# Chapter 4

## Detrimental effects arising from SMP in termination markets

4.1 Chapter 3 contained a discussion of the Director's initial view on SMP in the markets for mobile voice call termination. Having looked at a number of indicators and considering representations to the May consultation (see Annex B), he concluded that each MNO has SMP in the market for the provision of wholesale voice termination services on its mobile network or networks.

4.2 In this chapter, the Director discusses the impact of this SMP on final consumers, in particular the risk of adverse effects arising form the price distortion in the relevant markets i.e. the fact that those with SMP may set excessive prices for call termination (see section 88 of the Act), so as to have adverse consequences for en-users of public electronic communications services.

*Voice termination charges in the absence of regulation*

4.3 The Director believes that, in the absence of any regulation (and of the threat of regulation), MNOs would have the ability and incentive to set voice termination charges at the profit-maximising (monopoly) level. They might not immediately increase their charges to this level, but they would be likely to do so over time. The Director accepts that, since it is not possible to remove the threat of future regulation, it is possible that the behaviour of the MNOs would be constrained and that the termination charges would not quite reach profit-maximising levels. However, he is of the view that MNOs would raise their termination charges to an excessive level if no regulation were placed on them at this time.

4.4 Orange argued that the Director's statements about the likely level of charges in the absence of (ex ante) regulation were unrealistic. It suggested that it was impossible to ignore the broader EU framework, under which Oftel is obligated to resolve disputes about terms and conditions between network operators – and Oftel would not set an 'excessive' charge in a dispute. Orange then suggested it would not be appropriate to consider the likely level of charges in the absence of regulation without also considering the possibility of BT being unregulated (which might increase BT's countervailing buyer power).

4.5 In the Director's view, it is not tenable to conclude that the threat of dispute resolution (or other ex post regulation) would constrain termination charges in the absence of ex ante regulation. To see this, it is necessary to consider the circumstances in which he would be likely to forbear from ex ante regulation:

- if he believed that termination charges would be constrained by competition (i.e. there was no SMP);
- if he did not believe that charges would be constrained (i.e. there was SMP), but he thought that the net detriment to consumers from higher termination

charges was not significant to justify ex ante regulation; or

- if he believed there was SMP, and there would be net detriments, but he thought it preferable to rely on dispute resolution or other ex post regulation rather than ex ante regulation to prevent an increase in charges.

4.6 It is clear that if either of the first two scenarios was applicable, then the Director would not object to an MNO's increase in termination charges, even if a dispute between interconnecting operators was raised.

4.7 The third scenario under which termination charges might be constrained would be if the Director thought that dispute resolution or other forms of ex post regulation were sufficient to deal with the problem of excessive pricing.[16] But, as discussed in Chapter 5 and in Annex N, for the four MNOs, the Director does not believe ex post regulation would be an efficient or appropriate way to deal with high termination charges, largely because of the extensive compliance and monitoring requirements entailed in the development and implementation of cost-based prices. Consequently, this scenario is not relevant. Hence, the Director believes that under any relevant scenario, the absence of ex ante regulation would allow termination charges to increase.

4.8 The Director also disagrees with Orange's argument that it is not appropriate to consider the likely level of charges in the absence of regulation without also considering the possibility of BT being unregulated (which might increase BT's countervailing buyer power). Once an SMP finding has been made, the objective of this review is to establish whether or not there should be ex ante regulation imposed in mobile termination markets. The Director's analysis must therefore presume two alternative states of the world – one with and one without the specific obligations imposed on MNOs with SMP. It would not be appropriate in this context to consider what would happen if regulation on BT was also to fall away, which itself has been the subject of other market reviews.[17] This approach would only be relevant if these other reviews concluded that important regulation on BT should be removed. The Director does not consider there have been any material changes to the obligations on BT that would be relevant to this review.

4.9 The Director therefore maintains his view that in the absence of regulation, termination charges would be excessive, to the detriment of consumers.

*The 'swings and roundabouts' argument*

4.10 It could be argued that the Director's concerns about the SMP held by the MNOs in the markets for mobile voice termination, and the resultant excessive prices, are unfounded, because any excess profits that MNOs earned in the voice termination market would be competed away at the retail level. Hence, even if

[16] Recital 27 of the Framework Directive states that ex ante regulation should only be imposed where competition is not effective and where competition law remedies are not sufficient to address the problem.

[17] In particular, the Director's guidance with respect to the application of end-to-end connectivity is relevant. This explains that BT must ensure that calls are delivered to other networks. See http://www.oftel.gov.uk/publications/eu_directives/2003/endcon0503.htm.

consumers lose from paying the resulting high prices for calls to mobiles, they would gain through lower prices for other mobile services, and there would be no detrimental effect overall. This argument is referred to here as 'swings and roundabouts'; in the CC report it was called the 'waterbed effect'.

