend, who will pay a retention rate of 14 ppm, compared with much lower retention rates that are included in the day and evening retail charges. This scenario is not realistic but shows one possible effect of the FNO applying an unrestrained policy of harmonized retail rates.

5. The above analysis shows that where there are harmonized retail rates, but individual mobile networks have different termination rates at various times of the day/week, then callers to mobile networks can sometimes suffer disadvantage. They can pay a higher or lower retention charge to the FNO depending on its pricing policy, which would not necessarily reflect properly the charge to the FNO from the respective MNOs. Moreover, the harmonized charges would not pass on the benefits of reductions in MNO termination rates to callers into such networks.

---

<sup>1</sup>This level is equivalent to an average fixed retention of 4 ppm from all incoming callers.

TABLE 2 Comparison of effect on MNOs and FNO of retail price harmonization

Scenarios assuming harmonization of retail charges													
					Price scenario 1			Price scenario 2			Price scenario 3		
	Traffic distribution %*	Incoming minutes bn	Termination charge p	Revenue £m	Retail charge to customer p	FNO retention £m	FNO retention p	Retail charge to customer p	FNO retention £m	FNO retention p	Retail charge to customer p	FNO retention £m	FNO retention p
<b>MNO 'A'</b>													
Day	69	1.38	17	235	21.9	67	4.9	20.7	51	3.7	19.1	29	2.1
Evening	17	0.34	12	41	17	17	5.0	20.4	29	8.4	19	24	7.0
Weekend	8	0.16	5	8	9	6	4.0	9	6	4.0	19	22	14.0
International	6	<u>0.12</u>	5	<u>6</u>	9	<u>5</u>	4.0	9	<u>5</u>	4.0	9	<u>5</u>	4.0
Total/average		2.00	14.5	289		95	4.7		91	4.6		80	4.0
<b>MNO 'B'</b>													
Day	[ Figures omitted. See note on page iv. ]				[ Figures omitted. See note on page iv. ]			[ Figures omitted. See note on page iv. ]			[ Figures omitted. See note on page iv. ]		
Evening													
Weekend													
International													
Total/average	[	⊗	]	25	[⊗]	29	[⊗]	40	[⊗]				
Total retention recovered by FNO					120			120			120		

Source: MMC.

\*Figures are illustrative.

[ ]

Details omitted. See note on page iv.