Annex J

The treatment of ported numbers in the charge controls

J.1 Mobile number portability is the facility which enables subscribers to retain their mobile numbers when switching from one MNO to another.

J.2 Under the current technical and commercial arrangements, termination of a call to a ported number takes place via the donor MNO. The call is first routed to the donor MNO and only then passed on, or 'onward routed', to the recipient MNO, which terminates it and receives in payment the termination charge of the donor MNO (less a Donor Conveyance Charge[89]). Hence, calls to ported numbers are 'ported in' from the perspective of the recipient network and 'ported out' from the perspective of the donor network.

J.3 Mobile number portability been available in the UK since January 1999 and ported mobile numbers are now around 5% of total connections. Their volume is, thus, significant enough to warrant proper consideration from the Director of how calling minutes to these numbers should be treated in the charge controls.

The May consultation

J.4 In the May consultation the Director stated that he thought it was undesirable for calling minutes to ported numbers to be omitted from the charge control. Given their considerable and growing volume, he considered that to exclude these call minutes could reduce the effectiveness of the charge controls. He, therefore, examined two possible ways forward:

Option 1) to include direct call minutes and call minutes to ported-in numbers in the Average Interconnection Charge (AIC)[90], or

Option 2) to include direct call minutes and call minutes to ported-out numbers in the AIC.

J.5 The Director reached the preliminary conclusion that the most appropriate way forward was Option 1. Option 1 was preferred, because it results in an average termination charge for each terminating MNO that best reflects its average costs[91].

[89] The Donor Conveyance Charge is the charge which, under the current arrangement, is paid by the recipient MNO to the donor MNO for the transit service of routing the ported call. This charge covers the switching, engineering and transmission costs incurred by the donor MNO in conveying the call to the recipient MNO.

[90] The Average Interconnection Charge (AIC) is the average termination charge set by the regulated MNO over each control period. The charge control proposed in this review requires that, at the end of each period of the control, the AIC set by the regulated MNO over that period does not exceed the Target Average Charge (TAC) with which the MNO is required to comply.

[91] For illustration, assume that there two MNOs, A and B, which have different termination costs and thus different TACs: 5 for MNO A and 6 for MNO B. Assume for simplicity that the weights for each MNO reflect the receipt of 2 'direct' (i.e. non-ported) call minutes and 1 ported-in call minute. Assume that MNO B sets its direct termination charge at 6. This is received by MNO A for its ported-in minute (ignoring the donor conveyance charge retained by MNO B). Hence, in order to comply with the TAC of 5, MNO A is forced to set a charge for its direct termination no higher than 4.5 (4.5 x 67% + 6 x 33% = 5). MNO A's direct termination is therefore below cost, but this is offset by the receipt for the termination of ported-in minutes, which is above cost. As a consequence, its average charge is the same as its average cost (assumed equal to the TAC in this example).

With Option 2, instead, the average termination charge for each MNO would differ from its average costs of providing termination[92], thus generating an arbitrary gain or loss for the recipient MNO depending on the level of its termination charge relative to the charge of the donor MNO.

J.6 However, the Director acknowledged that with Option 1 the MNOs subject to the charge control ("regulated MNOs") could have difficulties in complying exactly with their charge controls. This is due to the fact that, with Option 1, an MNO's AIC is partially dependent on the termination charges set by other MNOs through the inclusion of call minutes to ported-in numbers. Hence, to meet its TAC, each MNO would need to forecast accurately the termination charges and the traffic patterns of the other MNOs (both regulated MNOs and those who are not subject to the charge control) from which it has ported numbers for each forthcoming control period. Any error in this forecasting exercise would mean that the carryover provision from one period of the control to the other would have to be used.

J.7 This drawback is the result of the current charging agreements, whereby the recipient operator terminates the call to a ported-in number, but receives a termination charge set by another MNO, which may have different costs. These arrangements are, in turn, the result of the technical routing system in place at present (i.e. the indirect routing system described above). This system does not enable the originating operator to identify the MNO on whose network the call actually terminates (i.e. the recipient MNO) and, thus, the originating operator has to pay the termination charge of the donor MNO to which it hands the call.

J.8 This indirect routing system generates arbitrary windfall gain or losses for the MNOs, depending on the relative levels of their termination charges. It favours the MNOs with low termination charges, which earn a higher charge on a share of their incoming traffic, and penalises those with higher termination charges, for which the reverse is true. If the industry were to move to a direct routing system, in which the donor MNO played no role in the transmission of the call and recipient MNO could levy its termination charge on these calls, the arbitrary gain and losses would disappear.