4.11 The Director does not agree that he should be unconcerned about the effects of high termination charges for the following reasons:

- economic efficiency is diminished because of the inefficient structure of prices;
- high termination charges give rise to undesirable distributional effects;
- the degree of competition in the retail market in which the MNOs operate is not sufficient for all excess profits to be competed away;
- high termination charges have a distorting effect on consumers' choices; and
- the divergence between wholesale price and cost increases the risk of anti-competitive behaviour in retail markets.

**1) The effects on economic efficiency**

4.12 In the May consultation, the Director contended that the pricing structure arising from the MNOs' SMP in voice termination markets with competition in the mobile retail market was extremely unbalanced. In the absence of regulation, the MNOs would have the incentive to set termination charges at profit maximising levels and use the excess profits earned in the termination markets to reduce retail prices, and to engage in non-welfare enhancing activities aimed at retaining the most profitable subscribers or inducing them to switch to their network. Hence, the Director considered that the structure of prices for mobile services provided distorted price signals to consumers. The overall effect was considered to be sub-optimal, with the volume of calls to mobiles below the efficient level, and the rate of replacement of handsets and network switching above the optimal level. For further details see Oftel's paper *Ramsey prices and the incentives of mobile operators* (available at: http://www.oftel.gov/publications/mobile/ctm_2002/ramsey120202.pdf).

4.13 T-Mobile suggested that Oftel's view that the pricing structure was unbalanced was untenable. It quoted the most recent mobile market data available to show that the average price of termination (received by MNOs) is approximately 10.7ppm, whereas the average retail price for subscriptions and call charges paid by subscribers is 14.7ppm. T-Mobile then quoted the CC's finding (see table 5.23 of the report) that the average industry contribution to fixed and common costs (defined as the excess of average revenue over network cost) from outgoing calls is 5.7ppm (including an allocation of subscription revenues) compared with the contribution from incoming calls of 7.3ppm.

4.14 The Director does not accept T-Mobile's argument that the current structure of prices is balanced. The comparisons of average prices and 'contributions' are invalid, because they give no consideration to the costs involved in supplying incoming and outgoing calls. In the Director's view, most of the non-network costs incurred (e.g. retail costs) are in fact incremental solely to retail services. These costs should not be considered as common to, and recovered from, wholesale termination services. Consequently, for the structure of prices to be in any way 'balanced', the contribution of outgoing calls as measured in the CC report would need to be substantially higher than for incoming calls, to reflect their higher incremental cost. The current structure of prices in fact reflects the opposite.

4.15 Further, the existing prices and contributions from incoming calls already reflect the effect of regulation, or, in the case of Orange and T-Mobile, substantial informal regulatory pressure.[18] If termination charges were unregulated, the true contribution could well be more than double the 7.3ppm figure quoted (see also paragraph 4.7 for comment on the likelihood of this figure being achieved).

4.16 Orange commented that the Director had not undertaken quantitative analysis to provide evidence of his assertions. For example, Orange questioned whether Oftel knew the efficient level of calls to mobile, handset replacement or any of the other aspects it referred to. In response, the Director does not believe that it is possible to accurately specify the optimal levels of consumption of mobile services, and it is partially for this reason that he does not attempt to set a 'Ramsey' mark-up for termination charges (see Annex K for further discussion). However, the Director has undertaken a significant amount of work to quantify the welfare gains from regulating termination charges, which he believes is based on a set of reasonable assumptions about the prevailing economic characteristics of retail and wholesale mobile markets, and is robust to reasonable changes in his assumptions. Hence he rejects Orange's criticisms and maintains that pricing structures in the absence of regulation are likely to have the negative effects identified.

4.17 T-Mobile also questioned Oftel's concern with above-optimal levels of switching and handset replacement. In its response, T-Mobile alleged that:

> "This concern is also out of step with Oftel's policy of aiming to facilitate switching in order to foster strong competition. For example, Oftel correctly states in the Mobile Access and Call Origination review that: "Vigorous switching at the retail level increases retail competition. It will also impact positively on wholesale competition since demand for wholesale products is derived from that for retail products."
>
> "If Oftel has now changed its view in relation to switching, it would need to show that any productive efficiency loss from a 'high' level of switching outweighs the dynamic benefits from the greater competitive pressures engendered by easier switching; but it has not done so. Moreover, it is bizarre for Oftel to raise a concern that competition in the retail market is insufficient and may give rise to excess profits and then, within the space of 2 paragraphs, argue that customer switching is too high and that regulation should be introduced to reduce switching (with the implication that the intensity of retail competition will be softened)."

4.18 In the Director's view, T-Mobile overstates the desirability of switching by mobile consumers. Switching behaviour and switching costs are often used as an indicator of market competitiveness because uncompetitive markets tend to have

[18] the prices and contributions reflect data prior to the regulated 15 per cent cut in Orange and T-Mobile's termination charges as of 24 April 2003

prevailing terms and conditions of supply that limit switching behaviour.[19] Low barriers to switching (and high levels of switching) are therefore associated, other things being equal, with more competitive markets. That said, the Director believes that for switching to be efficient, it should result from improvements in the quality of service offered (e.g. better coverage), or as a response to prices either moving closer to costs or reflecting cost reductions.

4.19 In contrast, the type of switching referred to by the Director in this chapter is driven by distorted pricing signals – in particular, the divergence between the price and cost of handsets and subscriptions – which is financed by subsidies from fixed subscribers. The Director considers that this arrangement (which essentially reflects the competing away of the rents MNOs are able to generate from fixed subscribers) is unlikely to be welfare-improving. As an example, if one MNO increased termination charges and reduced the price of handsets and subscriptions to zero, one could well see a significant increase in handset replacement and switching behaviour in the retail market. However, this would be likely to reduce allocative efficiency, as there would be welfare losses associated with below-cost supply of handsets and above-cost supply of termination services. Also, as the price reduction would be unrelated to a lowering of costs, it would not reflect an improvement in productive efficiency. Hence, retail competition that focused on enticing customers to switch networks (by subsidising handsets or outgoing calls), made possible by inflated charges for wholesale termination services, would be unlikely to promote outcomes that maximised efficiency and end-user benefit. Given his views on the MNOs' ability to excessively price in termination markets (as discussed in Chapter 3), the Director maintains that in an unregulated environment, the outcome would include inefficient levels of switching and handset replacement.

4.20 T-Mobile further suggests that the competitive pressure induced by more switching in the retail market leads to dynamic benefits, even if the static efficiency consequences of the current pricing structure are undesirable. While the rate of switching and handset replacement may slow as a result of regulation, it need not imply a substantively less competitive or dynamically efficient retail market. As long as MNOs face sufficient incentives to minimise their costs, consumers are adequately informed about alternative suppliers of services and other switching barriers remain low, there is no *a priori* reason to suspect that competition would be reduced. Moreover, to the extent that correcting the distorted wholesale pricing structure better focuses retail competition on delivering prices closer the underlying service costs, and on reducing those costs, it is more likely to promote efficient consumption and investment decisions over time (hence promoting dynamic efficiency).

**2) The distributional effects**

4.21 Since termination charges are a major component of retail call prices, if the former are set above cost, callers end up paying more for fixed-to-mobile and off-net calls, and less for other retail mobile services. It has been put to the Director that, since most consumers have a mobile phone, these prospective transfers may well

[19] See NERA, *Switching Costs: A report prepared for the OFT and the DTI,* June 2003 for a discussion of how firms can use switching costs to limit the competitiveness of a market.

cancel out, i.e. what callers to mobiles lose in paying high termination charges they gain in low access and outgoing call charges. However, there remains a substantial group of consumers who do not own a mobile phone, and the calling patterns of consumers who do own both are not homogenous. This pricing structure therefore leads to transfers between different groups of consumers, and further, it raises concern about the equity impacts of such transfers.

4.22 In the May consultation, the Director made three points addressing the distributional effects of high termination charges:

- consumers who only use a fixed line would be worse off from high termination charges as they could receive no offsetting benefit from lower retail mobile prices. Conversely, mobile-only consumers might be better off, but these consumers were a smaller group than fixed-only consumers. This gave rise to equity concerns, although the Director noted that both of these groups of consumers appear to be disproportionately low-income;

- high mobile termination charges was likely to result in large transfers between groups of consumers who had both fixed and mobile phones, reflecting differences in usage patterns between these groups; and

- regular payphone users who did not own mobiles were another group that paid high termination charges yet received no offsetting benefits.

4.23 T-Mobile, while questioning the Director's conclusions about distributional impacts, claimed that distributional impacts are only legitimately considered to the extent that Oftel seeks to address the needs of specific social groups, including in particular disabled users, in the context of the Director's duty to promote the interests of EU citizens under Article 8(4) of the Framework Directive.

4.24 In response, the Director points out that his proposals for regulation in this document are primarily based on improving economic efficiency and social welfare, in the 'narrow' sense of these terms as normally defined by economists. The 'narrow' definition implies that economic efficiency and consumer welfare are increased if those parties made better off by a change could more than compensate those that were worse off even though they may not do so (known as the 'compensation principle').[20] However, in the Director's view, the EU Framework provides flexibility to consider a broader definition of consumer welfare, which may include distributional concerns. For example, and contrary to the compensation principle, the Director would be unlikely to be indifferent between a scenario where a monopolist was able to perfectly price discriminate, leaving consumers with no surplus, as opposed to marginal cost pricing where all surplus accrues to consumers. Another example might be where a firm's pricing scheme led to large transfers between different sets of consumers, but did not generate substantial gains in efficiency. The Director believes that his broader approach is consistent with his duty to act, pursuant to