J.9 The Director has in the past expressed a preference for a portability arrangement where prices reflect costs, which would not generate any unjustified gains and losses, and which avoids the cost of an additional transmission leg (due to the routing via the donor network). However, he is aware that the cost of setting up the central customer database necessary to support a direct routing system can be expected to be high and that direct routing may currently not be the most cost-efficient solution. Hence, the Director acknowledged that, because of the present commercial and technical arrangements, Option 1 requires the MNOs to undertake a forecasting exercise that may turn out to be difficult.

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[92] Using the same example as above, under Option 2 MNO A would receive 5 for its direct minutes and 6 for the ported-in minute. To meet the TAC MNO A could keep its termination charge at 5, but it would earn 6 for the ported-in minute. Thus, MNO A would on average earn 5.3 (5 x 67% + 6 x 33% = 5.3). Since its average termination cost is 5, this would leave it with an unearned gain of 0.3. Similarly MNO B would receive 6 for its direct minutes and 5 for the ported-in minute. To meet the TAC MNO B could keep its termination charge at 6, but it would earn 5 for the ported-in minute. Thus, MNO BA would on average earn 5.6 (6 x 67% + 5 x 33% = 5.3). Since its average termination cost is 6, this would leave it with an unjustified loss of 0.6.

J.10 For this reason, the Director proposed to implement Option 1, but with the proviso that, upon request, he would give consent to a variation in the volumes used in the calculation of the AIC so as to exclude ported-in minutes. This consent could be withheld if there was any concern that the MNOs might be setting excessive termination charges for calls to ported-in numbers, thus weakening the charge control arrangements.

The MNOs' comments to the proposal and the Director's response

J.11 T-Mobile and O2 have both expressed concerns about Option 1. Their argument is that the inclusion of calls to ported-in numbers in the controls implies that the MNOs have no control over one source of their termination revenues, which depends on the charge set by other MNOs. This could lead to the perverse outcome that an MNO could set its charges so as to satisfy its controls, but still find itself in breach because there had been more calls than forecast to ported-in numbers that attract a higher termination charge than its own. They argued that the inclusion of call minutes to ported-out numbers should also be avoided (i.e. Option 2).

J.12 The Director is still of the view that the volume of ported mobile numbers is significant enough that a mechanism should exist to enable the regulation of the termination charges for calls to ported numbers. He considers that their complete exclusion would give the MNOs freedom to reduce the effectiveness of the controls by increasing termination charges for these numbers. He is also of the view that adopting Option 2 (i.e. including calls to ported-out numbers in each MNO's control) instead would not be a better way forward, as it generates arbitrary gains for those MNOs with lower termination costs and arbitrary losses for those MNOs with high termination costs.

The Director's revised proposal

J.13 Having further examined the implications of his proposed treatment of calls to ported number, the Director considers on reflection that it may generate an undesirable outcome. With an arrangement that allows the MNOs to choose whether to request the exclusion of ported-in minutes from the charge controls, the combined 900/1800MHz MNOs, which have lower termination costs, may have the incentive to request the Director's consent, because the inclusion of the higher termination charges of the 1800MHz MNOs raises their AIC and requires them to set lower charges to comply with their TAC. On the other hand, the 1800MHz MNOs, which have higher termination costs, may have the incentive to retain in the control the lower termination charges of the combined 900/1800MHz MNOs because it reduces their AIC allowing them to set higher charges and still comply with their TAC. Therefore, the Director's proposal could result in an inconsistent treatment of calls to ported numbers and in an overall weakening of the charge controls to the disadvantage of consumers.

J.14 Hence, the Director has modified his proposal to take account of this effect. The Director is now proposing to exclude calls to ported-in numbers from the charge controls. However, the Director is minded to include these call minutes in the controls if the concern arises that the MNOs might be reducing the effectiveness of the charge controls by setting excessive termination charges for calls to ported numbers.

Conclusion

J.15 The Director is of the view that his revised proposal would provide the most appropriate solution to the issue of the treatment of calls to ported-in numbers in the charge controls. By excluding such calls the Director removes the forecasting problems the MNOs would be faced with if calls to ported-in numbers were included in the controls. However, he will keep the situation under review and would consider modifying the charge control to include calls to ported-in numbers if it was clear that termination charges for calls to ported-in numbers were being raised excessively.