[20] The compensation principle is sometimes presented as a 'value neutral' approach, although this is incorrect. It does imply a value judgement of indifference between gains and losses accruing to different groups in society (e.g. consumers or producers, wealthy or poor). Most standard microeconomics textbooks discuss this issue. See for example, Varian, *Microeconomic Analysis,* 3rd edition, Chapter 22.

section 4 of the Act, in accordance with inter alia the first Community requirement to promote competition. Namely, it ensures that users derive maximum benefit in terms of choice, price and quality as provided for in the Article 8(2)(a) of the Framework Directive. The Director also notes that Ofcom has general duties, under section 3(4)(i) of the Act, to have regard for the needs of persons with disabilities, of the elderly and of those on low incomes.

4.25 The Director believes the current structure of mobile termination charges does raise concerns under the current EU Framework and the Act. The difference between the appropriate regulated termination charge and the current charge is very large, and without regulation would be even larger. The Director has already indicated in paragraphs 4.12-4.20 that he believes this reduces efficiency and aggregate consumer welfare. Further, these different termination charges are (and would be) associated with transfers of consumers' surplus as between callers to mobile phones and mobile phone customers. The transfers between different sets of customers are unlikely to be 'undone' by compensation from those made better off to those worse off, and there are also reasons to suspect that the transfers adversely affect those on lower incomes (see paragraph 4.31 below). The Director therefore believes that distributional factors should legitimately be taken into account in the decision as to whether there is a justification for regulation of termination charges, as an adjunct to his basic efficiency rationale, set out in the previous section.

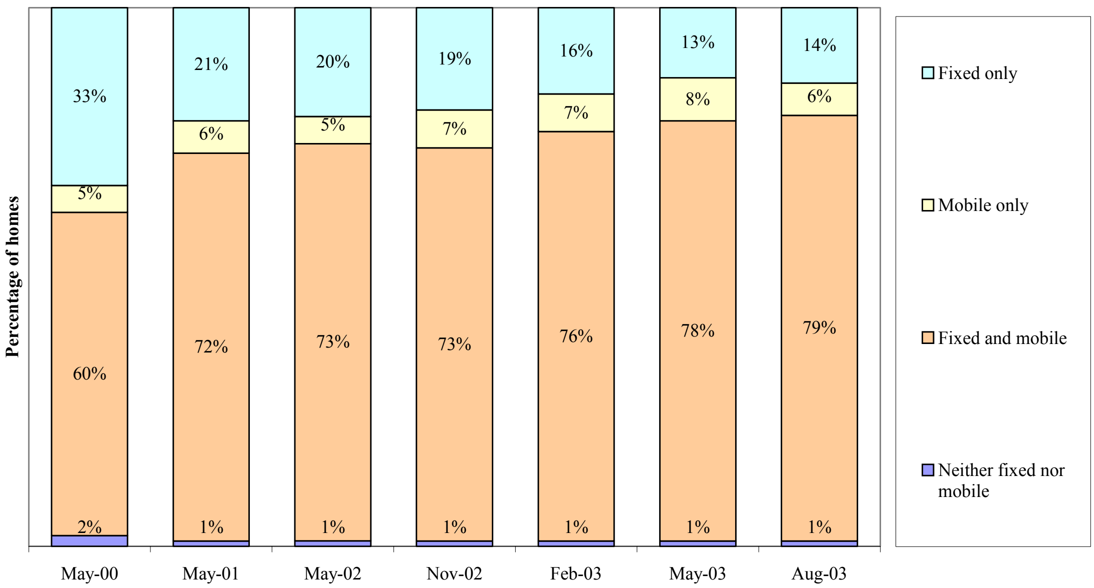
4.26 On the Director's first point above, Orange noted that while it is true that, in terms of absolute numbers, there are more fixed only households compared to mobile only households, such an observation is insufficient to form an opinion on 'winners and losers' in the current regulatory debate. It considered there were a number of important factors that must be taken into consideration, such as consumption patterns, if a robust analytical framework was to be used to assist the analysis. Earlier analysis submitted on behalf of Orange to the CC had demonstrated that the mobile only households would be net losers as a result of the proposed regulations. Further, given that the number of fixed only households has declined over the last year and the number of mobile only households has increased, it is likely that the net loss of the proposed regulations in this respect has also increased.

4.27 Orange further suggested that if some consumers who use both fixed and mobile phones suffer a detriment, then it must also be true that other 'mixed' users enjoy a positive benefit from the current structure of mobile prices. In Orange's view, it was the net benefit / loss when the two subgroups of mixed users are compared that is relevant in the distributional debate, and that it was entirely feasible that the two subgroups could cancel each other out, or that there is a net benefit under the current arrangements. Orange said that any judgement by Oftel that there is a net detriment for such mixed users must be supported by empirical evidence, not merely asserted. Orange also pointed to the fact that there will be some winners and some losers at any point in time is not unique to this issue. For example, geographic averaging of retail charges (a concept explicitly approved of by Oftel) means that some users (fixed and mobile) pay more than the underlying cost of the call they consume whereas other consumers will pay less.

4.28 Vodafone made several similar points to Orange, and concluded that there are as many losers as winners from lowering (or raising) call termination charges and there is no convincing measure of the welfare of each group. As a result, Vodafone argued that there is no persuasive argument for departing from the level of call termination charge that maximises aggregate welfare. Vodafone also rejected the suggestion that payphone users require special protection from high call termination charges, noting that the evidence cited by Oftel shows only that of those people who call mobiles from payphones, 30% do not own mobiles, which was almost identical to the percentage in the population as a whole who do not own mobiles. Hence, Vodafone considered that this evidence provided no rationale for supposing that payphone users require special regard in the assessment of call termination charges.

4.29 On the issue of the respective numbers of fixed-only and mobile-only households, the Director's latest consumer survey data (Consumers' use of fixed telephony, 27 October 2003) indicates that there are 6 per cent of 'mobile only' households (around 1.5 million households) and 14 per cent that are 'fixed only' (around 3.5 million households).

**Figure 4.1 Penetration of fixed and mobile telephony in UK homes**



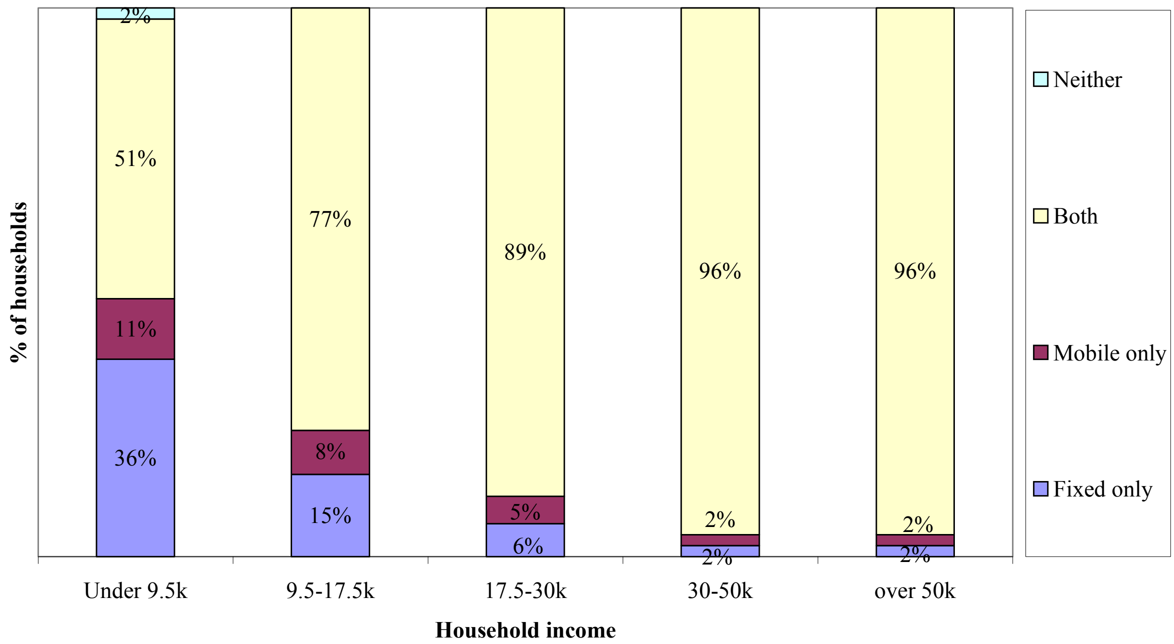

**NB: may not add to 100% due to rounding.**
**Source: Oftel, Consumers' use of fixed telephony, 27 October 2003**
**Base: UK Adults, August 2003 (Base: 2099)**

4.30 While it is clear that, over time, the gap between the numbers of fixed-only and mobile-only consumers has fallen, there is still a significantly larger proportion of users who use only fixed lines.

4.31 It is also apparent that both groups are disproportionately low income relative to those who own both fixed and mobile phones. Evidence to this effect was provided to the CC by both the MNOs and Oftel, although the Director pointed out that his research had shown that there was a category of mobile-only users who have a mobile for convenience reasons, not because they could not afford both.

4.32 The conclusion that both groups are relatively low income is also supported by the Director's latest research. This research additionally shows that fixed-only users are over-represented in the lowest income category relative to mobile-only users – 36 per cent of those households with incomes under £9,500 are fixed-only users, compared to only 11 per cent who are mobile-only users.[21]

**Figure 4.2 Household incomes of fixed and mobile users**




Source: Oftel, Consumers' use of fixed telephony, 27 October 2003
Base: UK Adults, August 2003 (Base: 2099)

4.33 While the usage patterns of fixed-only and mobile-only consumers has been subject to some debate (see the CC report, paragraphs 2.395-2.397), the Director believes that given the high number of fixed-only users and their disproportionately low income, there is justification for concern about the equity impacts of high termination charges.

4.34 The focus of the MNOs' comments was primarily on equity issues – that is, whether there were poorer consumers who might be adversely affected by high termination charges. However, for users with both mobile and fixed phones, the Director believes it is relevant to also consider the transfers between those using varying proportions of fixed and mobile calls. For example, a caller who uses a fixed line to call a mobile 90 per cent of the time and uses a mobile for the other 10 per cent will, other things being equal, pay significantly more in termination charges than they benefit from lower retail mobile prices.

[21] Some caution should be applied to this result as fixed-only users tend to be older, and it may be expected that older users (fixed only) may on average have greater wealth than younger users (who are more likely to be mobile only).

4.35 These transfers are not necessarily an issue of equity (as there is no indication that those who make a high proportion of fixed calls are any poorer than those who make a low proportion). That said, the Director believes it is questionable whether allowing such a pricing distortion which engenders such large transfers between groups of consumers is desirable in the absence of significant efficiency gains from doing so. In fact, the Director's cost-benefit analysis suggests that such transfers come at the cost of significant losses in allocative efficiency. The Director therefore does not believe it is sufficient to simply claim that mixed users' gains and losses will be offset. Orange also claim that the situation of 'winners and losers' is not unique to this debate, and that the policy of 'geographic averaging' of fixed call prices is an example of this where Oftel does not appear to share the same concerns about certain groups of consumers being disadvantaged. This Director does not believe these circumstances are in any way comparable. The policy of geographic averaging reflects an obligation on BT and Kingston to provide basic fixed telephony services ('universal service') at affordable prices (i.e. the purpose of the intervention is to promote distributional objectives). This is quite different to the current situation, where the Director is objecting to a number of mobile operators exploiting their SMP to the detriment of certain groups of users.

4.36 In response to Vodafone's comments on payphone users, the Director notes that there may be some overlap between the category identified as being worse off (i.e. regular payphone users who did not own mobiles) and the category of fixed-line only users previously identified. However, the former category would also include those households without access to either a mobile or fixed phone (which constitute 1 per cent of all households). For these households, payphones are the only form of telephony service available and these households tend to be in the poorest class of telecommunications users. Oftel's October 2003 Fixed Line Update indicates that those households with neither fixed nor mobile phones tend to be very low income, with almost all of these households earning less than £9,500 per annum. Such households would be unambiguous 'losers' from high termination charges, and these would be in addition to the fixed-line only customers referred to earlier.

4.37 In conclusion, the Director maintains his view that there are likely to be detrimental distributional effects from unregulated termination charges. He considers that these effects support his conclusions based on the more narrow view of economic efficiency and consumer welfare.

**3) The degree of competition in the retail market in which the MNOs operate**

4.38 The 'waterbed' argument suggests that it is not of concern if termination charges are set excessively because the excess will be returned to consumers in lower retail prices. The Director asserted in the May consultation that, in order for all excess profits earned in the mobile termination market to be completely bid away for the benefit of consumers, the retail market in which MNOs operate would need to be perfectly competitive. If this were the case, the overall profitability of each MNO would be unaffected by the level of the termination charges. The Director further considered that, although no MNO had SMP in the retail market for mobile services (see *Mobile access and call origination services market* review – published August 2003), conditions are not such as to allow the Director to conclude that the MNOs would always feed through excessive profits earned in supplying termination services into lower prices for retail mobile services.

4.39 Vodafone, Orange, O2 and T-Mobile all commented that Oftel was wrong to imply that perfect competition is needed for a full 'waterbed' effect to occur. T-Mobile's view was that for excess termination profits to be fully competed away, technically all that is required is that price (i.e. average revenue) equals average cost, and that this is consistent with the outcomes of a range of models of oligopolistic behaviour. However, given the difficulties in establishing whether assumptions of these oligopoly models hold, T-Mobile suggested that it was effective competition that was the concept of more relevance to considering the question of excess profits in practice.

4.40 The Director's views on this issue were set out in some detail in a response to the CC Inquiry (Termination charges in the absence of regulation, available at http://www.oftel.gov.uk/publications/mobile/ctm_2002/termination0402.pdf). This response drew on theoretical work by Dr Mark Armstrong, which drew a distinction between monopoly, perfect and imperfect competition. Imperfect competition was broadly defined to be a state where some super-normal profits were earned, which was consistent with the outcomes of a range of models of oligopoly behaviour. Armstrong used the term perfect competition in contrast to imperfect competition.

4.41 In considering the relationship between termination charges and overall profits, it is helpful to consider the polarised cases of perfect competition (as the term is used by Armstrong) or monopoly. Where there is perfect competition, excess profits made in termination markets would be fully competed away, whereas in markets where there is a monopolist in both termination and retail services changes in termination charges would have little or no effect on retail prices (assuming no interdependencies between the various services).

4.42 The Director agrees with T-Mobile that there are models of oligopoly which result in the firms earning no economic profits (eg 'Bertrand' oligopoly or monopolistic competition), consistent with Armstrong's and Oftel's use of the term 'perfect competition' in this context. However (and as T-Mobile also recognises), the results of these models are only generated by stringent assumptions that in general are almost as far removed from reality as those necessary to support the 'textbook' case of perfect competition.

4.43 Where the Director does not agree with the MNOs is in the interpretation of the finding in the mobile access and origination review of no joint or single dominance. The Director does not believe this implies that there is no possibility of excess profits accruing to MNOs as a result of high termination charges. The question addressed in the access and origination review (i.e. do MNOs jointly or singly have SMP?) is quite different to that addressed here (i.e. is there complete pass through to retail customers of the profits made from wholesale termination services?). The thresholds for designating a firm as having SMP are high, and there is consequently a wide range of firm behaviours and outcomes consistent with the no SMP designation. Only a limited number of these would be zero-profit or perfectly competitive outcomes. The Director therefore maintains that full pass through of termination profits to retail customers, which effectively implies that MNOs profits are invariant to the level of the termination charge, is not a necessary consequence of his finding of no SMP in the mobile access and call origination market.

4.44 The Director considers that the issue of pass through of profits is not conclusive – that is, for the reasons discussed in paragraphs 4.10-4.31, he would propose regulation even if there was a complete ‘waterbed’ effect. However, the Director believes that the possibility of less than full pass-through is relevant to considering whether he should be concerned about the high level of call termination charges.

4) The effects on consumers’ choice

4.45 The Director suggested in the May consultation that termination charges for fixed-to-mobile calls set above costs could distort consumers’ choice, thus generating an inefficient allocation of resources. In particular, the Director said he believed that excessive termination charges are likely to distort the choice between making a fixed line call to a mobile and an on net mobile-to-mobile call. This could lead to lower efficiency because it could drive consumers to use the higher resource cost mobile technology.

4.46 In response, the MNOs stated this view was inconsistent with the Director’s view that consumers are not price sensitive, and that there was limited empirical support for the notion that there was substitution between fixed-to-mobile and on-net calls.

4.47 The evidence collected by the Director on fixed and mobile substitution is discussed in the mobile access and call origination services market review.[22] The Director noted in this market review that there is a significant difference between the LRICs of fixed and mobile origination. The Director’s current evidence suggests that, on average, mobile origination costs are as much as 10 times those of fixed origination, measured as call conveyance to the tandem layer (see A.I.31). A fixed-to-mobile call will, therefore, consume considerably fewer network resources, on average, than a mobile-to-mobile on-net call. This is the opposite of what one might expect by looking at the relative retail prices for fixed-to-mobile and mobile on-net calls, which are ordinarily much higher for fixed-to-mobile calls (see *Oftel’s views on market definitions for fixed and mobile services*, May 2002 for more information). This suggests that if these pricing distortions lead to substitution between fixed-to-mobile and mobile-to-mobile on net calls, it will have real efficiency effects.

4.48 That said, the survey evidence collected by the Director suggests that a minority of consumers with both fixed and mobile phones will currently use a mobile to make an on net call instead of a fixed-to-mobile call on the basis of price differences (around 13 per cent, see Oftel’s quarterly residential survey, October 2002). This appears broadly consistent with Oftel evidence on the level of awareness of the cost of calling individual networks, which is referred to in Annex A (market definition).

[22] Oftel, *Mobile access and call origination services market*, 4 August 2003.

4.49 The Director therefore concludes from this evidence that there is a limited, but important, degree of substitution occurring between fixed-to-mobile and mobile-to-mobile on net calls (note this comparison is at current (regulated) price levels, not at competitive price levels as used for market definition purposes). The Director again emphasises that comparisons undertaken at already regulated current price levels are less relevant than comparisons with the likely higher price levels that would transpire in the absence of regulation. The level of substitution may well be higher in this situation.

4.50 The Director also believes that, looking forward, the potential for efficient mobile and fixed substitution will be weakened by high mobile termination charges. The evidence on price trends suggests that mobile prices (and presumably costs) are falling more rapidly than fixed prices, indicating that a higher level of substitutability may well result in future (see *Fixed Narrowband Retail Services Market*, at A35). Termination charges levied by fixed operators are currently subject to regulation. It would therefore be inappropriate if an increased level of substitution was driven by distorted pricing signals – with fixed-to-mobile calls priced significantly higher than mobile-to-fixed calls, even though the underlying costs are different and there is no evidence of different demand elasticities. The Director believes that aligning the regulation of the fixed and mobile termination will provide appropriate signals to allow consumers to consider the relative costs of the two technologies, and lead to efficient substitution decisions. In the long run, this has the potential to reduce the need for regulation of both fixed and mobile services.

**5) Risk of anti-competitive behaviour**

4.51 The SMP, and thus the pricing freedom, enjoyed by the MNOs in the wholesale mobile termination markets could also be used to distort and reduce competition in the retail mobile market and in related markets in which MNOs compete with other PECN providers. Each MNO is a monopolist in the provision of wholesale termination services to originating operators for calls to that MNO's subscribers, and these services are an input into retail products sold by the MNO and competitors in both the outgoing and access market, and other retail markets. Hence, an MNO may be able to exploit its position in the termination market to impair its rivals' ability to compete for customers in retail markets.

4.52 One particular concern raised by the Director in the May consultation was the potential for anti-competitive price discrimination by MNOs against '3' or other new entrants. In particular, MNOs could charge higher termination charges to '3' than they charge each other. However, even in the absence of direct discrimination, a divergence between termination charges and costs could still have anti-competitive effects. As '3' has only recently launched its services, it still has a small customer base and, thus, most of its mobile-to-mobile traffic is off-net. Given its asymmetric position in the retail market with respect to the incumbent MNOs – that is, '3's customers make a higher proportion of off-net calls – with high off-net charges '3' would find itself at a significant disadvantage in offering retail access and outgoing call services. Hence, the Director believed that the competitive distortions that may arise from the freedom that MNOs enjoy in the wholesale termination market, such as those that might occur in relation to '3', should also be considered in the decision whether to regulate.

4.53 In its response, T-Mobile suggested the Director's concerns about '3' and other more general concerns about the competition implications of high termination charges (such as discrimination between different fixed operators, or between an MNO's downstream retail operation and other fixed and mobile operators) are unfounded. In relation to '3', T-Mobile notes that there is little empirical evidence of problems with new operators entering the market and that '3' could always use transit to get around high charges levied by any one particular operator. More generally, T-Mobile notes that Oftel should not assume that the possibility of behaviour illegal under the Competition Act 1998 justifies ex ante regulation of the termination markets.

4.54 T-Mobile's comments and examples do not overcome the concerns of the Director with respect to '3' and other future entrants. To the extent that a transit operator was being charged lower termination rates than '3', it could mitigate concerns about direct discrimination. However, it would not change the disadvantage faced by new entrants such as '3' in having a higher proportion of off-net calls than existing operators, and minimal ability to attract subscribers by offering low on-net rates (relative to existing MNOs). Other things being equal, the higher the termination rate levied by MNOs to other MNOs and FNOs, the less attractive are '3's offerings relative to competitors. For the avoidance of doubt, the Director has not concluded that the scenario set out would definitely be anti-competitive. The matter would need to be considered in the light of relevant circumstances prevailing at that time. Rather, the Director puts forward this example as an illustration of competition problems that could arise when termination charges are set excessively.

4.55 In relation to the broader competition issues, the Director notes that the divergence between the price and cost of (wholesale) termination charges increases the probability that other types of discriminatory behaviour by MNOs will have an anti-competitive effect. If, however, the difference between the average price and average cost of the wholesale termination service was reduced (i.e. there were fewer wholesale profits available to subsidise retail prices), there would clearly be less scope for anti-competitive discrimination or leveraging behaviour by MNOs. The Director further considers arguments in relation to discrimination by MNOs and the application of ex ante remedies in Chapter 5.

***Conclusions on the 'swings and roundabouts' argument***

4.56 The Director remains of the view that the 'swings and roundabouts' or 'waterbed' argument does not provide sufficient justification for him to be unconcerned about the level of termination charges. The Director's primary reason for rejecting the 'swings and roundabouts' argument, as put forward by the MNOs, is because it leads to a structure of prices that is likely to reduce economic efficiency, and be detrimental to end-users. The Director believes this basic rationale is supported by the likelihood of adverse distributional consequences, longer term considerations of consumer choice and potential for substitution between fixed and mobile, and the increased risk of anti-competitive behaviour. To the extent the competition in the retail market is not sufficient for a complete 'swings and roundabouts' effect, it also provides support for ensuring termination charges are cost-reflective.

4.57 Consequently, it appears to the Director from his market analysis that, for the purposes of section 88(1) of the Act (on the setting of a charge control), there is a relevant risk of adverse effects arising from price distortion. In particular, he considers that the MNOs might so fix and maintain some or all of their respective mobile call termination charges at an excessively high level, so as to have adverse consequences for end-users of public electronic communications services.